More from trees

The Mersey Forest Plan

View over Frodsham from Frodsham Hill, towards the River Weaver as it joins the River Mersey by Rock Savage. Photo by Mike Roberts

We believe Merseyside and North Cheshire can become one of the best places in the country to live.

Photo by Jo Sayers

But it won't be easy.

The area faces challenges - health inequalities, economic deprivation, climate change and more.

Launch of Mab Lane Community Woodland in Liverpool, 2010. Photo by Ant Clousen Photography

However by working together, we know we can make it.

For 20 years we've shown that community forestry can create a healthier, more prosperous society.

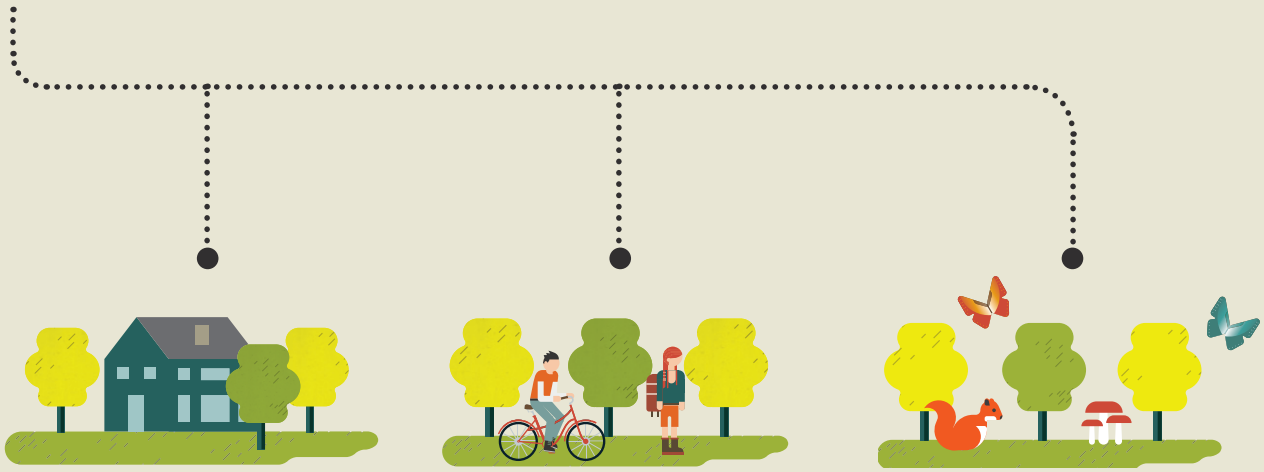
This is our Forest Plan to build on that success and achieve even more.

We invite you to be part of it.

An introduction to The Mersey Forest

Our story so far...

Since 1991, our partnership has planted over 9 million trees[1] in Merseyside and North Cheshire - transforming the landscape to improve people's lives and support the economy



Attracting investment

Through large-scale tree planting, we're making the local area a more attractive place for businesses to invest and skilled workers to live.

Boosting health

We improve health by engaging people with the great outdoors and planting thousands of street trees to create more pleasant, walkable neighbourhoods.

Getting the most from woods

By sustainably managing existing woodlands, we help flora and fauna to thrive, as well as creating timber products, jobs, and fantastic locations for recreation.

3x

We've achieved three times more tree planting than the England average [2]

1370 km²

The total area of The Mersey Forest

of people say their environment has improved thanks to our work [3]

The community at our heart

1.7 million people live in The Mersey Forest area and we support them to get involved in creating, improving and enjoying their woodlands. We work with local communities, not just for them.

Who is in The Mersey Forest Partnership?

Our partnership is made up of seven local authorities, Natural England, the Forestry Commission, the Environment Agency, landowners, businesses and local communities. The partnership is coordinated by a dedicated Forest Team.

How did it all begin?

In the early 1990s, 12 areas of England were chosen by government to be the focus of long-term tree planting programmes to improve their environment and benefit local communities. The largest of these designated "Community Forests" was named The Mersey Forest.

2/3

Two thirds of people visit their local woods [4]

Value for money

We deliver £10 of projects for every £1 invested, thanks to the way we make our core funding work harder. [5]

About this Plan

The Mersey Forest Plan is a long term and strategic guide to the work of The Mersey Forest team and partners.

It won't be delivered overnight, but it has been agreed by partners, who are committed to implementing its policies to achieve 'more from trees'. Its delivery is overseen by a steering group. Throughout the Plan, the term "we" refers to the team and partners.

It is a locally developed Plan which is approved by government, and has been co-created with partners and through consultation (with over 1,600 responses)[6]. It will be refreshed every ten years, with any minor amendments made to the online version (at merseyforest.org.uk/plan). It is accompanied by a Delivery Plan[7] which sets out monitoring and shorter-term activities, covers a five year period and is reviewed annually. This allows consideration to be given to resource availability at the time.

The Plan has 20 overarching policies (under the headings Who, What, How and Why) and spatial policies (under the heading Where). Case studies highlight some of the major achievements to date.

Policy context

Achieving the 'more from trees' vision will provide many benefits. This makes it highly relevant to evolving legislative and policy contexts. At the national level, key links are with the Government's Forestry and Woodlands Policy Statement[8] and the National Planning Policy Framework[9]. It is relevant to policies relating to forestry, landscape, natural environment, climate change, flooding, planning, sustainable development, green infrastructure, ecosystem services, and localism.

The Plan incorporates the concept of green infrastructure, or "our life support system – the network of natural environmental components and green and blue spaces that lie within and between our cities, towns and villages, which provide multiple social, economic and environmental benefits"[10]. Trees and woodlands are an important component of this.

Uses of the Plan by the team and partners

- To guide their work to achieve the 'more from trees' vision
- To develop funding bids for activity
- To demonstrate the importance of trees and woodlands to different agendas and partners
- To guide cross boundary working, in relation to local authorities' duty to cooperate[11]
- To contribute to planning in the local area – it can be a material consideration (under the National Planning Policy Framework) and support the development control process
- To guide delivery of actions relating to trees and woodlands (or the functions that they provide) within Green Infrastructure Frameworks, Strategies and Plans.

Our vision is to get 'more from trees' to help make Merseyside and North Cheshire one of the best places in the country to live.

We will work with partners, communities and landowners across rural and urban areas, to plant trees and woodlands, improve their management, and complement other habitats. This will increase woodland cover to 20% of the area. We will revitalise a woodland culture, and bring economic and social benefits through our transformed environment.

Policies

Who

What

How

Why

Where

Case studies

The Mersey Forest 20th birthday celebrations at Risley Moss in Birchwood, 2011. Photo by McCoy Wynne

Who

Partnership working is essential to the delivery of The Mersey Forest Plan. Only by working with other people, organisations and groups can we achieve the vision and produce a real impact across Merseyside and North Cheshire. This section sets out the policies relating to who we work with – broadly partners, communities, and landowners.

Policies

Case studies

Policy 1

Partnership working

We will deliver The Mersey Forest Plan through partnership working including seven local authorities, Natural England, the Forestry Commission, and the Environment Agency, as well as other public, private and community sector organisations. The partnership is coordinated by The Mersey Forest team.

WE'VE BEEN WORKING IN PARTNERSHIP FOR MORE THAN 20 YEARS

1.1 Partnership working is central to The Mersey Forest and is essential in order for us to implement the policies and achieve the vision set out in The Mersey Forest Plan. The core partnership of seven local authorities – Cheshire West and Chester, Halton, Knowsley, Liverpool, Sefton, St.Helens, and Warrington – as well as Natural England, the Forestry Commission, and the Environment Agency is coordinated by The Mersey Forest team (to see the team members and their roles please visit our website[12]).

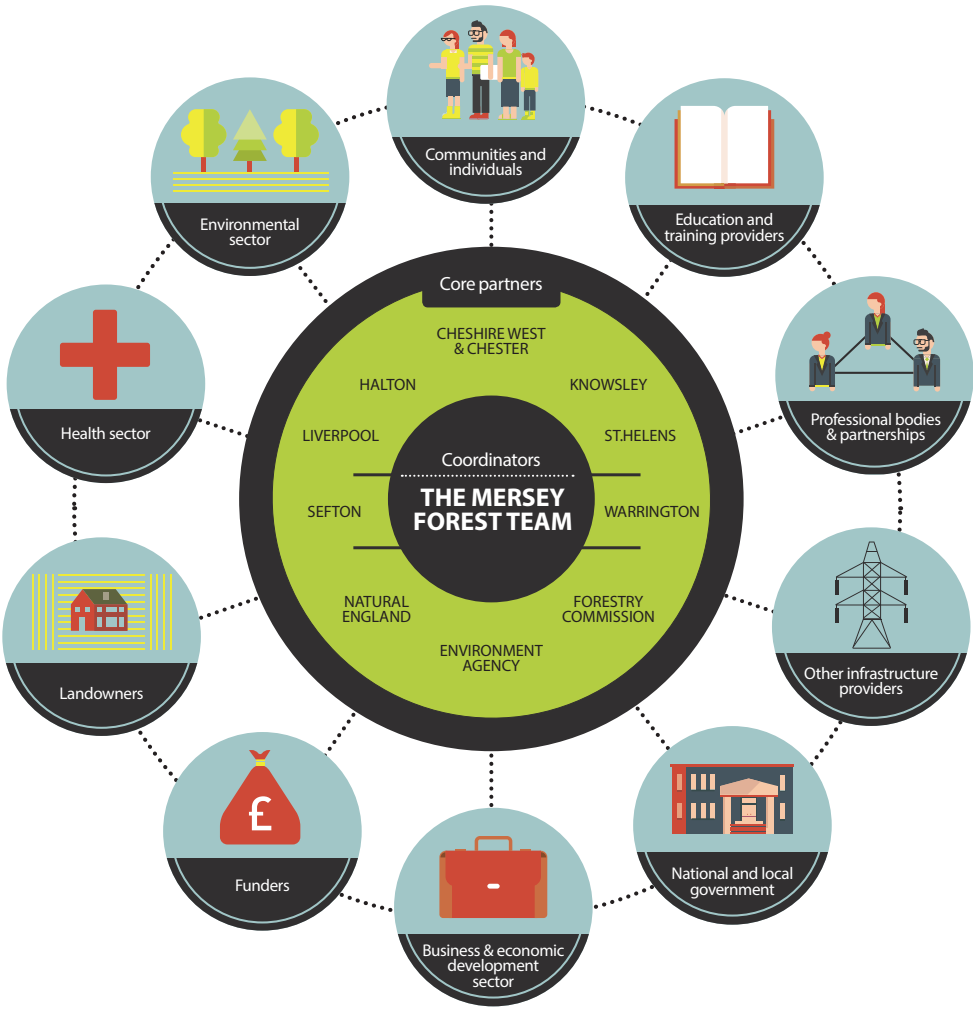
1.2 The vision and policies set out in The Mersey Forest Plan are those of the combined partnership, and not just of the team. Officers and councillors from these organisations attend Steering and Working Groups to drive forward the delivery of the Plan. They coordinate and champion the Plan within their organisations, and encourage others to implement the policies to achieve the 'more from trees' vision.

1.3 The local authorities have a partnership agreement with each other, and contribute funding to The Mersey Forest team. The team and partners then draw down other funds to maximise the value and impact of all investments. Cheshire West and Chester Council is the host partner, providing employment, finance and accounting services. Community Forest Trust, a company limited by guarantee with charitable status, provides further support to The Mersey Forest Partnership.

1.4 The Mersey Forest is part of a national network of Community Forests and woodland initiatives. This network includes Red Rose Forest which operates in Greater Manchester and with whom The Mersey Forest shares a boundary and works closely.

1.5 In addition, we work with a wider range of partners in order to deliver The Mersey Forest Plan. These partners are from the public, private and community sectors; operate at different spatial

The Mersey Forest Partnership:



scales from local and sub-national, to national and international; and play many different roles in helping to deliver The Mersey Forest Plan, such as setting policy, providing resources, enabling delivery, offering support, and actually delivering on the ground. Partners have their own reasons for getting involved: because our vision and policies align well with theirs, and our activities – which deliver many benefits – can complement and add value to their own. Landowners and local communities are especially important partners, who have real, tangible, and long-term interests in the success of The Mersey Forest.

1.6 Such a partnership, which works across local authority boundaries, is of particular importance to local authorities in relation to their duty to cooperate under the Localism Act[13]. It provides an opportunity for partners to share solutions and learn from others experiences. Working across different sectors allows us to align objectives, funding, and resources to achieve a greater whole. And working across different spatial levels means that there is a short chain between communities and local organisations, and sub-national and national organisations, thereby enabling local initiatives to have a strategic voice, and strategic priorities to be delivered locally and quickly.

1.7 The Mersey Forest team facilitates and enables the strategic context to allow for more effective local delivery. This involves participating in, coordinating and acting as the secretariat to a range of strategic partnerships such as the North West Forestry Forum, North West Green Infrastructure Forum, Natural Economy Investment Forum, Local Nature Partnerships, and Sefton Coast Partnership. We seek to influence other strategic partnerships such as the Local Economic Partnerships. This puts us in a good position to deliver locally on strategic landscape projects such as Atlantic Gateway/Adapting the Landscape.

1.8 To achieve our 'more from trees' vision, we work with anyone who wants to play! The success of The Mersey Forest to date is a result of a strong, diverse, and evolving partnership.

Related policies:

- 2. Communities
- 3. Landowners
- 6. Strategies
- 7. Funding
- 8. Monitoring
- 10. Communication

Related case studies:

- 1. Bold Forest Park
- 2. Sefton Coast
- 7. Natural Choices

Policy 2

Empowering communities

We will encourage all to participate in the planning, enhancement and enjoyment of The Mersey Forest and, through their commitment to it, to play a part in its long-term stewardship and ownership.

"A TRUE AND SUSTAINABLE WOODLAND CULTURE NEEDS TO BE BUILT FROM THE GROUND UP. WE APPLAUD THE WORK OF THE COMMUNITY FORESTS IN SUPPORTING AND PROMOTING COMMUNITY ACTION ON TREES AND WOODLANDS."

GOVERNMENT FORESTRY AND WOODLAND POLICY STATEMENT[14]

2.1 The Mersey Forest is a community forest. Without the community it would just be some trees! Community involvement, participation, and ownership are absolutely fundamental to the success of The Mersey Forest. The Mersey Forest is created with people, not just for people.

2.2 The Mersey Forest is home to 1.7 million people. The communities that live, work and play in The Mersey Forest are those who have the most to gain from its success, and who have the most to offer to make it a success. Empowering people is essential as it strengthens communities and improves quality of life, and ensures that the growing tree and woodland network across The Mersey Forest is used and cherished by local people, and hence is a more sustainable resource in the long run.

2.3 We recognise that different people will engage with The Mersey Forest in different ways, depending on their available time and abilities. We will support individuals, local communities and groups in a long term and meaningful way so that they can get the most from the Forest.

2.4 Our work encourages more people, from a wider range of backgrounds, to enjoy their local woodlands more often. We provide information on where to go for a walk, cycle ride, or horse ride, increase opportunities to see wildlife and re-connect with nature, and support a range of local events and projects to encourage people into their woodlands. Our website is a good starting point for information on this growing woodland resource. Individuals can sign up to be supporters of The Mersey Forest, which is free, and allows them to receive updates on our activities. It also adds their name to a growing list of people who are showing their support for our work, thereby enabling us to do even more (merseyforest.org.uk/things-to-do/support-us-its-free).

2.5 We also help people to become more actively involved with their local trees and woodlands. This could be through telling us where they'd like to see more planting or improved management (merseyforest.org.uk/plan), having a say in the planning and design of new trees and woodlands, volunteering and getting actively involved in tree

Ellesmere Port residents helping to transform their neighbourhood as part of the Green Streets programme, 2009. Photo by McCoy Wynne

planting and creating habitats such as hedges, ponds and wildflower meadows. We provide advice, support, and funding for community projects. Residents may ask for new trees planted on their street as part of our Green Streets programme, local community centres or grounds to be greened, and school grounds to be improved with new woodlands, orchards and growing areas. We also support teachers to become Forest School leaders and deliver their lessons outdoors. We encourage local businesses and social enterprises to make greater use of the expanding woodland resource, supplying or using local woodland products, or providing recreation, tourism, and training opportunities in local woodlands.

2.6 Support and training can increase the capability and capacity of voluntary groups, enabling them to play a much more active role in fund raising and developing social enterprises to secure the future of our trees and woodlands.

2.7 Since 1998, The Mersey Forest has supported a network of Friends of Woodlands groups which anyone can join (merseyforest.org.uk/things-to-do/join-a-community-group). These groups help manage their local woodlands and our aim is to assist them in becoming increasingly self-sufficient, whilst recognising that longer term support is also required. Depending on the group, we help with a range of activities, from setting up and managing the group, creating woodland management plans, and accessing funds for specific projects and events, such as practical task days, and courses and workshops to learn new skills. We also work with a wide range of communities to run events and training, covering diverse topics from tree planting, hedge laying, pond creation, learning how to make their area better adapted to climate change, and wildlife photography. Further advice is provided through a range of 'How to' guides. Engaging people through trees and woodlands can help to bring communities together, making them more resilient and cohesive, and acting as a springboard for engagement on a wider range of issues[15].

2.8 Over the years we have worked on numerous projects and in different capacities, alongside rural and urban communities, schools, young and elderly people, Friends of Woodland groups, ethnic minorities, faith groups, and disadvantaged communities. We will continue to develop links wherever possible with a range of established local groups. As a result of The Mersey Forest, there are now more woodlands near to urban, deprived and ethnic minority communities[16], which means that there are increasing opportunities to engage with people who may typically be left out of environmental projects and programmes.

Related policies:

- 1. Partnership
- 3. Landowners
- 16. Recreation
- 18. Education
- 19. Jobs
- 20. Culture

Related case studies:

- 3. Green Streets
- 4. Wood Allotments
- 8. Natural Play

Policy 3

Advising and supporting landowners

WE'VE WORKED WITH MORE THAN

500

LANDOWNERS IN THE LAST TEN YEARS, DEVELOPING LONG-TERM RELATIONSHIPS WITH MANY[17]

We will work with public and private landowners and managers in rural and urban areas to encourage, advise, and support them to plant and manage trees, woodlands, and associated habitats, as appropriate, on their land.

Related policies:

- 1. Partnership
- 2. Communities
- 4. Planting
- 5. Management
- 7. Funding
- 12. Timber

Related case studies:

- 1. Bold Forest Park
- 2. Sefton Coast

3.1 In order to plant and manage trees and woodlands to achieve our 'more from trees' vision, we need to engage and work with willing landowners. This makes landowners a crucial partner within The Mersey Forest.

3.2 There are numerous public and private landowners across rural and urban areas of The Mersey Forest, including our local authority partners, schools, hospitals, Forestry Commission, Woodland Trust, businesses, golf courses, private estates, farmers, communities, and individuals.

3.3 We work with this diverse range of landowners to encourage them to plant and manage trees, woodlands, and associated habitats on their land; enabling access to a range of grants, funding, and incentives, and providing advice, support and training as appropriate.

3.4 The Mersey Forest team provide independent advice and information to landowners, managers and businesses about the range of grant schemes available for planting new woodland or managing existing woods, and can help at every step of the way, from site visits, to filling in grant applications, and in some cases appointing contractors. We can also advise on managing woodlands for fuel, either for personal use or to sell, with specific technical advice on all aspects of the woodfuel supply chain. We actively promote existing grant schemes to encourage tree and woodland planting and management by farmers and other landowners. We run training events for landowners covering aspects such as managing woodland for woodfuel, sustainable woodland management, and woodfuel quality.

3.5 Every landowner has a different reason for wanting to plant and manage trees and woodlands (see diagram), and we can help them to design woodlands to suit their needs. We work to integrate tree and woodland planting and management with what landowners want to achieve from their land – be it economic gain, improved biodiversity, educational use, increased recreation and amenity value, an income from carbon trading, woodland certification, etc, or a mixture of some or all of these. We work with landowners over a long time period to build up trust; this longer term perspective and relationship helps to take into account changes to their circumstances over time.

WHY PLANT TREES?

THE FARMER

I'd like to grow woodfuel to diversify my income

THE SCHOOL

We want to create an attractive, fun and healthy learning environment

THE GOLF COURSE

We're keen to separate fairways, create wind breaks and provide shelter for golfers

THE LOCAL AUTHORITY

We want to create a green environment for our residents that delivers multiple benefits

THE HOSPITAL

We need attractive, healing grounds for patients, staff and visitors

THE BUSINESS

We want green surroundings for our workers as this will improve productivity

THE INDIVIDUAL

I want to make my garden more attractive and encourage wildlife

Case study: **Bold Forest Park**

The Elf and Fairy Fair at Sutton Manor in St.Helens, 2012. Photo by McCoy Wynne

Since 1991, The Mersey Forest has brought together a range of partners to transform an area of St.Helens, previously dominated by colliery spoil heaps, into a burgeoning Forest Park and natural asset. South St.Helens has faced significant social, economic and environmental challenges since the demise of the local coal mining industry. However, the creation of a cluster of community woodlands spanning 220 hectares, including Sutton Manor, Clock Face Country Park and Griffin Wood, has dramatically improved the image of the area and offers a future source of economic development.

Landowners including The Forestry Commission and St.Helens Council are working together with the local community to harness the collective potential of the maturing woodlands under the banner of Bold Forest Park. The woodlands are already proving a popular local resource, attracting 200,000 visitors per year. In an area where health and wellbeing are important considerations, the Forest Park provides a valuable space for walkers, cyclists and families.

Partners and funders include:

St.Helens Council
Forestry Commission
ERDF Objective One
NWDA
Natural England
Big Lottery Fund
EU Interreg IVB
St.Helens Chamber
Bold Parish Council
Local community

Related policies:

1. Partnership
7. Funding
11. Economy
16. Recreation
20. Culture

Read the full case study:

merseyforest.org.uk/boldforestpark

Case study: **Sefton Coast Woodlands**

Pine woodlands at Formby on the Sefton Coast. Photo by David McAleavy

Visited by thousands of people each year, Sefton's coastal woodlands were planted over a century ago and provide a magnificent backdrop to the internationally important open dune habitats. Crucially, they are also one of the few remaining habitats in the UK for the red squirrel. Prior to the Sefton Coast Woodlands Forest Plan, however, the woodlands faced significant challenges. There was a lack of investment and no collective long-term vision among the fragmented ownership. This led to the woodlands becoming under-managed. To remedy this, The Mersey Forest was asked to engage as many of the coast's woodland owners as possible and to work with them to develop a comprehensive and long-term plan.

Key issues addressed by the 20-year plan include sustainable management of the woodlands, red squirrel conservation, and supporting recreation and tourism. Management to achieve these aims is carried out by the woodland owners through a successful voluntary partnership. Much has been achieved by this alliance of landowners, including generating sustainable wood products from the woodlands, working with European partners on climate change adaptation, and supporting the economy by providing training opportunities for young people and adults with learning difficulties.

Partners and funders include:

Sefton Council
Natural England
Forestry Commission
National Trust
The Wildlife Trust for Lancashire, Manchester & North Merseyside
Broad range of landowners
ERDF Objective One
Heritage Lottery Fund
ForeStClim (EU Interreg IVB programme)
EU Objective One
Natural England
Big Lottery Fund
EU Interreg IVB

Related policies:

1. Partnership
3. Landowners
5. Management
13. Wildlife
14. Climate
20. Culture

Read the full case study:

merseyforest.org.uk/seftoncoast

Woodlands at Sherdley Park, in urban St.Helens. Photo by Mike Roberts

What

Our work includes tree and woodland planting and management in both urban and rural areas. This is not undertaken for its own sake, but in order to get 'more from trees' – the many benefits of trees and woodlands set out under the Why policies (see policies 11-20). This section sets out the policies relating to this physical transformation of the land.

Policies

Case studies

Policy 4

Planting and design

9 MILLION

THE NUMBER OF TREES OUR PARTNERSHIP HAS PLANTED SO FAR IN MERSEYSIDE AND NORTH CHESHIRE[29]

We will plant trees, woodlands and associated habitats on public and private land in urban and rural areas. Their design will meet the landowners' needs, support long term tree and woodland health and resilience, provide multiple benefits as desired by local communities and partners, and be appropriate to their context. Planting is guided by our Where policies and the UK Forest Standard. It takes into account factors such as landscape, heritage, biodiversity, soils, climate, agricultural land quality, long term management, green infrastructure needs, and Local Plans.

Tree planting in The Mersey Forest has been three times as prolific as the England average (1991 to 2012)[18]

4.1 Around 3,000 ha of woodland or nine million trees have been planted since The Mersey Forest was established in 1991[19], with local communities playing an active part in this. Woodland cover has doubled, from 4% to 8%. We have also created a mixture of other habitats to ensure a greater diversity for wildlife, such as hedgerows, ponds, and wildflower meadows.

4.2 Woodland planting levels vary year on year. This is due to factors such as changing agricultural subsidies, commodity prices, and land availability and ownership. However, it is estimated that the rate of planting in The Mersey Forest has been more than three times higher than in the rest of England between 1991 and 2012. This is despite the fact that The Mersey Forest is relatively more urban, with urban areas covering 20% compared to 5% of England[20].

4.3 This enhanced level of planting is due to the activities of The Mersey Forest partnership, and the targeting of incentives to the area. Whilst challenging, it is imperative that we continue to plant trees and woodlands across both rural and urban areas. It is fundamental to achieving our 'more from trees' vision, which seeks to bring woodland cover in The Mersey Forest up to 20% (this is the equivalent of planting another 15,000 hectares of woodland) and plant individual trees.

4.4 Significant tree and woodland planting is advocated for its many benefits for people, the environment, and the economy (see the Why policies). In the North West of England, there is a call to radically increase tree planting and double woodland cover by 2050[21]. Nationally, there are calls for woodland to be expanded from 10% to 15% of England's land area by 2060[22]; and a Woodland Potential Calculator will assess the extent to which this is achievable and desirable in different areas[23]. Within The Mersey Forest, planting targets remain ambitious (see the Where policies) and have been determined with partners and through the consultation on The Mersey Forest Plan.

4.5 We plant trees and woodlands on many different land types across rural and urban areas, including derelict land, and public land, employment sites, transport corridors, ex-landfill sites, temporary planting, and new developments. We also plant trees on agricultural land and encourage the adoption of agro-forestry approaches. We work alongside landowners, partners, and communities, to realise the opportunities and overcome the challenges associated with each land type and to get communities actively involved in the design and planting where possible. Urban tree planting is increasingly important, and whilst there is less scope here for larger woodlands, there is significant scope for tree planting in, for example,

Photo by Mccoy Wynne

85

PERCENT OF PEOPLE THINK PLANTING MORE WOODS IS A HIGH PRIORITY AND MORE STREET TREES ARE ALSO CONSIDERED IMPORTANT[28]

streets, road verges, parks, school and faith grounds, residential gardens, and smaller parcels of land. Urban trees are vital as they bring The Mersey Forest literally to peoples' doorsteps, and provide a huge range of benefits.

4.6 Over 90% of the trees planted through our Green Streets programme survive; in woodland plantings the survival rate is over 80%, but arguably the lower survival rate here is less of an issue than within streets where the loss would be more noticeable[24].

