Wildlife Recording

Introduction

Wildlife Recording

Wildlife is all around us, from the birds in our gardens to the seals on our shores and the whales swimming in our seas.

Every sighting, no matter how small, helps us understand the natural world and how it is changing. Wildlife recording is an essential tool in conservation, allowing scientists, conservationists, and budding nature lovers to track species, monitor populations, and detect changes that might signal wider environmental issues. Encouraging learners to engage with their environment through sight, touch, hearing, and smell helps build essential observation skills needed for effective wildlife recording.

Wildlife recording helps us protect and restore nature. By tracking species over time, we can identify declines, take action to support struggling populations, and make informed decisions to help biodiversity thrive. Using wildlife spotting tools like binoculars, nets, and tracking apps can support learners in identifying a wide range of species, including birds, mammals, invertebrates and plants while developing essential field skills. Bird observatories, such as the Bardsey Bird and Field Observatory, play a crucial role in gathering and analysing this data. Projects such as the Bardsey Marine Mammal Project and Sea Watch monitor Risso's dolphins, harbour porpoises, and Atlantic grey seals using timed watches, drones, and citizen science contributions, providing insights into their behaviour, movement, and conservation needs.

Marine wildlife recording is particularly important. Our seas host cetaceans, seals, and seabirds, and tracking them helps us understand population trends and threats. Learning to recognise species through unique markings is a technique used in marine research to track individuals and understand their movements. Such projects contribute essential data to conservation efforts, ensuring the protection of these species.

Citizen science allows people of all ages to contribute valuable data to conservation efforts. Whether it's recording birds in gardens for the Big Garden Birdwatch, searching for shark egg cases along the coast as part of the Great Eggcase Hunt, or tracking butterfly numbers for the Big Butterfly Count, every record helps build a clearer picture of wildlife populations. Learners can also observe and document species in school grounds using ID guides, field notebooks, and magnifying glasses. Listening to and identifying natural sounds in the environment helps develop auditory observation skills useful for monitoring bird and marine life. By contributing to citizen science projects and monitoring wildlife over seasons, everyone can play a part in conservation.

Further research keywords

Species identification, biodiversity, citizen science, migration tracking, marine mammals, bird ringing, cetaceans, wildlife surveys, nature conservation, habitat monitoring, Manx shearwater, Risso's dolphin, grey seal, Bardsey Island, bird observatories, sensory scavenger hunt, coastal safari, sound mapping, marine mammal ID, Bardsey Marine Mammal Project, hydrophones, citizen science contributions, elasmobranchii.

Sensory Nature Scavenger Hunt

Equipment required (per group)

- Print out or share a digital copy of 'S_WR_1'
- Print out of the 'Sensory Nature Scavenger Hunt' worksheet, one per pair (2 pages)

30-60 mins

- Clipboards or sturdy surfaces
- · Pencils or crayons
- Magnifying glasses

To set up

Choose a safe outdoor location (e.g. school grounds, park, garden or beach).

To complete the activity

- 1. Introduce the activity by discussing the five senses: sight, touch, hearing, smell, and taste.
- 2. Share the photo of the boulder cobble reef in S_WR_1 with learners. Discuss:
 - What can you see in the photograph?
 - · Can you find any shapes or patterns in nature?
 - How do you think the environment might feel if you touched it?
 - What sounds do you imagine you would hear if you were there?
 - What do you think might live or grow in this environment?

3. Hand out the 'Sensory Nature Scavenger Hunt' worksheets, explaining that the goal is to find natural items that match the descriptions.

4. Encourage learners to explore, observe closely, and use their senses (except taste unless specifically allowed). Remind learners not to touch unknown plants, insects or fungi. Encourage learners to observe and appreciate living things (e.g. minibeasts, plants and flowers) in their natural environment without picking or disturbing them, so others can enjoy them too.

- 5. Support learners to draw or describe what they find in the corresponding boxes.
- 6. Regroup to share discoveries, promoting descriptive language and discussion.



