

# Green-Schools



## Biodiversity

# Green-Schools is in the: Environmental Education Unit of An Taisce



An Taisce  
*The National Trust for Ireland*



# Green-Schools: The Programme



- International Environmental Programme
- Award Scheme
- Long-term programme
- Holistic
- Ethos
- Whole-school Action

# Green-Schools: In Ireland



- 94% of all schools in Ireland
- 3,890 schools registered
- 3410 schools awarded
- 71,514 teachers
- 782,661 pupils


Schools

Sponsors

Industry



Green-Schools

 An Taisce

Partnership

An Taisce

Local  
Authorities

# Green-Schools Themes



9: GC Travel



10: GC **Food & Biodiversity**



1: Litter & Waste



2: Water



8: GC Marine Environment

Green- Schools  
Themes



3: Energy



7: GC Energy



6: GC Litter & Waste



5: Biodiversity



4: Travel

# Green-School Themes

Litter & Waste

Energy

Water

Travel

Biodiversity



# The National Parks and Wildlife Service support the Biodiversity Theme



An Roinn  
Cultúir, Oidhreachta agus Gaeltachta  
Department of  
Culture, Heritage and the Gaeltacht



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## Ireland's 3<sup>rd</sup> Biodiversity Action Plan

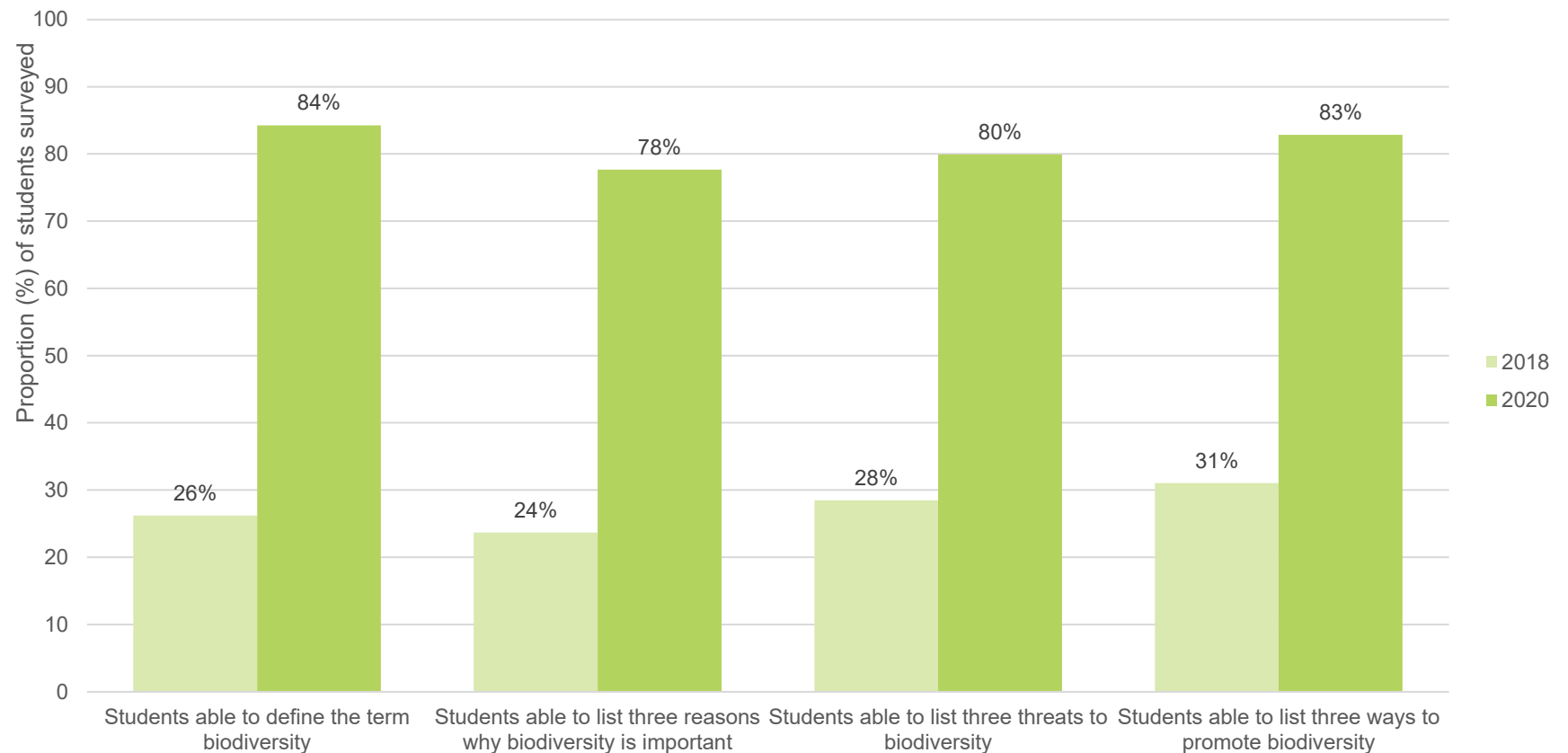
### Objective 3:

*“Increase awareness and  
appreciation of biodiversity  
and ecosystem services”*



# Does Green-Schools Make a Difference?

Green-Schools Biodiversity Survey  
Overall Results 2018-2020



## GREEN-SCHOOLS

awarded the Green Flag to  
**828 schools**  
for their work on the  
Green-schools Programme  
in 2020