4.7 Each planting scheme is designed to meet the objectives of the landowner, be appropriate to its context (the right tree in the right place), achieve multiple benefits where possible, and support long term tree and woodland health and resilience (this is especially important with increasing threats from pests and diseases and a changing climate). Appropriate planting is guided by our Where policies and a range of factors such as landscape character, heritage, biodiversity, soils, climate, quality of agricultural land, long term management issues, green infrastructure needs[25], Local Plans, and the desires of communities and partners. All of this informs:

- Where we plant – in some instance planting will be inappropriate
- The form of the planting – e.g. individual trees, clusters of trees, copses, linear woodlands, hedgerows and hedgerow trees, extensions of existing woodlands, woodlands incorporating significant open spaces, and large woodland blocks
- The choice of species – we plant a mixture of species, including native broadleaves, nut, fruit and berry trees, attractive and ornamental trees, conifers, and non-natives where appropriate
- The provenance of seeds and trees – choosing local, UK, and in some instances European sources.

4.8 All planting is in accordance with the UK Forestry Standard[26], which is a government endorsed reference standard for the planning, design and management of forests to ensure sustainability. It sets out legal and good practice requirements, with specific guidelines relating to biodiversity, climate change, the historic environment, landscape, people, soil, and water. In urban areas, we also support the 12 principles of Trees in the Townscape[27] (see policy 6 where the principles are set out), which include three relating to design (make tree friendly places; pick the right trees; seek multiple benefits) and three relating to planting and protection (procure a healthy tree; provide soil, air and water; and create stakeholders).

Related policies:

1. Partnership
2. Communities
3. Landowners
5. Management
7. Funding
8. Monitoring

Related case studies:

1. Bold Forest Park
3. Green Streets

Policy 5

Long term management

Provision will be made for the establishment and long term management of new trees, woodlands, and associated habitats. Management plans will be prepared and implemented for existing and new woodlands, in order to meet the landowners' needs, support long term tree and woodland health and resilience, and provide multiple benefits, as desired by local communities and partners, and meet the UK Forest Standard, taking into account landscape character and biodiversity.

5.1 There are now over 11,000 ha of woodlands in The Mersey Forest[31]. The long term management of this considerable resource is crucial for it to achieve its full potential and bring 'more from trees'. As the new trees and woodlands planted begin to mature, it is an opportune time to reflect on their ongoing management.

THREE TIMES MORE LOCAL WOODLAND IS MANAGED NOW THAN BEFORE THE MERSEY FOREST BEGAN[30]

5.2 At the outset of The Mersey Forest, 2,000 ha of woodlands were managed. This has now more than trebled, with over 7,000 ha of woodlands brought into management. Managed woodland accounts for 65% of woodland in The Mersey Forest[32], compared to an England average of 50%. There are calls to increase the proportion of woodlands in England managed to the UK Forestry Standard, from a current level of 50% to 80% in the next ten years[33].

5.3 Woodlands can be managed for multiple reasons, and we work alongside landowners, partners, and communities to ensure that each woodland is managed to meet their requirements, achieve as many wider benefits as possible, and support long term tree and woodland health and resilience. For example, management can make safe, accessible, and attractive places to visit and discourage anti-social uses; with benches, footpaths, cycleways, signposts, natural play features, and interpretation boards. Traditional management such as coppicing, thinning and creating open spaces and other habitats can improve their value for wildlife. Woodlands can be managed to be provide high quality timber and woodfuel, and yield climate change and water management benefits. The level and type of management varies considerably, from conscious decisions to do nothing, to one off interventions and regular activity. Wherever possible we encourage continuous cover forestry[34], engage communities on management activities, and try to minimise disturbances.

5.4 The costs of managing woodland can be markedly cheaper than maintaining amenity grasslands[35]. Moreover, whilst it is easy to view management as a cost, well managed woodlands can be economically viable, providing a resource or income through timber and woodfuel products. There are lots of creative and exciting

Woodland management at Ainsdale National Nature Reserve, Sefton. Photo by Nigel Blandford

management mechanisms which bring socio-economic and environmental benefits, linking different agendas, and thereby pooling resources across departments and organisations. This could involve business Corporate Social Responsibility programmes, Intermediate Labour Market teams as a route to future employment, or volunteers and Friends of Woodland groups resulting in more active, healthy, and strong communities who cherish their local environment. Innovative links can also be made to users of the harvested material, such as arts and crafts groups and individuals with wood burning stoves.

5.5 We work with landowners and communities when planting, and with existing woodland owners and users, to help them write long term management plans. These can help secure grants for planting and management, and safeguard the investment in trees and woodlands for decades to come. All management is in accordance with the UK Forestry Standard[36]. This is a government endorsed reference standard for the planning, design and sustainable management of forests. It sets out legal and good practice requirements, and includes specific guidelines regarding biodiversity, climate change, the historic environment, landscape, people, soil, and water. In urban areas, we also support the 12 principles of Trees in the Townscape[37] (see policy 6 where the principles are set out), which include three relating to management and monitoring.

5.6 The Mersey Forest team also work with landowners to certify their woodlands. This means that woodland owners can label their products as from a sustainably managed source. The UK Woodland Assurance Standard[38] is a voluntary independent certification, based on the requirements of international schemes (such as the Forest Stewardship Council[39]) and the UK Forestry Standard. Within The Mersey Forest, all of the woodlands owned by St.Helens Council and by the Coast and Countryside Service of Sefton Council have been certified[40].

5.7 We aspire to bring more woodland into management and certification, and to encourage innovative and economically viable management approaches. We will continue to work with partners to secure funding (at the outset wherever possible) for long term management (and in perpetuity where this is possible), which we recognise as a crucial issue.

Related policies:

- 1. Partnership
- 2. Communities
- 3. Landowners
- 4. Planting
- 7. Funding
- 8. Monitoring

Related case studies:

- 1. Bold Forest Park
- 2. Sefton Coast
- 4. Wood Allotments

Case study: **Green Streets in Knowsley**

Streets trees planted through the Green Streets programme in Northwood, Knowsley, 2013. Photo by McCoy Wynne

Since 2008, The Mersey Forest has planted thousands of street trees through its Green Streets programme. Green Streets works in areas of deprivation, brightening residential areas previously bereft of greenery, making them more wildlife friendly and resilient to climate change. It also boosts health and wellbeing and the use of sustainable transport options, encouraging people to walk or cycle to school and work by greening the links to areas of employment, education and training.

In Knowsley alone, we've worked alongside residents to plant over 300 trees, in the neighbourhoods of Huyton, Halewood, Kirkby and Northwood. To do this, we work with a range of partners, including local businesses, housing associations, funding bodies and local authorities. In 2012, we secured funding from the Local Sustainable Transport Fund, which we will be using to deliver over 4km of greener walking and cycling routes in Kirkby. The funding will see The Mersey Forest plant street trees in St.Helens, the Wirral, Liverpool and Sefton over the coming years, greening a total of 22km of streets.

Partners and funders include:

Knowsley Council
Knowsley Housing Trust
ERDF Objective One
Neighbourhood Renewal Fund
The Big Tree Plant
EU Interreg IVB
Forestry Commission Newlands programme
EU Objective One
Natural England
Big Lottery Fund
Local Sustainable Transport Fund (funded by Department for Transport)
Merseytravel

Related policies:

2. Communities
4. Planting
7. Funding
13. Wildlife
16. Access
17. Health

Read the full case study:

merseyforest.org.uk/greenstreetsknowsley

Case study: **Wood Allotments**


Photo by Nigel Blandford

Wood allotments is a new scheme developed in The Mersey Forest which enables woodland owners to engage local communities and manage their woods at the same time. The concept is simple. Local wood burning stove and fire owners pay a small fee to the landowner for the chance to harvest logs from carefully marked trees within a young woodland. They get fresh air, exercise, new skills, and a cheap, locally sourced renewable fuel, while the woodland receives important thinning to ensure its future health.

To put the idea to the test, Cheshire West and Chester Council and community group the Friends of Anderton and Marbury created an initial pilot wood allotment in 2011 in a young plantation at Carey Park, part of Northwich Woodlands. The pilot has proved extremely popular and has now been run for two consecutive winters. This success has meant that local authorities in Knowsley, Sefton and Liverpool are now interested in developing wood allotments of their own.

Partners and funders include:

Cheshire West and Chester Council

Friends of Anderton and Marbury

Related policies:

2. Communities

5. Management

12. Timber

16. Recreation

19. Jobs

Read the full case study:

merseyforest.org.uk/woodallotments

Forest School taster day at Clock Face Country Park, St.Helens, 2012. Photo by Jo Sayers

How

In order to deliver The Mersey Forest Plan efficiently and effectively, a lot of work is required in the background to ensure ongoing support and resources. This section sets out the policies relating to this groundwork.

Policies

Case studies

Policy 6

Strategies, plans, policies, programmes and initiatives

We will seek to influence the development of policies, to ensure the relevance of The Mersey Forest Plan to evolving policy contexts from European to local levels, and to provide opportunities to implement its policies. We will incorporate its vision and policies into partners' strategies, plans, policies, programmes and initiatives.

Related policies:

- 1. Partnership
- 7. Funding
- 8. Monitoring
- 9. Research
- 10. Communication

Related case studies:

- 5. GRaBS
- 7. Natural Choices

6.1 The world of strategies, plans, policies, programmes and initiatives has changed greatly over the lifetime of The Mersey Forest, and will continue to evolve. It is crucial that we scan the horizon and work with partners to get the best policy framework to deliver The Mersey Forest Plan.

6.2 The Mersey Forest is relevant to many different agendas, including those not traditionally associated with trees and woodlands, and across departments within our partner authorities. We use the latest evidence to demonstrate its relevance to these agendas, and work with partners to embed our 'more from trees' vision and policies into as many other strategies, plans, policies, programmes and initiatives as possible. This ensures ongoing policy support and provides opportunities to access funding and deliver The Mersey Forest Plan.

6.3 Our local authority partners' own strategies, plans, policies, programmes and initiatives are crucial here, as are those of the wider partnership of public, private and voluntary sector organisations. The Mersey Forest team influence policy by participating in, coordinating and acting as secretariat to a range of strategic partnerships such as the North West Forestry Forum, North West Green Infrastructure Forum, Natural Economy Investment Forum, Local Nature Partnerships, and Sefton Coast Partnership. The team also seeks to influence other partnerships such as the Local Economic Partnerships. This puts us in a good position to deliver locally on strategic initiatives such as Atlantic Gateway / Adapting the Landscape.

6.4 The statutory planning system is a crucial policy hook. The National Planning Policy Framework[41] states that an "approved Community Forest plan may be a material consideration in

The Mersey Forest is relevant to a wide range of agendas:

preparing development plans and in deciding planning applications". Local authorities set the context for new developments in their area within their Local Plans. They can also take opportunities to support and resource The Mersey Forest, for example through developer contributions, the Community Infrastructure Levy, and the duty to cooperate. Resources secured through planning are matched with other funds to achieve a greater outcome. The team support Local Authority Local Plans and tree and woodland strategies to avoid unacceptable loss or damage of trees, set appropriate levels of replacement planting, encourage planting as a setting for new developments (both on site and in other suitable locations), and cover long term maintenance costs. Area based and neighbourhood plans can also support The Mersey Forest. The Mersey Forest Plan can be used by planners to support the development control process, helping to strengthen cases at planning appeal, public inquiry, and Examination in Public.

6.5 The planning of trees and woodlands does not happen in isolation from that for other green space and natural environmental components, and is increasingly aligned through green infrastructure and ecosystems approaches. Green infrastructure is "our life support system – the network of natural environmental components and green and blue spaces that lie within and between our cities, towns and villages, which provide multiple social, economic and environmental benefits"[42]. Trees and woodlands are important components of this, and therefore green infrastructure policies and ecosystems approaches also support The Mersey Forest. The Mersey Forest can deliver green infrastructure actions relating to trees and woodlands, and can help to meet green infrastructure needs. There are now a number of green infrastructure plans and strategies in place across The Mersey Forest, and the team helps raise the profile in the North West of England[43] and beyond.

6.6 In urban areas, we support the 12 principles set out in Trees in the Townscape[44], which include three relating to planning:

Plan	1. Know your tree resource 2. Have a comprehensive tree strategy 3. Embed trees into policy and other plans
Design	4. Make tree friendly places 5. Pick the right trees 6. Seek multiple benefits
Plant/ Protect	7. Procure a healthy tree 8. Provide soil, air and water 9. Create stakeholders
Manage/ Monitor	10. Take an asset management approach 11. Be risk aware (rather than risk averse) 12. Adjust management to needs

6.7 We involve partners, communities, and landowners in the planning of The Mersey Forest to ensure that trees and woodlands are planted where people want them, are designed and managed to bring benefits, and are cherished by local communities. The Mersey Forest Plan itself has been co-created in consultation with partners and communities, and includes area specific policies (see the Where policies). It is a locally developed plan which is approved by national government.

"AN APPROVED COMMUNITY FOREST PLAN MAY BE A MATERIAL CONSIDERATION IN PREPARING DEVELOPMENT PLANS AND IN DECIDING PLANNING APPLICATIONS"

NATIONAL PLANNING POLICY FRAMEWORK[45]

Policy 7

Funding

The local authority partners will contribute core funding. The Mersey Forest team will secure and manage additional funds from grants, consultancy work, corporate social responsibility, unrestricted donations, and other innovative mechanisms such as through the planning system. We will provide funding to those involved in the planting, management, and use of trees and woodlands.

Related policies:

- 1. Partnership
- 6. Strategies
- 8. Monitoring
- 9. Research
- 10. Communication

Related case studies:

- 1. Bold Forest Park
- 3. Green Streets
- 7. Natural Choices

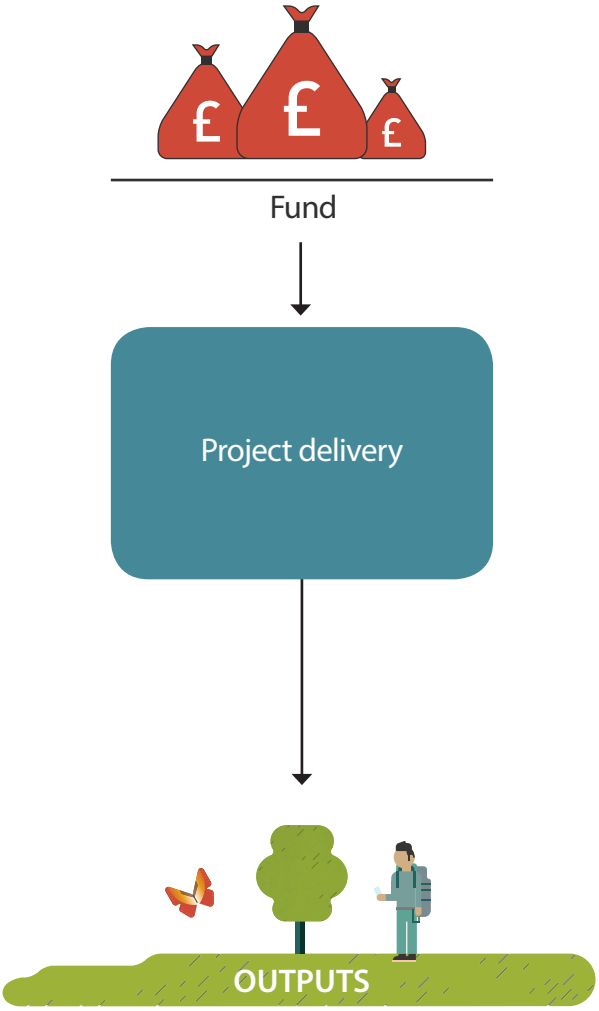
7.1 On average, for every £1 of core funding contributed to The Mersey Forest by our local authority partners, £10 of additional funding is secured from other sources[46]. This is because, rather than using a traditional funding model we use an investment model (see diagram). This makes The Mersey Forest excellent value to investors, and means that investment supports strategic capacity building activities such as partnership development and policy influencing, as well as maximising funds available (through bringing different funds together). It allows us to take a long term approach to funding in order to deliver The Mersey Forest Plan.

7.2 We bring together income streams from a wide range of sources, including public and private sectors, grant giving bodies, local and national government, and European funds. Our funding can be grouped into four main categories: grants, consultancy work, corporate social responsibility[47], and unrestricted donations. The Mersey Forest team use the latest evidence to demonstrate the relevance of The Mersey Forest to a range of agendas – how it can achieve 'more from trees' – in order to secure funds, including from sources which may not have traditionally been associated with the tree and woodland agenda. We are always looking for new funding opportunities and explore innovative mechanisms such as through the planning system, the Community Infrastructure Levy[48], and Payments for Ecosystem Services[49]. Consultancy work by The Mersey Forest team is part of the funding mixture[50]. This brings in finances, raises the profile of The Mersey Forest, and maintains the expertise of the team in key areas (such as green infrastructure, climate change adaptation, and biomass). Once income is secured, an important part of the work of The Mersey Forest team is in effectively managing these funds.

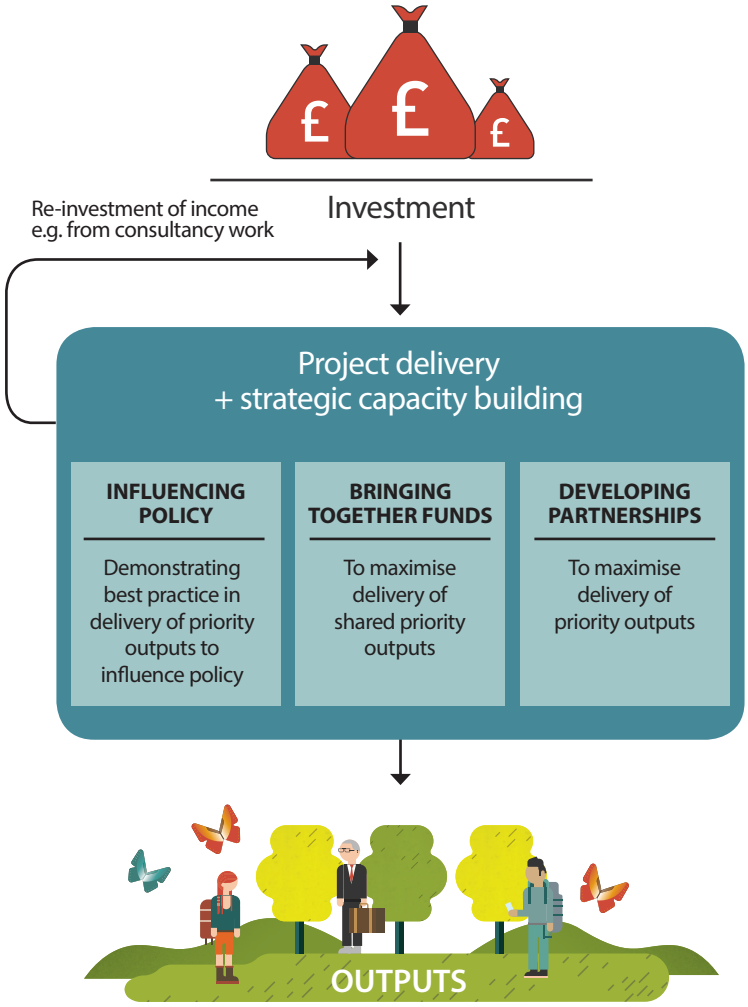
7.3 By matching and attracting funds (bringing funds together), we support a range of activities on the ground, which are delivered by The Mersey Forest partnership, including local communities and landowners. Activities include tree and woodland planting and the long term management of the woodland resource. It also helps to fund activities relating to the use and enjoyment of trees and woodlands. Further, support and training can increase the capability and capacity of community groups, enabling them to play a much more active role in fund raising and developing social enterprises to secure the future of our trees and woodlands. We will continue to work with partners to develop innovative approaches to secure funding for long term woodland management, which we recognise as a crucial issue to address.

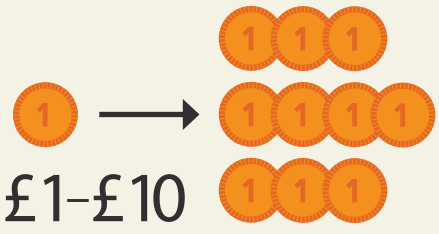
7.4 Our annual Mersey Forest Delivery Plan[51] sets out updated details on funding.

TRADITIONAL MODEL



INVESTMENT MODEL





On average, for every £1 of core funding contributed to The Mersey Forest by our local authority partners, £10 of additional funding is secured from other sources [52]

£41m

£41 million of investment in projects has been secured so far [53]

Policy 8

Monitoring and evaluation

We will continue to monitor, evaluate and report on progress to deliver The Mersey Forest Plan.

8.1 We have been gathering data annually about progress in delivering The Mersey Forest Plan since 1991. We have over 20 years of data, much of which is collected by our partners.

8.2 The Mersey Forest team provide the data to our partners and report it to our Steering Group, so that they can see the progress being made in their areas. The local authorities are required to submit data (set out in the Single Data List[54]) to the national government, and the data we gather can contribute to this. In addition, whilst there are no formal national reporting requirements, we report annually to the Department for Environment, Food and Rural Affairs (Defra), and other interested bodies. Our work in delivering The Mersey Forest Plan will also contribute locally to Defra's Sustainable Development Indicators[55].

8.3 The data can be analysed in numerous ways. It can be compared to baseline figures from before the inception of The Mersey Forest to see the difference that has been made. Annual variations and longer term trends can help identify any potential issues to overcome. And it can be compared with national trends to see our impact. We increasingly use a geographic information system to capture data, so that we can see the changes made spatially.

8.4 In addition to this annual monitoring, the team undertakes a variety of evaluations and studies. These include:

- Public awareness surveys[56] – To gain an understanding of awareness of The Mersey Forest, levels of support for the work we do, and information on visits to woodlands. Telephone interviews with 1,104 and 1,121 residents were undertaken in 2006 and 2010, respectively.
- Partner surveys[57] – To gather information on the perceptions of different partners about The Mersey Forest and how it operates, in order to meet expectations.
- Funder and supplier surveys – To gain different perspectives on The Mersey Forest.
- Team surveys – To continue to develop The Mersey Forest team.
- Comparator study[58]– To assess the social, economic and environmental impact of The Mersey Forest, both when compared with adjacent areas and when compared with data from before The Mersey Forest's inception.
- Economic valuations[59] – To quantify the benefits generated by interventions.
- Project evaluations[60] – To demonstrate the impact of specific projects.

8.5 As part of this monitoring, the team archives news stories and blogs, gathers quotes from people who have been involved, and keeps an active record of photographs. Our archive includes over 46,000 photos taken to date.

8.6 Monitoring and evaluation is vital to show the outcomes from investments in The Mersey Forest. It helps us to demonstrate the difference that The Mersey Forest makes and to effectively communicate and promote our achievements, many of which have been highlighted throughout this Plan. It also underpins our ongoing work, provides evidence for policy advocacy and to incorporate into funding bids, helps target specific interventions, and informs research. The Mersey Forest team will continue to work with partners to develop what we monitor and how we do this.

8.7 Our annual Mersey Forest Delivery Plan[61] sets out updated monitoring figures.

Related policies:

- 1. Partnership
- 6. Strategies
- 9. Research
- 10. Communication

Related case studies:

- 2. Sefton Coast
- 3. Green Streets
- 7. Natural Choices

Northwood Forest Hills, Knowsley, in 2008 before its transformation and afterwards in 2012. Photos by Les Starling and The Mersey Forest team

> **The Mersey Forest has made a major contribution to the area, both when compared with adjacent areas and when the present day is compared with data from before the Forest's inception, delivering social, economic and environmental benefits**

The Mersey Forest Comparator Study[62]

Policy 9

Research, evidence and mapping

We will ensure that ongoing planning and delivery of The Mersey Forest Plan is informed by a robust evidence base, drawing on the latest research and mapping. We will encourage and support research and debate into key issues impacting on the delivery of The Mersey Forest Plan.

LIVERPOOL'S GREEN INFRASTRUCTURE STRATEGY, DEVELOPED BY THE MERSEY FOREST TEAM, WAS COMMENDED AT THE ROYAL TOWN PLANNING INSTITUTE AWARDS[63]

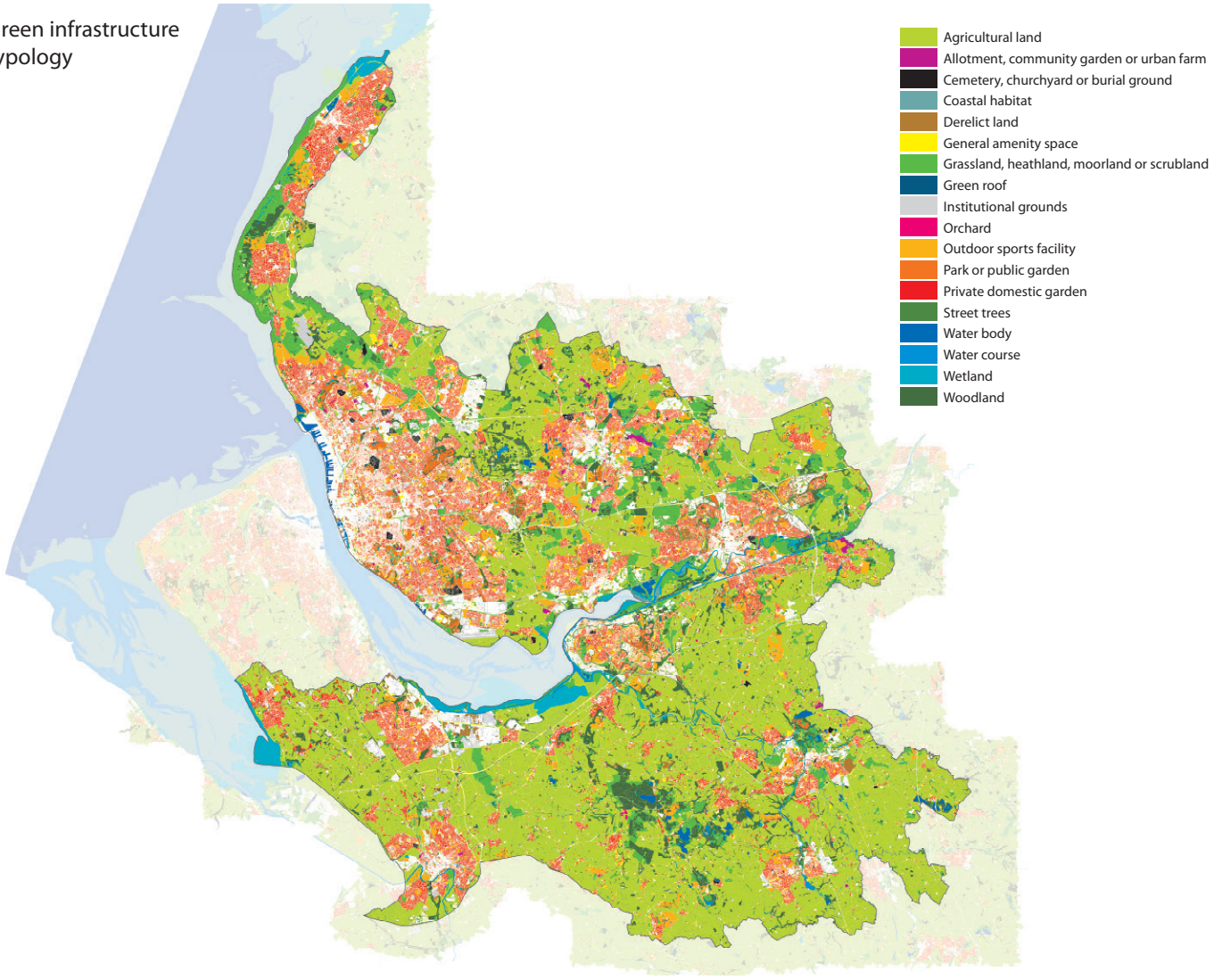
9.1 Research, evidence and mapping underpins the delivery of The Mersey Forest Plan. It helps us to strengthen the case as to why The Mersey Forest is important and to refine how we implement the policies, enabling us to be reflective practitioners.