Encourage learners to create their own 'Scavenger Hunt' cards, with unique sensory prompts for their classmates to complete. **Safety** Supervise learners closely to ensure safe exploration PS: 1/2



Sensory Nature Scavenger Hunt





60 mins

Wildlife Surveys

Equipment required

- Print out of the 'Wildlife Survey Equipment' worksheet, one per group
- Print out of the 'Invertebrate Traps' worksheet, one per group (2 pages)
- Print out of the 'Invertebrate Investigation' worksheet, one per group
- Observational tools, e.g. aquatic dipping net, binoculars, sweep net, trail camera, magnifying loupe
- Pencils, clipboards
- Basic materials for traps (cardboard, string, flour, plastic cups, paper, trays, sand, soil, sugar etc)
- Magnifying glasses
- Nets
- Internet enabled devices and internet access (if using Seek/iNaturalist)

To complete the activity

- 1. Ask learners to suggest examples of equipment that could be used to find and record wildlife.
- 2. If available, show a variety of wildlife recording tools to the class to spark curiosity and interest.

3. Share the 'Wildlife Survey Equipment' worksheet, one per group. Ask learners to match each piece of equipment with the type of wildlife it helps to spot/find.

4. Discuss answers and explain how each tool works, using real equipment if available.

5. Challenge the learners to consider other ways of surveying wildlife (e.g. insect traps, footprint traps, listening devices). Share ideas with the whole class.

6. Provide each group with the 'Invertebrate Investigation' worksheet, which will support them to:
Choose **how** they will survey invertebrates.

• Create a simple **investigation plan:** What do we need? Where will we look? What will we record?

7. Support learners to carry out their plans, creating their own traps to actively search for their chosen invertebrate.

- 8. Learners may wish to use an app such as Seek/iNaturalist to record their findings.
- 9. Provide an opportunity for groups to present and reflect on their investigation results.

ANSWERS:

- Seal BINOCULARS
 Bat BAT DETECTOR
 - 3. Moth MOTH TRAP
 - 4. Gannet TELESCOPE
 - 5. Wheatear CAMERA
- 6. Butterfly SWEEP NET
- 7. Shrimp AQUATIC DIPPING NET
- 8. Dolphin DRONE
- 9. Otter TRAIL CAMERA
- atear CAMERA 10.
- 10. Limpet MAGNIFYING LOUPE

Wildlife Survey Equipment

To complete the activity Match the animal to what you might use to find it. Equipment required (per group)





Seals



Sweep Net

Telescope

Magnifying

Loupe

Drone

Binoculars



Camera



Aquatic Dipping Net









Moth



Bat Detector





Trail Camera



Scientists use satellite and GPS tags to track animals, learn where they go, and help protect them. Limpet

Invertebrate Traps

You don't always need a trap to spot invertebrates. Simply sitting quietly and observing carefully can reveal a variety of fascinating creatures. However, if you'd like to investigate further, here <u>are some simple traps that can help you ...</u>

1. Pitfall Trap

You will need

A trowel A plastic cup or jar Stones A piece of wood or an old leaf



Instructions

1. Dig a small hole in the ground and place the cup inside. Make sure the top of the cup is level with the soil.

2. Place a few small stones around the edges of the hole and lay the piece of wood or leaf over the top, resting it on the stones. Leave the trap for a few hours, then check to see what has been caught.

3. Once finished, release any creatures back into their habitat, clearing trap and filling the hole to leave the area as you found it.