## LITTER & WASTE

Schools diverted  
**2,500 tonnes**  
of waste from landfill



## ENERGY

Schools saved  
**4.M litres**  
& **29M units of**  
heating oil and  
electricity  
respectively



## WATER

Schools saved  
**592M litres**  
of water



## TRAVEL

Cycle training received  
**By 4K students**  
and 1,100 bike and scooter  
parking spaces created



## BIODIVERSITY

Students planted over  
**2799**  
Irish native trees



## MARINE ENVIRONMENT

**86% of schools**  
participated in  
#2MinuteBeachCleans



## GLOBAL CITIZENSHIP

**79% of schools**  
increased their knowledge  
on the UN SDGs



# Green-Schools Savings 2019/2020

# 2019/2020 In Review



2500 trees planted

784 window boxes planted

243 schools built and maintained organic vegetable and herb gardens

621 new bird feeding stations were installed by schools

# Green-School Biodiversity

What does Biodiversity mean?

Bio.... - e.g. Biology

.....diversity - e.g. Diverse types of food

# What is Biodiversity?

Biodiversity, or *biological diversity*, is the variety of life forms; from the tiniest flower on your lawn to the largest animals at sea



A high level of diversity is considered to be very important and desirable.

# Biodiversity in Ireland

- ❑ 815 flowering plants
- ❑ 78 native ferns
- ❑ 21 broad-leaved native trees
- ❑ 23 native trees
- ❑ 759 mosses and liverworts
- ❑ 3,000 fungi
- ❑ 1,050 lichens
- ❑ 1,400 algae
- ❑ 50 mammals
- ❑ 22 land mammals
- ❑ 425 birds recorded
- ❑ 27 freshwater fish
- ❑ 5 marine turtles
- ❑ 3 amphibians
- ❑ 1 reptile
- ❑ Unknown invertebrates...  
15,000 documented to date



# Biodiversity in Ireland



# Plant diversity





# Why is biodiversity so important?



# Why is biodiversity so important to us?

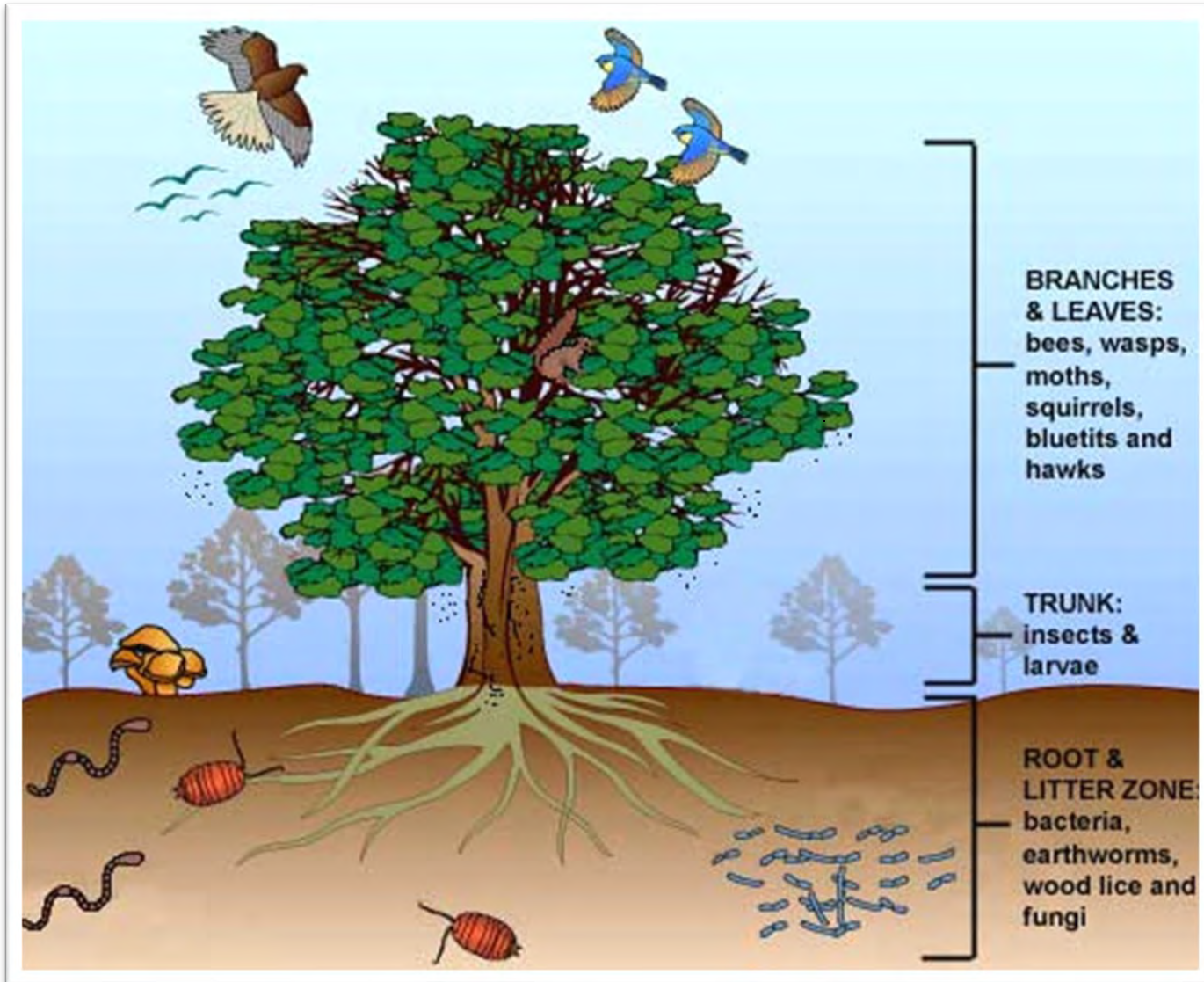


## ... Other reasons

- Many species are of unknown value to us
- Many species not yet discovered may be of value to us
- All biodiversity is intrinsically valuable for itself