9.2 The Mersey Forest Plan is informed by up-to-date research and mapping. For example, it makes use of data from our ongoing monitoring, as well as mapping undertaken to aid green infrastructure planning within Liverpool City Region and across our area[64]. A strong evidence base is essential as, in line with the National Planning Policy Framework[65], The Mersey Forest Plan "may be a material consideration in preparing development plans and in deciding planning applications". It also makes us better equipped to demonstrate the benefits of planting and managing trees and woodlands to a broad range of partners, landowners, and funders. It ensures that our actions and communications are informed by the latest thinking and best practice in community participation, design, planting and management, in order to get 'more from trees'.

9.3 Staying informed of and contributing to research ensures that The Mersey Forest remains relevant and delivers on key and emerging agendas. For example, in the early 1990s climate change was not the key policy driver that it is now. Whilst the original Mersey Forest Plan referred to the benefits of trees and woodlands in locking up carbon and improving the local climate of open spaces, in this latest version of the Plan climate change has increased prominence and a dedicated policy. Similarly, whilst education features in the original Mersey Forest Plan, our recent work has focussed on helping teachers to become Forest School leaders and is backed up by research that The Mersey Forest team have been involved with, evaluating the impact of Forest School on pupils, teachers and parents[66]. The team are involved in research on green infrastructure agendas, including through the North West Green Infrastructure Think Tank which engages with academics.

9.4 Mapping is an increasingly important aspect of our work, helping with planning and delivery, demonstrating where activity

Green infrastructure typology



has taken place and where it is most needed, and informing green infrastructure planning. The team have pioneered an innovative green infrastructure mapping approach which has been acknowledged nationally[67], applied in different contexts across Europe[68], and has even informed green infrastructure planning in African cities[69]. It has been used to underpin green infrastructure strategies, including Liverpool's Green Infrastructure Strategy and Liverpool City Region's Green Infrastructure Framework, and can help to target and guide what is most needed from the woodland planting set out in the Where policies of this Plan.

9.5 Over the years, the team have developed strong relationships with universities; their research informs our work and vice versa. The team work with universities in a number of ways: giving lectures, working on research projects alongside academics, being interviewed for student and academic projects, contributing to and co-funding theses, hosting placements, employing recent graduates, evaluating our projects, authoring academic papers, and presenting at conferences.

9.6 The Mersey Forest team encourages ongoing debate within the wider environmental sector and beyond, through involvement and often coordination of key networks, including the North West Green Infrastructure Think Tank and Forum, the North West Forestry Framework, and the Network for Early Career Researchers of Ecosystem Services.

9.7 In addition, we will encourage citizen science, which has an important role to play in aiding research and monitoring, with members of the community helping to collect larger data sets than would otherwise be possible. This has been used to date in looking at issues such as wildlife recording[70], tree diseases[71] and the recording of seasonal events[72]. The use of technology can also assist in the gathering of such data.

Related policies:

- 1. Partnership
- 6. Strategies
- 7. Funding
- 8. Monitoring
- 10. Communication

Related case studies:

- 2. Sefton Coast
- 5. GRaBS
- 6. Forest School

Policy 10

Communications

We will connect with, listen to, inform, energise, and influence key audiences ranging from local communities to national decision-makers. Our communications will promote the benefits of trees and woodlands, as well as progress towards delivering The Mersey Forest Plan, in ways that resonate with our audiences, using a wide range of online and offline communication channels.

£180K

THE AMOUNT OF PRESS COVERAGE THAT THE MERSEY FOREST RECEIVES PER YEAR IN LOCAL, NATIONAL AND TRADE PUBLICATIONS[73]

10.1 Strong communication is essential to delivering The Mersey Forest Plan and achieving our 'more from trees' vision. It underpins the existing partnership and helps us engage new partners and funders. It creates vital public and political support for our work. And it inspires more people to appreciate, enjoy and play an active role in their local woodlands. This helps to create a new woodland culture where trees are part of our consciousness and everyday lives.

10.2 It is something that all partners can and should contribute towards. Through our full range of communications channels, together we aim to:

- Build our audience by reaching and connecting with local people, communities and groups, landowners, officers and councillors within our local authority partners, and with the wider partnership, spanning both public and private sector, and local, national and European organisations.
- Listen carefully and regularly to our audience to help inform everything we do. This ranges from regular face-to-face meetings within the partnership, through to keeping abreast of relevant opportunities and public opinion on social media. The Mersey Forest Plan itself has been developed in close consultation with local communities and partners.
- Promote our achievements in ways that are meaningful to our audience, and ensure that our accomplishments are recognised and valued for the economic, social and environmental benefits that they bring. This generates increased public and political support for The Mersey Forest, aiding future delivery, and provides recognition and valuable publicity for partners.
- Inspire local communities and visitors to make even greater use of local woodlands, and to get involved in planting and woodland management. This leads to healthier, happier, more environmentally-aware people – and more cohesive communities.

Some of the ways The Mersey Forest communicates

On paper

Press releases
We target local, regional and national publications and leading trade journals. In 2012, we generated £181,714 in equivalent advertising value through our press activity.

Case studies
A visual and concise medium, demonstrating the impact of our work on a range of agendas. They aid our influencing and fundraising.

Academic papers
The Mersey Forest team authors and contributes to academic papers on subjects ranging from natural play to forestry, helping strengthen our reputation.

Leaflets and flyers
These promote events and provide information and guidance. Includes our popular series of "How to" guides for landowners and community groups.

The Mersey Forest Plan
This plan sets out our long-term vision and priorities, and is an important pillar of our communications.

Reports
These summarise key projects, further understanding of important issues, and help to influence policy.

Online

merseyforest.org.uk
Contains information about our work for a range of audiences. We update the news section weekly and encourage partners to link to the site.

Social networks
Social media gives us the power to speak directly with some of our key audiences.

discoverthemerseyforest.co.uk
This site gives people information about walking, cycling and horse-riding routes in The Mersey Forest area.

Blogs
We administer a number of other websites apart from our own, including five "Friends of the Woodlands" blogs.

E-newsletters
Issued quarterly to our partners and to our 1500 supporters, these provide tailored news from each local authority.

Search engine marketing
Search engine optimisation and Google advertising increases our visibility, driving traffic to our website.

Online marketing campaigns
Campaigns such as Walk in the Woods Month encourage our followers to engage with our brand and their local environment.

On the ground

Meetings with the partnership
These include The Mersey Forest Steering and Working Groups and annual one-to-ones between the director of The Mersey Forest and local authorities.

Events
These include professional events such as conferences, lectures and presentations, and events for the general public such as the Risley Moss Green Safari.

Signage
Signage on roads and at sites gives people a notion of locality - The Mersey Forest is a place, not just a partnership.

Sponsorship of business and environmental awards
These awards raise our profile among the business community and make connections with successful local companies.

Photography and video content
We use professional photography and video content to visually display the impact of our work on the ground.

- Project a leading image – both of The Mersey Forest and of our individual projects. Through our modern and consistently applied visual branding and our timely communications on key issues we can position ourselves as a leader and influence key local and national decision-makers.

10.3 We take a coordinated and planned approach to achieving these aims through our communications strategy and our annual and monthly plans which set out upcoming campaigns and news stories. Resources such as our visual identity guidelines[74] and Book of Messages[75], which contains key facts and useful descriptions of our work, are also provided to help all partners to communicate about The Mersey Forest clearly and consistently, as does our website and The Mersey Forest Plan itself.

10.4 Each audience will have their own interests and ways of finding out about The Mersey Forest, and therefore we will use different methods of communication (see diagram) and tailor the message for each audience.

10.5 The Mersey Forest team measures the progress towards our aims through a range of metrics. These include our regular public awareness surveys, senior decision-maker interviews, website analytics, press coverage and newsletter readership figures. Our public awareness survey in 2010 found that 45% of local residents had heard of The Mersey Forest and 93% supported the idea of having a Community Forest in their area[76].

10.6 It is important that everyone involved in the delivery of The Mersey Forest Plan takes opportunities to promote and communicate the work, achievements and benefits of The Mersey Forest as widely as possible, both within their own organisations and networks and further afield.

Related policies:

- 1. Partnership
- 2. Communities
- 3. Landowners
- 6. Strategies
- 7. Funding

Related case studies:

- 2. Sefton Coast
- 5. GRaBS
- 6. Forest School

Case study: **GRaBS**

People enjoying the tree shade in Chavasse Park in the centre of Liverpool. Photo by McCoy Wynne

Through the GRaBS (Green and Blue Space Adaptation for Urban Areas and Eco-Town) project, we worked with European partners to integrate climate change adaptation into planning and development. The Mersey Forest created a suite of resources, aimed at professionals and communities, drawing upon the latest evidence and research. The tools are being used to inform strategies, plans, policies, programmes and initiatives in the North West of England and beyond.

The seven key resources developed include a guidance document with recommended green infrastructure actions to combat climate change. This is underpinned by an evidence base and report, summarising key findings such as how green infrastructure keeps urban areas cool, helps wildlife adapt, and reduces flooding. A mapping tool was developed to assess potential risks and vulnerabilities to climate change, whilst training materials were created to engage communities on the topic, and a toolkit to enable a "green infrastructure score" and potential interventions to be determined for new developments. Finally, online STAR tools test the impact of different greening, development, and climate scenarios on surface temperatures and runoff.

University of Manchester Centre for Construction and Innovation, TEP
CLASP, Liverpool City Council

EU Interreg IVC GRaBS partnership led by the Town and Country Planning Association
NWDA
North West Climate Change Partnership

Community Forests Northwest (now Community Forest Trust)

Related policies:

6. Strategies
9. Research
14. Climate
15. Water

Read the full case study:
merseyforest.org.uk/grabs

Case study: **Forest School**

Children taking part in Forest School at Windmill Hill Primary School, Halton, 2009. Photo by McCoy Wynne

Forest School enables children to have their lessons, explore natural play, gain basic practical skills, and learn about the environment in a woodland setting. Since 2009, we have worked with schools and others to adapt woodland sites for Forest School sessions, capacity-build through accredited training, and coordinate communication between practitioners. We have also contributed to the evidence base by conducting research, alongside the practical delivery of sessions, into the experience and benefits of Forest School for pupils, teachers and parents.

One of the first schools in The Mersey Forest to benefit was Windmill Hill Primary School in Halton. Having helped the school to create woodland in their grounds in 1994, in 2009 we then helped the school to manage the woodland, boosting wildlife and making the site suitable for outdoor lessons. We began leading Forest School sessions with Year 4 and 5 pupils, while mentoring staff and encouraging them to undertake their own Forest School training. The school now regularly runs sessions independently and continues to manage its now maturing woodland.

Partners and funders include:

The Big Tree Plant
Access to Nature (Big Lottery and Natural England)
Cory Environmental Trust
Forest School Initiative Lancashire
Liverpool John Moores University
Norwood Primary School, Windmill Hill Primary School, Widnes Tennis Academy
INEOS ChlorVinyls
Natural England
Sefton Council
Cheshire Wildlife Trust
EU Objective One
Natural England
Big Lottery Fund
EU Interreg IVB

Related policies:

- 2. Communities
- 9. Research
- 10. Communication
- 13. Wildlife
- 17. Health
- 18. Education

Read the full case study:

merseyforest.org.uk/forestschool

Children at Mab's Magical Fair, Mab Lane Community Woodland, Liverpool, 2013. Photo by McCoy Wynne

Why

Our vision is to get 'more from trees'. To do this, we try to achieve multiple benefits from tree and woodland planting, management and other activities. The policies in this section set out some of these benefits. They are not presented in order of priority and are interconnected to each other. Indeed, often the best results are achieved from projects which combine the benefits in innovative ways.

This is the basis of green infrastructure; "our life support system – the network of natural environmental components and green and blue spaces that lie within and between our cities, towns and villages, which provide multiple social, economic and environmental benefits"[77]. We use green infrastructure mapping (see policy 9) to help target tree and woodland planting and management activities to where they are most needed.

Policies

Case studies

Policy 11

The economy and tourism

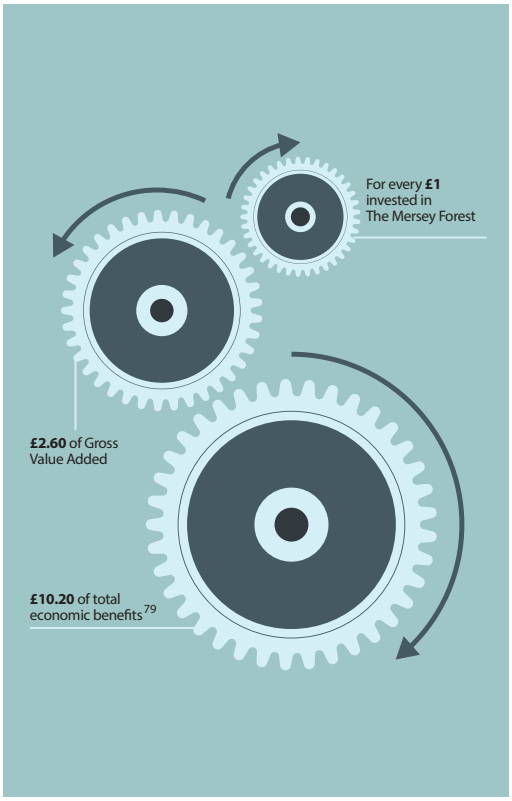
We will ensure that new planting and woodland management makes a significant contribution to strengthening the local economy through: creating attractive settings for housing and businesses; enhancing transport corridors and gateways; enhancing tourist settings and creating new visitor attractions such as the Forest Parks; facilitating landscape enhancement as part of economic development initiatives; and providing multiple benefits and a range of ecosystem services.

5 FOREST PARKS
ARE BEING DEVELOPED:

> CREATING INFRASTRUCTURE
> ATTRACTING VISITORS
> PROVIDING BUSINESS OPPORTUNITIES

11.1 The Mersey Forest makes an important contribution to the economic development of Merseyside and North Cheshire. Our 'more from trees' vision seeks to revitalise a woodland culture, and bring economic and social benefits through our transformed environment, making it one of the best places in the country to live. The economic benefits of trees and woodlands are consistently undervalued in decision making[78]; there is an economic dimension, although not necessarily a market value, to all of the Why policies set out in The Mersey Forest Plan.

11.2 Trees and woodlands play an important role in job creation. Some jobs within the forestry sector are directly related to trees and woodlands, including commercial forestry and social enterprises, and jobs relating to tree growing and nurseries, planting and management, wood processing and the creation of marketable products, and in recreation and tourism. Other jobs are supported indirectly by 'setting the scene for growth' – providing an attractive setting for people and businesses. An attractive environment has a catalytic effect on local economic regeneration, encouraging investment, helping to attract and retain businesses, industries, entrepreneurs, and a skilled workforce, and leading to further improvements. Businesses also benefit from a happier and more productive workforce. A community woodland on the former



How trees bring economic benefits

The economy and tourism

Setting the scene for growth, attracting businesses, a workforce and visitors, increasing labour productivity

Woodfuel, timber and forest industries

Providing materials to make marketable products

Wildlife, biodiversity and ecosystems

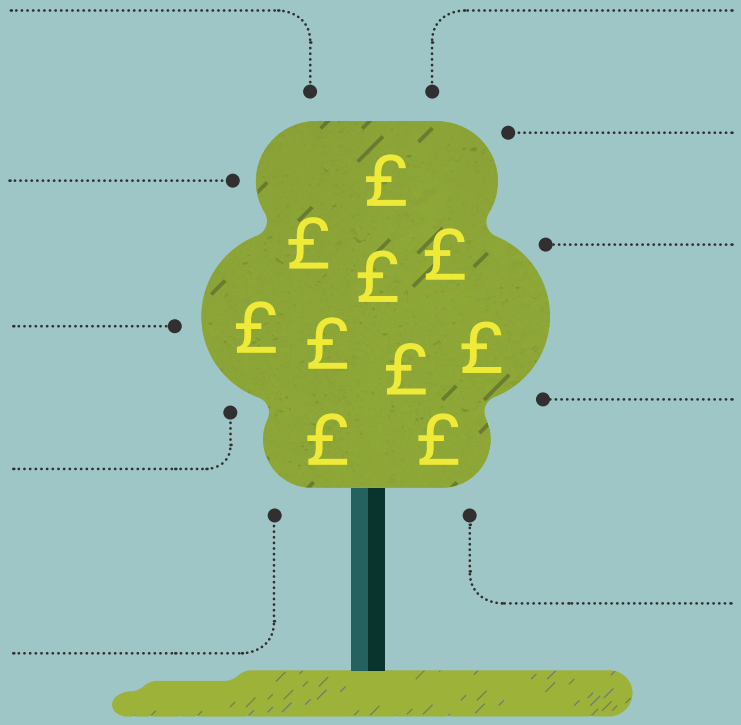
Providing services such as clean air, water, fuel, materials, climate and flood regulation

Climate change

Through market value for carbon, increased resilience and reduced impacts, risk and associated costs

Flood alleviation and water management

Reducing flood damage and water treatment costs



Access, recreation and sustainable travel

Linking people to employment sites

Health and wellbeing

Reducing costs to the Natural Health Service

Natural play and education

Improving educational attainment instilling transferable skills

Life-long learning, training, skills and jobs

Creating jobs directly in forestry sector and indirectly by attracting businesses, helping people enter the employment market

Culture, heritage and landscape

Creating an attractive setting for people to live, work, visit and invest

colliery site at Colliers Moss in St.Helens directly enhanced property values by £15 million, and provided the setting for new development to the value of £75 million[80]. A greener environment commands increased house, land and rental prices, and decreased sales times, and in urban areas access to private outside or green public space is one of eight key features that people expect from their homes[81].

11.3 A good impression is created through the improved appearance of key transport corridors, gateways, and town centres, and by regenerating derelict sites. In The Mersey Forest, trees and woodlands have been planted on a range of sites, including derelict land, employment sites, land associated with new development, and along transport corridors. Planting along transport corridors also helps with noise abatement[82], can complement traffic calming measures, provides linear corridors for wildlife, and helps improve air quality[83].

11.4 Woodlands can be a green tourism attraction in their own right – a place for outdoor recreation and leisure activities – and can enhance existing tourist attractions. In The Mersey Forest, a new generation of Forest Parks is creating infrastructure, bringing visitors, and providing opportunities for local businesses to develop and grow.

11.5 The economic development of the area is supported by two Local Enterprise Partnerships for Liverpool City Region and Cheshire and Warrington. Liverpool City Region has a focus on low carbon, knowledge and visitor economies, along with the port[84]. Cheshire and Warrington priorities include a skilled and productive workforce, business investment, infrastructure and connectivity, the rural economy, promoting the area, low carbon, worklessness, and flood risk[85].

11.6 We seek to influence strategic partnerships such as the Local Economic Partnerships. This puts us in a good position to deliver locally on strategic initiatives such as Atlantic Gateway / Adapting the Landscape. We also work with a wide range of partners including the private sector, economic decision makers, and non-environmental sectors, to improve understanding of the economic benefits and ecosystem services provided by green infrastructure. We will demonstrate the importance of investing in, and thereby secure funding for, tree and woodland planting and management. This helps to better link the 'buyers' of ecosystems services with the landowners who are the 'providers' of the services. The Mersey Forest team will use and develop tools, such as the Green Infrastructure Valuation Toolkit[86], which helps put an economic value on investments.

Related policies:

- 1. Partnership
- 6. Strategies
- 12. Timber
- 16. Recreation
- 19. Jobs
- 20. Culture

Related case studies:

- 1. Bold Forest Park
- 2. Sefton Coast
- 3. Green Streets

Policy 12

Woodfuel, timber and forest industries

80

PERCENT OF TIMBER IN THE UK IS IMPORTED.[87] THERE IS A BIG OPPORTUNITY TO EXPAND LOCAL PRODUCTION

We will design and manage woodlands, wherever possible, to produce woodfuel and high quality timber. Local production and consumption of traditional and innovative products will be encouraged through marketing, promotion, advice and support. This will support the transition to a low carbon economy and local jobs.

12.1 There is significant potential within The Mersey Forest to create thriving, innovative and entrepreneurial woodfuel, timber and forest industries. This benefits the local economy and jobs, helps reduce greenhouse gas emissions, supports the transition to a low carbon economy, and creates a new woodland culture.

12.2 The manufacture of materials, particularly those used in construction, has high greenhouse gas emissions. Timber and wood can replace energy intensive materials such as concrete and steel[88] and the wood in the buildings also becomes a carbon store in its own right. In 2009 wood-based materials in the UK housing stock stored 19 million tonnes of carbon and, if the market grows at its current rate, an additional 10 million tonnes will be stored by 2019[89]. Locally grown products can help reduce global deforestation and transportation, with its associated carbon emissions.

12.3 Woodfuel or biomass is a low carbon energy source which reduces our reliance on fossil fuels, helping to meet the UK's carbon reduction and renewable energy targets[90]. Using local woodfuel for heating is one of the most cost-effective and resource efficient ways of decreasing UK greenhouse gas emissions[91], especially in properties which are not on the mains gas grid[92]. Under-managed woodlands are a potential woodfuel resource; in The Mersey Forest 100,000 m^3 of timber and biomass could be sustainably harvested per year[93].

12.4 We recognise that not all woodlands are suitable for commercial forestry and that other benefits may be more desirable in some cases. However, The Mersey Forest team work with landowners to maximise the income opportunities from timber products and improve the commercial potential of their trees. This could be through the sale of logs and timber as a result of ongoing woodland management. We will encourage forestry-related social enterprises.

12.5 We work with a range of partners, including other woodland initiatives, to remove barriers and create conditions for a viable and self sufficient forest industry, developing both markets and supply chains. This includes advising and training woodland owners and businesses, encouraging local products (e.g. through public procurement), supporting timber use and woodfuel heating in public buildings, encouraging supportive policies, and ensuring that value-added processing is carried out locally. We promote financial packages, such as the Renewable Heat Incentive, which stimulate demand for biomass. The Mersey Forest team created a Renewable Heat Incentive calculator and toolkit to enable the easy deployment of biomass heating systems within the public sector[94].

12.6 We encourage woodland management to support long term tree and woodland health and resilience, which is important in relation to pests and diseases which affect commercial forestry species. All management activities are in accordance with the UK Forestry Standard[95], which is a government endorsed reference standard for the planning, design and management of forests to ensure sustainability. It sets out legal and good practice requirements, with specific guidelines relating to biodiversity, climate change, the historic environment, landscape, people, soil, and water.

Related policies:

- 3. Landowners
- 5. Management
- 11. Economy
- 14. Climate
- 19. Jobs
- 20. Culture

Related case studies:

- 2. Sefton Coast
- 4. Wood Allotments

Adding value to timber harvested on the Sefton Coast. Photo by David McAleavy

Policy 13

Wildlife, biodiversity and ecosystems

We will ensure that the natural regeneration, planting and management of trees, woodlands and associated habitats has a positive impact on biodiversity, complementing other important habitats. Ecological networks will be maintained, enhanced, repaired and created to allow species to move. In some instances, for example where a site has a statutory designation or is a Local Wildlife Site for a different habitat, planting is likely to be inappropriate.

Photo by Anthony Beyga

Photo by Steve Williams

Photo by Mike Roberts

Photo by Helen Lacy

13.1 The beauty and diversity of the natural environment inspires us, enriches our lives, and boosts our health and happiness. In fact, nature provides the essentials of life – clean air and water, food, fuel and raw materials, climate regulation, and flood amelioration. These benefits are increasingly referred to as ecosystem services[96] or green infrastructure benefits[97].

13.2 But wildlife is under pressure – from habitat loss, fragmentation, degradation, and climate change. The Lawton Report used four words to describe what we need to do to enhance the resilience and coherence of our ecological networks: more, bigger, better, and joined[98]. The Natural Environment White Paper sets out ambitions for protecting and improving our natural environment[99].

13.3 Not all woodlands are the same. Within The Mersey Forest, Local Biodiversity Action Plans for Cheshire and North Merseyside identify the most important woodland habitats including lowland mixed broad-leaves / deciduous woodland, wet woodland, lowland wood-pasture and parkland, traditional orchards, hedgerows, conifers, urban trees, and urban green infrastructure; and associated species including bluebell, black poplar, red squirrel, song thrush, water vole, dune helleborine, urban birds, and invertebrates[100]. Ancient woodland is the richest in wildlife, with more threatened species than any other UK habitat[101]. Its area has declined and now covers only 2.6% of England[102] and 0.4% of The Mersey Forest[103]. It is irreplaceable and will be safeguarded along with veteran trees.

13.4 We will plant trees and woodlands as buffers to existing woodlands and to connect them into coherent networks to help wildlife move in response to climate change and to avoid local extinctions. Hedgerows and hedgerow trees will provide habitats for farmland birds and, along with street trees, will form connectivity features. We will increase urban tree cover, making more wildlife friendly places, bringing people into contact with wildlife, and fostering a greater appreciation of the natural environment. We will encourage landowners to plant species that provide shelter and food for wildlife, such as native species, pollen and nectar rich trees which are important for pollinating insects, and fruit and berry trees,

Long eared owl chicks in The Mersey Forest. Photo by Mike Roberts

Photo by Anthony Beyga

Photo by Mike Roberts

Photo by Mike Roberts

Photo by Mike Roberts

Photo by Mike Roberts

Photo by Mike Roberts

bearing in mind that other considerations are also important. We will encourage natural regeneration and provenance of trees and seeds to create more ecologically rich and genetically diverse woodlands, which may be more resilient to pests and disease. We will improve the management of existing woodlands for wildlife, leaving deadwood on site for insects, fungi, mosses and lichens, and paying attention to the spaces beneath and between the trees. For example, the Bluebell Recovery project helps to re-establish native bluebells in our woodlands[104].

13.5 We will plant and manage trees and woodlands to complement other important habitats, such as grasslands and wetlands. In some instances, for example where a site has a statutory designation or is a Local Wildlife Site for a different habitat, this may mean planting is inappropriate (the Where policies set out some of these). We will also create associated habitats, such as wildflower meadows, ponds, wetlands, and hedgerows. For example, the Bumblebee Haven project created bee-friendly wildflower meadows with volunteers in Liverpool[105].

13.6 Owned by the Woodland Trust, Wheeldon Copse in Alvanley, Cheshire, is an exemplar of tree planting in combination with wildflowers. It was established using an experimental approach developed by Landlife, who are based at The National Wildflower Centre within The Mersey Forest. Woodland wildflower seeds were sown on inverted soil prior to any trees being planted. The soil inversion turns the weed free and lower fertility subsoil over the nutrient-enriched and weedy topsoil. This buries the weed seed bank, reduces competition for moisture, and makes the topsoil only accessible to trees. This encourages deeper rooting of the trees and improves establishment and growth rates; producing more robust plantations that are better able to withstand gales and droughts. The low fertility subsoil provides the ideal growing medium for wildflowers, free of weed competition[106].

