Biodiversity in Primary Schools

Let's Get Started: Action Plan
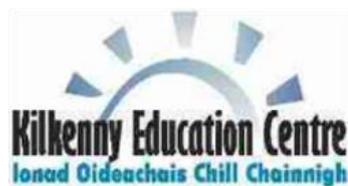
Introduction

We've noticed that many schools find planning biodiversity activities very daunting. However, it doesn't have to be a scary topic – there are so many quick and effective actions you can take!

The purpose of this booklet is to help you select the topics that are best for your schools, guide you in the right direction in choosing projects to undertake and highlighting the best resources out there. We focus on five areas: Birds, Bugs, Mammals, Ponds and Wildflowers.

This booklet was commissioned by the Heritage Office of Kilkenny County Council. It is based on a booklet originally created to help seven schools in Kilkenny taking part in the 'Biodiversity in Primary Schools Project'; a project run by Kilkenny Education Centre during autumn/ winter 2015.

We highly recommend using Eanna Ni Lamhna's 'Wild Things at School' free books and worksheets to complement all your biodiversity activities.

Best of luck and have fun!

Biodiversity in Primary Schools Project Team

March 2016

Birds

Birds are a very welcome visitor to the school garden all year round. They are a particularly cheerful addition during the colder winter months when all other biodiversity seems to disappear. While the school can undertake many different actions throughout the year to encourage birds into the garden, they particularly need our help during the winter when food is scarce. This is handy as there are very few biodiversity actions that can be carried out from October to February. The number one source of your bird information should be BirdWatch Ireland; Ireland's bird conservation charity (www.birdwatchireland.ie). There you will find lots of information about bird identification and a well stocked shop. The main actions that we recommend the school undertake include:

- Create a bird-feeding station
  This can be as simple as a few bird-feeders containing nuts or seeds that are continually topped up throughout the winter. Below you will find some lesson plans to create homemade bird feeders as well as other activities and instructions.

Examples of some bird feeders; homemade and specially bought.

- [Build a birdfeeder](#)

- [Create a bird-friendly Christmas tree](#)

- [What to feed your birds](#)

- [Bird identification dial](#)

- [Bird identification poster](#)

- <u>Create a small bird-bath</u>

  Nothing huge, just an upturned lid of a bin or even a shallow bowl with some rocks/ stones to allow birds to perch.

Keep your bird baths nice and simple (Source: lowes.com)

- <u>Provide nest boxes</u>

  If you are lucky to have a handy caretaker they could be constructed using the instructions provided [here](#). Alternatively you could purchase some on the BirdWatch Ireland website from €16 (shop.birdwatchireland.ie).

If you feed your birds well, some might even decide to make a home nearby (Source: rspb.org.uk)

- <u>Undertake a bird survey</u>

 This adds a great scientific element to your bird work. Many people take part in the annual BirdWatch Ireland Garden Bird Survey and we have successfully completed surveys with a number of primary schools. You can read about the survey [here](#).

Bugs

It never ceases to amaze us how excited children can get when they go on a bug hunt in somewhere as familiar as their own school garden. It is easy to pass by the hidden nooks-and-crannies, but when we peak in there is an incredible secret zoo just waiting to be discovered! Just think, there are more organisms in a teaspoon of soil than there are humans on earth!!

However, even in the most wildlife-friendly gardens, it can be difficult to find these mini-creatures as they are so well hidden. Therefore we need to create as many easy-to-explore habitats as possible for them. While the key to success is making an area as wild as it can be, we like to do this in as neat a way as possible. It is best to complete the following actions in autumn and winter so that the habitats are ready to explore in spring and summer. The purpose of the following actions is not just to give the bugs a home, but to also create a resource; these will be your 'go-to' sites to pick out bugs – like libraries, but with bugs instead of books! There is no end to the wonderful things you will discover living in your new bug habitats. We recommend you undertake the following actions:

- Build a bug house
  This should be a structured mess! Most examples we have seen at schools have been stacked pallets crammed full of various types of habitat to attract different bugs such as stones, bark, wood, cardboard, grass, etc. Click here to view instructions created by the UK Wildlife Trust on how to build one of these houses. As with most of the actions we recommend, this project should really come with an interpretative sign for any visitors to the school.

A bug house in the UK made from pallets (Source: UK Wildlife Trust)

- Create a Log Pile

Rotting wood is increasingly difficult to find on the school grounds but is an unbelievably good haven for bugs. It's ridiculously simple; just pile up logs on top of each other – the wetter and older the better. Keep topping it up year after year as the logs disintegrate.

Great examples of rotting log piles (Source: Buglife, creativestarlearning.co.uk)

- Build a Leaf Pile

This is exactly the same principle as the log pile above. Gather up some fallen leaves from around the school garden into one large pile.

