Pollinator Plan Conference
March 6\textsuperscript{th} 2018

Anne Murray
DLR Biodiversity Officer

Council Staff – Implementation of Pollinator Actions
Stressors for Pollinators

- Diseases, Pests, Genetics
- Exposure to Pesticides
- Reduced Habitat and Poor Nutrition
- Climate Change and Weather
Our Native Habitats and Species are fundamental to our Pollinators

Pollinators are bioindicators as individuals and populations - their presence, abundance, and activities can reveal something about the state of the ecosystem in which they are found.
Food for Pollinators: Quantifying the Nectar and Pollen Resources of Urban Flower Meadows (Hicks et al., 2016)

- Nectar sugar and pollen rewards per flower varied widely across 65 species surveyed, with native British weed species (including dandelion, *Taraxacum agg.*.) contributing the top five nectar producers and two of the top ten pollen producers.
- Seedmixes with native Hawkbit, Knapweeds and Poppy.
- Perennial meadows produced up to 20x more nectar and up to 6x more pollen than annual meadows, which in turn produced far more than amenity grassland.
- Perennial meadows produced resources earlier in the year than annual meadows, but both seed mixes delivered very low resource levels early in the year and these were provided almost entirely by native weeds.


DLR supporting Biodiversity
- Protect what we have. Native habitat loss is a key problem
- Keep and enhance our hedgerows (and their banks/ditches) and manage them appropriately
- Keep our native treelines, woodlands, wetlands, grasslands/meadows etc. Plant and create more where possible.
- Increase our Biodiversity – Native meadows, grasslands, scrub, orchards, riparian corridors (WFD) and other habitats - Benefits overall biodiversity and us
- Create more undisturbed native habitat areas with variety and diversity – connectivity to other habitats

DLR …… supporting Biodiversity
Reduce pesticide use

Planning Applications and Development - request pollinator initiatives from applicants, retain hedgerows where possible, create and enhance native habitats, plant native species (including for green roof projects) and request connectivity features to the wider landscape.

Planners, Heritage Officers and Biodiversity Officers, others – CIEEM, Landscape Architects and ecologists

Broader level we need Landscape design with Ecological Principles

DLR …… supporting Biodiversity
We in local authorities are responsible for large areas – urban and wider countryside. We need to know the area to be managed or planted. Check it’s current importance for wildlife, if any before making any changes.

- Get ecologist advice (botanical) where possible
- Manage the cutting regime
- Plant native trees and native plants
- Source from certified local/regional suppliers/organic
- Lets make sure we don’t accidently introduce an invasive or damage existing native areas
Implementing Pollination Actions – Where

- Parks, Roads, Water & Drainage, Properties/Housing, Environment
- Playgrounds
- Depots
- Yards
- Road Verges
- Golf Courses
- Landfills (subject to closure licence requirements – or not)
- WWTP (IW and county councils)
- Properties - Housing estates etc.
- Car Parks
- Libraries
- Art centres and other centres
- Development – native species, green roofs, rain gardens etc.
Plans, Strategies & Policies

- Objectives
- Actions
- MONITORING OUTCOMES

“...I have some specific, unknown objectives for you to achieve.”

DLR … supporting Biodiversity
Action number - 4.1.8. Implement the All-Ireland Pollinator Plan including: making the Irish countryside more pollinator friendly; raising awareness of pollinators; supporting beekeepers and growers; expanding knowledge of pollinators; and collecting evidence to track changes.

Key Partners - NBDC and other actors (that’s us!!) listed in the plan.

Indicators:
1. Number of actions implemented
2. Status of pollinator populations
3. Delivery of pollinator actions in agrienvironmental plans
4. Area of land under organic production
Our Key Plans – Help to deliver

- National Biodiversity Plan – Action 4.1.8
- County Development Plan – Protecting Natural Habitats and Plants Objectives - Pollinator Objectives
- Green Infrastructure Plan - protecting and managing natural wildlife corridors and habitats
- Local Area Pollinator Plan – Community or other
- County Biodiversity Plan – Pollinator Actions
- Climate Change Action Plan – Resilience to climate change
- Eu Habitats Directive – Ecological Networks and Buffer Areas