13.7 We will take care with regard to species which may be impacted by planting and management, including those listed on the Red List and UK and local priorities[107]. For example, we have policies relating to the Red Squirrel Stronghold in Sefton[108], and there are outlying populations in Knowsley, St.Helens, and Liverpool, as well as a sighting in Warrington. Permanent grasslands and arable fields in parts of Sefton, north Knowsley and St.Helens are important for pink-footed geese, who feed away from trees and roads. Planting near to ponds is desirable in some instances to link them and create habitats for amphibians, invertebrates and ground nesting birds; in others it is inappropriate, such as where they contain great crested newts. Limited willow and alder planting is a food source for water voles but too many trees may result in habitat loss, however willow thickets in damp places can support willow tits which have suffered recent declines. And tree planting can support hare populations, but not if it impacts on large species rich grassland areas or forms a barrier to movements.

13.8 Tree and woodland planting and management is undertaken in accordance with the UK Forestry Standard, which has specific guidelines relating to biodiversity[109]. This ensures that we meet legal requirements and follow good practice, including relating to protected and priority habitats and species. We will undertake assessments on a site by site basis, informed by Local Biodiversity Action Plans, Liverpool City Region Ecological Framework[110], Cheshire West and Chester's ECOnet project[111], and Local Nature Partnerships for the Cheshire Region and Liverpool City Region[112].

Related policies:

- 4. Planting
- 5. Management
- 14. Climate
- 15. Water
- 18. Education
- 19. Jobs

Related case studies:

- 2. Sefton Coast
- 3. Green Streets
- 8. Natural Play

Policy 14

Climate change

7KW

THE COOLING PROVIDED BY INDIVIDUAL TREES - EQUIVALENT TO TWO AIR CONDITIONING UNITS[113]

We will safeguard, plant and manage trees and woodlands for their role in climate change mitigation, adaptation, and resilience – such as providing urban cooling, carbon storage, flood alleviation and water management, helping wildlife adapt, low carbon fuels and products, sustainable travel routes, and outdoor recreation opportunities. We will design, plant and manage them to increase their resilience to potential climate change impacts, such as changing pests and diseases.

1.3 MILLION

TONNES OF CARBON WILL BE STORED BY THE EXISTING WOODLANDS IN THE MERSEY FOREST OVER AN 80-YEAR PERIOD[114]

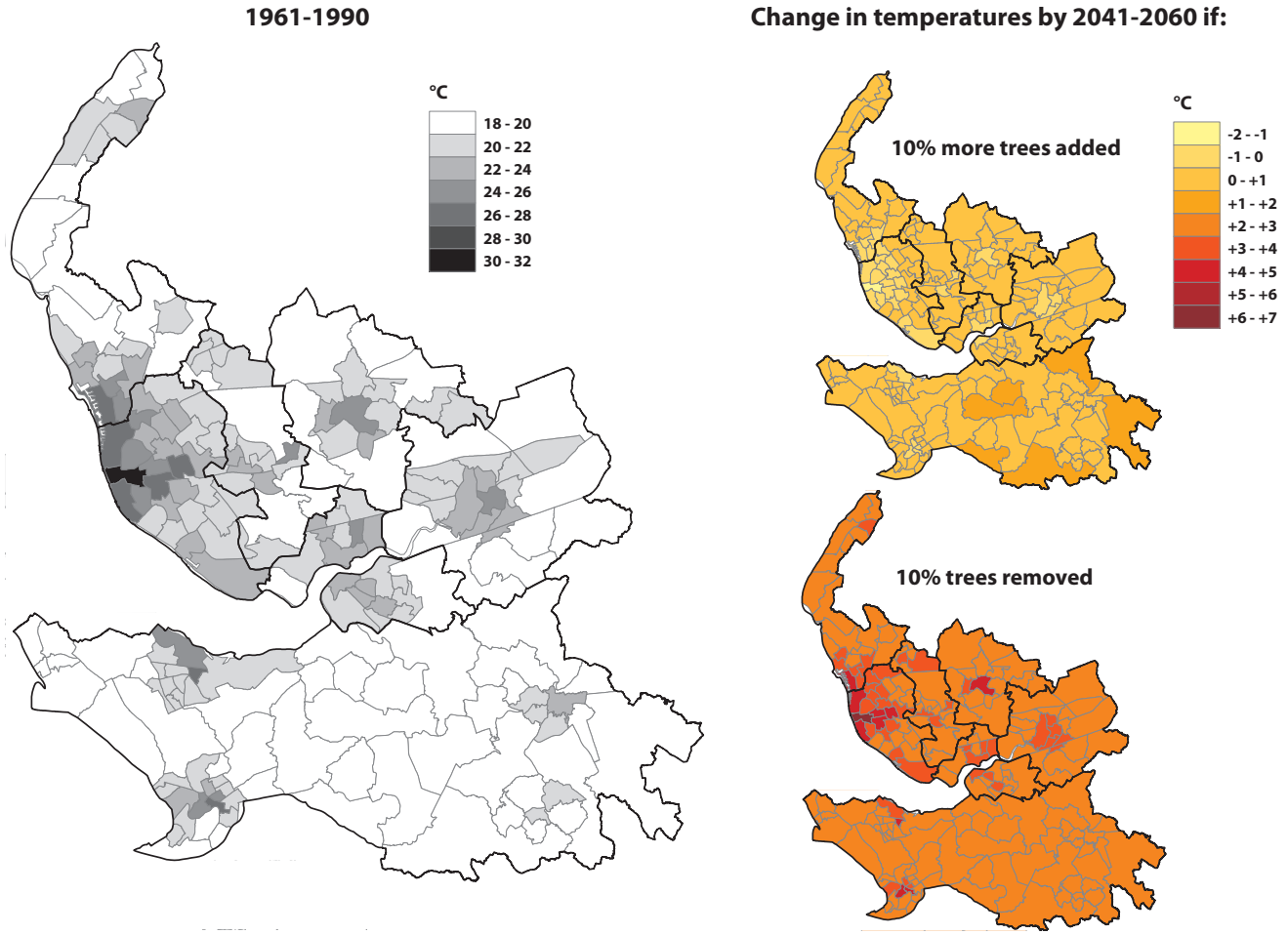
14.1 Climate change is a significant threat to our social wellbeing and economic future, with impacts felt locally as well as globally[115]. We are likely to experience warmer and wetter winters, hotter and drier summers, and more extreme weather such heatwaves, heavy rain, flooding and droughts[116]. This will present risks and opportunities for business, health and wellbeing, buildings and infrastructure, agriculture and forestry, and the natural environment[117].

14.2 Trees and woodlands will be affected by changes in climate, but there is also a clear need for more trees and woodland to combat climate change. They both remove and reduce carbon dioxide in the atmosphere (known as mitigation) and help us adapt to likely changes[118]. The activities of The Mersey Forest will deliver local action on climate change, in keeping with local authority climate change plans, the North West Climate Change Partnership[119], and the National Adaptation Programme[120].

14.3 Woodland creation is a highly cost-effective and achievable way to reduce carbon dioxide when compared to other sectors[121]. Trees and woodlands store carbon in their wood and soils, provide a low carbon energy source in the form of woodfuel, and low carbon (and carbon storing) materials in the form of timber and wood products. They can also contribute to a reduced need to travel by car, by providing greener, more attractive and sustainable walking and cycling routes and accessible local recreation areas.

14.4 Trees and woodlands help us to adapt to likely changes in climate. Heatwaves will mean that urban areas in particular become increasingly uncomfortable, with vulnerable members of society feeling the impacts most[122]. In 2006, 60 extra deaths (a 15% increase) were recorded in the North West of England as a result of a heatwave[123]. And climate models suggest that the extreme temperatures of the 2003 heatwave, which claimed more than 35,000 lives across Europe, may seem normal by the middle of the century and cool by the end[124]. Increased tree planting will provide shade and evaporative cooling that help to keep neighbourhoods cooler[125] (see figure), and ensure that towns and cities continue to be healthy, comfortable, and attractive places to live, work, visit and invest.

Maximum surface temperatures on a hot summer's day



Mapped at the ward level, the 50% probability level and the 2050s High emissions scenario[126]

14.5 Additional trees and woodlands will also help to control rainwater runoff and help manage flooding, provide more and better connected habitats to help other species to move to new 'climate spaces' [127], provide a resilient outdoor recreation and visitor resource taking advantage of warmer weather[128], and help to stabilise soils and reduce erosion[129]. Some native tree planting can be appropriate around water bodies and courses (guided by local circumstances and priority species) to provide a mixture of shaded and lightly shaded habitats, helping to reduce the effects of increased temperatures on wildlife.

14.6 Tree and woodland planting and management will be undertaken in accordance with the UK Forestry Standard, which has specific guidelines relating to climate change[130]. This ensures that we meet all legal requirements and follow good practice. We will also continue to refine how we design, plant, and manage trees and woodlands so that they can withstand and thrive in future climates and continue to provide the many benefits we want from them. This will include addressing issues of a changing planting and longer growing season, future pests and diseases, ensuring an adequate water supply so that they can continue to provide evaporative cooling during droughts, and methods to promote good root growth to withstand storms (such as natural regeneration and soil inversion where this is possible). The Mersey Forest is "climate twinned" with community forest partners, Pays de Redon, in North West France, an area whose current climate is similar to that projected for The Mersey Forest by 2041-2060[131]. This allows us to consider how we may modify tree and woodland management to cope with future changes.

14.7 We will also promote the benefits of trees and woodlands in a changing climate, and encourage their creation for this purpose, including through the Woodland Carbon Code[132], which a voluntary framework for financing the carbon benefits of new woodlands.

Related policies:

- 11. Economy
- 12. Timber
- 13. Wildlife
- 15. Water
- 16. Recreation
- 17. Health

- 2. Sefton Coast
- 3. Green Streets
- 5. GRaBS

Policy 15

Flood alleviation and water management

We will ensure that the planting and management of trees and woodlands contributes to Water Framework Directive objectives and to a whole catchment approach, helping reduce river and surface water flooding, which is particularly important in a changing climate, and maintain water quantity and quality. We will work with approving bodies to better integrate trees and woodlands within the design of sustainable drainage systems.

80,000
THE NUMBER OF HOMES AND BUSINESSES AT RISK FROM FLOODING IN THE MERSEY FOREST[133]

15.1 Water is a vital natural resource and trees and woodlands have a close relationship with it. They obviously rely on a water supply to grow and transpire, but they also play an important role in managing water quality and quantity issues.

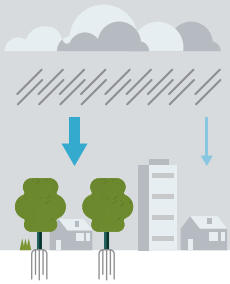
15.2 With climate change, we are likely to experience more rain in winter, less rain in summer, and more heavy rainfall events[134]. This could lead to a mixture of low and high river flows, poor water quality, drought, and increased flooding from rivers, surface water and overwhelmed drains. This has a significant impact on people and businesses. 147,000 properties in the North West of England are currently at risk from river and coastal flooding, and damages to businesses are, on average, £43m per year; with climate change, this could increase by 223% to £138m per year[135]. Flooding also impacts on people's health and wellbeing.

15.3 Trees and woodlands help with flood alleviation (see figure), by reducing both the volume and the speed of rainwater runoff, resulting in less frequent flooding and lower levels of peak water flows. Tree canopies intercept rainwater and temporarily store it on their leaves and branches, where it drips to the ground at a slower rate or is evaporated back into the atmosphere. Tree roots break up the soil, allowing water to infiltrate into the ground rather than running straight into watercourses or drains. This is especially important in breaking up compacted farmland and urban soils. Woodlands also have a rough ground surface, consisting of a diverse mixture of trees, shrubs, other vegetation, and woody debris. This acts as a partial barrier and slows down the flow of water. Water storage can be further enhanced through the restoration and creation of other habitats such as wetlands, ponds and other features such as woody dams, which are also good for wildlife. Forests in floodplains and near to rivers (riparian woodland) allow the river to spread out over its natural floodplain, retaining water and slowing its progression downstream. Native tree planting along water courses also stabilises soils, reduces erosion and provides shade for aquatic wildlife.

15.4 Trees and woodlands can also help to improve water quality. Poor water quality is a significant issue which leads to increased water treatment costs, and has impacts for wildlife, and water-based recreation and tourism. Trees and woodlands take up nutrients and pollution as they grow, and help to stabilise soils and trap sediments, thereby reducing the amount

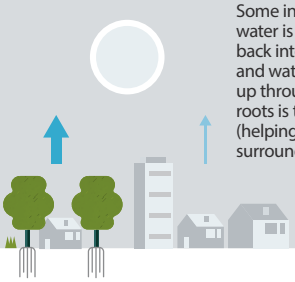
HOW TREES CAN HELP REDUCE FLOODING

Interception



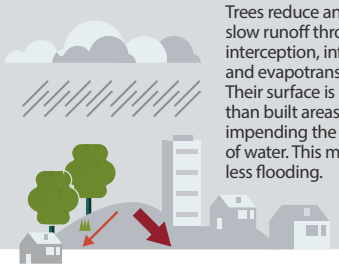
Tree canopies intercept more rain than urban surfaces, as their leaves have a greater surface area.

Evapotranspiration



Some intercepted water is evaporated back into the air, and water drawn up through trees' roots is transpired (helping to cool surrounding air).

Run–off

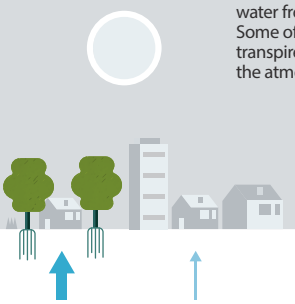


Trees reduce and slow runoff through interception, infiltration and evapotranspiration. Their surface is rougher than built areas, impending the flow of water. This means less flooding.

Infiltration

Open spaces allow rainwater to infiltrate the ground. Tree roots break up the soil also increasing infiltration.

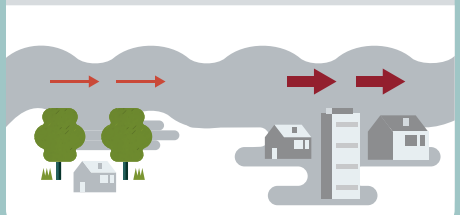
Water uptake



Tree roots draw up water from the soil. Some of this is then transpired back into the atmosphere.

Riparian woods and floodplains

These provide areas that slow down peak flows and where rivers can flood without damaging property.



of pollution and sediment in water courses and drains. They can help to reduce urban diffuse pollution. In addition, by reducing the volume of runoff into drains there is less water that needs to be treated, saving on costs, and there is a lower frequency of combined sewer overflows, where overwhelmed drains discharge a combination of storm water and domestic sewage waste water into water courses. In addition, some native tree planting can be appropriate around water bodies and courses (guided by local circumstances and priority species) to provide a mixture of shaded and lightly shaded habitats, helping to reduce the effects of increased temperatures on wildlife.

15.5 We will work with partners to ensure that tree and woodland planting, and soft engineering approaches, complement wider approaches to flood and water management, help to achieve Water Framework Directive objectives, and contribute to whole catchment approaches. We will work in partnership with the Environment Agency, Lead Local Flood Authorities, the North West Climate Change Partnership, and other organisations delivering catchment restoration projects in the Mersey Estuary, Weaver Gowy, Alt Crossens, and Dee catchments – which all are partially within The Mersey Forest. This will include better integrating the use of trees and woodlands in sustainable drainage systems, by working with the Sustainable Drainage Approving Bodies. We will incorporate the role of trees and woodlands in a range of water-related policies such as Local Flood Risk Management Strategies, Strategic Flood Risk Assessments, River Basin Management Plans, Catchment Flood Management Plans, Catchment Abstraction Management Strategies, Integrated Coastal Zone Management, and Shoreline Management Plans. We will also investigate how Urban Watershed Forestry as an approach can support Surface Water Management Plans.

15.6 Tree and woodland planting and management will be undertaken in accordance with the UK Forestry Standard, which has specific guidelines relating to water[136]. This ensures that we meet all legal requirements and follow good practice, and limits any negative impact that they may have on water quality and quantity (e.g. through the use of fertilisers or pesticides, different harvesting regimes, etc). We will also explore sustainable approaches to ensuring a continued supply of water for irrigating urban trees during droughts, so that they remain healthy and provide important evaporative cooling during the hot, dry periods when it is needed most.

Related policies:

- 1. Partnership
- 13. Wildlife
- 14. Climate

Related case studies:

- 3. Green Streets
- 5. GRaBS

Policy 16

Access, recreation and sustainable travel

"JUST A FEW MINUTES AWAY FROM MY FRONT DOOR AND YOU ARE INTO ANOTHER WORLD - NO NEED TO DRIVE MILES TO WALK, RUN OR MOUNTAIN BIKE"

MEMBER OF THE PUBLIC ON WHY HALTON'S WOODS ARE IMPORTANT[137]

We will increase access, recreation, and sustainable travel opportunities for all by creating publicly accessible woodland, improving access both to and within woodlands, creating multi-use greenways, linking town and country, using tree lined streets to complement rights of way, and planting trees along transport corridors. We will promote the use of walking, cycling, and public transport to reach woodlands.

Photos by McCoy Wynne

16.1 Increased opportunities for access to and recreation within woodlands, and for green sustainable travel routes, is especially important near to where people live and work, as it can help to boost health and wellbeing and the local economy. It is also important in a changing climate as anticipated hotter summers may make outdoors recreation and tourism increasingly desirable.

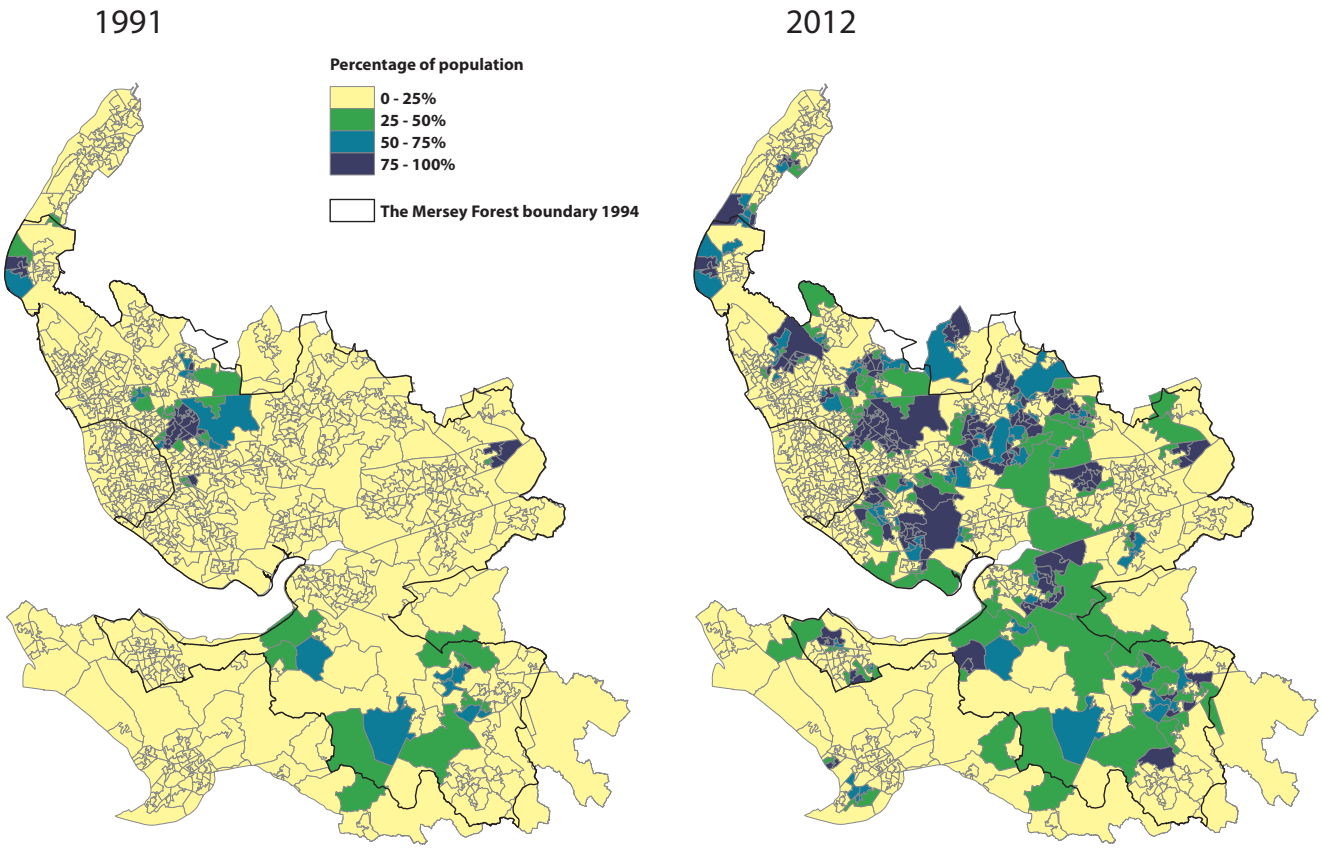
16.2 The maturing woodland resource of The Mersey Forest provides significant opportunities for access and recreation, and we will work to realise these opportunities wherever possible within existing and new woodlands.

16.3 Where appropriate, we aim to provide access and recreation opportunities for all – disabled and able-bodied, old and young, from different ethnic and socio-economic groups. And for a variety of uses – from tranquil places to sit quietly, relax and observe nature, to more active pursuits such as orienteering, mountain biking and cycling, horse-riding, rambling, walking the dog, foraging for wild foods, fitness trails, archery, and guided nature walks, and including opportunities for natural play, education, and life-long learning. We work with partners to ensure that public access is well managed, and to discourage anti-social uses of woodland. New tree planting around sports pitches and golf courses can improve the landscape setting for these activities.

16.4 Accessible woodlands help to create a new woodland culture, providing places for people to meet each other, connect to nature and to their local environment, building neighbourhood pride and community cohesion, and helping to reduce crime and make people feel safer. Well designed and managed, safe, and convivial woodlands encourage people to use them more. We work with Friends of the Woodlands groups to help them to hold events to encourage more people to enjoy their woodlands.

16.5 The Woodland Trust's Woodland Access Standard aspires that everyone should live within 500m of an accessible woodland of at least 2ha, and within 4km of one of at least 20ha. Since the outset of The Mersey Forest, there has been a significant increase in the percentage of the population for whom these two aspirations are

Woodland Access Standard - percentage of population living within both (a) 500m of an accessible woodland of at least 2ha; and (b) 4km of one that is at least 20ha[138]



met (see figure). In 2012, the first aspiration is met for 23% of the population of The Mersey Forest, whereas the second aspiration is met for 77%. This means that access to woodland is higher within The Mersey Forest than in England as a whole, where, in 2009, the first aspiration was met for 15% of the population and the second for 63%[139]. Further, if all of the existing woodland in The Mersey Forest were to be made accessible, then the aspirations would be met for 51% and 93% of the population, respectively. It is clear, therefore, that even within The Mersey Forest there is a need to both create access in existing woodlands and to plant new accessible woodlands in order to meet these aspirations.

16.6 We help improve local access routes and contribute to the development of longer strategic routes across local authority boundaries (which can link to the national trails network). We work with partners to create green, tree-lined, attractive, safe, and well sign-posted walking, cycling and horse-riding routes for recreation, to encourage people to travel less by car and choose more sustainable, climate-friendly, and healthy alternatives. These routes are both off-road and on tree-lined streets. They connect green spaces and woodlands, public rights of way, places where people live and work, strategic recreation routes, the town with the country, and provide circular routes. Tree-lined routes and linear woodlands provide shade and shelter for people walking and cycling, improve air quality[140], help with noise abatement[141] and complement traffic calming measures, help to connect patches of woodland and green spaces together which is beneficial to wildlife, and make the routes more attractive, thereby encouraging people to use them more. We will work with the transport sector to plant trees and other habitats along transport corridors[142]. This supports the Merseyside TravelWise campaign to promote walking, cycling, and public transport[143].

16.7 The Discover The Mersey Forest website[144] holds information on accessible local woodlands, and ideas, free maps and directions for walks, cycle rides, and horse riding routes. Since it was launched in 2008, over 18,000 'route packs' have been downloaded. Members of the public can send in their suggestions for new routes.

Related policies:

- 2. Communities
- 11. Economy
- 17. Health
- 18. Education
- 19. Jobs
- 20. Culture

Related case studies:

- 1. Bold Forest Park
- 4. Wood Allotments
- 8. Natural Play

Policy 17

Health and wellbeing

We will promote the health and wellbeing benefits of trees and woodlands, for individual health as well as the wider wellbeing of our communities. We will make use of the maturing woodland resource to support the five ways to wellbeing. We will work with health professionals to maximise the use of woodlands, from increased day to day use, through to General Practitioner referrals.

"I SUFFER FROM ANXIETY AND DEPRESSION AND IT DID ME THE WORLD OF GOOD"

ATTENDEE AT A WOODLAND FUN DAY IN ST.HELENS[145]

17.1 Trees and woodlands are vital for our physical and mental health and wellbeing. And healthier, happier people mean that there are reduced costs to the health care system and the wider economy. The annual cost of ill-health in Liverpool City Region is £2 billion[146].

17.2 Urban forests and green space provides: physical benefits associated with obesity, life expectancy, heart rate and blood pressure; attention and cognitive benefits associated with restoration, mood and self-esteem; physical activity benefits associated with use of trees and woods; self-reported benefits in terms of health and life satisfaction; and community cohesion benefits through social contact fostered by trees, woods and forests[147].

17.3 Trees can also help to improve air quality[148]. Children living on tree-lined streets have been shown to have lower rates of asthma[149]. The UK has one of the highest rates of childhood asthma in the world, affecting about 15% of children and those in lower socio-economic groups in urban areas in particular[150].

17.4 Whilst there is good evidence to show that greener environments support more active lifestyles, the evidence for a positive impact on mental health is even stronger[151]. Mental health problems are increasing: one in six adults have mental health problems at any one time. For half these people, the problem will last for more than a year, and one in four people will suffer some form of mental illness at some point in their lives[152]. This is estimated to cost the economy £23 billion a year in lost output[153]. It has been suggested that "mental illness causes as much of the misery in Britain today as poverty does... it is our greatest hidden problem" [154].

17.5 The health sector recognises the benefits of a greener environment as one of the wider determinants of health. For example, the Marmot Review highlights that green spaces improve public health and reduce health inequalities[155], guidance from the National Health Service recommends access to quality open spaces to promote physical activity[156], and locally ChaMPs (the Public Health Network for Cheshire and Merseyside) promotes greater use of the outdoor

Bridleway at Little Crosby, Sefton. Photo by McCoy Wynne

environment and access to green spaces to improve public health[157]. In addition, the annual Heatwave Plan for England lists trees and greening in the built environment as a long term action to minimise the health impact of heatwaves, which may increase in a changing climate[158].

17.6 The Mersey Forest has developed successful projects focussing on the health benefits of community woodlands, for example, The Natural Choices programme with Liverpool National Health Service and Access to Nature[159]. Mapping of our green infrastructure resource helps us to target activities to areas within The Mersey Forest where they are most needed to tackle health inequalities.

17.7 We will continue to work with the health sector to increase tree cover around doctors surgeries, hospitals and health centres, provide information on local woodlands and activities to the public, and support the use, referral, and prescription of activities within woodlands – our "Natural Health Service" – as an alternative to, or in combination with, medication for both physical and mental health improvements.

17.8 Our activities will enable the five ways to wellbeing[160]. These are day-to-day actions to improve wellbeing, which draw on a wealth of psychological literature and are recommended by the New Economics Foundation and the National Health Service:

1. Connect… Accessible woodlands provide opportunities for social contact, bringing communities together through volunteering and Friends of Woodlands Groups, making them better connected, more cohesive, and safer. Forest School lets children learn in an outdoor setting, and improves the way they interact with each other, their teachers and parents[161].