# Example: Oak tree



- OAK IS A SPECIES
- AN OAK TREE IS A HABITAT (HOME) FOR LOTS OF OTHER DIFFERENT SPECIES
- AN OAK WOODLAND IS AN ECO-SYSTEM

# 'The Social and Economic Aspects of Biodiversity in Ireland'

DEHLG 2008

In Ireland, each year:

- Biodiversity is valued at > €2.6 billion
- Earthworms' work is valued at €1 billion
- Pollination is valued at €52 million

*Could we afford to replace these services?*



# What is happening to Biodiversity?



# Habitat loss, fragmentation & destruction

Loss and fragmentation are the main threats to biodiversity around the world and here in Ireland

E.G. Rainforest, palm oil & Peatlands



Habitat destruction changes the conditions needed for particular plants and animals to survive

E.G. Wetland drainage



# Litter & Pollution

Causes the death for millions of animals and plants each year

Globally, over 1 million sea birds, 100,000 turtles and sea mammals are killed by litter every year!





# Climate Change

- Change in 1 or 2°C will affect the habitats in which species live
  - E.g. Polar regions
- Some habitats may even become uninhabitable to some species
- Because Ireland is an island some species may not be able to migrate and may become extinct



# Invasive (alien) species

Non-native to a particular area

Often introduced by humans

E.g. Australia – Cane Toad

Spread very quickly

Can affect food webs

E.G. Grey Squirrel



# Over-exploitation

Removal of plants and/or animals from a habitat to the point of no return!

Example - over fishing of a single fish species e.g. Cod





# Green-Schools 7 Steps

&

Ways in which we can help  
BIODIVERSITY



# Step 1: Green-Schools Committee



# Step 1: Green-Schools Committee

## Essential

- Students (N.B. student led)
- Co-ordinator

## Optional

- Sub-Committee for previous theme
- Other staff
- Parents
- Community Members



Remember! Whole school involvement!

## Step 2: Review (- BEFORE taking action!)

There are 2 ESSENTIAL actions:

1. Biodiversity Awareness Survey (4 essential questions to be answered)
2. Compile a Habitat Map

Revisit previous themes & link with Biodiversity theme, and remember your Action Day!



# Biodiversity Awareness Survey

## Year 1

	Survey 1
Date Survey Conducted	
What % of students and staff knew what the term biodiversity meant?	
What % of students and staff were able to list 3 reasons why biodiversity is so important?	
What % of students and staff were able to list 3 threats to biodiversity?	
What % of students and staff were able to list 3 ways in which we can help biodiversity?	

# Habitat Mapping

A habitat map shows the geographic distribution of different habitats within a particular area

What is the purpose of habitat mapping?

- Gives a baseline/start point for your school
- Identifies priority areas/species that you might wish to protect

**Your school's habitat map** should:

- Show the layout of your grounds
- Include any and all types of habitats on the grounds including yard, pitches, trees, hedging, raised beds etc.
- Help identify areas needing improvement



# Habitat Mapping



Step 2: Review

Recommended Actions

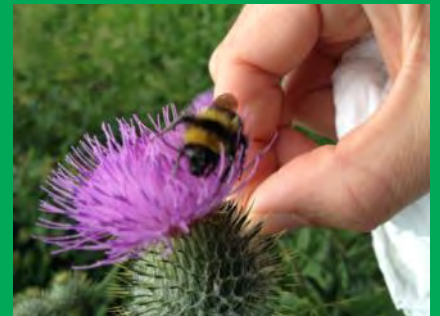
# Investigate your habitats & Record species



# How to record/investigate

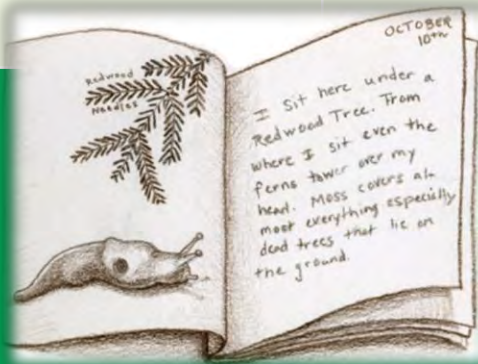
Ask yourself some questions & record the answers in your Nature Notebook

- What am I going to investigate: trees, plants, animals, invertebrates?
- Bring any identification materials that you have access too, or alternatively: Bring your phone, take photos to compare with nature identification **sheets when you're back in the class.**
- What time of the year is it, spring, summer, autumn or winter?
- What time of the day is it?
- What is the weather like?
- Where are you/what habitat are you investigating?