- Construct a Bug Trap Door

These are great fun. Make a door out of wood or metal, including a handle, and lay it flat on the grass. Soon the grass will disappear and all those bugs who like dark, damp places will flock!

A Bug Trap Door we saw at the Mercy School, Wexford. Just like a kitchen cupboard opening into the ground! (Source: BiodiversityInSchools.com)

Mammals

When it comes to biodiversity in the school garden the bees, birds, bugs and trees get all the attention! However, it is important not to forget an entire group of animals – the mammals. Although they are not as loud as the birds and obvious as the flowers, they are there and are always looking for a helping hand. When the school bell goes, who knows what cute critters descend upon the school garden such as rabbits and hedgehogs! We've assembled a number of actions below that will both help and investigate mammals in your school garden.

-   Build a hedgehog hibernaculum

    As the name implies this is a house for the hedgehog to hibernate in over the winter months. Therefore you should think about it as a project for Sept/ Oct/ Nov. It is so, so simple.

    At the very least you could provide a log pile covered in leaves. However, we recommend the next step up; a very easy homemade hibernaculum. Click here to view instructions from a UK conservation charity called Hedgehog Street. This also contains more detailed instructions if your hedgehog needs to trade up to a larger house in the future. Paddy Madden, of Marino Institute of Education, provides a great step-by-step 2-minute video here.

A hedgehog hibernaculum can be as simple as you want, from a leaf pile to a fully wooden creation; our instructions suggest a happy medium that can be made by anyone with basic resources from around the school (Source: hedgehog-rescue.org.uk, hedgehogstreet.org)

- <u>Build a mammal tunnel</u>

Mammals are of course very shy and therefore difficult to spot in the school garden. We teamed up with MISE (Mammals in a Sustainable Environment), a mammal conservation group based in Waterford IT, to create a lesson plan to investigate the night time visitors to your school grounds. The children find this particularly exciting!

As you will see from the instructions here it is essentially a homemade, prism-shaped tunnel, through which the mammal is encouraged to walk for some tasty treats. As it does so, it walks over some harmless black paint and leaves a footprint trail across a recording sheet. By examining the prints, you can tell who has visited. Genius! Have fun with this one! You will find helpful information on the Mammals in a Sustainable Environment website (www.miseproject.ie).

It is very exciting to open your tunnel to find mammal footprints! (Source: MISE)

- <u>Build a Bat Box</u>

  Don't forget, mammals aren't just our four legged friends on the ground – they can fly too! While we see many bird boxes at schools, it is much rarer to see a bat box. Why not try one? Your go-to guide for bats is Bat Conservation Ireland (www.batconservationireland.org) where you will find more information about bats and also instructions on how to make a bat box. Alternatively, buy a bat box on the BirdWatch Ireland shop for €24 (shop.birdwatchireland.ie).

Bat boxes are just like bird boxes. Why not dot a few around the school? (Source: BirdWatch Ireland)

Ponds

Most schools we visit are already home to a selection of habitats such as hedgerows, mini-woodlands and open grassland to name but a few. However, one of the most obvious habitats missing from the majority of school gardens is the pond. Ponds can sometimes be challenging for health and safety reasons but there is no need to worry; we're talking about micro-ponds - they are tiny. Even the smallest pond introduces an entirely new habitat into the school as well as a vast array of new species such as frogs and dragonflies. Although these ponds sound small, we were amazed in our own garden when an army of frogs invaded our accidental pond no bigger than a salad bowl!

- Creating a micro-pond

    This is so simple. All you need to do is sink a watertight container (eg: dish, bowl, bin lid, tray, etc.) into the soil and fill with rainwater to a depth of 3-4 inches. It will be no bigger than a puddle. Add some sand and gravel as a bottom layer (for bugs to burrow). Ensure the edges are shallow (allowing frogs to walk in and out easily). Finally, place a rock/ large stone or two in and around the pond for shelter.
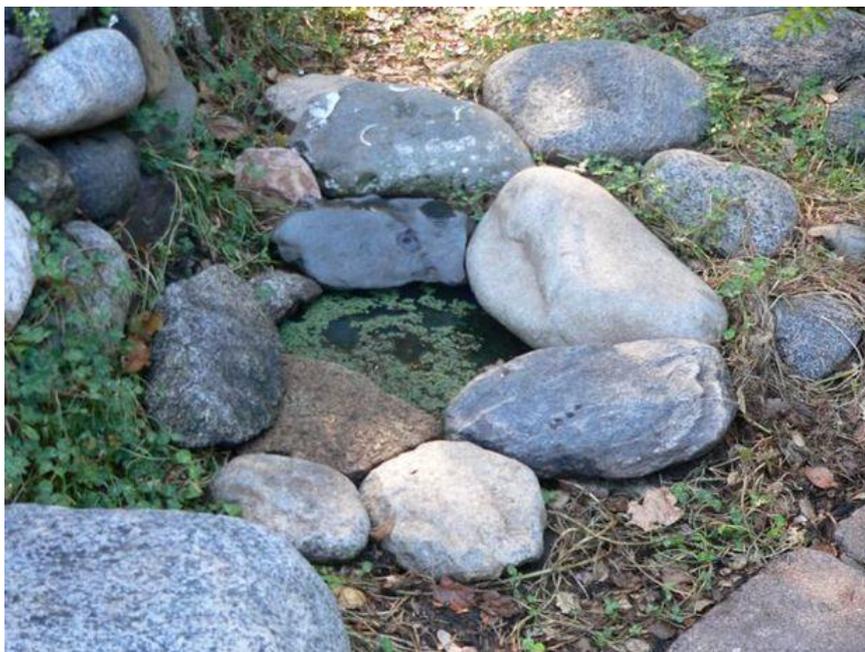
Example of a micro-pond made from an upturned bin lid (Source: Instructables.com)

