
HARVESTING FROM LOCAL WILDFLOWER DONOR SITES

**LOCAL SEED AND SOIL – RETAIN AND REUSE, TO
HELP RESTORE AND CREATE LOCAL HABITATS FOR
POLLINATORS**

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LOCAL SEED AND SOIL – RETAIN AND REUSE, TO HELP RESTORE AND CREATE LOCAL HABITATS

Local Authorities need to lead by example.

The more we know about the AIPP actions the more we can incorporate links into how we work on the ground.

We have seen a lot of great work on planting for pollinators, creating habitats for pollinators etc.

Local soil and seed are important part of helping pollinators.

LIVING SOILS

Soil is a fundamental and ultimately finite resource.

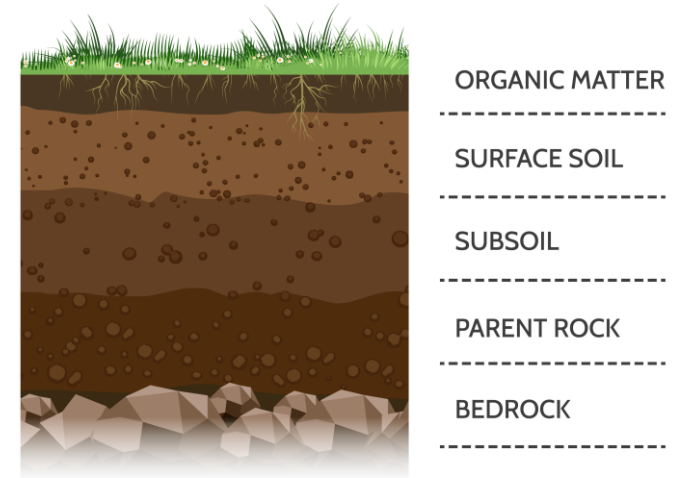
It fulfils a number of functions and services for society (ecosystem services). It often contains a wealth of seeds and living organisms. It supports our pollinator areas.

One hectare of soil, can contain up to 5 tonnes of living organisms and because it can take more than 500 years to form a 2cm thickness, it is in practical terms non-renewable.

Subsoil is a valuable resource for more semi natural habitats and pollinator areas that often flourish on low nutrient soils or specific conditions.

Movement and management of soils – we need to treat soils carefully as a living and valuable resource.

SOIL LAYERS



SOIL FUNCTIONS – SOIL ECOSYSTEM SERVICES

Soil fulfils a number of functions. Here are some:

- holds our seed banks;
- support of ecological habitats, biodiversity and our pollinators;
- carbon storage – climate crisis;
- environmental interaction (with water and air);
- support for the landscape;
- protection of cultural heritage – what is buried beneath;
- food and fibre production;
- Soil also has a large social function, through providing the basis for greenspace, including gardens and public open space that we all enjoy





LOCAL SOIL - SEED BANKS

Soil seed banks offer plants the possibility to disperse through time by remaining dormant in the soil. Soil seed banks can reflect ‘memories of communities past’ (plant communities).

Usually appearing above ground in response to disturbance or environmental changes.

Soil seed banks can buffer populations against local extinctions following habitat loss/impacts. May play an important role in buffering populations during climate change.

These seeds banks are also important in terms of our biodiversity and pollinators as they act as a ‘biodiversity reservoir’

HEDGING THEIR BETS !!



These local “**biodiversity reservoirs**” contribute to local population persistence and biodiversity (stored underground), remnant populations, and the maintenance of a diverse belowground species pool.

Seed banks allow evolution of risk-spreading mechanisms.. It can be advantageous for plants to "hedge their bets" in case of a drought by producing some seeds that germinate immediately and other seeds that lie dormant in the soil.

....thus maintaining local biodiversity and providing a potential resource for our pollinators and resilience in the face of disturbance or environmental change.

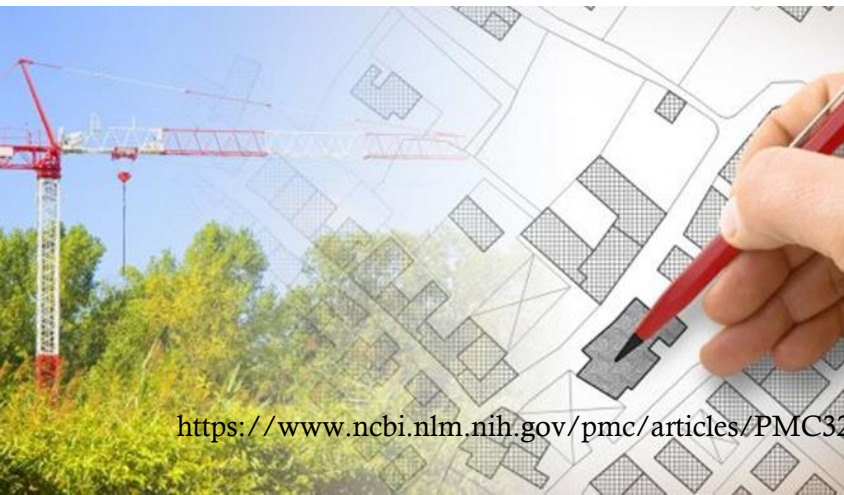
LOCAL SEED ABOVE GROUND

DLR Slow to Mow campaign and reduced chemical aims to allow our soil seed bank to come through in our pollinator areas. Or in some cases disturbance has occurred and plants come up and develop new pollinator areas (for example sports facility developed leaving a bare area that we allow to colonise naturally).