2. Be active… Accessible woodlands provide opportunities for physical activity, and green walking and cycling routes encourage healthier travel. Friends of the Woodlands Groups take part in practical and active management of their local woodlands. And Natural Play features help children to be active in a fun and inspiring way.

3. Take notice… Trees and woodlands provide us with beautiful views and spaces to reflect, contemplate, unwind, be inspired, and watch the changing seasons. They let us connect with our culture and heritage, bring us into contact with nature, allow us to hear natural noises, and breathe cleaner air.

4. Keep learning… Trees and woodlands provide opportunities for natural play, education, and life-long learning.

5. Give… There are many opportunities to get involved depending on time availability and abilities, by becoming a supporter of The Mersey Forest, attending events in local woodlands, joining a local Friends of the Woodlands Group and taking part in tree planting and woodland management activities, or arranging events to encourage others to get involved.

Related policies:

- 2. Communities
- 16. Recreation
- 18. Education
- 19. Jobs
- 20. Culture

Related case studies:

- 1. Bold Forest Park
- 7. Natural Choices
- 8. Natural Play

THE UK HAS ONE OF THE WORLD'S HIGHEST RATES OF CHILDHOOD ASTHMA[162]

CHILDREN LIVING ON TREE-LINED STREETS HAVE LOWER RATES OF ASTHMA[163]

Policy 18

Natural play and education

CHILDREN WHO SPEND TIME LEARNING IN NATURAL ENVIRONMENTS PERFORM BETTER IN READING, MATHEMATICS, SCIENCE AND SOCIAL STUDIES[164]

We will work with the education sector, organisations and groups to: deliver opportunities for environmental education; develop and manage school grounds as attractive learning environments; support Forest School; encourage natural play initiatives in both school and non-school settings; increase accessibility to and educational interpretation of woodlands.

"I LEARNED LOTS IN FOREST SCHOOL. YOU DON'T JUST PLAY INSIDE, YOU CAN PLAY OUTSIDE. I LEARNT HOW TO TELL HOW OLD A TREE IS"

CHILD AFTER ATTENDING A FOREST SCHOOL SESSION[165]

18.1 Lifestyle patterns and our connections with the natural environment are established at a young age[166]. However, increasingly, children have less contact with nature, spend less time playing outdoors, play closer to home, and are more sedentary. This is coupled with a rise in childhood obesity. The phrase 'Nature Deficit Disorder' is used to describe the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses. Whilst this is not a recognised medical condition, it is useful shorthand for the current situation[167].

18.2 Reconnecting children with nature helps them to grow and develop, learn a range of transferable skills and risk taking, improves health and wellbeing, fosters a greater appreciation, respect and stewardship of the natural environment, and helps to create a new woodland culture where trees are part of our consciousness and everyday lives. This is especially important given the future challenges we face, including climate change. In addition, as children connect with nature, they also increase their parents' environmental awareness.

18.3 The natural environment offers a great opportunity for active and natural play, as well as informal and formal learning and education opportunities. We will work with a broad range of organisations and groups to incorporate natural play components into accessible woodlands, parks, playgrounds, and school grounds; enabling children to explore and take risks in a fun setting. Components can include logs, boulders, water, trees and plants, dens and tree houses. We will also provide further educational and life-long learning opportunities through the provision of interpretation boards within woodlands, holding community events and supporting others, such as Friends of the Woodlands Groups, to host their own events, and through information on our website and our communications.

Children building a den at Delamere Forest. Photo by McCoy Wynne

18.4 We work with the education sector to ensure that the benefits of trees and woodlands form part of a wider environmental education, increasing awareness of climate change and biodiversity issues. In particular, we will ensure that the most is made of trees and woodlands as a learning resource and to improve educational attainment. Through our school grounds improvement programme, we have worked with over a third of the schools in The Mersey Forest[168], helping them to access grants for tree planting, food growing, and to make their grounds vibrant, diverse, and fun learning environments. We involve the children in the changes made, whether that is taking part in tree planting, growing their own food, or picking fruit from their orchards. This empowers them, creates a sense of pride and ownership, and aids learning. The provision of shade trees within school grounds is increasingly important to help keep children cooler during the hotter summers anticipated with climate change, and tree planting can also complement sustainable drainage features to deal with surface water flooding issues.

18.5 The Mersey Forest team is active in promoting Forest School, a programme which gives children the chance to learn the National Curriculum and spend lesson time in the green outdoors. This helps to reconnect them with the natural environment and improve social skills and self-esteem. Forest School can be delivered to a range of participants from early years, to pupils with social, emotional and behavioural difficulties or special educational needs, and adults. Research by The Mersey Forest team highlights the benefits of Forest School to pupils, teachers and parents[168]. The team coordinate the Forest School cluster group in Cheshire and works closely with other clusters. We help schools across our area to set themselves up to deliver Forest School – whether that is setting up their grounds so that they are suitable (not much woodland is needed!), linking schools with nearby suitable woodlands, or arranging training for teachers so that they can lead activities.

Related policies:

- 2. Communities
- 16. Recreation
- 17. Health
- 19. Jobs

Related case studies:

- 6. Forest School
- 8. Natural Play

Policy 19

Life-long learning, training, skills and jobs

9,000
PEOPLE ARE EMPLOYED IN FORESTRY RELATED JOBS IN THE MERSEY FOREST[170]

We will work with the further education and training sectors and professional bodies to: deliver a wide range of opportunities for training and skills development, including through volunteering; provide training to those involved in the funding, planting, use and management of trees, woodlands and associated habitats; generate local employment through woodland creation, management, timber products and marketing.

'THE TRANSFORMED INDUSTRIAL WASTELANDS ARE A FANTASTIC PLACE FOR FAMILIES AND CHILDREN TO LEARN ABOUT NATURE'

MEMBER OF THE PUBLIC ON BOLD COLLIERY WOODS[171]

19.1 'Keeping learning' is one of the five ways to wellbeing, day-to-day actions recommended from a review of evidence by the New Economics Foundation[172].

19.2 Trees and woodlands provide a setting for natural play and education, but also importantly for life-long learning, with informal opportunities for observation, as well as more formal opportunities provided through interpretation boards, events, volunteering in practical management activities, and dedicated skills and training sessions. This ongoing learning helps to create a new woodland culture, where trees are part of our consciousness and everyday lives.

19.3 Learning new skills is good in itself, and it can also help people to enter the employment market. For example, it could lead to jobs related to tree, woodland and green space management, or other jobs as a result of transferable skills learnt and increased confidence. This can be especially important for the young, people with learning difficulties, ex-offenders, and people who are not in education, employment or training. We support organisations who are involved in delivering life-long learning and training, for example through the use of Intermediate Labour Market teams. This can mean that a landowner benefits by having their trees and woodlands managed by trainees.

19.4 As well as increasing skills and employability, trees and woodlands can have a positive impact on job creation in a number of ways. More trees and woodlands support and create jobs as they need to be planned, designed, grown, planted, and managed. More trees and woodlands also support a range businesses and industries - for example woodfuel, timber and forest based industries, and businesses relating to recreation, green tourism, and environmental education. Wherever possible, we try to use local contractors to carry out work, thereby supporting the local economy and helping to develop a woodland culture. A more attractive environment also has a catalytic effect on local economic regeneration, encouraging inward investment, attracting and retaining businesses, and creating more jobs in the process.

Myerscough College have a training base at Croxteth Country Park. Photo by Myerscough College

19.5 Around 9,000 people in The Mersey Forest are employed in forestry-related jobs. This includes 300 jobs in silviculture, 6,600 in processing and manufacturing, 600 in support activities and 1,500 in recreation and tourism[173].

19.6 We work with Friends of the Woodland Groups to arrange learning and training opportunities to suit their needs and help them to better manage their local woodlands. This can range from willow weaving and arts and crafts, to wildlife walks and identification skills, to writing management plans for their local woodlands and practical management skills such as coppicing, hedge laying, habitat and pond creation, and bird box building. There are also chances to learn transferable skills such as fund raising, organising and chairing meetings, running events, and book keeping; all of which can increase confidence and help people into employment. Training can increase the capability and capacity of voluntary groups, enabling them to play a much more active role in fund raising and developing social enterprises to secure the future of our trees and woodlands.

19.7 The Mersey Forest team also provide training opportunities (working alongside professional bodies where appropriate) for professionals, landowners and managers, and education staff. For example, training has been provided on topics such as deer management, how to manage woodlands for woodfuel, and climate change adaptation for landscape professionals. We have also developed training materials on climate change adaptation for professionals to use with community groups. The team work closely with colleges and universities, engaging on research, but also in delivering guest lectures, working with students on projects, hosting student visits and placements, and providing advice on employment within the environmental sector.

19.8 The Mersey Forest team encourage wider idea sharing and debate on key issues amongst professionals in order to influence both policy and delivery, by coordinating and being involved in a range of partnerships and networks, including the North West Green Infrastructure Think Tank and Forum, the North West Forestry Framework, and the North West Climate Change Partnership. This includes discussion on topics such as changing forestry policy, the development of green infrastructure thinking, and climate change.

Related policies:

- 2. Communities
- 9. Research
- 11. Economy
- 17. Health
- 18. Education

Related case studies:

- 2. Sefton Coast
- 4. Wood Allotments
- 5. GRaBS

Policy 20

Culture, heritage and landscape

We will work towards a new culture around trees and woodlands, and their usefulness to society. This will include engaging communities by integrating landscape, heritage, and the arts into the design, planting and management of trees and woodlands.

THE OLDEST TREE IN THE MERSEY FOREST IS PROBABLY THE ALLERTON OAK, IN CALDERSTONES PARK IN LIVERPOOL. IT IS BELIEVED TO BE OVER 1000 YEARS OLD. ACCORDING TO LEGEND THE ANCIENT LOCAL HUNDRED COURT SAT BENEATH ITS BRANCHES.[174]

20.1 "Human beings have by no means exploited the forests only materially; they have also plundered its trees in order to forge their fundamental etymologies, symbols, analogies, structures of thought, emblems of identity, concepts of continuity, and notions of system. From the family tree to the tree of knowledge, from the tree of life to the tree of memory, forests have provided an indispensable resource of symbolisation in the cultural evolution of mankind." [175]

20.2 The Independent Panel on Forestry Report calls for a revitalised woodland culture for the 21st century[176]. This will involve government, local authorities, landowners, communities, and the public thinking, behaving, and engaging differently, so that woodlands and wood products are used and appreciated in everyday life. We will work towards this by delivering The Mersey Forest Plan and encouraging people to engage with, celebrate, and cherish local culture, arts, places, seasons, identity, communities, tradition, history, heritage, and landscape.

20.3 Landscape is about the relationship of people and place, combining our perception and aesthetic appreciation of many different and interacting components. These components can be natural (e.g. geology, landform, air and climate, soils, and flora and fauna) and cultural (e.g. historical and current land use, settlements, enclosures, and other interventions)[177]. Landscapes provide the setting for our daily lives and have inspired numerous artists and writers.

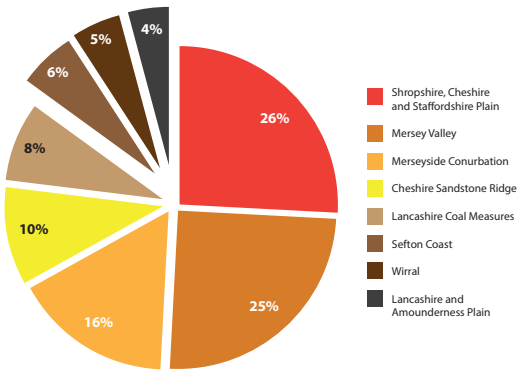
20.4 In terms of trees and woodlands, ancient semi-natural woodlands and veteran trees are important landscape, cultural and heritage features, providing a visual connection with the past. Ancient woodlands exist on sites that have been continually wooded since at least 1600. Their area has declined and become increasingly fragmented over the centuries, and now covers only 2.6% of England[178] and 0.4% of The Mersey Forest[179]. These woodlands are irreplaceable and are very important for wildlife.

20.5 From its establishment, one of the main intentions of The Mersey Forest was to use tree and woodland planting and management to transform a largely post-industrial landscape, and to use this as a springboard for wider social, environmental, and economic regeneration. Any planting and management will be undertaken in accordance with the UK Forestry Standard, which has specific guidelines relating to the historic environment[180] and landscape[181]. This will ensure that we meet all legal requirements and follow good practice, and conform with the latest legislation such as the European Landscape Convention[182].

Bawming the Thorn in Warrington. Photo courtesy of The Warrington Guardian

20.6 In line with the UK Forestry Standard, we will take careful consideration of and seek to enhance the existing landscape character, ensuring that important and valued views are maintained, and taking into account national, regional and local landscape character assessments. The Mersey Forest falls into eight National Character Areas[183], each of which has their own characteristics, profiles and opportunities. Our Where policies guide where we will plant and what is most appropriate in different locations – from areas where planting is inappropriate, to where new planting should be on a smaller scale such as hedgerow trees and copses, and locations where significant and larger scale woodlands could be planted. These have been developed with reference to landscape character assessments, and building on an early landscape character assessment undertaken in 1993 to inform the original Mersey Forest Plan[184].

National Character Areas in The Mersey Forest



20.7 Also in line with the UK Forestry Standard, we will take careful consideration of and seek to enhance the historic environment. This includes not damaging any Scheduled Monuments, and designing and managing woodlands to take account of the historical character and cultural values of the landscape, it has policies relating to historic landscapes, battlefield sites, historic parks and gardens, and designed landscapes of historic interest.

20.8 Woodlands can provide a setting for cultural and arts events, concerts, festivals and celebrations. And landscape, culture, heritage, and the arts are important mechanisms to engage local people and communities with The Mersey Forest. For example, in 2008 we staged the 'Take a Bough' exhibition as part of Liverpool's European Capital of Culture year[185]. This showcased furniture made by artists from the North West of England using timber grown in The Mersey Forest, highlighting the sustainability, versatility and beauty of our trees and woodlands. In the way that farmers' markets demonstrate that food can be purchased from local producers, the exhibition demonstrated that there are local solutions for wood and furniture. We will work closely with community artists, to integrate the arts into all aspects of the development and use of The Mersey Forest, and to encourage the use of timber products grown in The Mersey Forest by local artists.

Related policies:

- 1. Partnership
- 2. Communities
- 11. Economy
- 12. Timber

Related case studies:

- 1. Bold Forest Park
- 2. Sefton Coast
- 3. Green Streets

65%

OF PEOPLE IN MERSEYSIDE AND NORTH CHESHIRE HAVE NOTICED AN IMPROVEMENT IN THEIR LOCAL LANDSCAPE THANKS TO WORK OF THE MERSEY FOREST[186]

Case study: **Natural Choices**

Women's Organisation in Liverpool's Urban Gym project, part of the Natural Choices for Health and Wellbeing programme in 2012. Photo by The Women's Organisation

The Natural Choices for Health and Wellbeing programme provided 38 community groups with a total of almost £300,000 to improve people's health through use of the natural environment. Projects ranged from people with learning disabilities learning to grow fresh fruit and vegetables, to volunteers helping visually impaired people enjoy walking and tandem cycling in the city's green spaces, and adults with mental health issues using Liverpool's parks as inspiration for creative writing.

Natural Choices was organised by The Mersey Forest and was both hugely popular and heavily over-subscribed. Liverpool's Green Infrastructure Strategy, commissioned by the Council and Primary Care Trust, was used to identify projects which were located in areas with significant health needs and little green space. In this way, the programme was able to target the funding to areas where it would have the biggest impact and address the health and green space inequalities highlighted by the strategy. By the end of the programme an 18% increase in health and wellbeing was reported by the participants.

Partners and funders include:

Liverpool Primary Care Trust
Liverpool City Council
Community groups

Related policies:

1. Partnership
2. Communities
6. Strategies
7. Funding
8. Monitoring
17. Health

Read the full case study:

merseyforest.org.uk/naturalchoices

Case study: **Natural Play in Euclid Park**

Grappenhall in Warrington's renovated Euclid Park, with wildflowers and natural play features. Photo by Jo Sayers

The Mersey Forest is developing natural play areas in green spaces across our area, reconnecting children with the environment and boosting their wellbeing. A great success to date has been the renovation of Euclid Park in Grappenhall, Warrington. This project has breathed life into an under-used park, previously described by residents as "not very interesting", which had an uninspiring play area and a lack of accessible pathways. Working to champion natural play, Grappenhall and Thelwall Parish Council and The Mersey Forest have transformed the park into a natural wonderland to benefit people and wildlife alike. New features included wildflower meadows, logs for children to scramble over, a community orchard, picnic benches, and accessible pathways.

Residents were actively involved in the project, shaping the plans by attending a community open day. The contrast is striking. Use of the park has rapidly increased, with parents having to drag eager kids off the logs, and mums pushing babies through the park rather than along the road. Following the success of Euclid Park, The Mersey Forest has been commissioned to create a similar space at nearby Barley Road Play Area.

Partners and funders include:

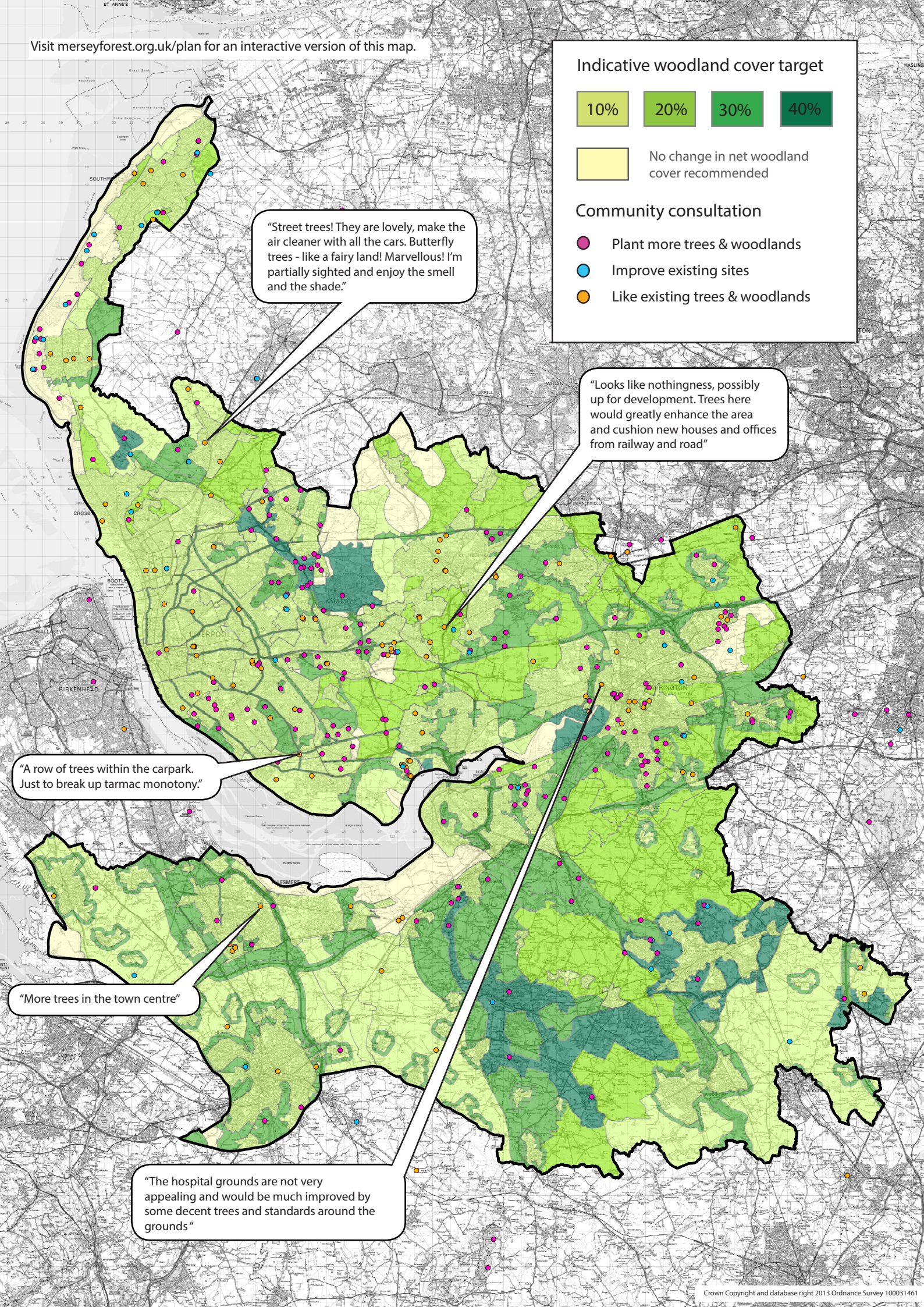
Grappenhall and Thelwall Parish Council
Play Pathfinder Programme

Related policies:

- 2. Communities
- 13. Wildlife
- 16. Recreation
- 17. Health
- 18. Education

Read the full case study:

merseyforest.org.uk/naturalplay


Visit merseyforest.org.uk/plan for an interactive version of this map.
Indicative woodland cover target
10%
20%
30%
40%
No change in net woodland cover recommended
Community consultation
Plant more trees & woodlands
Improve existing sites
Like existing trees & woodlands
"Street trees! They are lovely, make the air cleaner with all the cars. Butterfly trees - like a fairy land! Marvellous! I'm partially sighted and enjoy the smell and the shade."
"Looks like nothingness, possibly up for development. Trees here would greatly enhance the area and cushion new houses and offices from railway and road"
"A row of trees within the carpark. Just to break up tarmac monotony."
"More trees in the town centre"
"The hospital grounds are not very appealing and would be much improved by some decent trees and standards around the grounds"
Crown Copyright and database right 2013 Ordnance Survey 100031461

Where

Where and what we plant is guided by woodland cover targets and associated policies, which are set out for each Local Authority area. In all cases the local context is considered prior to any planting. We also use green infrastructure mapping (see policy 9) to inform what is most needed from the planting in a particular area. It is important to read the Where policies presented in the following sections in conjunction with policy 4 on planting and design, as well as the other overarching Who, What, How, and Why policies (policies 1-20).

The woodland cover targets are indicative only and the policies set out aspirations of what may be appropriate in each area (rather than definite plans of what must happen). The targets show the total net woodland in each area, rather than new planting targets (except where no net change in woodland cover is recommended, where the total existing woodland is not presented). In order to reach this target there may be a mixture of new planting as well as some woodland loss. The boundaries of the policy areas are not exact, but can be used to broadly guide policy and action.

The targets and policies were developed with our Local Authority partners and through wider consultation. They take into account factors such as national character areas, local landscape character, biodiversity, and existing woodland cover. A separate document (available at www.merseyforest.org.uk/plan) sets out in greater detail how they were created.

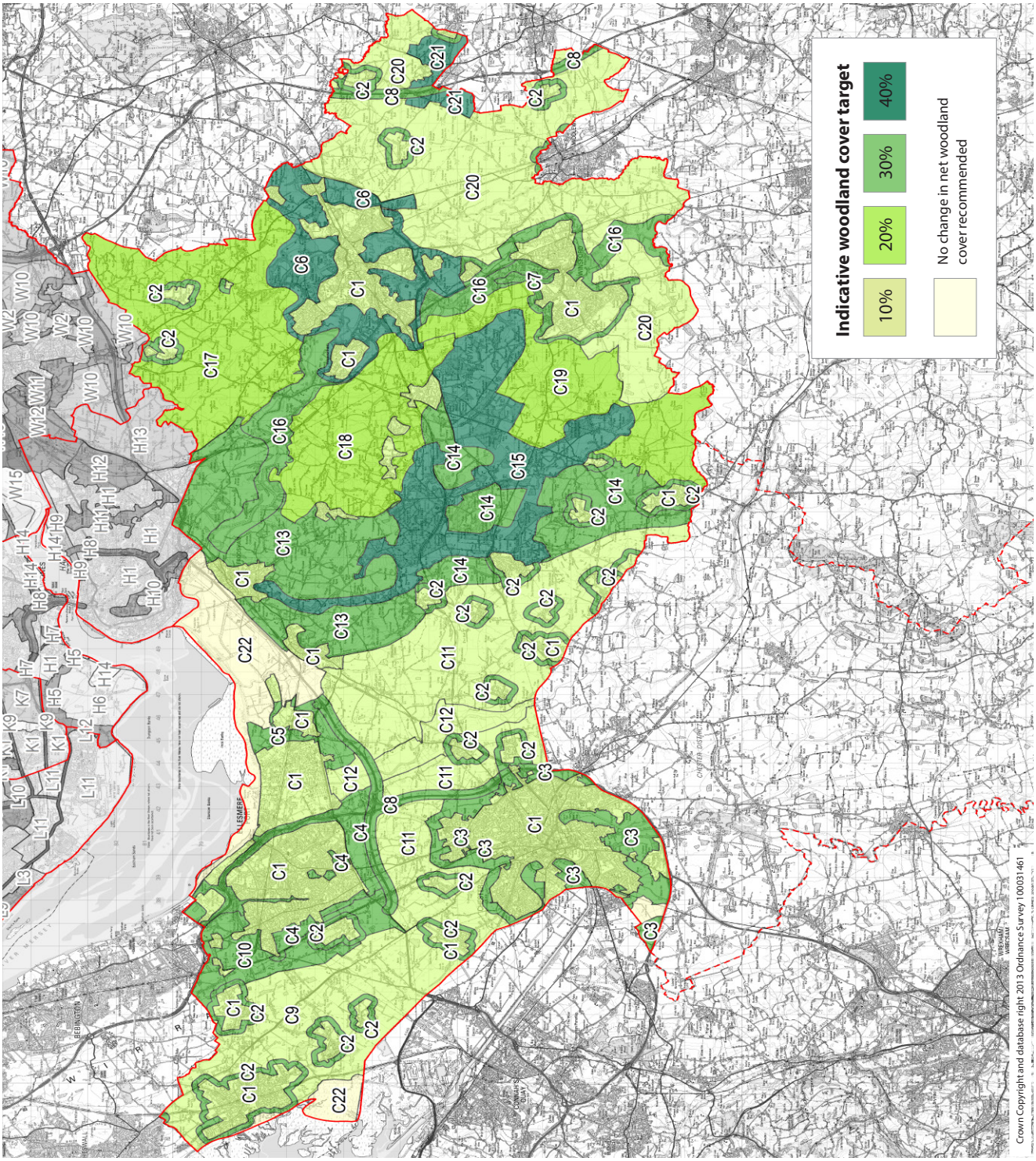
The targets and policies should not conflict with Local Authority planning policies, but should support them. They reflect, and are proposed within the context of, existing land uses and planning policies. However, if this context alters (e.g. if the Local Authority releases Green Belt land for development), it may be necessary to reassess the targets. The targets and policies can be of use in helping to determine appropriate mitigation planting within and around new developments, as well as in the nearby landscape. The National Planning Policy Framework[187] states that an "approved Community Forest plan may be a material consideration in preparing development plans and in deciding planning applications".

Cheshire West and Cheshire

Cheshire West and Chester is the most rural local authority in The Mersey Forest. It is largely agricultural, with woodland around Delamere Forest in particular, which is a significant recreation and timber resource. Trees and woodlands support the regeneration of towns and cities, such as Chester, Ellesmere Port, Northwich, and Winsford. Northwich Woodlands is a vibrant community woodland, with an active Friends of Group, on reclaimed post-industrial land. There are proposals to create a similar Forest Park around Frodsham. The Mersey Estuary is an important feature of the landscape. The Mersey Forest covers the northern part of Cheshire West and Chester, as this is where most of the communities are.