DLR supporting Biodiversity
Sample Basic Objectives of a Local Pollinator Plan or within Biodiversity/County Plan:

1. To deliver Biodiversity actions in the Biodiversity Plan to benefit pollinators in partnership with NBDC, BSBI, IWT, Irish Beekeepers etc. (to ensure best practice)

2. To manage wildflower grasslands and other native habitats in DLR to promote biodiversity and pollinators e.g. Fernhill meadows/Marlay Park

3. To create and enhance habitats and wildlife corridors for pollinators where appropriate e.g. road verges, riparian corridors, hedgerows, green infrastructure

4. To continue to encourage community involvement in practical activities, events and survey and monitoring of pollinators.

5. To raise awareness of the plight of pollinators and the actions needed to help reverse species declines.
6. Incorporate pollinator objectives and actions into other plans e.g. climate change plan.

7. Improve riparian corridors for pollinators as part of watercourse improvements, drainage and flood management plans, flood management projects, where appropriate.

8. Provide guidance to planners in relation to pollinator initiatives for development.

Any other suggestions?
Benefits for Water Framework Directive

Bank rehabilitation aims to reduce the uniformity of the existing bank profile and re-establish a more natural hydrological gradient suitable for colonisation by a range of species. Re-profiling of the channel banks may also help to create flow diversity within the channel if implemented alternately along the river. This may help to increase localised flow velocities and reduce fine sedimentation on the channel bed. This measure can help deliver objectives of the Water Framework Directive, by:

- Assisting the recovery of natural channel form and re-establishment of bank adjustment processes. This can have benefits at the site by aiding re-establishment of varied bank profile and flow velocities.
- Re-establishing shallower marginal habitat and a hydrological gradient which is likely to benefit macrophytes, invertebrates and fish. Removal of hard bank protection will also enable re-establishment of vegetation on the bank face and bank top, which provides shelter and shading along the channel.
- Avoiding knock-on impacts on bank stability further upstream and downstream due to discontinuity in bank characteristics and disturbance of natural bank adjustment processes. This can help avoid instability that may be associated with the presence of bank protection by enabling natural lateral adjustment.
- Improvement in water quality as a result of more varied low flow conditions.

There are several wider benefits that may be associated with bank rehabilitation, including:

- Increased biodiversity along the river corridor benefiting mammals, such as otters and water voles, and insects.
- Creation of additional channel capacity during high flows through the incorporation of embayments into the design of bank re-profiling works.
- Improvement in the aesthetic appearance of the channel, which may be of particular benefit in an urban environment.
- Potential to incorporate public access and amenity features as part of the works – e.g. provision of viewing platforms.

In addition, bank rehabilitation can be reasonably cheap to implement and is a measure that could potentially be undertaken by local interest groups with appropriate guidance.

To read more about the effectiveness of the measure within academic literature please click here: [Effectiveness for Biological Quality Elements](#)
Green Infrastructure - ‘A generic term encompassing the protection, management and enhancement of urban, periurban and rural environmental resources (natural and managed) through the identification and provision of multifunctional and interconnected green spaces and provides an opportunity to reassess the manner in which we manage and use our green spaces’.

Green Infrastructure or blue-green infrastructure is a network providing the “ingredients” for solving urban and climatic challenges by **building with nature**. The main components of this approach include stormwater management, climate adaptation, less heat stress, **more biodiversity**, food production, better air quality, sustainable energy production, clean water and healthy soils, as well as the more anthropocentric functions such as increased quality of life through recreation and providing shade and shelter in and around towns and cities. Green infrastructure also serves to provide an ecological framework for social, economic and environmental health of the surroundings. Wikipedia

* Using Nature to provide services to people !!

DLR supporting Biodiversity
Green Infrastructure Principles for Dún Laoghaire Rathdown – Top of the List is:

• Prioritise the protection and enhancement of biodiversity and natural heritage
The main elements of the DLR strategy for natural and cultural heritage

- Review and/or complete Landscape Character Assessments and Historic Landscape Character Assessments
- Complete Habitat Assessments and implement the County Tree Strategy
- Restore or mitigate the fragmentation of ecological corridors throughout the County
- Create a network of Greenways, Green Streets, including green roofs
- Harness the strong built heritage of the County
- Harness the strong cultural heritage of the County
- Ensure new developments enhance the Green Infrastructure network
Green Infrastructure Plan for Pollinators

Through landscape-scale projects  GIS Based tools

Guidance on choosing appropriate actions for public land is provided within the Action Plan by categorising the major land type and the green infrastructure within it, and then indicating a ‘shopping list’ of appropriate management action plans.