2. Sugared Leaf Trap

You will need

- A paintbrush Sugar or honey
- Warm water
- A small bowl
- A large leaf or piece of bark



Instructions

1. Mix a small amount of warm water with sugar or honey in a bowl to create a sticky solution.

2. Allow the mixture to cool slightly, then use a paint brush to spread it on to a large leaf or piece of bark.

3. Place the sugared leaf in an area where invertebrates are likely to visit, such as near bushes, trees, or flowers.

4. Leave the trap for a while and observe which invertebrates are attracted to the sweet surface.

5. Once finished, remove the leaf/bark to avoid disturbing the natural environment.

Invertebrate Traps

3. Beating Tray Trap

You will need

A white sheet or large piece of white paper A stick or small branch



Instructions

1. Find a tree or bush with plenty of leaves and branches.

2. Hold the white sheet or paper underneath a branch.

3. Gently tap or shake the branch using a stick to dislodge any invertebrates.

4. Watch as small invertebrates fall onto the sheet.

5. Carefully observe and identify the creatures before letting them go back into their habitat.

4. Light Trap

You will need

A bright torch or lamp A white sheet or large piece of white paper String or pegs (optional, for securing the sheet)



Instructions

1. Find a quiet outdoor space away from other bright lights.

2. Hang or spread out a white sheet against a wall, fence, or between trees. You can secure it with string or pegs if needed.

3. Return after dark and place a torch or lamp in front of the sheet so it shines brightly onto the surface.

4. Wait as nocturnal invertebrates are attracted to the light and land on the sheet.

5. Observe the different species that appear, then let them fly away undisturbed.



Invertebrate Investigation

Plan your own Invertebrates Investigation below:

1. Which invertebrates would you like to spot?

2. Where will you look? Tick one or more.

3. When do you think is the best time to look? Tick the best time.

4. How will you spot this animal? Draw or describe your method.

5. List the tools or materials you will need for your investigation.

6. Record Your Observations. What did you see? Describe or draw your findings.

7. Did you find the animal you were looking for? If yes, describe what it was doing. If no, what do you think happened?



Anyone can record wildlife - just note the date, location, species and habitat.

Coastal Wildlife Sound Map

Equipment required

- Print out of 'Sound Quest' worksheet, one per pair
- Outdoor space for observation
- Sound recording devices, one per pair (optional)
- Internet enabled device and internet access

To complete the activity

1. Take the learners outdoors. Ask them to close their eyes and listen carefully for 1–2 minutes to the different natural and human-made sounds around them.

hours

2. Gather as a group and share the different sounds heard, noting any common patterns, unique noises, or unexpected sounds.

3. Discuss how different environments influence the variety and intensity of sounds. Why are certain sounds present? How do they contribute to the ecosystem?

4. Play the 'Coastal Wildlife Sounds' video – <u>www.tiramor.cymru/wildliferecording</u> (Resource 1). Ask learners to guess.

5. Share the 'Sound Quest' worksheet with learners. Explain that the sounds they heard were of: chough, dolphin, Manx shearwater and seal. Play the sound clip again. Support the learners to arrange the cards in chronological order, as heard in the clip.

6. Reveal the correct answer and discuss with learners how each animal uses sounds (e.g. communication, navigation, hunting). Reinforce the importance of identifying species correctly when recording.

7. Challenge learners to place the sounds in the corresponding habitat on the 'Sound Quest' worksheet.

8. After the activity, discuss with learners:

- What other sounds would be present? Why might that be?
- How might the sounds change at different times of the day or during different seasons?
- How do different coastal animals use sound for survival?

9. Provide an opportunity for learners to explore a local area, record sounds and photos, and create their own sound map.

ANSWERS:

- 1. Manx shearwater
- 2. Seal
- 3. Chough
- 4. Dolphin



Can you identify the marine mammals and birds? Use the cards below, and arrange in chronological order.









Place the sounds in the corresponding habitat on the image above.



ADDITIONAL **TASK** Optional

Explore a local area, record sounds and photos, and create your own sound map.

You may wish to use field guides (e.g. Collins) or online guides (e.g. Seek by iNaturalist or Merlin) to identify different species.

Dolphins use clicks and whistles which researchers record to study communication and behaviour.