# A Nature Detectives notebook for primary schools

Date	Weather	Place	Habitat	Notes
6 <sup>th</sup> of May	Windy	Oak Woods	Mixed woodland	Tortoiseshell Butterfly
30 <sup>th</sup> of July	Cloudy	Walk to the Pond	Shallow lake (lots of plants)	Spotted a frog
3 <sup>rd</sup> of August	Sunny & breezy	Walk to school	Hedgerows	Lots of small birds
14 <sup>th</sup> of September	Sunny	The park	Mixed (grasses/trees/shurbs)	



# Data sheets for secondary schools

Name of recorder*	Species name*	Grid reference (6 figure if possible)*	Date*	Location*	County	Abundance	Comment
The name of the person(s) that made the observation.	The name of the recorded species.	A <i>six-figure grid reference</i> , employing three digits in each coordinate, to determine a 100 m square. The preferred format is:	The date that the observation was recorded.	A description of where the organism was observed. For example: "A kilometre north of Maam Cross". Ideally supply appropriate Ordnance Survey maps feature names or townland names if available.			
Joe Bloggs	White Tailed Bumblebee	M518152	dd/mm/yyyy		Kildare	1	Resting

- The first 5 columns are mandatory
- The optional columns are recommended by the Data Centre for use where appropriate. You may want to add additional columns yourself to suit your own data e.g., altitude, status, life stage. You can add as many of these as you like.



Never stop exploring & recording.....

.....you never know what you might see!



## Step 3: Action Plan

Two overall objectives

1) Increase levels of awareness

2) Practical improvements



# Step 3: Action Plan

- 1) Increase levels of awareness
  - Habitat/species surveys (home/school/local area)
  - Find out about species that are specific to local area
  - Develop nature trails
  - Schedule time outside with planned activities
  - Examine food chains (top predator present?)
  - Letters home
  - Share results of Awareness Survey
  - Develop a connection with nature
  - Develop new Green Code



# Step 3: Action Plan

## 2) Practical improvements

- Build bird boxes (unused/old wood)
- Create a pond/log pile/leaf mould/**wildlife area**/'mini-beast' hotel
- Develop an organic garden
- **Leave areas 'unmanaged'** (hedgerows/grass areas)
- Plant native trees/flowers



# Online supports to help with identification



e.g.  
National Biodiversity Data Centre  
Birdwatch Ireland  
Irish Wildlife Trust  
Tree Council of Ireland  
Wildflowers of Ireland

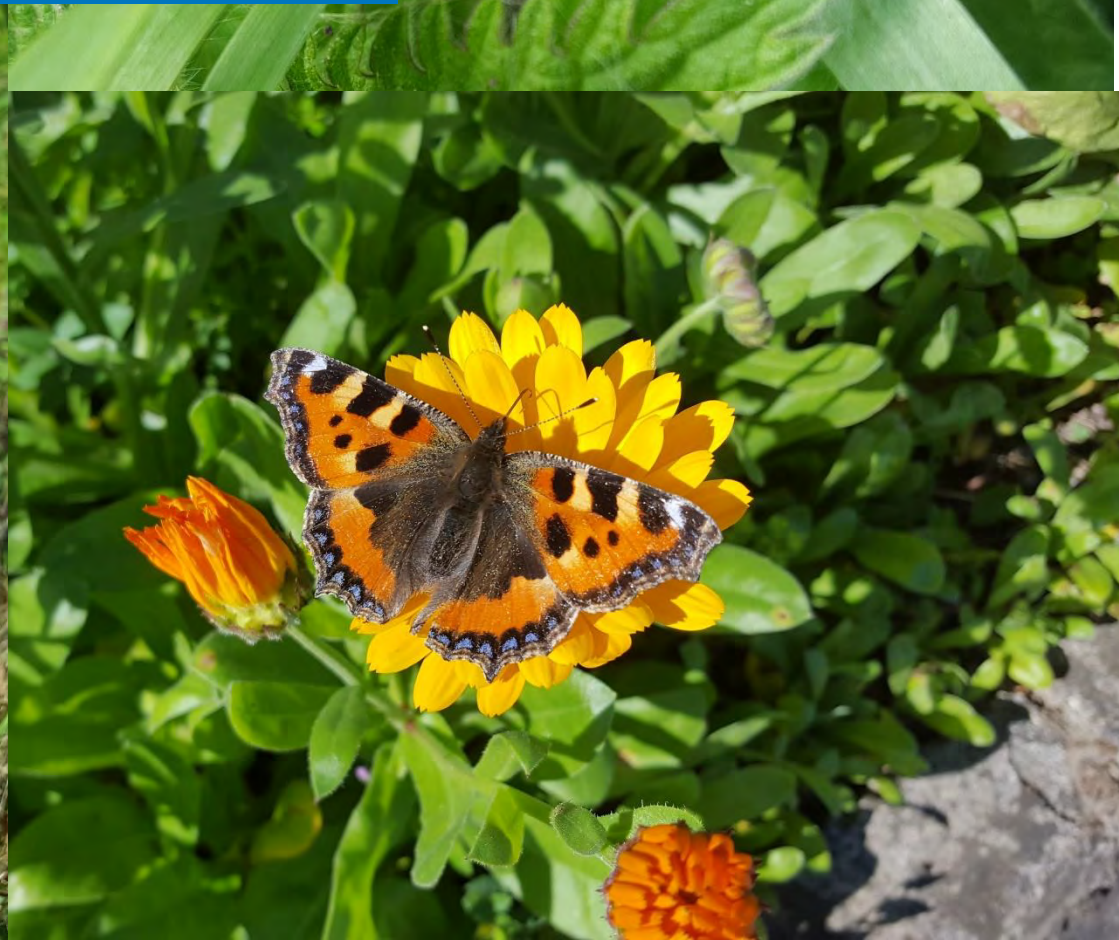


e.g. Butterflies

[www.irishbutterflies.com](http://www.irishbutterflies.com)