For each individual green infrastructure type the aims, options and risks are highlighted. Other land not in public ownership can be classified in the same manner, giving a wider application for the Action Plan.
Green Infrastructure Plan Studies

DLR working with UCD to map our green infrastructure 2018
Further studies planned to include further actions for pollinators and Biodiversity

DLR supporting Biodiversity
Looking at our Parks

- Looking at avoiding or reducing chemicals – weed control – trees and the surrounding area
- Leaving edges of treelines, wooded areas, fences ‘untidy’
- Creating meadows in suitable areas – cutting regime or cattle grazing
- Grassland areas (even amenity areas) do not have to be a tennis lawn
- Putting up signs to explain the management choices. Let contractors know and the Public
- Keeping dogs on lead and allocating special dog off lead areas
- Encourage our gardeners to grow native plants in the small nurseries

When we start adding in nutrients from pet waste, the ecosystem balance is thrown out of equilibrium. Dogs aren't eating berries, or other native plants from the ecosystems they leave their waste in, but instead eating nutrient heavy pet-foods designed to give them a complete and healthy diet.
Inform the Public, Staff and Contractors

NATURE WILDLIFE AREA
DO NOT MOW, CUT OR SPRAY

By allowing the grass and vegetation to grow naturally, we:
- Increase habitat for insects, birds and other wildlife
- Save energy and reduce our carbon emissions from machines and equipment
- Reduce maintenance costs
- Improve soil erosion control and water quality
- Provide a space for wildlife conservation

DLR supporting Biodiversity
DLR Pollinator projects

Fernhill Meadows grazing management

DLR … supporting Biodiversity
These gardens have large wildflower meadows that have never been fertilised by chemicals and have been managed through winter grazing by cattle.

DLR has continued this tradition to ensure that the wildflower meadows are maintained in their more natural state. This adds to the variety of wildflower species and to the diversity of sward structure through grazing. Lots of insects in the meadows.

DLR aim to keep this a chemical free park with sustainability at the core

A number of bees have been recorded at Fernhill including the Moss (or Large) carder bee. This bee is classified as near-threatened in the Regional Red List of Irish Bees and is a Priority Species in Northern Ireland. It requires flower-rich habitats and it is largely absent from lowland agricultural landscapes.
Irish Rare Cattle Breeds – Droimeann and Dexters
DLR Pollinator projects

Marlay Park Meadows mowing management
DLR Pollinator projects

Shanganagh Planting new wildflower meadows

DLR supporting Biodiversity
The recent planting of a mini collection of Native Apple Orchard in 2017 aims to enhance the biodiversity of Shanganagh Park, supporting bee populations and supporting the stock of native apple trees which are housed in the Clarke National Collection at UCD.

Thanks to Jim Ellis and other DLR staff.
DLR Pollinator projects

Reducing use of chemicals in DLR weed control
Our Parks and Environment staff are currently running trials in parts of the county to examine the use of alternative non-chemical weed control such as hot water and hot foam.

The aim is to reduce the use of chemicals that can impact on us and nature including pollinators. There are a number of housing estates already where the use of herbicides is restricted in Marlay Grange, Ludford and Kilcross.
Pollinator Workshops
DLR Pollinator projects

Roadside Verges for Biodiversity

Life on the Verge
Roadside Verges

DLR supporting biodiversity
Roadside Verges - Contractors and Staff

- Changing management regimes along road verges
- Keeping safety margins for sight lines
- Choosing appropriate areas for wild flowers, trees etc.
- Stop using dumping/litter as an excuse not to create habitat
- Recent study shows that people responded more positively to roadside verges and roundabouts that contained wildflowers than the lawn or tightly cut areas
- Getting buy-in from contractors by including a requirement for managing pollinators in tenders docs or works programme
- Putting up signs to alert new staff of the areas that are managed for wildlife

DLR supporting Biodiversity
Thank You