Identifying Wildlife

Equipment required (per pair)

- · Print out of the 'Guess the Marine Mammal' worksheet, one per pair
- Print out of the 'Dolphin Detectives' worksheet, one per pair
- · Print out of the 'Risso's Dolphins Challenge' worksheet, one per pair
- Chalk
- Measuring tape
- Pencils
- Research books and internet enabled devices and internet access

To complete the activity

1. Share the 'Bardsey Marine Mammal Project' video – <u>www.tiramor.cymru/wildliferecording</u> (Resource 2). Why do you think projects like the Bardsey Marine Mammal Project are important? How do scientists use photos and technology, like drones, to study marine mammals?

2. Discuss with learners:

- Why is it important to correctly identify a species before recording it?
- What could happen if species are misidentified in a wildlife record?

3. Share a copy of 'Guess the Marine Mammal'. Challenge learners to research online and name the different species of dolphins that have been observed along the Welsh coast. What are the differences between species?

4. Share the 'Bardsey Dolphins' video – <u>www.tiramor.cymru/wildliferecording</u> (Resource 3). Can learners identify individual Risso's Dolphins from their markings? What do learners notice about the size, shape, colour, behaviour and markings? How can these be used to identify individuals?

5. Share the 'Dolphin Detectives' worksheet. Challenge learners to group the 9 Risso's dolphin photos into 3 images of 3 individuals. Guide learners to observe, compare, and group the photos based on markings.

- What do you notice about the shape of the dorsal fin?
- Are there any distinctive scars on the dolphin's body?

6. Share the 'Risso's Dolphin Challenge' worksheet. Challenge learners in pairs to identify scientific name, average length and anatomy of a Risso's dolphin. Support learners to access books or online resources.

7. Take the class outside, and support learners to work together to draw a pod of Risso's dolphins to scale, based on real measurements. Once the outline is complete, encourage learners to label the major anatomical features, such as flippers, fluke and dorsal fins.

8. After completing the activities, support learners to reflect on what they have learnt.

1. Bottlenose dolphin

- 2. Common dolphin
- 3. Risso's dolphin
- 4. Harbour porpoise

ANSWERS: Dolphin Detectives

1. NIKE	4. DOT
2. McQUEEN	5. NIKE
3. DOT	6. McQUEEN

7. McQUEEN 8. DOT 9. NIKE

Guess the Marine Mammal

Which species can you see? Try to identify these different marine mammals found around the coast of Wales.

Look at the silhouettes provided and try to identify the different marine mammals. Pay attention to their shape, size, and features!

Think about the shape of their dorsal fin, beak or body size.



ADDITIONAL TASK Optional What clues helped you identify each species? How are porpoises different from dolphins? Research and explain two key differences.

There are over 40 different species of dolphins worldwide!

Dolphin Detectives

Here are 9 photos of Risso's dolphins from Enlli.

There are 3 different dolphins, and each dolphin appears in 3 photos. Your job is to find all the photos of each dolphin by looking at their unique markings. Dolphins have different scratches, scars, and patterns on their bodies, just like fingerprints for humans!



Some dolphins can reach speeds of up to 30 miles per hour.

Risso's Dolphins Challenge

You will need

• Chalk

Work in pairs to research and identify the following:

Scientific Name:

Average Length:

Other Facts:

Label the key anatomical features of the Risso's Dolphin:



As a class, go outside to the yard and in pairs, create life size drawings of a Risso's dolphin to scale, using chalk. Work together as a class to create a pod of unique dolphins.

Follow these steps:

STEP 1

Measure and mark the average length of a Risso's dolphin on the ground and draw the outline.

STEP 2

Add key body parts such as fluke, fins, blowhole, eyes and mouth.

STEP 3

Include unique markings, like scars or spots, just like those scientists use to identify individual dolphins.

DISCUSS

Are Risso's dolphins endangered, vulnerable, or thriving? What conservation efforts are in place to protect the species?

One dolphin, Nike, was named for the tick-shaped scar on its dorsal fin.