Indicative woodland cover target (%) and policies

Visit merseyforest.org.uk/plan for an interactive version of this map.



C1. Urban areas, settlements and employment sites: Plant individual trees, groups of trees and small woodlands on appropriate and available urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges, in the grounds of large institutions, derelict land, and development sites. This may be particularly important in Chester. Target planting to meet identified green infrastructure needs.

C2. Settlement buffers: Plant trees and woodlands around settlements to provide a buffer with the surrounding landscape, but maintaining important and valued views.

C3. Around Chester: Plant trees and woodlands around Chester to provide a buffer with the surrounding landscape, but maintaining important and valued views. For example, plant trees at the Countess of Chester Country Park. Create copses and woodlands in the agricultural land to the south of Chester and around the River Dee.

C4. Around Ellesmere Port: Plant trees and woodlands to create a multi-use linear or green ring around Ellesmere Port, linking the M53 and Shropshire Union Canal Corridor, Rivacre Valley and Booston Wood.

C5. In and around Stanlow, Ince and Elton: Plant interim and long term small woodlands and copses within a pattern of hedgerows and hedgerow trees. Small scale planting on marshland fringes could act as a screening.

C6. Northwich Woodlands Forest Park and around Northwich: Further develop the Forest Park, its use, connectivity, and interconnection with Northwich, to complement the regeneration of the town in its rural setting. Expand woodlands to include Wallerscote, taking into consideration existing non-woodland habitats, and buffer ancient semi-natural woodlands. Create a woodland setting for the employment sites to the east of Northwich, principally at Wincham.

C7. Around Winsford: Create woodland as an attractive setting for new development, employment sites, and transport corridors; screening the visually intrusive urban area from the surrounding landscapes.

C8. Motorways: Plant linear trees and woodlands and copses around motorways, to help to screen them.

C9. Rolling farmland from Neston to Saughull: Create small woodlands. Help to screen busy highways and commercial developments, and buffer riparian zones. Maintain hedges and plant hedgerow trees and orchards, and create ponds. The farmland nearer to the Dee Estuary is used for foraging by birds.

C10. Rolling farmland around Hooton, Childer Thornton, and Capenhurst: Create small woodlands and copses within a pattern of hedgerows and hedgerow trees, screening man-made structures and buffering ancient semi-natural woodland.

C11. Agricultural land around Chester and the West Lowland Plain: Create small copses and woodlands to screen major highways and views towards Stanlow. Maintain hedges and plant hedgerow trees and orchards.

C12. River Gowy: Sensitively locate planting in and around Gowy landfill and derelict land. Maintain open habitat in the Gowy Meadows.

C13. Frodsham Ancient Woodlands Forest Park: Establish a woodland framework around Frodsham and Helsby, linking to the Sandstone Ridge and long distance trail, and into the Weaver Valley. It is inappropriate to plant on the sandstone escarpment ridge line. Create a woodland buffer on suitable land between the settlements and the motorway. Around Aston, create large woods, maintain hedges and plant hedgerow trees and orchards. Buffer and connect ancient semi-natural woodlands.

C14. Around Delamere Forest: Create a well-wooded landscape around Delamere Forest and towards the Cheshire Plain. Extend and plant woodlands in agricultural areas, on steeper slopes of the Sandstone Ridge and Fringe, and along the long distance trail. It is inappropriate to plant on the sandstone escarpment ridge line. Take into account other habitats in the area such as meres and mosses. Maintain and restore hedgerows and hedgerow trees and orchards. Create heathland and meadows.

C15. Delamere Forest, Sandy Woods, and Sandstone Ridge: Expand the well-wooded landscape around Delamere Forest, along the Sandstone Ridge and long distance trail, and on steeper slopes. It is inappropriate to plant on the sandstone escarpment ridge line. Extend and plant medium to large woodlands from Oakmere to Little Budworth. Take into account internationally significant meres and mosses in the area, along with other non-woodland habitats. Maintain and restore hedgerows, hedgerow trees, and orchards, and create heathland and meadows, including following quarry restoration. Retain water bodies.

C16. Weaver Valley: Extend the wooded nature by planting on the valley shoulders, sides and, where appropriate, floor, buffering and connecting ancient semi-natural woodland. Ensure planting does not block the line of the valley floor. Manage existing woodlands with special regard to ancient semi-natural woodlands.

C17. Rolling farmland around Antrobus, Comberbach, Arley, and Whitley: Create woods within the open agricultural landscape, buffering ancient semi-natural clough woodlands. Maintain hedges and plant hedgerow trees and orchards.

C18. Rolling farmland from Kingsley to Hartford: Plant trees and small woodlands, especially on the transitional slopes of the Sandstone Ridge, including hedgerows, hedgerow trees, and orchards, and to restore areas of sand quarrying.

C19. Rolling farmland from Tarporley to Winsford: Create small copses and restore and plant hedgerows and hedgerow trees. Do not restrict long distance views to Lowland Plain, Weaver Valley, Peak District and the Peckforton Hills.

C20. Eastern Lowland Plain and nearby areas: Create occasional woodlands, buffering ancient semi-natural woodland within and just over the boundary. Maintain and plant hedgerow trees. Help to screen views of large-scale industry, but do not obstruct long distance views of the Sandstone Ridge and Peak District.

C21. Around Rudheath Woods: Mange the remnant heathland. Develop and potentially extend the sandy woods as a recreational resource.

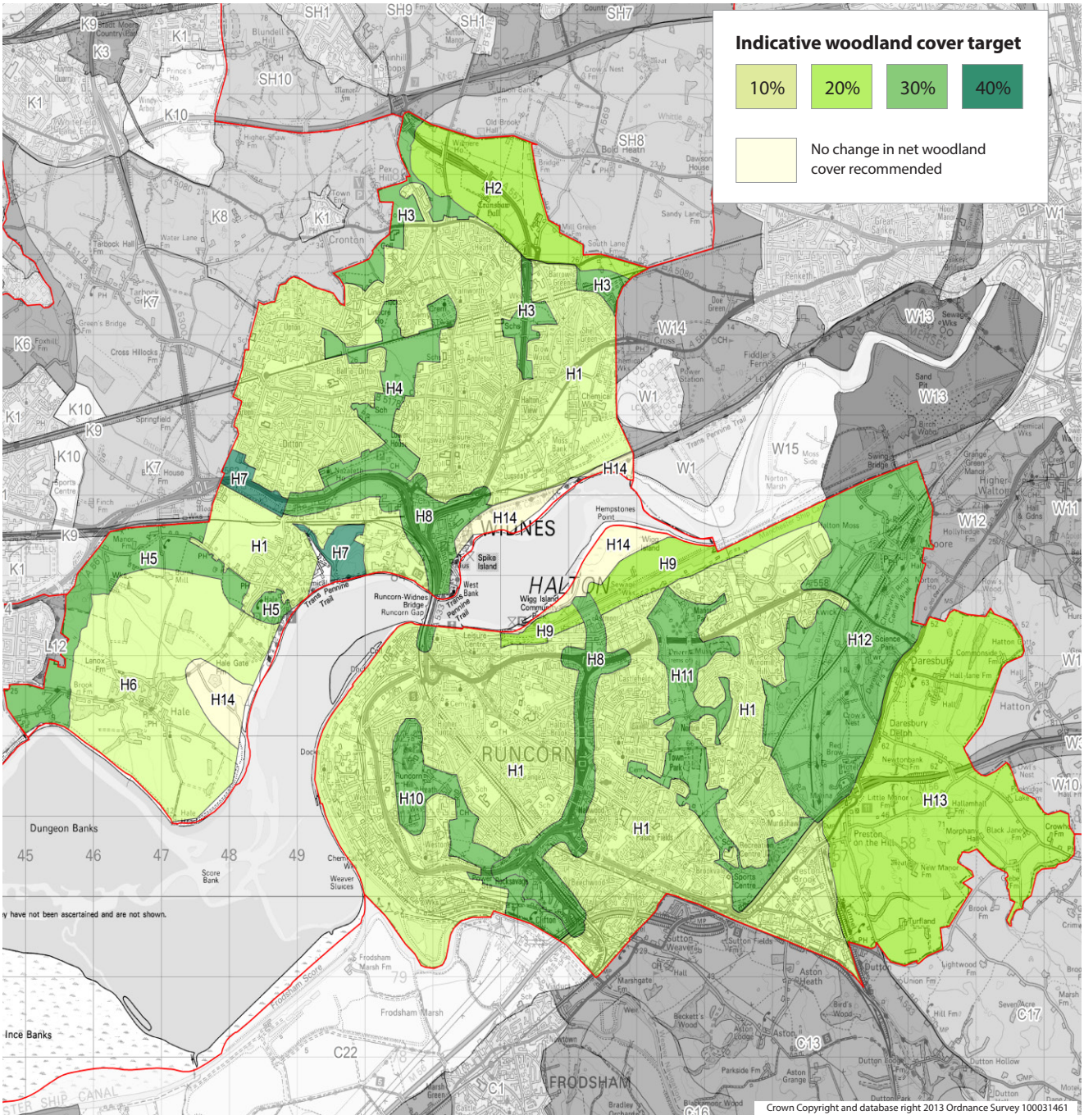
C22. Drained marshes, mudflats and saltmarshes of Frodsham Marsh, the Lache Eyes, Ince Banks, and Dee Estuary: Woodland planting is inappropriate. Safeguard the open nature of these designated areas and manage hedgerows.

Halton

Halton consists of the urban areas of Widnes and Runcorn and surrounding countryside. Runcorn in particular has well-wooded areas. Street tree planting within the urban areas supports regeneration, health and wellbeing, and resilience to climate change. The Mersey Estuary passes through Halton, the western end of the Upper Mersey Forest Park lies within Halton and there are extensive areas of woodland planting on reclaimed land. Tree planting schemes by the side of motorways has been successful in Halton, and there will be particular opportunities for tree planting in connection to the Mersey Gateway Bridge.

Indicative woodland cover target (%) and policies

Visit merseyforest.org.uk/plan for an interactive version of this map.



H1. Urban areas, settlements and employment sites: Plant individual trees, groups of trees and small woodlands on appropriate and available urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges, in the grounds of large institutions, derelict land, and development sites. Target planting to meet identified green infrastructure needs. Tree planting could help to buffer the ancient semi-natural woodlands, such as at Flood Brook Clough and Murdishaw Woods.

H2. North Widnes farmland bordering St.Helens: Expand existing woodlands. Plant around fields, including hedges and hedgerow trees, and wooded field ponds. Plant linear woodland belts, copses, and trees to soften urban fringes and the built form, with advanced planting within any new developments. Denser planting along roads such as the A557. Develop access links from Widnes to Bold Forest Park in St.Helens, such as along the St.Helens 'Mineral' line railway, recognising this as a Local Wildlife Site.

H3. North Widnes: Expand existing woodlands. Plant around fields, including hedges and hedgerow trees, and wooded field ponds. Plant linear woodland belts, copses, and trees to soften urban fringes, roads and the built form, with advanced planting within any new developments. Create links to the Local Wildlife site at Pex Hill that, although in Knowsley, is used by Halton residents.

H4. Ball O'Ditton Parkland: Conserve and enhance the tree lined avenue along Dundalk Road. Enhance the scrub vegetation and woodland belts which screen the urban areas, creating new woodlands to soften the edges and around new developments. Conserve and enhance existing green infrastructure.

H5. Farmland from Speke round to Hale Bank: Create a strong filter to the urban edges to the east of Speke, the south of the A561 and 562, and Hale Bank, by planting hedgerows and small woodland blocks, conserving the pattern of larger blocks of prominent geometric woodland on higher ground, and buffering the ancient semi-natural woodland at Mill Wood, on the boundary with Liverpool. Conserve the mosaic of woodland and wildflower meadows at Pickering's Pasture.

H6. Agricultural area around Hale: Conserve the large blocks of prominent geometric woodland on higher ground, buffering ancient semi-natural woodland at Old Plantation. Restore hedges, hedgerow trees and ponds. Conserve the open and exposed character, including saltmarshes and mudflats along the Mersey Estuary, and the open, expansive views and long distance footpaths, including the Trans Pennine Trail and the Mersey Way.

H7. Reclaimed derelict sites and development areas along the River Mersey: Create a woodland structure to the edge of the Mersey, whilst maintaining open views of the estuary for people and wildlife.

H8. Mersey Gateway: Create woodland habitats along the project area, from the central expressway to Speke Road. This will help buffer nearby housing from the route, reducing both noise and air pollution. New tree and woodland planting could buffer the ancient semi-natural woodland at Flood Brook Clough, just outside of this area.

H9. Upper Mersey Forest Park: In this area of the Forest Park, large woodland planting is inappropriate next to the saltmarsh (which is of importance for nesting birds) but some native scrub and hedge planting is acceptable and a combination of reedbed and willow carr could boost willow tit numbers and encourage migrant fall. Open views of the estuary should be maintained for people and wildlife. Small copses and linear belts of woodland can help to screen industry and provide a sense of separation.

H10. Clifton to Runcorn Hill: Create a well wooded landscape in this open corridor, with new planting of woodland belts to soften urban edges. Restore lowland heath on the sandstone outcrops and manage scattered trees to ensure they do not enclose and restrict views from the top of Runcorn Hill. Create links to the Weaver Valley and Frodsham Forest Park in Cheshire West and Chester.

H11. Norton Wooded Parkland: Improve and enhance the existing pattern of woodlands with pockets of open grassland in the Town Park corridor. Conserve and enhance the enclosed character of woodland on high ground and within Murdishaw Valley, and the wooded character of the Bridgewater Canal. Plant new woodland along urban fringes. Plant avenues and trees along tracks and entrances to parks, and near to Norton Priory to soften the appearance of industry. Take into consideration the many heritage elements of these woods, as a remnant of the Norton Estate and the Bridgewater Canal.

H12. Moore Village and Keckwick Brook Valley: Create a well wooded setting for the new developments in the east of Runcorn. Plant woodlands (including wet woodlands) and hedgerows, along with wetlands and wildflower meadows to link features. Restore and plant hedgerows and hedgerow trees. Link existing woodland on high ground, to reinforce the continuous wooded character. Enhance the mixture of open grassland and woodland along the Bridgewater Canal and Keckwick Brook. Some creation of wet woodland (alder / willow carr) along the Keckwick Brook would be valuable to provide more habitat for Willow Tits and Lesser Spotted Woodpeckers, both now nationally rare breeding birds.

H13. Agricultural land from Dutton to Daresbury: Enhance and plant hedgerow trees, scattered woodlands in irregular blocks, and linear wet woodlands along rivers and streams (such as the ancient semi-natural woodland of Barkers Hollow on Keckwick Brook). Plant small copses around Daresbury, Daresbury Park fringes and along the M56 to enhance urban development and reduce their prominence. In the north, new woodland planting on higher ground can enhance the wooded horizon. Where woodlands are single species, plant a narrow belt of mixed species to integrate into the landscape. Designate suitable woodlands as Local Wildlife Sites.

H14. Marshland on the banks of the Mersey to the east of Runcorn and adjacent to Ram's Brook: Manage these important open habitats appropriately for nesting birds, and to maintain open views of the estuary for people and wildlife.

Knowsley

Knowsley has significant urban populations in Kirkby, Huyton, Prescot and Halewood. It also has the highest woodland cover of the local authorities within The Mersey Forest; at over 12% cover it is higher than the England average. Making the most of this resource and strengthening the connections between green assets is important, for both people and wildlife. Increasing access will help to provide recreation and tourism, sustainable travel routes, education and improved health and wellbeing. The reclamation of Cronton Colliery provides a strategic opportunity to link to the Bold Forest Park chain in St.Helens. Street tree planting continues to make urban areas more attractive and resilient to climate change.

Indicative woodland cover target (%) and policies

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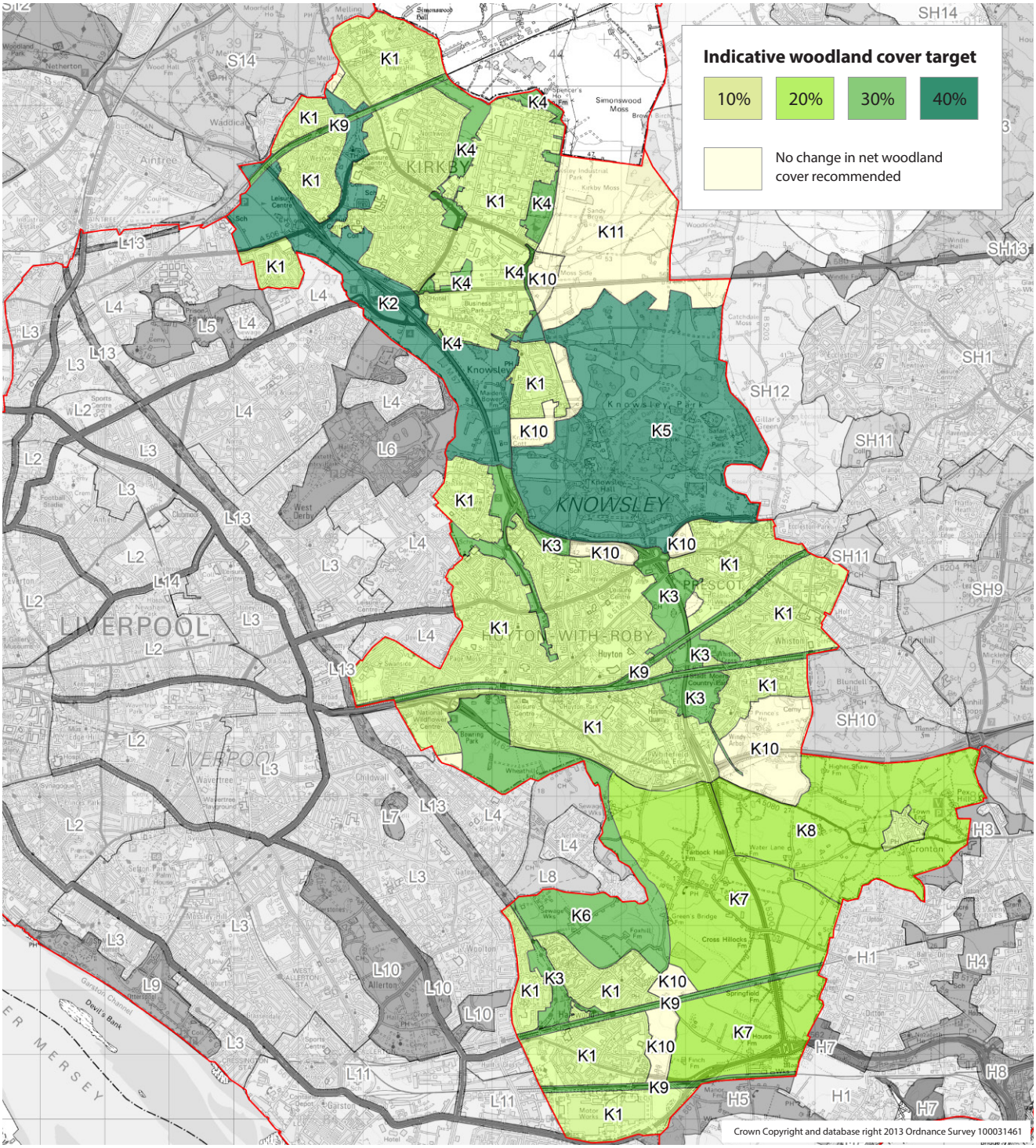

K1. Urban areas, settlements and employment sites: Enhance the standard and support the management of publicly accessible woodland, especially targeting those woodlands with the lowest quality standard scores in the Green Space Strategy. Plant and manage individual trees, groups of trees and small woodlands on appropriate and available urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges, in the grounds of large institutions, derelict land, and development sites, and as part of the principal regeneration areas, to provide a new landscape structure and woodland setting for the built environment. Target planting to meet identified green infrastructure needs.

K2. Strategic green links (Alt Corridor, Valley Corridor, M57 Green Belt Corridor): Enhance the standard and support the management of publicly accessible woodland, especially targeting those woodlands with the lowest quality standard scores in the Green Space Strategy. Create and manage woodland in these northern strategic green links as defined in the Local Plan. Strengthen the areas around and between the existing woodland blocks north of Stocksbridge Village and to the west and north of Knowsley Village (e.g. Little Wood, Howards Pits, Knowsley Wood, etc), softening urban fringes, industry and roads. The brooks support water voles, so planting around them should be limited. Planting should complement grassland and wetland habitats, and important grassland corridors along the M57 corridor should be retained.

K3. Strategic green links (Whiston to Cronton Corridor, Halewood Triangle, Stadt Moers Park): Enhance the standard and support the management of publicly accessible woodland, especially targeting those woodlands with the lowest quality standard scores in the Green Space Strategy. Manage key woodland sites such as Stadt Moers Park and Halewood Triangle to realise the benefits of good quality green space; further planting in these areas is not advisable due to the importance of grasslands. Plant new woodland elsewhere within the strategic green links as defined in the Local Plan, including the Whiston to Cronton Corridor. These strategic links have significance to neighbouring local authorities, such as Halewood Triangle links with the Transpennine Trail, Liverpool Loop Line at Gateacre, and the National Cycle Network; and links to Cronton extending into the Bold Forest Park chain in St.Helens.

K4. Knowsley Industrial and Business Parks: Plant new woodlands and manage existing woodlands on the periphery of the industrial and business parks, in line with Knowsley Industrial Park Regeneration Framework, using these green assets to enhance the economic setting.

K5. Knowsley Estate: Assist with the management of woodland assets of private landowners, including Knowsley Park. Explore opportunities for biomass with private landowners.

K6. Periphery of Netherley and to the north of Halewood: Create a well-wooded urban fringe and as a setting for new development, with woodland planting complementing and not impacting on important grassland and wetland habitats. Brooks support water voles, so planting along these should be limited.

K7. Tarbock agricultural lands: Plant small-medium scale woodlands and restore the hedgerow structure, using hedgerows to link woodlands. Diversification of the landscape will support hare populations, but ensure that woodland planting does not impact on large areas of species rich grassland and act as a barrier to population movements. Planting should complement grassland and wetland habitats. It is generally not appropriate to plant around ponds and to connect them to other habitats as it could result in changes to their unique and historic ecology.

K8. Cronton and Pex Hill agricultural lands: Plant small to medium scale woodland and restore hedgerow structure in agricultural areas, including associated with dwellings, along tracks and the urban fringes, using hedgerows to link woodlands. Diversification of the landscape will support hare populations, but ensure that woodland planting does not impact on large areas of species rich grassland and act as a barrier to population movements.

K9. Rail corridors: Target the rail corridors cutting across Knowsley for tree planting and management. Opportunities and constraints may arise from electrification.

K10. Urban extensions: The Local Plan has reserved or safeguarded these broad locations for potential urban extensions. Safeguard existing woodland where possible, use tree and woodland planting to create a setting for these new developments, and increase access to woodland and green infrastructure resources. Pay special regard to remnants of the historic Halsnead Estate. Utilise opportunities for woodland planting as part of any new development at Cronton Colliery, to extend the Bold Forest Park chain from St.Helens as an important recreation resource for Knowsley and St.Helens, as well as Warrington, Halton, and Liverpool, making links to Stadt Moers Park.

K11. Simonswood Moss: Large scale tree planting is generally inappropriate. Isolated trees and tree clusters may be appropriate along tracks, roads and around farmsteads, as well as hedgerows and hedgerow trees. Maintain the predominantly open land as important pink-footed geese feeding areas.

Liverpool

Liverpool is the most urban local authority within The Mersey Forest and whilst this means that there is less opportunity for the creation of large new woodlands, there is much potential to improve the management of existing woodlands, deliver smaller scale community planting schemes, and extend street tree planting both along the main routes into the city and within local neighbourhoods. This will bring The Mersey Forest to people's doorsteps and thereby help to improve health and wellbeing, tackle issues of health and green space inequality, improve educational attainment, create a city that is more resilient to climate change, and support tourism and the local economy. This will create an attractive setting for people to live, work and invest.

Indicative woodland cover target (%) and policies

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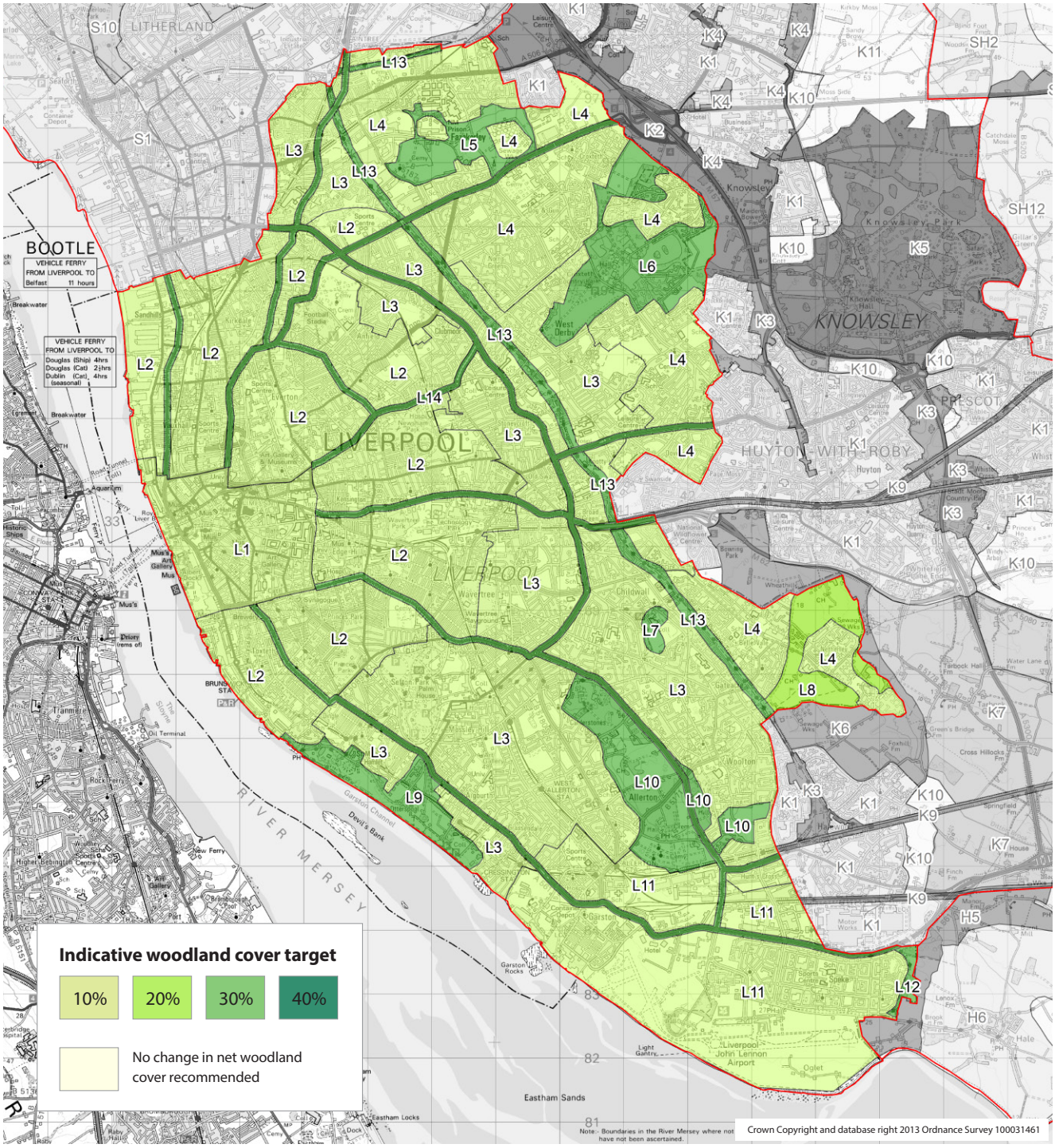

L1. City centre: Plant trees within new developments and in the public realm (including within open spaces, school grounds, streets, etc), to enhance quality of place, adapt to climate change, and support wildlife, without negatively impacting upon the historic environment or other valued habitats. Target planting to meet identified green infrastructure needs.