[www.butterflyconservation.ie](http://www.butterflyconservation.ie)

[www.irishmoths.net](http://www.irishmoths.net)



# Further actions

- Get involved in national surveys in conjunction with The National Biodiversity Data Centre (e.g. Butterfly/Bumblebee surveys) [www.biodiversityireland.ie](http://www.biodiversityireland.ie)
- Download their All Ireland Pollinator Plan or the JUNIOR Pollinator Plan for information and tips on how to make your school more pollinator-friendly.
- NPWS – **why not investigate one of Ireland's six National Parks and find out why they are so important**



National Parks & Wildlife Service

# Sample Action Plan

Action	Person/Group Responsible	Time Frame
Send a letter home to parents informing them that the school is now participating in Green-Schools Biodiversity.	Green-Schools Coordinator	Early September
Carry out a Biodiversity Awareness Survey to examine the level of awareness among students and staff	Green-Schools Committee	Early to mid September
Habitat Map the school grounds and do up a list of the biodiversity in our school	Green-Schools Committee	Early to mid September
Quantify & Display the results of the surveys on the Green-Schools notice board	Green-Schools Committee	Mid September
Analyse the survey and suggest recommendations.	Senior classes	During maths periods mid-late September.
Hold a poster/slogan competition to come up with a new Green Code relating to biodiversity	Whole school	Late September – early October



# Step 4: Monitoring & Evaluation

(mini reviews at key stages)

*Increasing the numbers of animals visiting your school takes time. It is also tricky to evaluate! Don't be discouraged, action is as important as results!*

- 1) Evaluate levels of awareness
  - Repeat the Biodiversity Awareness Survey
  
- 2) Evaluate progress on practical improvements
  - Create a new Habitat Map in Year 2
  - Identify practical improvements (log pile/bird box)
  - Has the no. of sightings/no. of species increased?
  - Has species richness increased?