Manx Shearwater

Equipment required

- Print out of the 'Manx Shearwater Population Trend Graph' (S_WR_2) 1 per group or displayed digitally
- · 'Manx Shearwater' information sheet, 1 per group or displayed digitally
- Internet enabled devices and internet access for research

To complete the activity

1. Ask learners in the class to share names of birds they have seen in the school grounds or local area. Create a class bird list from their responses. Ask each group to choose a different bird from the list and discuss its appearance, habitat and diet.

2. Encourage learners to consider why accurate identification matters, how scientists record birds in their conservation work and what clues can help distinguish species.

3. Explain to the learners that they will examine diverse information sources about the Manx shearwater - from text-based sheets and graphs to comics and quizzes - to understand how different mediums present data and communicate scientific findings.

4. Share the lifecycle comic with learners – <u>www.tiramor.cymru/wildliferecording</u> (Resource 4) and discuss:

- How does the Manx shearwater differ from the birds in the school grounds?
- Where does it live? How does it behave?
- Why is it important to learn more about birds like the Manx shearwater?
- 5. Then, share the Bardsey Manx shearwater population trend graph (S_WR_2) and ask:
 - Has the population increased or decreased? What factors might explain this?
 - How does this compare to other bird populations?
 - How can data guide conservation strategies?

Encourage learners to use the British Trust for Ornithology (BTO) website to consider trends for other birds - <u>www.tiramor.cymru/wildliferecording</u> (Resource 5).

6. Provide an opportunity for learners to complete the 'Manx Shearwater Quiz' – <u>www.tiramor.</u> <u>cymru/wildliferecording</u> (Resource 6)

7. Share the 'Manx Shearwater' information sheet and ask learners to annotate, highlighting key details and discuss the structure.

8. Encourage a brief class discussion on preferred ways of sharing information and why preferences vary. Which medium— text, comic, graphs, quiz, or other— would learners choose and why? Discuss why different people might prefer varying methods to share information.

9. Support learners to choose a medium (e.g. PowerPoint, Sway, Word document, poster, comic, quiz, or graph) to present information about a bird from the class list. Encourage them to gather key facts and present their findings in a clear and engaging way.

10. Encourage learners to share their work with the class, explaining key facts about their bird and their medium choice. What did they learn? Facilitate a brief Q&A after each presentation so peers can offer constructive feedback and discuss different approaches.

PS: 2/3



Population of Manx Shearwater on Bardsey Island

Manx Shearwater (Puffinus puffinus)



Quick facts

Scientific Name: Puffinus puffinus Size: Around 30-38cm long Wingspan: 76-89cm Weight: Approx. 400-600g Lifespan: Can live over 50 years! (Average is 30 years)

Appearance

Black upperparts and white underparts Looks like a flying 'M' from below! Thin, slightly hooked beak, for catching fish. Long, narrow wings for gliding over the sea.

Habitat & migration

Spends most of its life at sea, only coming to land to breed. Nests on Welsh islands like Bardsey, Skomer and Skokholm. Every year, they migrate over 10,000km to South America for the winter!

Diet

Eats small fish, squid, and crustaceans. Catches food by diving underwater and grabbing prey with its beak - can dive up to 50 meters deep.

Can drink saltwater and filter out the salt!

Behaviour & adaptations

Flies low over the ocean, barely flapping its wings. Only comes to land at night to avoid predators. Nests in burrows or hidden crevices to stay safe. Uses its amazing sense of smell to find its nest at night.

Conservation & threats

Main threats: rats and other predators eating eggs & chicks. Plastic pollution & climate change are affecting food sources. Conservation efforts on Welsh islands have helped protect nesting sites.

Manx Shearwater (Puffinus puffinus)



Call & song

Very noisy at night in colonies! Sounds like a weird, eerie cackling laugh: Listen on the RSPB website – <u>www.tiramor.cymru/wildliferecording</u> (Resource 7).