L2. Inner area Strategic Investment Areas: Continue street tree and urban planting to provide a range of green infrastructure functions and contribute to the Strategic Investment Areas of 'Atlantic Gateway', 'Eastern Approaches', and the 'GreenPrint for Growth' in North Liverpool/South Sefton. Plant trees within new developments and in the public realm (including open spaces, school grounds, streets, etc), to enhance quality of place, adapt to climate change, and support wildlife, without negatively impacting upon other valued habitats. Temporary planting on low value grasslands awaiting regeneration, including short rotation coppice for biomass production, could also be beneficial in bringing trees to into areas with low tree cover and tying in with regeneration plans by incorporating green infrastructure at an early stage.

L3. Outer area: Continue street tree and urban planting (within the public realm, open spaces, school grounds, streets, etc) to meet green infrastructure needs.

L4. Outer area regeneration fringes and Strategic Investment Areas: Undertake street tree and urban planting (within the public realm, open spaces, school grounds, streets, etc) to meet identified green infrastructure needs.

L5. Fazakerley: Manage existing woodlands, grassland and wetland habitats within the adopted Sites of Nature Conservation Value at Fazakerley Brook, Playing Fields, and Sewage Works, as a key gateway into the city and in support of the Approach 580 Strategic Investment Area. The River Alt and Fazakerley/Tue Brook supports water voles, so planting will need to take this into account.

L6. Croxteth Local Nature Reserve: Manage existing woodlands and associated habitats, including at Mull Wood. Explore opportunities to expand woodland cover without negatively impacting upon locally important grassland habitats.

L7. Childwall Woods and Fields Local Nature Reserve: Manage existing woodland and grassland habitats to conserve the valuable botanical diversity at this important local site.

L8. Open land at Netherley: Work with Knowsley Council to create a well-wooded landscape on the urban edge. For example, through tree planting on the two golf courses and other open land at Netherley, taking care to complement grassland and wetland habitats.

L9. Otterspool Green Wedge: Manage existing woodland and grasslands at Otterspool and the former Garden Festival Site. Where appropriate and without negatively impacting upon other valuable habitats, explore opportunities to increase tree cover on parkland and other open space in the Green Wedge.

L10. Calderstones/Woolton Green Wedge: Manage existing woodland and grassland habitats at Allerton (Eric Hardy). Where appropriate and without negatively impacting upon other valuable habitats, explore opportunities to increase tree cover on parkland and other open space in the Green Wedge.

L11. Speke and Garston: Manage existing woodland and plant new trees where appropriate to provide an attractive setting for new development. Plant trees on road verges in Speke and along approaches to Liverpool John Lennon Airport which is a key gateway into The Mersey Forest. Other planting can take place within the public realm, open spaces, school grounds, streets, etc. Manage grassland habitats and public access at the Speke and Garston Coastal Reserve in a manner sensitive to its importance for estuarine wildlife.

L12. Mill Wood and Alder Wood Local Nature Reserve: Work with Halton and Knowsley Councils to manage the ancient semi-natural woodland, and, where appropriate and without negatively impacting upon other valuable habitats, explore opportunities to expand cross boundary woodland cover.

L13. Liverpool Loop Line: Manage woodlands and wooded parklands at sites along and adjacent to the Loop Line. Any new tree planting should complement grassland and wetland habitats.

L14. Major radial routes into the city: Where appropriate, plant trees along major radial routes into the city and Queens Drive to improve air quality, enhance quality of place, adapt to climate change and support wildlife.

Sefton

Sefton has a significant and well-wooded coastline, with pine forests supporting a red squirrel population. The management of these coastal woodlands, which has multiple land ownership, requires on-going dialogue between the landowners and the different interests. The area is significant for wildlife, tourism, timber production, local recreation, and as a buffer to local settlements. There is a significant urban population at Bootle, Litherland and Maghull, where it borders on Liverpool, and at Southport and Formby to the north. Urban tree planting can help to reduce health inequalities, combat climate change, and help with regenerating these communities. Sefton Meadows Forest Park could also serve this population.

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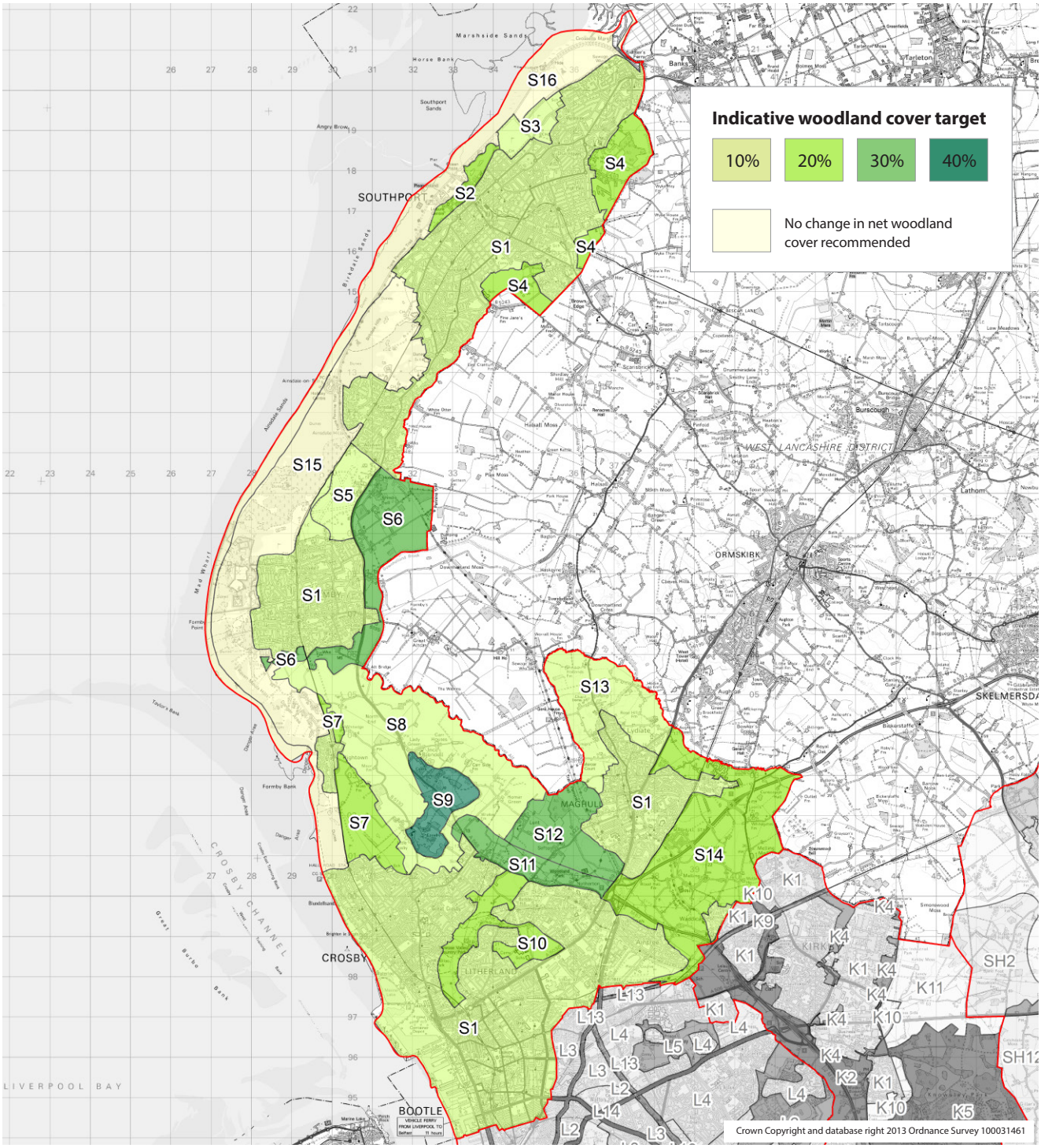

S1. Urban areas, settlements and employment sites: Plant individual trees, groups of trees and small woodlands on appropriate and available urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges, in the grounds of large institutions, derelict land, and development sites. Target planting to meet identified green infrastructure needs. Incorporate habitats and tree planting in new development as part of the statutory planning process. Planting should contribute to the GreenPrint for Growth in North Liverpool/South Sefton.

S2. Victoria and Princes Parks: Plant new trees and woodlands to meet green infrastructure needs. Use appropriate planting for the Red Squirrel Stronghold.

S3. Southport and Hesketh Golf Courses: Manage woodlands associated with the golf courses in accordance with The Sefton Coast Woodlands Forest Plan.

S4. Carr Farmlands to the east of Southport, including Meols Hall, Town Lane and Foul Lane: Retain existing woodland blocks and copses as an important recreation resource. Plant additional and sporadic small geometric woodlands as a buffer on the urban edge and hedgerow trees. Planting should complement grassland and wetland habitats and should be appropriate to the Red Squirrel Stronghold. Biomass cropping may be appropriate.

S5. Woodvale: The aerodrome precludes significant tree planting. The agricultural landscape of the dune backlands to the north of the airfield is appropriate for heathland, wetland, and grassland habitats. Hedgerows should be maintained and planted as a buffer to the A565.

S6. Dune backlands near Formby: Concentrate planting to small woodland blocks in the agricultural areas around Formby Hall. Maintain and plant hedgerows as a buffer to the A565 between Formby and Ainsdale. Use appropriate species and planting for the Red Squirrel Stronghold. Wetland ditches support water voles, and new linear planting along ditch boundaries, and associated with slacks and field ponds, should be limited. Maintain the predominantly open land to the south of Formby, and around Downholland Moss Lane and North Moss Farm.

S7. Dune backlands near Hightown: Concentrate small woodland blocks and tree planting around Hightown's eastern boundary, maintaining predominantly open land elsewhere. Ensure that planting complements wetland and grassland habitats, including pink-footed geese feeding areas, and protect the open dune system. Use appropriate species and planting for the Red Squirrel Stronghold.

S8. Carr and Estate Farmlands to the east of Hightown, around Crosby and Ince Blundell: Carefully balance new planting with wetland and grassland habitats, and the predominantly open land which is important for pink-footed geese. Concentrate planting of sporadic small woodland blocks around Ince Blundell village. Elsewhere, plant adjacent to existing woodlands, hedgerows and tree lines, and to buffer urban areas. Wet woodland planting can be targeted to the area, including adjacent to the Alt. Planting should be appropriate to the Red Squirrel Stronghold. Biomass cropping may be appropriate.

S9. Area around Crosby and Ince Blundell Halls: Retain and manage the historically important woodland which is a Local Wildlife site. New planting is limited, but should be in keeping with the historic environment and the Red Squirrel Stronghold, and recognise the importance of grassland habitats.

S10. Rimrose Valley Country Park: Further develop as a recreational resource with important woodland, wetland, and grassland habitats. Any planting should be appropriate to the Red Squirrel Stronghold.

S11. Thornton to Switch Island Link Road: Plant trees and woodlands as mitigation, using appropriate planting for the Red Squirrel Stronghold and so as not to conflict with grassland habitats.

S12. Sefton Meadows Forest Park: Further develop as a recreational resource, ensuring that woodland planting complements grassland and wetland habitats, and especially does not take place on grassland Local Wildlife Sites. Planting should be appropriate for the Red Squirrel Stronghold. Small woodland blocks and hedgerows are appropriate.

S13. Settled farmland areas around Lydiate: Manage existing hedges and replant hedges and hedgerow trees. Concentrate planting of small sporadic woodland blocks around Maghull and to buffer the ancient semi-natural woodland at Lydiate Wood. Ensure planting complements important grassland and wetland habitats, and are of appropriate species for the Red Squirrel Stronghold. Maintain the predominantly open land as important pink-footed geese feeding areas.

S14. Settled farmland areas around Maghull and Melling, and extending to Kirkby and Aintree: Manage existing hedges and woodlands. Replant hedges and hedgerow trees, trees assoicated with field ponds, and plant small sporadic woodland blocks, ensuring they complement important grassland and wetland habitats. Concentrate planting around Maghull and the major transport routes.

S15. Sefton Coast Woodlands: Manage the coastal woodlands, which are concentrated around Formby, in accordance with The Sefton Coast Woodlands Forest Plan; recognising the importance of the internationally significant open dune system, as well as the pine woodlands as a Red Squirrel Stronghold, and important recreational area.

S16. Sandy foreshore and the coastal marshlands at Crossens Marsh: It is inappropriate to plant.

St.Helens

St.Helens has a mixture of rural and urban areas. The maturing woodland in St.Helens has significant potential to support the regeneration of the town. Woodland on former colliery spoil heaps in the south of St.Helens, now collectively being termed as Bold Forest Park, could provide a recreation resource for much of Merseyside, with potential to serve neighbouring authorities. In addition, Sankey Valley, with links through Warrington and into Widnes, is a green infrastructure resource for local communities which can provide multiple functions. Rural diversification is a key issue being addressed by the Local Authority, the local business community and other partners.

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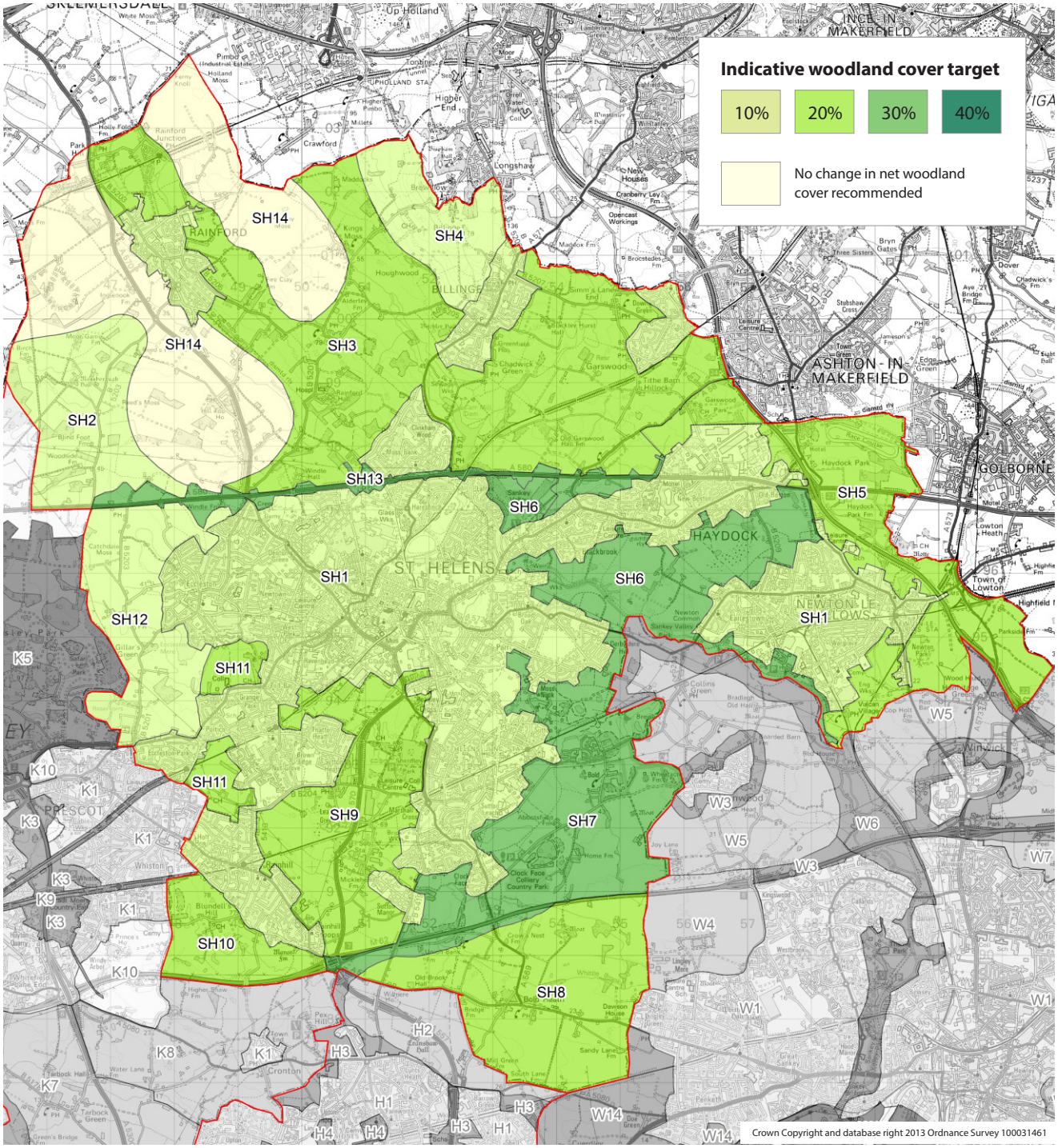

SH1. Urban areas, settlements and employment sites: Plant individual trees, groups of trees and small woodlands in appropriate urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges and institutional grounds. Planting associated with development sites and derelict land should be either temporary or structural in nature, so as not to compromise redevelopment potential. Target planting to meet identified green infrastructure needs. Continue developing the greenway network.

SH2. Agricultural Mossborough: Enhance hedgerows and woodland blocks. Create shelterbelts along roads and field boundaries, but maintain the open landscape as a pink-footed geese feeding area. Diversifying the landscape will support hare populations, but planting should not impact on large grassland areas, or form a barrier to population movements.

SH3. North St.Helens landscapes of Arch Lane Slopes, Weathercock Slopes, Rainford Slopes, Carr Mill Dam and Old Garswood Park: Large woodland planting is inappropriate. Restore hedges and hedgerow trees, and plant copses, small woodlands, and shelterbelts within the existing field pattern, enhancing ancient semi-natural and parkland woodlands. Expand riparian planting along watercourses. Increase woodland density and size where appropriate and use to soften urban edges such as at Garswood. Diversifying the landscape will support hare populations, but planting should not impact on large grassland areas, or form a barrier to population movements.

SH4. Billinge Hill: Large woodland planting is inappropriate. Do not plant on the summit to maintain visibility and views. Expand existing woodlands and riparian woodland cloughs, and restore hedgerows and small woodlands near buildings on the lower slopes.

SH5. M6 Corridor and East St.Helens: Create an attractive gateway to St.Helens, with woodland planting by the M6 (especially western sections) and interchanges. Expand existing woodland (including at Haydock Park through planting blocks, copses, belts and hedgerows), and provide a setting for Haydock Industrial Estate, the identified location of a Strategic Rail Freight Interchange at the former Parkside Colliery, the urban edge (including Haydock and Newton-le-Willows), and other developments. Planting should complement grassland and wetlands.

SH6. Sankey Valley: Connect habitats including woodlands, glades, water bodies, hedgerows and valley slopes. Plant woodlands by existing valley clough woodlands (including ancient semi-natural woodland at Court Wood and at Red Brow Wood, just outside of this area by the Sankey Valley Industrial Estate), to screen developments, extend into residential and employment sites, and along recreational links between Bold Forest Park, Stanley Bank, and Sankey Valley, and into Warrington. Create significant woodland through the restoration of Wood and Lyme Pits.

SH7. Bold Forest Park north: Create a unified woodland structure and interconnect former colliery sites (including extending to Cronton Colliery in Knowsley) by restoring, expanding, and planting woodland blocks, copses, shelterbelts and hedgerows to provide a significant and diverse recreational resource for St.Helens, Knowsley, Halton, and Warrington, buffer urban edges, and improve the M62 corridor. Diversifying the landscape will support hare populations, but planting should not impact on large grassland areas and wetlands, or form a barrier to population movements. Planting is inappropriate at Colliers Moss Common (including Bold, Burtonwood, Colliers, Parr and Sutton Mosses).

SH8. Bold Forest Park south: Plant woodlands, shelterbelts and hedgerows in balance with the open landscape to tie this area in with the rest of Bold Forest Park to the north. Reinstate fragmented woodland and hedgerows along roads and field boundaries, linking woodlands with hedgerows. Create smaller wet woodlands by water pits and field ponds. Diversifying the landscape will support hare populations, but planting should not impact on large grassland areas and wetlands, or form a barrier to population movements.

SH9. A570 Link Road: Enhance existing woodlands and link with reinstated hedgerows. Plant alongside roads and urban edges, such as to the east of Rainhill, and to improve the setting of Lea Green Economic Employment Zone. Diversifying the landscape will support hare populations, but planting should not impact on large areas of grasslands and wetlands, or form a barrier to population movements. Create links to Bold Forest Park.

SH10. Blundell's Hill and south-west of Rainhill: Large woodland planting is inappropriate. Enhance shelterbelts and hedgerows, including on the upper slopes of Blundell's Hill. Avoid planting along the M62 as it would reinforce the strength of this corridor. Plant woodland to soften the urban edge along the Rainhill ridge, but maintain the historic Rainhill skyline and views to the south. Plant wet woodland pockets to enhance distinctive water pits. Ensure planting complements grasslands.

SH11. Big Dam and Rainhill Golf Course: Create cohesive open spaces by further planting on the golf courses and playing fields. Plant woodland in the south and west to soften urban edges. Planting should complement grassland and wetlands.

SH12. Agricultural land west of Eccleston: Restore hedges and hedgerow trees. There are limited opportunities for planting, but small woodlands, tree belts and copses by farms should complement grassland and wetlands.

SH13. A580 Corridor: Plant woodland and shelterbelts to screen built development from the A580, especially in Moss Bank, Haydock and Windlehurst. Target planting at road junctions. Undertake limited planting to reinforce the estate and parkland woodlands, especially around the Old Garswood Estate. Planting should complement grassland and wetlands.

SH14. Agricultural mosses around Rainford: Woodland planting is generally inappropriate. Limit tree planting to the sensitive reinstatement of historic hedgerows within the open landscape, which should be maintained as a pink-footed geese feeding area. Plant small wet woodlands by water pits and buildings around Holiday Moss.

Warrington

Warrington is a mixture of urban and semi-rural areas, crossed by major transport routes. Structure planting created by the New Town Corporation provides strong green infrastructure links. A number of strategically important green corridors cut through Warrington, such as the Manchester Ship Canal, the River Mersey, the Bridgewater Canal, and the Transpennine Trail. The Sankey Valley provides connectivity to St.Helens, and there are also connections from Burtonwood to Bold Forest Park. The proposed Forest Park in the lower Mersey Valley could be a significant recreational resource. There are opportunities for tree planting on reclaimed land and more street trees is important for the urban population, creating an attractive and resilient setting in which people can live, work and invest.

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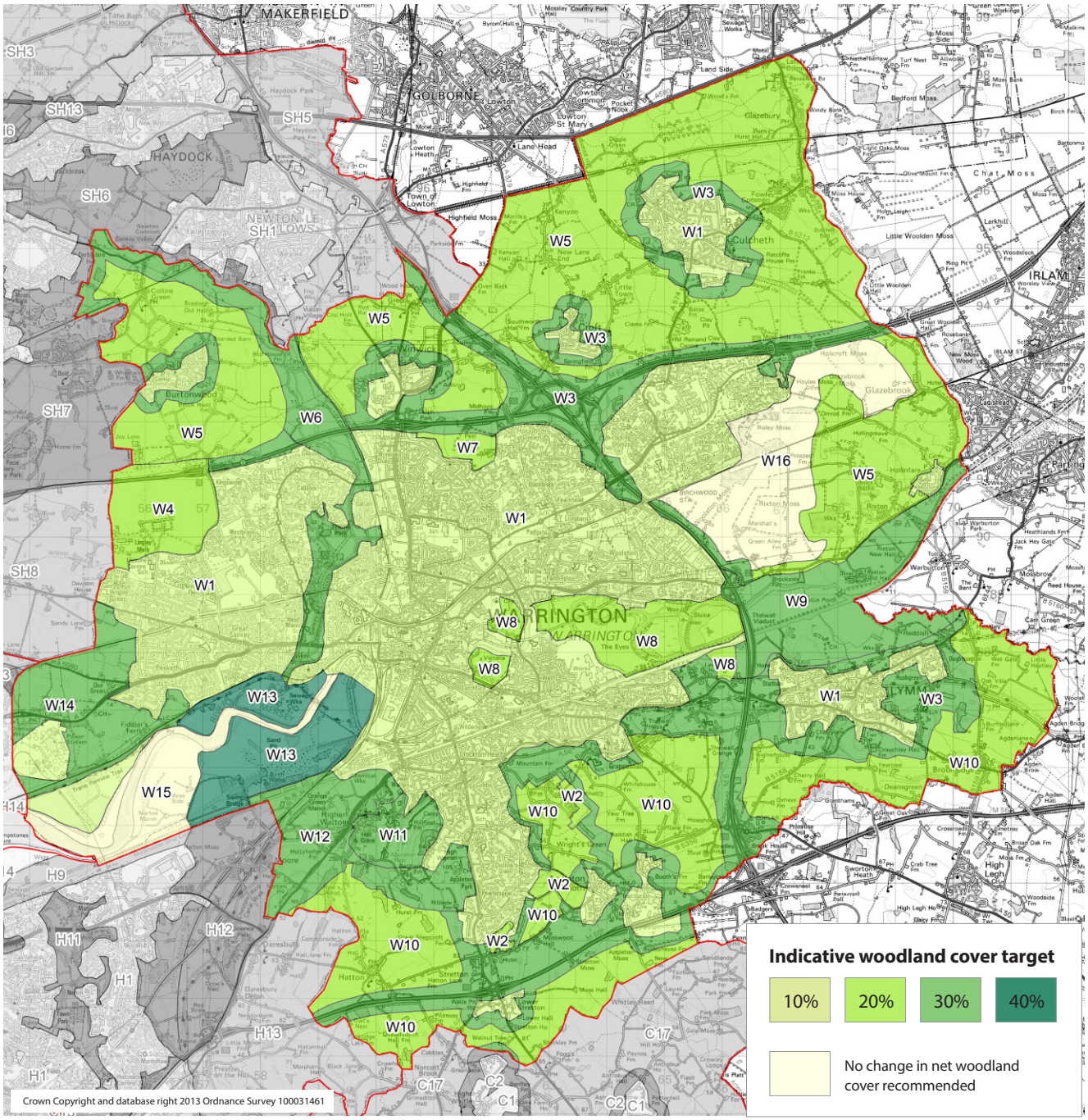

W1. Urban areas, settlements and employment sites: Plant individual trees, groups of trees and small woodlands in appropriate urban areas, settlements and employment sites, such as school playing fields, open spaces, streets, highway verges, institutional grounds, derelict land, and development sites, for their many benefits, including greener walking routes linking to the strategic green links and greenway network, and providing urban cooling in relation to climate change. Target planting to meet identified green infrastructure needs. Ensure the right species are used for each location. Buffer ancient semi-natural woodlands at The Dingle and Twig Wood, which are adjacent to this area, by tree planting.

W2. New developments: Significant areas of native woodland should be created as part of new developments set out in the Local Plan Core Strategy, especially in the identified Strategic locations.

W3. Urban edges, motorways and highways: Increase woodland planting density and create linear woodlands, including along strategic green links such as the Bridgewater Canal and the Transpennine Trail.