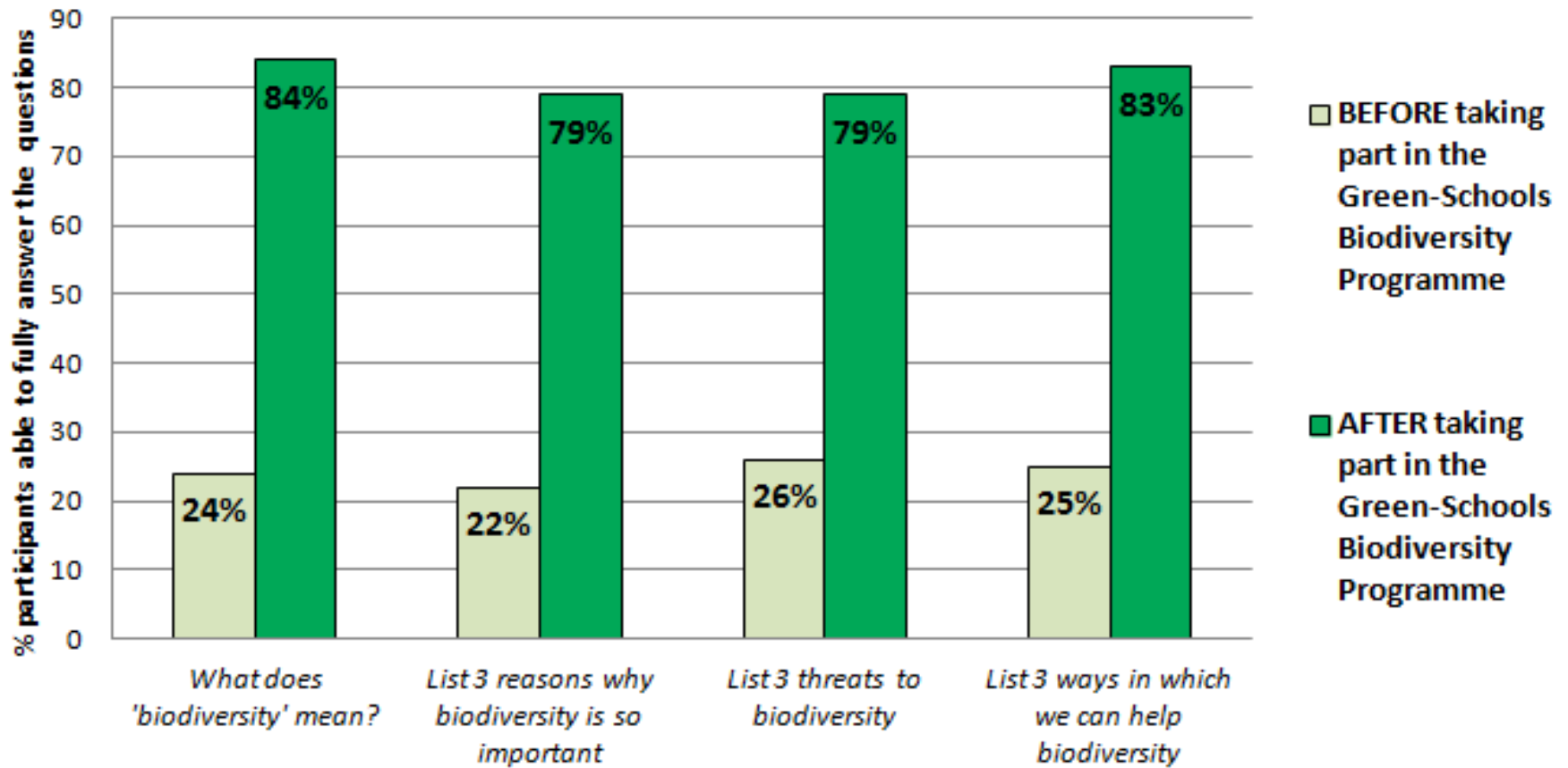
# Biodiversity Awareness Survey

## Year 2

	Survey 2
Date Survey Conducted	
What % of students and staff knew what the term biodiversity meant?	
What % of students and staff were able to list 3 reasons why biodiversity is so important?	
What % of students and staff were able to list 3 threats to biodiversity?	
What % of students and staff were able to list 3 ways in which we can help biodiversity?	

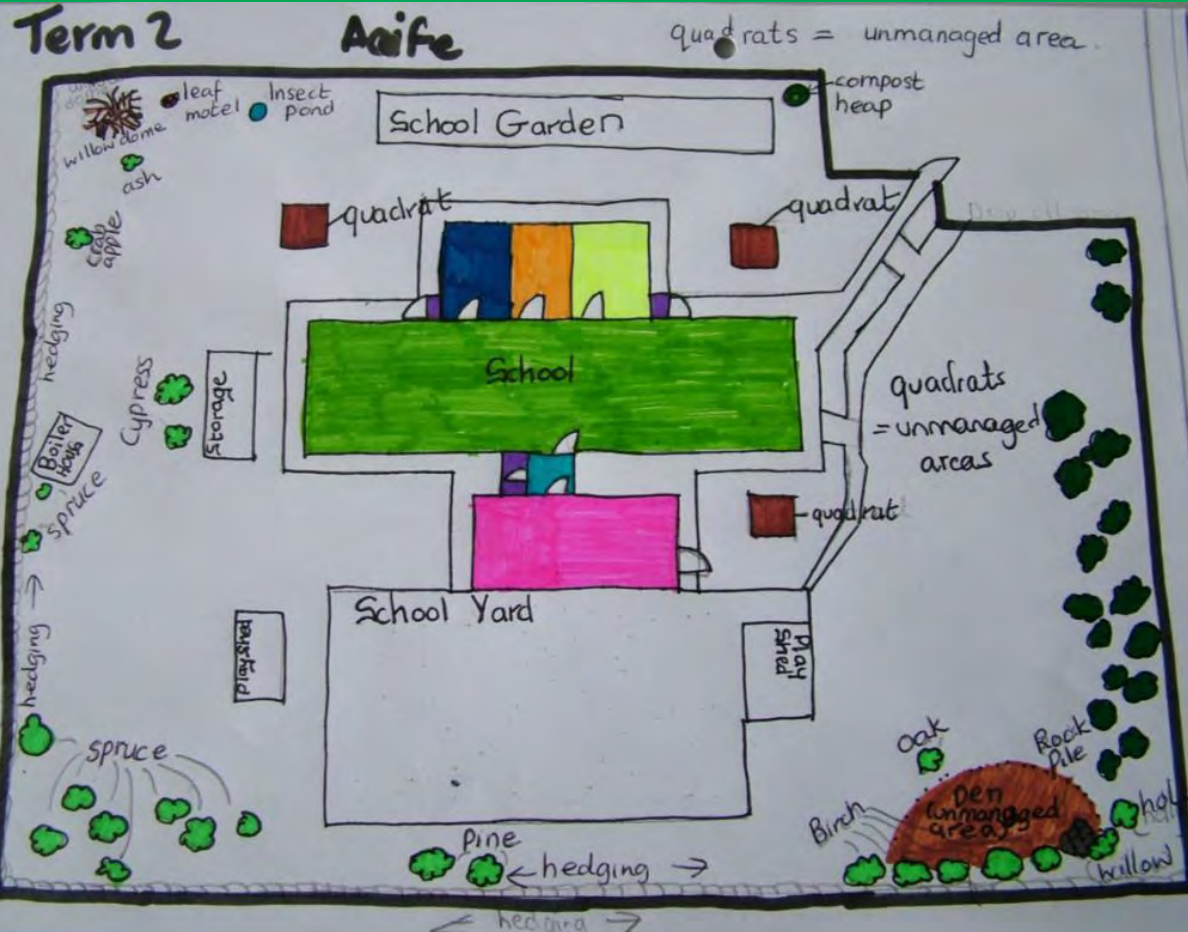
Sample graph showing % increase in level of awareness between Year 1 & Year 2

### Proportion (%) of students and staff who could answer the Green-Schools Biodiversity Survey Questions



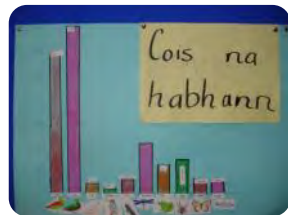
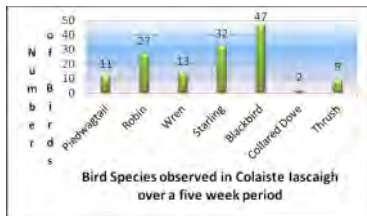
Green-Schools Biodiversity Survey Questions

# Habitat Map Year 2



The Habitat Map in year two should show any practical improvements made to improve biodiversity in the school. Note any trees planted, wildflower areas installed, areas where bird feeders were hung etc.