The Bird Observatory

Equipment required (per group)

- Outdoor space for observation
- · Natural materials for the observatory/bird hides
- 'Role Cards Bird Observatory Team' worksheet (2 pages), one per group
- · Internet enabled devices and internet access for research

To complete the activity

1. Begin by asking learners "What do you think a bird observatory does?" to gauge their understanding.

2. Explain that there is a bird observatory on Bardsey Island. You may wish to use the 'Bardsey Bird Observatory Education Pack' - <u>www.tiramor.cymru/wildliferecording</u> (Resource 8) to find out more.

3. Divide learners into groups of 4–6 and share the 'Role Cards – Bird Observatory Team' worksheet. Explain that learners are now wildlife conservationists working for a nature organisation tasked with building a bird observatory.

"Your conservation team has been hired to set up a bird observatory. Your task is to correctly identify and record different bird species. Scientists depend on your accuracy to track bird populations – mistakes could mean the wrong data being used to protect species!"

4. Ask learners to take on a different role within their Conservation Team. Encourage them to act as experts in their field and communicate their findings effectively. Encourage learners to describe bird features rather than guess if unsure. Remind them that correct recording helps scientists protect birds and their habitats! Learners may wish to use field guides (e.g. Collins Bird Guide), or online Merlin Bird Guide to identify species.

5. Support learners to build the bird observatory/hide, observe and collect data as required.

6. Ask learners to reflect on their mission and discuss findings.

- What challenges did they face?
- How could they improve the accuracy of their data?
- Invite each group to share one key challenge and one proposed improvement with the class.

Encourage learners to think about their role as conservationists and the importance of their contributions.

Encourage learners to take part in the 'Big Garden Birwatch' citizen science initiative or input their findings onto the BTO's bird track recording system.

PS: 2/3

Role Cards Bird Observatory Team

What you will need

- Natural materials for the observatory/bird hides
- Copies of 'Role Cards Bird Observatory Team' worksheet, one per group
- Internet enabled devices and internet access for research

Welcome to the Bird Observatory Team!

Your conservation team has been chosen for an important mission – setting up a bird observatory to study and protect birds!

Your task is to identify and record different bird species and their behaviours. Scientists depend on your accurate observations to track bird populations. Mistakes could lead to the wrong data being used, putting some birds at risk.

Each of you will take on a special role in your team, based on your skills and interests. Would you enjoy observing birds, designing hides, or tracking data?

Choose a role that suits you! Every role plays a vital part in making your observatory a success.

Work together, share your findings clearly, and if you're unsure about a bird, describe its features instead of guessing—good records help protect birds and their habitats!

Stay curious, work as a team, and enjoy discovering the amazing world of birds.



Role Cards Bird Observatory Team

Ornithologist

Your role

Study birds, observe size, flight, food and behaviour.



Help identify species.

Create a bird ID sheet to log bird species seen/heard, e.g.

 Time
 Bird Seen
 Amount?
 Behaviour
 Location
 Habitat Notes

 10:15am
 Robin
 2
 Pecking ground Near a tree
 Lots of bushes nearby

Wildlife Tracker

Your role



Record all bird sightings. This may include bird species, behaviour, habitat, and time of sighting.

Keep a record of when and where you see each bird using tally charts for numbers.

Work with the Ornithologist.

Media Specialist

Your role



Sketch or take notes on birds and their surroundings.



Habitat Engineer

Your role

Design & build the observatory using natural materials.



Choose the best location for bird hides to observe discreetly.

Record features that might attract birds to the area.

Conservation Officer

Your role

Explain why birds need protection and suggest improvements to the birdwatching area.



Consider population trend data for birds sighted. <u>www.tiramor.cymru/wildliferecord-ing</u> (Resource 11).

Ecologist

Your role



Investigate the habitat - record nearby food sources (e.g. insects, berries, water, etc).

Log any environmental factors that might affect bird presence (e.g. weather, trees or other animals).

Suggest ways to improve the birdwatching hide.

Bardsey was once home to a 55-year-old Manx shearwater.