



# NATURE-BASED SOLUTIONS

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## WHERE WE'RE AT

**1,750** HECTARES OF PARKS AND OPEN SPACES MAINTAINED BY SDCC

MAINTENANCE OF OVER  
**60,000**  
STREET TREES



## TARGET



A CLIMATE-RESILIENT REGION

PREVENTING HABITAT LOSS

PROTECTING NATIVE SPECIES,  
PARKS AND TREE COVER

## EXAMPLES OF MAIN ACTION TYPES

Developing tree trails in public parks



Constructing wetland habitats in parks

Creating and expanding community gardens and allotments



Protecting, maintaining and planting trees across the County

Actions to support pollinators



Developing the County's green infrastructure

## STAKEHOLDERS TO WORK WITH AND INFLUENCE

GOVERNMENT DEPARTMENTS

ENVIRONMENTAL GROUPS

PRIVATE BUSINESSES AND UTILITIES

COMMUNITY GROUPS

GENERAL PUBLIC

THIRD LEVEL INSTITUTIONS AND SCHOOLS



Nature-based solutions are defined by the International Union for Conservation of Nature as “*actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits*”<sup>[26]</sup>.

Nature-based solutions are critical in climate change adaptation; they can play an important role not only for biodiversity and ecosystems, flood prevention and carbon sequestration, but also in temperature regulation, water quality, erosion prevention, and filtering pollutants from the air and water. Nature-based solutions are used in a smart, ‘engineered’ way to provide sustainable, cost-effective, and adaptable measures that support climate resilience. Trees and plants reduce water run-off in extreme rain events, taking pressure off the urban drainage system. They also prevent soil erosion. Natural environments, such as wetlands, river banks and beaches, form buffers to reduce the impact of climate change events.

All of these solutions have the added value of providing recreation opportunities, while building resilience to climate change.

SDCC recognises its role in protecting Ireland’s rich biodiversity and the ecosystem services provided by Ireland’s natural heritage. By ensuring that plans and policies developed and implemented by the Council undergo environmental assessment and appropriate assessment to align with *The National Biodiversity Action Plan* and key EU directives, SDCC will safeguard Ireland’s natural heritage for future generations.

## GREEN INFRASTRUCTURE

**‘The environmental and heritage resources of the County can be described as the County’s ‘Green Infrastructure’, a vital resource for our future... The Green Infrastructure network supports native plant and animal species and provides corridors for their movement, maintains natural ecological processes and biodiversity, sustains air and water quality and provides vital amenity and recreational spaces for communities, thereby contributing to the health and quality of life of residents and visitors to the County.**

- County Development Plan 2016-2022

SDCC’s goal, through this action plan, is to plan for a public realm that promotes walkability by creating streets and spaces that are beautiful and inviting with trees and plants, while simultaneously helping with flood management, maintaining or improving ecosystems and promoting biodiversity. Green infrastructure and greenways play a vital role in this, and deliver a wide range of services, from water purification and air quality management to recreation space. Most importantly, they help in climate change mitigation and adaptation, by reducing CO<sub>2</sub> in the air and absorbing water, and cooling the urban environment.

Incorporating green infrastructure into the urban environment is a science that recognises which species of plants will suit the local environment and will not cause harm to the local ecosystem. Planning for the inclusion of green infrastructure and greenways in the urban environment is about understanding the role of nature in supporting life and making places liveable. Networks of natural wildlife corridors through the urban environment help animal and plant species migrate through the changing landscape. These must be designed so as to not impact negatively on biodiversity.

### CASE STUDY



Photo Source: William Murphy / Flickr

#### Dodder Greenway

The Dodder Greenway, a 14 kilometre green belt along the Dodder River, is a collaborative project between SDCC and neighbouring Dublin City Council and Dún Laoghaire-Rathdown County Council. The project will expand existing pathways and add new ones to accommodate pedestrians and cyclists who are commuting or are enjoying leisurely activities. Incorporating green infrastructure into the South Dublin area is not just about protecting the area from flood risk, but is also about providing people with opportunities to access nature. Globally, it is recognised that being able to go out and enjoy nature has many health benefits. The Dodder Greenway Project aims to maximise these co-benefits and provide people with a recreational and commuting pathway through the three local authority areas.



## AGRICULTURE

**3** Proposals for farm diversification that involves the development of sustainable business initiatives that are subsidiary to, and directly linked to the primary use of a property for agriculture will generally be favourably considered.

- County Development Plan 2016-2022

As South Dublin is also a rural County, agriculture is an active aspect of life, playing a vital role in the livelihoods of some residents. SDCC is supporting farmers in their efforts to diversify crops and potentially lease land for renewable energy projects through the Green Low-Carbon Agriculture Environment Scheme (GLAS). SDCC is also supporting the efforts of communities and schools to undertake urban farming projects.

### Council Allotments

There are 425 Council allotments at four locations across South Dublin, ranging in size from 50 square metres to 250 square metres:

- Tymon Park, Tallaght – 13
- Corkagh Park, Clondalkin – 39
- Friarstown, Bohernabreena – 297
- Mill Lane, Palmerstown – 76

The allotments benefit communities in SDCC by providing a source of affordable food and an opportunity for people to socialise. There are co-benefits for climate change adaptation, as these allotments absorb water that would otherwise run off into the drainage network.