In addition to the steps mentioned above, here are more detailed instructions from Bord Bia in case you ever feel like expanding the size of your pond.

A large pond at Scoil Bhride NS, Lisdowney, Co. Kilkenny cleverly protected with a metal grid

When your pond becomes established be sure to take samples from it and explore what creatures are living at the bottom. The diversity, even in a small pond, can be amazing!

Exploring water samples back in the classroom with school children in Monaghan
(Source: BiodiversityInSchools.com)

As you are based in Kilkenny we would recommend taking a look at some of the River Nore resources created by Kilkenny County Council Heritage Office. You should particularly take a look at the endangered Nore Freshwater Pearl Mussel lesson plan; a fascinating and protected species found nowhere else in the world that can live for over 100 years.

Nore Freshwater Pearl Mussels are surprisingly large and extremely cool! (Source: ecofact.ie)

Wildflowers

A wildflower patch is probably the most beautiful biodiversity project you can undertake at the school; bringing not just vibrant colour into the garden but also a range of pollinating insects such as bees and butterflies. Unfortunately, our pollinating insects have been having a very hard time lately; for example, one third of our Irish bee species are threatened with extinction. This is a major problem as pollinators such as bees play an enormous role in our lives, with 71 of the top 100 world food crops being dependent on bee pollination. In February 2016, Ireland's Junior Pollinator Plan was launched. As well as containing lots of great information, it is also full of ideas to make your school more bee-friendly. Click here to view it. In addition to this, we recommend the school take some of the following actions:

- Let it grow!

    This is so simple, you don't even have to lift a finger! All you have to do is set aside an area of grass and let it grow over the spring and summer. The whole point is to allow whatever flowers are there to grow to their full flowering potential before you cut them back; providing lots of pollen and nectar. If you are worried about tidiness, just add an interpretative sign and maybe even cut a pathway through to show the intentional nature of your 'wilderness'. A great website for identifying wildflowers in the school garden is Zoe Devlin's www.wildflowersofireland.net.

There will be a bank of flowers such as Dandelions, Daisies and Buttercups waiting to pop their heads up (Source: Art.com)

- <u>Create a wildflower patch</u>

This is the next step up from your wilderness area. You will be preparing the soil and adding seeds, ensuring even more colour. There is no site too small for a wildflower patch, even a large container is good enough if space is tight. For a really simple, straight-forward outline of how to do this, take a look at Paddy Madden's 90 second video [here](#).

A beautiful wildflower patch at Woodstock Gardens, Inistioge, Co. Kilkenny.

There are a number of good Irish websites to buy your wildflower seeds mixes such as:

- The Organic Centre (www.theorganiccentre.ie)
- Seedaholic (www.seedaholic.com)
- Wildflowers.ie (www.wildflowers.ie)

You could also buy wildflower mixes from your local garden centre – but do make sure you are planting native Irish flowers!

- <u>Plant a wildflower meadow</u>

Many rural schools have considerable space and so this may be an option. Essentially, this is the expansion of your wildflower patch over a larger area, using pretty much the same process as Paddy outlines above. There is more effort required to create a meadow but the results can be spectacular.

Swapping an entire area of grass for a carpet of flowers (Source: meadowmania.co.uk)

You will probably need to deal with a wildflower specialist when designing your meadow as each school site will have different requirements. You could take a look at www.wildflowers.ie to buy your seeds that will be tailored to suit your situation.

www.kilkennyheritage.ie
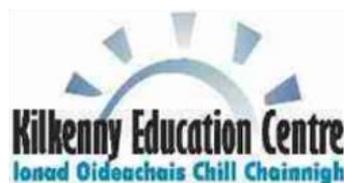
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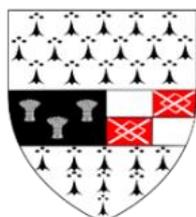
www.kilkennycoco.ie

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