W4. Omega development and around: Increase planting density, so that woodland provides part of a wider green infrastructure and habitat setting for new development, screening the motorway, and providing strategic green links to Bold Forest Park in St.Helens. Restore and plant hedges and hedgerow trees. Ensure development retains and integrates landscape features such as trees, woodland, ponds and rare flora.

W5. Agricultural land around the M62, Burtonwood, Winwick, Croft and Culcheth: Create small woodlands and copses within a restored pattern of hedgerows and hedgerow trees. Create linear woodlands along highways, roads, and rights of way, around farm boundaries, and along the River Glaze, Sankey Brook, and Phipps Brook. Provide multi-use recreational corridors, for example connecting Burtonwood to Bold Forest Park in St.Helens and links to Rixton Clay Pits. Planting should soften any new development. Replant orchards around Croft. This area is of importance for farmland birds.

W6. Sankey Valley Park and St.Helens Canal: This is an important part of the strategic green links and greenway network and should continue to be developed as a major recreational route and woodland linking with St.Helens and Halton, whilst taking account of its importance for flood alleviation. Plant trees around the stream at Sankey Brook. Planting is inappropriate at Burtonwood Moss.

W7. Radley Common and adjacent land: Develop community woodland and improve woodland connectivity enhance the environmental quality as a potential setting for housing.

W8. Flood defence schemes on the River Mersey: Work with the Environment Agency on appropriate mitigation for schemes, encouraging tree planting and soft engineering approaches. Safeguard open meadows (e.g. at Paddington).

W9. Area north of Lymm, to the south of the A57, and to the east of the M6: Restore hedges and hedgerow trees. Plant small copses and linear woodlands along highways and rights of way. Maintain the open 'valley bottom'. Further develop the Mersey Way to link to Rixton, create a footpath/cycleway along the Ship Canal to Rixton, and develop strategic green links such as the River Bollin and Mersey Valley.

W10. Agricultural landscape from Hatton to Lymm: Plant copses and small woodlands in the existing hedgerow and pond pattern, and restore hedges, hedgerow trees and ponds. Connect woodlands along Bradley, Mag, Kay Lane and Massey Brooks. Expand woodland at Pillmoss, linking to Queestybirch Wood, Hatton. Increase planting density and create linear woodlands along highways, rights of way, and greenways, including strategic green links identified in policy CS5 of the Local Plan Core Strategy, such as the Bridgewater Canal, Transpennine Trail and River Bollin. This area is of importance for farmland birds.

W11. Around Walton Hall: Support Walton Hall estate as a major attraction in a mature wooded parkland setting. Manage woodlands and plant new woodland on surrounding farmland to the south and east.

W12. Moore-Walton area: Create significant woodland, planting small and medium-scale woodlands. Restore hedges and plant hedgerow trees.

W13. Lower Mersey Valley: As part of the Forest Park, create a new landscape structure and support woodland planting on Arpley Chord and Landfill site, on tipped and industrial land either side of the River Mersey from Fiddlers Ferry Power Station to Bank Quay, and joining to strategic green links and greenway network of the Transpennine Trail, St.Helens Canal, and the Mersey Valley. Retain and manage the existing mosaic of woodland, grassland and open water on Moore Nature Reserve. Ensure any new planting complements important open grassland habitat for ground-nesting birds in the area and maintains views of the estuary.

W14. Farmland at Penketh: Plant woodland belts to partially screen Fiddlers Ferry Power Station and other unsightly views and manage existing woodland. Conserve, manage, and plant hedgerows and hedgerow trees. Plant trees and increase habitat diversity along Penketh Brook. Enhance recreational links with the Mersey Valley as part of the strategic green links and greenway network, along with the Transpennine Trail, St.Helens Canal, Sankey Valley Park, and Bold Forest Park.

W15. Agricultural land at Norton Marsh and Moss Side Farm: This is a rare example of undisturbed open valley floor. Conserve the character by maintaining the medium-scale field structure and managing hedgerows and the estuary edge. Woodland planting is not appropriate.

W16. Mosslands to the south of the M62: The mosslands around Risley and Rixton are of significant biodiversity and carbon storage importance and woodland planting is not appropriate on the SAC and SSSIs. Existing woodlands make an important contribution to the character of the wider area and should be managed. This area is of importance for farmland birds.

Tree planting at Norwood Primary School in Southport, 2011. Photo by McCoy Wynne

You can get involved and help to achieve this vision.

Find local woods to explore, become a supporter of the Forest, join a woodland community group, and see how your organisation can get involved:

merseyforest.org.uk

References and Notes

About The Mersey Forest and This Plan

1. From The Mersey Forest project monitoring data, 1991-2012
2. See note 1. Cumulative new woodland planting in The Mersey Forest compared to planting in England (from the time series data on new planting in England http://bit.ly/1e9LDjG), normalised to The Mersey Forest area (by dividing the hectares planted in England by the area of England, and multiplying by the area of The Mersey Forest).
3. Vision 21 (2010). Awareness Survey. Based on 1,121 telephone interviews. Interviewees were asked "Do you think that your local environment has improved in the last 10 years through the work of Mersey Forest, for example have you seen more trees, woodlands, hedgerows, ponds, wildflowers etc?".
4. Vision 21 (2010). Awareness Survey. Based on 1,121 telephone interviews. Of the total 1,121 interviewed, 863 (or 77% of all interviewees) have visited a named woodland in The Mersey Forest at some point. Of this 863 people, 690 (equivalent to 62% of all 1,121 people interviewed) visit at least once a year; the remaining 173 people (equivalent to 15% of all 1,121 people interviewed) visit less often than this.
5. From The Mersey Forest project monitoring data, 2009-2013, taking into account local authority partner contributions only. N.B. Different gearings may apply when taking into account different years or different partners' contributions.
6. The co-creation and consultation process is set out in an accompanying document, available at www.merseyforest.org.uk/plan
7. The Mersey Forest (2009). The Mersey Forest Delivery Plan. http://bit.ly/1dSdmFj
8. Department for Environment Food and Rural Affairs (Defra) (2013). Government Forestry and Woodlands Policy Statement. http://bit.ly/1doUX4x
9. Department for Communities and Local Government (2012). National Planning Policy Framework. http://bit.ly/1cjiosT
10. North West Green Infrastructure Think Tank (2008). North West Green Infrastructure Guide. http://bit.ly/156ivmi
11. Department for Communities and Local Government (2011). A plain English guide to the Localism Act. http://bit.ly/1fkSvsg; Campaign to Protect Rural England. Planning help. http://bit.ly/17lgdDX

Who

POLICY 1 - PARTNERSHIP WORKING

12. The Mersey Forest. Contact us. http://bit.ly/16SGnwS
13. See note 11

POLICY 2 - EMPOWERING COMMUNITIES

14. See note 8, page 17
15. Forest Research (2010). Benefits of green infrastructure. http://bit.ly/1cjqods
16. TEP (2006). The Mersey Forest Comparator Study. http://bit.ly/15zGQo2

POLICY 3 - ADVISING AND SUPPORTING LANDOWNERS

17. From The Mersey Forest project monitoring data, 2001-2013. This figure is likely to be an underestimate.

What

POLICY 4 - PLANTING AND DESIGN

18. See note 2
19. See note 1
20. Using ESRI data; the Defra data suggests that 49% of The Mersey Forest is urban, compared to 14% of England.
21. Northwest Regional Forestry Framework (2011). Our Future Canopy: A Forestry Manifesto for England's Northwest. http://bit.ly/1a1mvfN
22. Independent Panel on Forestry (2012). Final Report. http://bit.ly/15zH26D; Natural Environment White Paper (HM Government (2011). The Natural Choice: securing the value of nature. http://bit.ly/1dp484Q; Read et al (eds.) (2009). Combating climate change – a role for UK forests. An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change. http://bit.ly/17tezvP all call for significant increases in woodland cover. Also Defra (2013) calls for woodland cover to increase to 12% by 2060; see note 8.
23. Forestry Commission and Natural England. Woodland Potential Calculator. http://bit.ly/1dSl6r4
24. Based on assessments by The Mersey Forest team
25. Mapping of the green infrastructure types, functions, and needs has been carried out over the whole of The Mersey Forest. The needs mapping shows where green infrastructure

interventions (which include tree and woodland planting and management) can help to meet the identified needs for each function. See Green Infrastructure North West website http://bit.ly/1dt1dt0
26. Forestry Commission (2011). The UK Forestry Standard: The governments' approach to sustainable forestry. http://bit.ly/1dSIeXp
27. Trees and Design Action Group (2012). Trees in the Townscape: A Guide for Decision Makers. http://bit.ly/17kQzRA
28. Vision 21 (2010). Awareness Survey. Based on 1,121 telephone interviews.
29. See note 1

POLICY 5 - LONG TERM MANAGEMENT

30. Using data from the National Forest Inventory (2010) plus data gathered through The Mersey Forest project monitoring
31. See note 30
32. See note 30
33. Independent Panel on Forestry (2012). Final Report. http://bit.ly/15zH26D; Defra (2013). See note 8.
34. Forestry Commission (1999). What is Continuous Cover Forestry? http://bit.ly/156uOiy
35. Woodland Trust (2011). Trees or Turf? Best value in managing urban green space. http://bit.ly/1dt3NyX; taking into account establishment, post-establishment and long term management.
36. See note 26
37. See note 27
38. UK Woodland Assurance Standard. http://bit.ly/17nYOsh
39. Forest Stewardship Council. http://bit.ly/12OgU6V
40. The Mersey Forest. News: St Helens council woodlands achieve international standard. http://bit.ly/14FWXk7

How

POLICY 6 - STRATEGIES, PLANS, POLICIES AND INITIATIVES

41. See note 9
42. See note 10
43. Green Infrastructure North West website. http://bit.ly/1dt1dt0
44. See note 27
45. See note 9

POLICY 7 - FUNDING

46. See note 5
47. Monetary donations by businesses wanting to demonstrate responsibility to the community and environment in which it operates.
48. Department for Communities and Local Government. Giving communities more power in planning local development. http://bit.ly/1a1oTTP; Planning Advisory Service. Community Infrastructure Levy. http://bit.ly/18zkjWa
49. Ecosystem Knowledge Network. What are the payments for ecosystem services? http://bit.ly/15iiWA1
50. The Mersey Forest. Our Consultation Services. http://bit.ly/14FXVwB
51. See note 7
52. See note 5
53. From The Mersey Forest project monitoring data. From 1994-1995 until the end of the financial year 2012-2013, £41,038,923 had been drawn in to deliver Community Forest outputs.

POLICY 8 - MONITORING AND EVALUATION

54. Department for Communities and Local Government (2013). Single Data List. http://bit.ly/17lnhjL
55. Defra (2013). New sustainable development indicators. http://bit.ly/14asl6y
56. See note 28; Vision21 (2006). Awareness Survey. Based on 1,104 telephone interviews.
57. BE Group (2008). Partnership Consultations: The Mersey Forest.
58. See note 16
59. e.g. Regeneris (2009). The Economic Contribution of The Mersey Forest's Objective One-Funded Investments. http://bit.ly/15zMoim
60. e.g. Green Streets in Ellesmere Port. http://bit.ly/192gdlm
61. See note 7
62. See note 16, page 65

POLICY 9 - RESEARCH, EVIDENCE AND MAPPING

63. The Royal Town Planning Institute. Liverpool Green Infrastructure Strategy: The Mersey Forest. Spatial strategies award commendation 2011. http://bit.ly/17kWUwv
64. See note 43
65. See note 9
66. Ridgers et al (2012). Encouraging play in the natural environment: a child-focused case study of Forest School. Children's Geographies, 10(1), 49-65. http://bit.ly/1fl1WIk
67. RICS (2011). The Value of Mapping Green Infrastructure. http://bit.ly/192glaF
68. Through EU Interreg IVB GIFT-T! (Green Infrastructure for Tomorrow – Together!) project. gift-t.eu
69. Through EU 7th Framework Programme CLUVA (Climate Change and Urban Vulnerability in Africa) project. cluva.eu
70. Local records centres: RECORD for Cheshire record-lrc.co.uk and BioBank for Merseyside http://bit.ly/15uzgOj
71. e.g. Forestry Commission. Chalara dieback of Ash. http://bit.ly/19PrZqs
72. e.g. The Woodland Trust. The Nature's Calendar survey. http://bit.ly/18mP9RN

POLICY 10 - COMMUNICATIONS

73. Average for 2008-2012 inclusive, as measured against purchasing equivalent advertising space.

74. The Mersey Forest. Visual Identity Guidelines. http://bit.ly/14FYvuz
75. The Mersey Forest. Little Book of Messages. http://bit.ly/15m5X9D
76. See note 28

Why

INTRODUCTION

77. See note 10

POLICY 11 - THE ECONOMY AND TOURISM

78. e.g. see note 15; Natural Economy North West project reports available on the Green Infrastructure North West website http://bit.ly/1dt1dt0; CABE Space (2005). Does Money Grow on Trees? http://bit.ly/1dSrezo; National Urban Forestry Unit (2005). Trees Matter! Bringing lasting benefits to people in towns. http://bit.ly/17HUxnE ; UK National Ecosystem Assessment (2011). Synthesis of the Key Findings, page 7. http://bit.ly/14fy0h8
79. See note 59. This included Gross Value Added, social cost savings and other non-market wellbeing benefits over a 50 year period. The interventions valued included tree planting, land reclamation, woodland management, creation of access and recreational facilities, habitat improvements and management, community engagement, and forest business support. Values were ascribed to quality of place, recreation, tourism, products, health and wellbeing, carbon sequestration, biodiversity, and energy savings.
80. Forestry Commission (2005). Bold Colliery Community Woodland: District Valuer's Report on Property Values. http://bit.ly/15zPGSF
81. RIBA (2012). The way we live now: What people need and expect from their homes. A research report for the Royal Institute of British Architects. http://bit.ly/12Om3vS
82. Forestry Commission. Noise abatement. http://bit.ly/1dStk2e
83. CEH and Lancaster University. Trees and Sustainable Urban Air Quality. http://bit.ly/141JNQ1; Woodland Trust (2012). Urban Air Quality. http://bit.ly/17o4Wki; Pugh et al (2012). Effectiveness of Green Infrastructure for Improvement of Air Quality in Urban Street Canyons. Environmental Science and Technology, 46, 7692–7699.
84. Liverpool City Region Local Enterprise Partnership. http://bit.ly/16WXla8
85. Cheshire and Warrington Local Enterprise Partnership. http://bit.ly/15mlcQ2
86. Green Infrastructure Valuation Toolkit. http://bit.ly/16WXAlm

POLICY 12 - WOODFUEL, TIMBER AND FOREST INDUSTRIES

87. Independent Panel on Forestry (2012). Final Report, page 8. http://bit.ly/17lpxtp
88. Suttie et al (2009). Potential of forest products and substitution for fossil fuels to contribute to mitigation. In Read et al (eds.) (2009). Combating climate change – a role for UK forests. An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change. http://bit.ly/17tezvP
89. See note 88
90. Climate Change Act (2008). http://bit.ly/186JW1E; Department of Energy and Climate Change (2011). UK Renewable Energy Roadmap. http://bit.ly/1fljt2Y
91. See note 88
92. The Mersey Forest (2009). Biomass space heating for off-gas-grid SMEs in Cheshire and Warrington. Report for the Cheshire and Warrington Economic Alliance. http://bit.ly/17lrsOG
93. This is a ballpark figure, estimated by taking the total area of woodland in The Mersey Forest (11,241 ha) and multiplying by an assumed sustainable accumulation rate of 9m^3/ha/yr for timber and biomass (different types of woodlands in different areas have different yield classes, e.g. pine forests in Sefton may be 12-13m^3/ha/yr, whereas the lowest rate is 4m^3/ha/yr; we assumed a rate of 6m^3/ha/yr and added on an extra 3m^3/ha/yr for biomass).
94. Renewable Heat Incentive calculator. Produced by The Mersey Forest in conjunction with CLASP. http://bit.ly/186KXGT
95. See note 26

POLICY 13 - WILDLIFE, BIODIVERSITY AND ECOSYSTEMS

96. UK National Ecosystem Assessment (2011). Ecosystem Services. http://bit.ly/HSTeY6
97. See note 43
98. Lawton et al (2010). Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra. http://bit.ly/16X0sPg
99. HM Government (2011). The Natural Choice: securing the value of nature. http://bit.ly/17lsdH
100. Cheshire Region Biodiversity Partnership http://bit.ly/1dpyRyB; North Merseyside Biodiversity Action Plan http://bit.ly/16X13Ar
101. Woodland Trust. Ancient semi-natural woodland. http://bit.ly/1dSJ6dt
102. Spencer and Kirby (1992). An inventory of ancient woodland for England and Wales. Biological Conservation, 62, 77-93; 1.6% of England is covered by ancient semi-natural woodland and 1% by plantations on ancient woodlands (together this comprises the ancient woodland resource).
103. Using data from the National Inventory of Ancient Woodlands, maintained by Natural England. Within The Mersey Forest there are 510 ha (or 0.37%) of ancient semi-natural woodlands and 94 ha (or 0.07%) of plantations on ancient woodlands (together this comprises the ancient woodland resource).
104. The Mersey Forest. Cheshire bluebell recovery project. http://bit.ly/17lvaHT
105. The Mersey Forest. Buzzing Woolton volunteers protect tens of thousands of bumblebees. http://bit.ly/15morqE
106. Landlife (2008). Soil Inversion Works: breaking new

ground in creative conservation. http://bit.ly/18n6cDp. Landlife's website has information about creative conservation and wildflower mixes.
107. Defra (2011). Conservation designations for UK taxa. http://bit.ly/15iC0hJ
108. Red Squirrels Northern England. Conservation and Strongholds. http://bit.ly/1dSKTPO
109. Forestry Commission (2011). Forests and biodiversity. UK Forestry Standard Guidelines. http://bit.ly/18n6o5s
110. Merseyside Environmental Advisory Service (2011). Liverpool City Region Ecological Framework and Strategic Overview. http://bit.ly/1dpBm3Y
111. Cheshire West and Chester Council. The ECOnet Project. http://bit.ly/1fllLza
112. Cheshire Region Local Nature Partnership http://bit.ly/141XXRa; Liverpool City Region Local Nature Partnership http://bit.ly/15uzgOj

POLICY 14 - CLIMATE CHANGE

113. Rahman et al (2011). Effect of rooting conditions on the growth and cooling ability of *Pyrus calleryana*. Urban Forestry and Urban Greening, 10, 185-192. Cooling depends on species and care. The more densely canopied *Pyrus calleryana* provides twice as much cooling as the crab apple. Whereas trees in Amsterdam soil grow faster than those in ordinary pits and provide five times as much cooling.
114. The C-Flow model (version 6.6e) estimates that (over an 80 year period, based on *Quercus* Yield Class 6, and assuming 10% leakage) 1 hectare of woodland would sequester 435 tonnes CO_2 or 119 tonnes carbon.
115. Intergovernmental Panel on Climate Change (2007). Climate Change 2007: Synthesis Report. http://bit.ly/15iCGUd
116. UK Climate Projections (2009). North West England key findings. http://bit.ly/192v6uc
117. ClimateUK (2012). A Summary of Climate Change Risks for North West England: to coincide with the publication of the UK Climate Change Risk Assessment. http://bit.ly/156G1Qn
118. Community Forests Northwest (2011). Green Infrastructure to Combat Climate Change: A framework for action in Cheshire, Cumbria, Greater Manchester, Lancashire, and Merseyside. http://bit.ly/12Oqcjn
119. Climate Change Northwest website. http://bit.ly/1fl7DpF
120. HM Government (2013). The National Adaptation Programme: making the country resilient to a changing climate. http://bit.ly/1dte26s
121. Read et al (2009). Combating climate change – a role for UK forests. An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change. http://bit.ly/17tezvP
122. Joseph Rowntree Foundation (2011). Climate change, justice and vulnerability. http://bit.ly/16STKgy
123. Public Health England (2013). Heatwave Plan for England 2013. Making the case: the impact of heat on health – now and in the future. http://bit.ly/1dtehhW
124. Stott et al (2004). Human contribution to the European heatwave of 2003. Nature, 432 (7017), 610-614.
125. Gill et al (2007). Adapting cities for climate change: the role of the green infrastructure. Built Environment, 33 (1), 115-133. This study was part of the Adaptation Strategies for Climate Change in Urban Environments (ASCCUE) project. http://bit.ly/14az1Sd
126. The results were generated using the STAR tools (surface temperature and runoff tools for assessing the potential of green infrastructure in adapting urban areas to climate change), developed by The Mersey Forest and The University of Manchester in 2011 as part of the EU Interreg IVC GRaBS project. http://bit.ly/18mUTLm
127. See note 98
128. McEvoy et al (2006). Climate Change and the Visitor Economy: the challenges and opportunities for England's Northwest. http://bit.ly/15mbM7d
129. Nisbet et al (2004). A Guide to Using Woodland for Sediment Control. Forest Research. http://bit.ly/14G4IXl
130. Forestry Commission (2011). Forests and climate change. UK Forestry Standard Guidelines. http://bit.ly/19PyCch
131. Through the EU Interreg IVB ForeStClim project. http://bit.ly/12Os4c4
132. Forestry Commission. UK woodland carbon code. http://bit.ly/156IAlc

POLICY 15 - FLOOD ALLEVIATION AND WATER MANAGEMENT

133. Figures supplied by the Environment Agency, August 2013, represent the total number of properties within Cheshire West and Chester, Halton, Knowsley, Liverpool, Sefton, St.Helens, and Warrington which are at risk of either river, tidal or surface water flooding (N.B. the figure may be a slight overestimate as The Mersey Forest does not cover the whole of Cheshire West and Chester). 38,000 properties are at risk from river or coastal flooding and 45,000 from surface water flooding (with 3,000 of these at risk from both river or coastal and surface water flooding).
134. See note 116
135. URS (2009). Economic impacts of increased flood risk associated with climate change in the North West. http://bit.ly/16WBOyj
136. Forestry Commission (2011). Forests and water: UK Forestry Standard Guidelines. http://bit.ly/1flb0g5

POLICY 16 - ACCESS, RECREATION AND SUSTAINABLE TRAVEL

137. Comment submitted as part of the consultation on The Mersey Forest Plan. Comments submitted using the online map can be seen and added to at http://bit.ly/17ld1tU
138. Due to data availability we made the following assumptions in constructing the 1991 map: (i) that all of 2012's accessible woodland that existed in 1991 were also accessible in 1991 (i.e. fewer woodlands may have been accessible in 1991 than we estimate); (ii) that no accessible woodland existed outside of the 1994 Mersey Forest boundary in 1991 (this means that the 1991 map outside of the marked 1994 boundary is not accurate, it also means the mapping is less accurate if there was any accessible woodland within 4km of the 2012 boundary); (iii) that the population distribution is the same between 1991 and 2008 (we used 2008 population estimates for both maps).
139. Woodland Trust (2012). Space for People: Targeting action for woodland access. http://bit.ly/15irneH
140. See note 83
141. See note 82
142. Mersey Transport Partnership and Landlife (2010). Wildflowers for Transport Projects. Local Transport Plan Merseyside. http://bit.ly/15mdxBg
143. Travelwise Merseyside website. http://bit.ly/15mdGo9

144. Discover The Mersey Forest website. http://bit.ly/1flbnY4

POLICY 17 - HEALTH AND WELLBEING

145. Brickfields summer family fun day, 2009. http://bit.ly/15oyzA1
146. The Liverpool City-Region Health is Wealth Commission (2008). Health Is Wealth. http://bit.ly/14G7Su5
147. O'Brien et al (2010). Urban health and health inequalities and the role of urban forestry in Britain. Report to the Forestry Commission. http://bit.ly/16SXs9U
148. See note 83
149. Lovasi et al (2008). Children living in areas with more street trees have lower prevalence of asthma. Journal of Epidemiology and Community Health, 62(7), pp. 647.
150. Woodland Trust (2012). Urban Air Quality. http://bit.ly/15zZnQY
151. See note 147
152. Department of Health (2009). The Future Vision Coalition. http://bit.ly/19PBC8t
153. The Sainsbury Centre for Mental Health (2003) Policy Paper 3: The Economic and Social Costs of Mental Illness. http://bit.ly/18mY1Xs
154. Layard et al (2007). Cost-Benefit Analysis of Psychological Therapy. London School of Economics and Political Science. http://bit.ly/1flcA1l
155. The Marmot Review (2010). Fair Society, Healthy Lives. Strategic Review of Health Inequalities in England Post-2010. marmotreview.org
156. NHS National Institute for Clinical Excellence (2008). Promoting and creating built or natural environments that encourage and support physical activity. http://bit.ly/192odca
157. Champs - P-ublic health collaborative service website. http://bit.ly/192ofAN
158. Public Health England (2013). Heatwave Plan for England 2013. http://bit.ly/16WHBUp
159. The Mersey Forest. Access to nature. http://bit.ly/16SY2Vp
160. New Economics Foundation (2008). Five ways to wellbeing. A report presented to the Foresight Project on communicating the evidence base for improving people's well-being. http://bit.ly/12OB4hb
161. See note 66
162. See note 150
163. See note 149

POLICY 18 - NATURAL PLAY AND EDUCATION

164. Rickinson et al (2004). A Review of Research on Childhood Learning. http://bit.ly/1bGkykX
165. See note 66
166. Bixler et al (2002). Environmental Socialization: Quantitative Tests of the Childhood Play Hypothesis. Environment and Behavior, 34 (6), 795-818.
167. National Trust (2012). Natural Childhood. http://bit.ly/192qtjF
168. See note 17
169. See note 66

POLICY 19 - LIFE-LONG LEARNING, TRAINING, SKILLS AND JOBS

170. Using data from Office for National Statistics – Business Register and Employment Survey 2010. Nomis: official labour market statistics. http://bit.ly/12OBdkN
171. See note 137
172. See note 160
173. See note 170

POLICY 20 - CULTURE, HERITAGE AND LANDSCAPE

174. Flickr image of the Allerton Oak http://bit.ly/16T0QSm and Wikipedia article on Calderstones Park http://bit.ly/1dptoli
175. Harrison (1997). Forests: The Shadow of Civilisation, pages 7-8. Cited in: Carey (2012). The Tree: Meaning and Myth.
176. See note 87
177. The Countryside Agency and Scottish Natural Heritage (2002). Landscape Character Assessment: Guidance for England and Scotland. http://bit.ly/17llygd
178. See note 102
179. See note 103
180. Forestry Commission (2011). Forests and historic environment. UK Forestry Standard Guidelines. http://bit.ly/14aHbKo
181. Forestry Commission (2011). Forests and landscape. UK Forestry Standard Guidelines. http://bit.ly/1cjLng1
182. European Landscape Convention. http://bit.ly/1flgpE1
183. Natural England. Natural character area, North West. http://bit.ly/17lmeSQ
184. Mersey Forest Team and Land Use Consultants (1993). Mersey Forest Landscape Assessment. http://bit.ly/18zkBwj
185. The Mersey Forest. Take a Bough: Furniture from the urban forest. http://bit.ly/14aHFjG
186. See note 3

Where

187. See note 9

THE MERSEY FOREST
more from trees

Cheshire West and Chester

HALTON BOROUGH COUNCIL

Knowsley Council

Liverpool City Council

Sefton Council

St.Helens Council

WARRINGTON Borough Council

Forestry Commission England

NATURAL ENGLAND

Environment Agency

The Mersey Forest Plan, 2014

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GIFT-T!
Green Infrastructure For Tomorrow - Together!

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