## TREE MANAGEMENT

**3** This Tree Management Policy signals a new commitment by South Dublin County Council to looking after one of our most valuable natural resources. It represents a significant change in how we manage trees with the development of a more strategic, proactive, planned approach to inspection, planting, maintenance and management

- Living with Trees: South Dublin County Council's Tree Management Policy 2015-2020

SDCC has developed a tree management policy that guides the management and maintenance of trees in public ownership across the County, in accordance with best practice to ensure a healthy and sustainable tree population for current and future generations. The Dublin Tree Canopy Study, carried out by UCD's School of Geography, has highlighted that South Dublin has a deficit of trees. In SDCC, where 42.2% of the land is built up, it is estimated that trees cover 17.3% of the total area, but only 3-10% of the urban area<sup>[27]</sup>. In response to this study, SDCC is actively working to increase its canopy cover, while simultaneously promoting retention and recognition of the value of the existing tree canopy cover. A proactive regime of inspection, maintenance and renewal is in operation to ensure that their benefits are guaranteed for years to come.



Photo Source: Fáilte Ireland / Rob Durston

## CONSERVATION AND PRESERVATION

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**It is the policy of the Council to protect, enhance and further develop a multifunctional Green Infrastructure network by building an interconnected network of parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams that provide a shared space for amenity and recreation, biodiversity protection, flood management and adaptation to climate change**

- County Development Plan 2016-2022

South Dublin has over 1,750 hectares of parks and open spaces that host a range of protected and rare species, both within and outside of designated protected sites. Assisting these habitats and species to adapt to climate change is a challenge. Wetlands, floodplains, lakes and reservoir ecosystems also play an important role in the regulation of floods in inland systems and provide protection from the adverse consequences of natural hazards to humans. They also play a role in temperature regulation.

SDCC has developed a range of plans and strategies (*Draft Biodiversity Action Plan, Living with Trees and Invasive Alien Species Action Plan*) to protect its biodiversity. As South Dublin's natural ecosystems have a critical role in the international migration of various bird species, it is important to protect and conserve these habitats. Such strategies require the coordination of planning policies, parks management plans and community engagement projects.

### CASE STUDY



#### **Dublin Mountains Partnership**

Established in 2008, the Dublin Mountains Partnership sees South Dublin County Council, Dún Laoghaire-Rathdown County Council, Dublin City Council, Coillte, the Dublin Mountains Initiative and the National Parks and Wildlife Service working together to support the sustainable management of the Dublin Mountains.

It aims to improve the recreational experience of users of the Dublin Mountains, whilst recognising the objectives and constraints of the various landowners. The partnership undertakes trail development and establishes marked accessed routes, signage and maps throughout the Dublin Mountains.



# NATURE-BASED SOLUTIONS



NO	ACTION	TIMEFRAME	LEAD DEPT(S)	INDICATORS	TARGET(S) IMPACTED
<b>ACTIONS CURRENTLY BUDGETED</b>					
<b>OPERATIONS</b>					
<b>N1</b>	Establish regional working group to identify areas and priorities for actions	2019	Public Realm	Working group established	
<b>N2</b>	Establish a cross-departmental Trees and SuDS Working Group to promote and pilot water-sensitive urban design (WSUD) incorporating urban tree planting	2019	Multi-departmental	Working group established, # of urban tree pits used as attenuation systems	
<b>N3</b>	Workshop to develop Dublin Risk Assessment for nature and climate change	2020	Multi-departmental	Workshop conducted, assessment developed	
<b>N4</b>	Workshop on NBS, green infrastructure and Sustainable urban Drainage Systems (SuDS)	2020	Multi-departmental	Workshop undertaken, report of outcomes	
<b>N5</b>	Produce regional floodplain management guidelines	2020	Multi-departmental	Guidelines produced	
<b>N6</b>	Finalise draft <i>Biodiversity Action Plan</i>	2020	Public Realm / Heritage	Plan published	
<b>GREEN INFRASTRUCTURE</b>					
<b>N7</b>	Develop <i>Green Infrastructure Strategy</i> that identifies areas and priorities for green infrastructure and investment	2019	Planning, Public Realm	Strategy developed	
<b>N8</b>	Develop <i>Public Open Space and Parks Strategy</i> that incorporates climate change mitigation and adaptation	2019	Planning, Public Realm	Strategy developed	
<b>N9</b>	Incorporate natural play space into existing parks for recreation and as SuDS	2018 onwards	Public Realm, Communications	# of spaces developed	
<b>N10</b>	Implement policies in the development plan avoiding artificial underground storage of attenuation water, where possible, in favour of nature-based solutions	2019	Multi-departmental	Reduction in the # of artificial attenuation systems as a % of developments	
<b>AGRICULTURE</b>					
<b>N11</b>	Develop a hedgerow plan for the County, with actions to map, protect and develop hedgerows county-wide	Ongoing	Planning, Public Realm	Map produced, # of hedgerows maintained and added	