We then have the opportunity to harvest the seed that develops, where it is possible for example in our Parks meadows.

Some of our Parks meadows are ready for harvesting while some of our newer pollinator areas will take a few years to establish for seed collection.





DLR PROJECTS

Planning Development

In Planning where the ecology report indicates that there is a locally valuable habitat/seed source that will be lost , we would request that developer/applicant provide for the reuse of soils and seed bank on site through landscaping. **Note:** this is not a part of mitigation for important or protected habitats.

We may request the harvesting of seed, cleaning, packaging and providing to the county council for use elsewhere. – Requires that a professional with suitably qualified experience carries this out.

Problem – we have few experienced seed collection businesses in Ireland.



THE OPTIONS

Planning Development

- ✂ Local seed collection/storage to be provided to the LA (in agreement as part of mitigation) from soils to be removed – **must be done by an experienced contractor.**
- ✂ Pale flax harvesting project.
- ✂ Good soil management – A recent research project provided evidence that soil N can act as an underlying driver of plant-pollinator networks and should be considered as a factor in pollinator ecology and trends. So reuse of subsoils (often nutrient poor) can benefit pollinators whereas mixed up soils due to poor site soil management enriched N soils are not beneficial

¹https://eprints.lancs.ac.uk/id/eprint/145169/1/ThomasDavid_CorrectedThesis_2020.pdf

Photo: Wildflowers of Ireland



THE OPTIONS

Planning Development

- ✿ If re-use of soil is proposed in a Planning Application, it is best to provide a Soil Management Plan where needed and base it on best practice and experience
 - ✿ Wildflower Meadow Creation re-using the soils on site and the seed bank within those soils (best practice guidance)
 - ✿ Habitat Translocation – orchid translocation project.
 - ✿ Green and Brown Roofs - use the subsoil or nutrient poor soil been lost on the ground where possible and this can create great areas for pollinators. Specification depends upon the function of the roof e.g. water retention only is very different to a biodiversity/brown roof.
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DLR LOCAL SEED HARVESTING PROJECT

Harvesting from Donor Sites:

- Pilot Project Fernhill Park
 - – wildflower meadow (winter grazed)
 - - old grasslands (cut for hay)
 - Other sites
 - Marlay Park
 - Wet meadow (a lot of rushes)
 - Shanganagh
 - - coastal wildflower meadow (created over 10 years)
 - Private sites – work with landowners
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DLR LOCAL SEED HARVESTING PILOT PROJECT AT FERNHILL

Fernhill Park and Gardens

- Previously a privately owned park and gardens, DLR purchased it and are developing a sustainable park.
 - The front meadows have existed for ca. a century.
 - DLR manage these as meadows with winter grazing.
 - Allow the meadow to grow during summer
 - Due to undergo their first harvest for wildflower seed in late July/early August 2021.
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DLR LOCAL SEED HARVESTING PILOT PROJECT AT FERNHILL

- Not all seed will be collected, some will be allowed to drop to ground so that we do not remove all the seed resource for the meadow itself.
 - It will be done by brush harvesting – first pilot so a lot to consider
 - Its uneven ground
 - Check for ragwort and other unwanted species including IAS
 - Seed drying – space
 - Seed cleaning and packaging
 - Seed Storage
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DLR LOCAL SEED HARVESTING PILOT PROJECT AT FERNHILL

- Staff involvement/training
 - Methods - Machinery/leaf vacuum/hand
 - Future public involvement in seed collection
 - Lessons learnt from others such as [magnificent meadows.org.uk](http://magnificentmeadows.org.uk)
 - Not a cheap exercise to complete but it is something that could become cheaper through sharing ideas, contacts in relation to harvesting etc.
 - A lot to think about !!
 - Watch this space !!!
 - Other options
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DLR LOCAL SEED HARVESTING

Aim is to provide seeds to:

- Local Communities for some areas that may need seed where our Slow to Mow policy is not feasible e.g. small patches of bare ground or disturbed ground. This would replace the need to bring in seed mixes from beyond the local area/county
 - Small works by LA e.g. an area of embankment or roadside where small works required the removal of grass/habitat and the reinstated area of bare soil requires seeding – opportunity to use old grasses here also
 - Sensitive areas that require local seed e.g. restoration of more natural habitats.
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Thank you