# Step 5: Curriculum Work



Maths

Provide real life situations for mathematical analysis (graphs/charts)

## Life Cycle of a Frog



SESE Science

The living things strand, study of habitats & species



Art

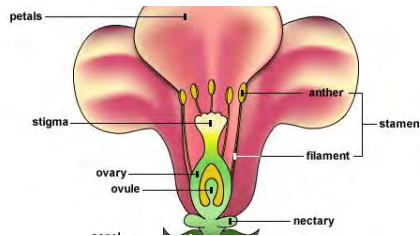
Poster design promoting biodiversity

# Step 5: Curriculum Work

*'Let our generation protect all creation'*

Languages

Essay topics, new Green Code, species names as Gaeilge



Science

Animal families, structure of plants



Geography

Mapping the school grounds

# Step 5: Curriculum Work



## Home Economics

Examine where our food & textiles come from



## Woodwork

Design & construct bird tables/boxes



## History

Loss of habitats & species throughout time

# Step 6: Informing & Involving

- Green-Schools Notice Board
- Local Press
- School Newsletter
- Action Day (International Biodiversity Day 22<sup>nd</sup> May, Tree week, National Spring Clean event, Clean Coast Event)
- Parents/Grandparents/Neighbours
- National Parks & Wildlife Service





# Step 7: Green Code

**Aim: To state the objectives that demonstrate the school's commitment to environmentally friendly actions**

- Display on your Green-Schools notice board
- Poster/slogan competition
  - Rap
  - Song
  - Poem
  - Code of Conduct



# Some examples:

Roscommon Community College,  
Co. Roscommon

*'Ecosystems can be a bog, a  
bush or a hedge,  
So protect and promote, Be a  
ledge!'*

**Joseph's Foundation,**  
Adult Education Centre, Co. Cork

*'St. Joseph's Foundation is  
Green  
Our Campus is Clean  
And we are Biodiversity  
Keen'*

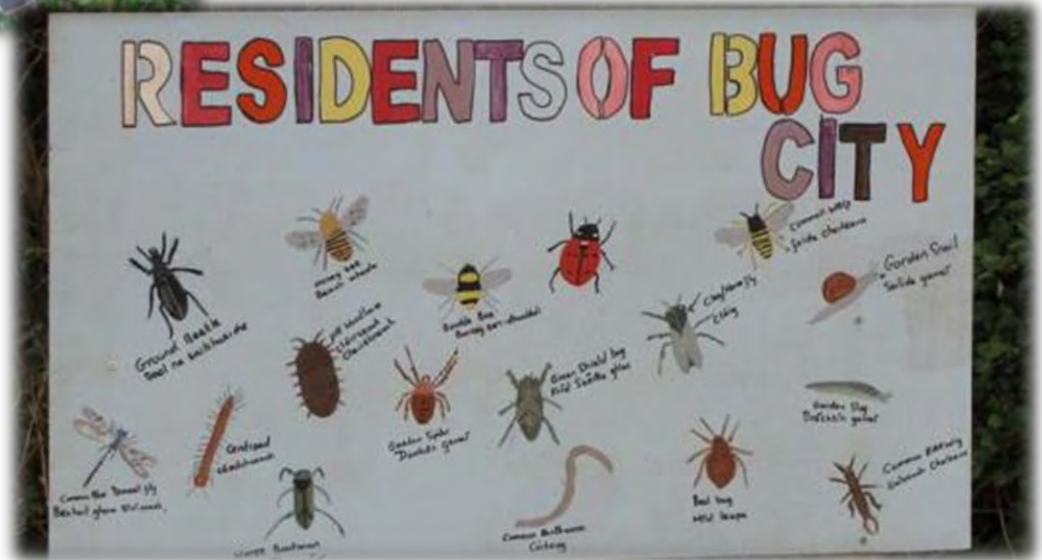
Stokane National School,  
Co. Sligo

*'Let our generation protect  
all creation'*

# Images from Biodiversity schools



# Images from Biodiversity schools



# Renewal Process

- Online Application Form – to be submitted by 26<sup>th</sup> March 2021.
- You must have received your visit before you submit your application form,
- Renewal visit can take place at any stage during Year 2
- National Awards Ceremony May
- Flag raising ceremony



# Green-Schools website

- General information on biodiversity
- Presentations
- The 7 steps
- Case studies
- Worksheets
- Links to other useful sites

[www.greenschoolsireland.org](http://www.greenschoolsireland.org)

# Investigate Forests Project

- 2019/2020 was the first year of the project
- Not accepting new applications this year
- BUT all resources are available on [www.leafireland.org/resources/](http://www.leafireland.org/resources/)
- This project gives students an opportunity to learn about forests and discover connections that trees have with their daily lives



If your school registered last year and you did not receive your workshop we will complete the project with you this year.