NO	ACTION	TIMEFRAME	LEAD DEPT(S)	INDICATORS	TARGET(S) IMPACTED
<b>TREE MANAGEMENT</b>					
<b>N12</b>	Develop urban woodland management strategy and action plan	2020	Planning and Public Realm	Plan produced	
<b>N13</b>	Implement Tree Management Policy	2018 onwards	Public Realm	Annual programme of tree maintenance implemented	
<b>N14</b>	Increase tree canopy cover in the County through annual planting and maintenance	2019	Public Realm	% increase in tree canopy cover	
<b>N15</b>	Develop coordinated regional planning approach to prevent the removal of healthy, established trees	2018 onwards	Public Realm	Protocols agreed and implemented, % annual reduction in tree removal by local authorities	
<b>N16</b>	Measure and maintain species diversity in urban tree population	2018 onwards	Public Realm	Reduction in diseases attacking trees	
<b>N17</b>	Develop and promote establishment of tree trails in public parks across the County	2018 onwards	Public Realm and Communications	# of trails established	
<b>N18</b>	Develop demonstration projects for successful planting and establishment of trees in urban hardscapes	2018 onwards	Public Realm	Pilot areas identified and trial solutions designed	
<b>N19</b>	Provide opportunities for community engagement, involvement and activities to raise awareness	2019	Public Realm and Planning	# of events	
<b>CONSERVATION AND PRESERVATION</b>					
<b>N20</b>	Review and climate-proof <i>Biodiversity Action Plan</i> , <i>Invasive Alien Species Plan</i> , and <i>Tree Management Policy</i>	2018 onwards	Public Realm	Complete review for climate relevant actions carried out and amended accordingly	
<b>N21</b>	Develop list of species native to County and map of habitats that are at risk for use in EIAs	2020	Public Realm	Map of species, completion of list and baseline numbers established	
<b>N22</b>	Include native species into local authority plans as a key nature-based measure where appropriate	2019	Multi-departmental	# of plans including native species	
<b>N23</b>	Survey, map and implement control plan of invasive species	2019	Public Realm	Reduction of M2 of IAS and # of IAS	
<b>N24</b>	Incorporate actions from national pollinator plan into <i>Green Infrastructure Strategy</i>	2019	Public Realm	Plan implemented	
<b>N25</b>	Manage and monitor identified 'pollinator protection sites'	2020	Public Realm	% of pollinator species increased	



NO	ACTION	TIMEFRAME	LEAD DEPT(S)	INDICATORS	TARGET(S) IMPACTED
N26	Maintain and expand community gardens and allotments for local food production	2020	Environmental Awareness, Community, Communications and Public Realm	# of sites across County	
N27	Support local communities with biodiversity education	2020	Environmental Awareness, Communications	# of participants, yearly reports	
N28	Sustainable gardening workshops	2020	Environmental Awareness, Communications	# of workshops held, # of attendees	

## ACTIONS AWAITING BUDGET

N29	Develop demonstration sites to show how to combine nature conservation with existing land uses	2020	Architects, Communications, Public Realm and Biodiversity	Demonstration sites implemented	
N30	Deliver green roofs on civic buildings	2020	Architects	# of Council buildings with green roofs	
N31	Maintain and increase Green Schools Programme participation	2020	Environmental Awareness, Communications	# of schools participating	
N32	Engage with residents and relevant stakeholders on climate change and biodiversity to incorporate their ideas into Council strategies and plans	2020	Public Realm and Biodiversity, Communications	# of participants, # of interactions	
N33	Assess the benefit of increasing buffer distance of 10m from water courses to protect biodiversity and provide greater flood attenuation for distances of 20m, 50m and 100m	2019	Environment, Water and Climate Change, Engineering, Parks and Biodiversity, Finance	Comprehensive assessment completed	

## RELEVANT LEGISLATION/POLICIES/GUIDANCE

- All-Ireland Pollinator Plan 2015-2020
- Dublin Tree Canopy Study (2017)
- EU Biodiversity Strategy
- EU Birds Directive 2009/147/EC
- EU Environmental Impact Assessment Directive 2014/52/EU
- EU Habitats Directive 92/43/EEC
- EU Regulation on Invasive Alien Species - EU Regulation 1143/2014
- EU Strategy on Green Infrastructure 2013
- European Communities (Birds and Natural Habitats) Regulations 2011 S.I. 477 of 2011
- European Union (Invasive Alien Species) (Freshwater Crayfish) Regulations 2018
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 S.I. 296 of 2018
- Green Low Carbon Agriculture Environment Scheme (GLAS)
- Living with Trees - South Dublin County Council's Tree Management Policy 2015-2020
- National Biodiversity Action Plan 2017-2021
- National Landscape Strategy for Ireland 2015-2025
- South Dublin County Council Development Plan 2016 -2022 (Policies ET6; G2; G4; HCL8; HCL9; HCL10; HCL17)
- Water Framework Directive 2000/60/EC
- Wildlife (and Amendment) Acts 1976-2012