Email [cpatten@eeu.antaisce.org](mailto:cpatten@eeu.antaisce.org) with any queries



# Biodiversity Event for your Diary

## National Tree Week

- takes place each year in March/April. See <https://treecouncil.ie/initiatives/tree-week/>

## International Biodiversity Day

- Friday, May 22<sup>nd</sup> is International Biodiversity Day which is celebrated around the world.
- **This would be a great day to hold your “ Day of Action”**

## UN International Year of Plant Health

- 2020 has been designated the International Year of Plant Health
- There may be opportunities for your school to get involved in the worldwide photo contest, take part in events and access educational resources from December 2019. [www.ippc.int/en/iyph/](http://www.ippc.int/en/iyph/)





## United Nations Decade on Biodiversity

*'Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters. Its loss affects us culturally and spiritually'*

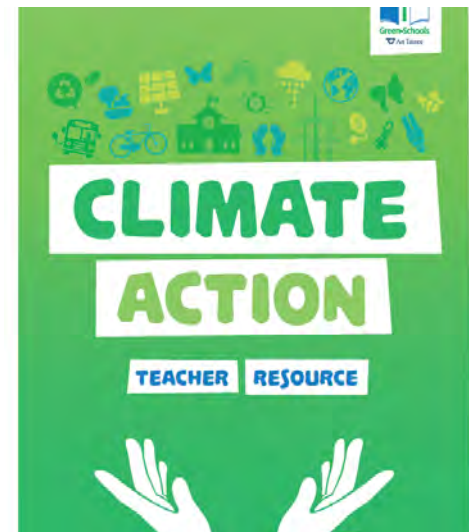
Ban Ki-moon, Secretary General of the United Nations

# Climate Action

- **Climate Action Week** will run from **October 12<sup>th</sup> - 18<sup>th</sup>**
- Enter the Climate Action Week competition and win delicious plant-based cupcakes, download resources and sign up for our primary and secondary school events!
- If you host an Action Day during Climate Action Week, it will count towards your Green Flag application!
- **Find out more at** <https://greenschoolsireland.org/climate-action-week-2020/>

**IT'S CLIMATE  
ACTION WEEK  
12-18 OCTOBER 2020**

@GreenSchoolsIre @ClimateAmbassador @GreenCampusIreland



# Climate Ambassador Programme

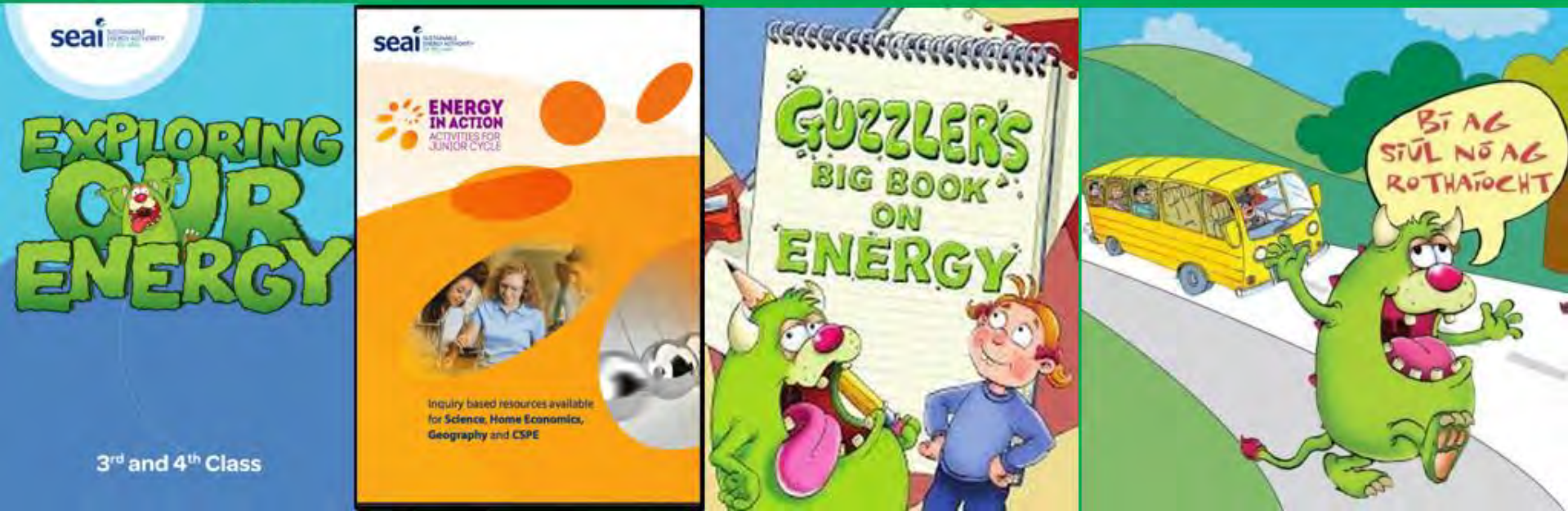
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- Accepting applications from secondary students and teachers (both primary and secondary) until October 25<sup>th</sup>
- Find out more and get ideas for actions at:  
[www.climateambassador.ie](http://www.climateambassador.ie)
- Contact our Climate Action Officer **Gary** with any queries:  
[gtyrrell@eeu.antaisce.org](mailto:gtyrrell@eeu.antaisce.org)



# SEAI Resources

- New website updated end of September 2017  
[www.seai.ie/teaching-sustainability/](http://www.seai.ie/teaching-sustainability/)
- Free online resources for primary and post primary levels include:
  - Lesson Plans
  - Experiments
  - Story book
  - Interactive whiteboard/powerpoint presentations
  - Quizzes
  - Webquest



Thank you for your attention!



Any questions?

Contact: Méabh Boylan

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Website: [www.greenschoolsireland.org](http://www.greenschoolsireland.org)