



SSC DIVE IN!

SEASONS



© Dora Roden



© Dora Roden



© Maggie Sheddan





WELCOME!

Hello, and welcome to the Scottish Seabird Centre “Dive In” Packs of resources providing some seaside fun directly into family homes and classrooms.

This pack’s theme: *Seasons*

Here in Scotland, we experience distinct seasons, each of which brings changes to our weather, landscapes and wildlife. Spring, summer, autumn and winter offer varying experiences. In this pack we will look at how the Scottish coasts and seas change with the seasons and how plants and animals adapt to changing conditions. Dive into this pack to discover more about Scotland’s shifting seasons.

Inside this pack:

- **Introduction: What are seasons?**
- **Blog: Seasonal Highlights**
- **Craft: Paper plate seasons wheel**
- **Puzzle: Seasons wordsearch**
- **Discovery sheets: Species information**
- **Factfile: Cormorants vs Shags**
- **Glossary**

We’d love to hear from you! If you’ve had fun having a go at activities, experiments and crafts, let us know. Any comments or pictures can be sent to marineengagement@seabird.org. More resources are available on our [website](#).

Enjoy using our packs and want to see more? The Scottish Seabird Centre is an environmental conservation and education charity. Every penny we raise helps us deliver our important education and conservation work. If you enjoy using our resources and would like to support our work, please consider making a donation to our [JustGiving page](#). Thank you.

We hope you enjoy diving in to the pack!

Scottish Seabird Centre Learning Team



INTRODUCTION

WHAT ARE SEASONS?

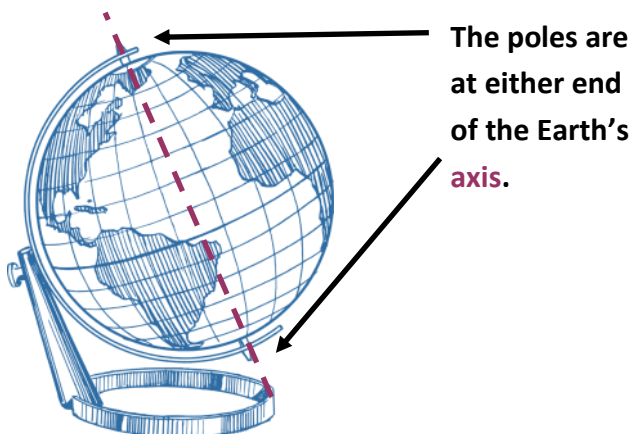
WHAT ARE SEASONS?

In Scotland we experience four distinct seasons, each of which looks and feels quite different. Winter spans the months of December, January and February and is the coldest season. Spring sees nature coming back to life over March, April and May before summer typically brings warmer, drier days, across June, July and August. September, October and November are the autumn months when plants and animals prepare for winter.



WHY DO THE SEASONS CHANGE?

The Earth takes a full year to go round the sun, tilted on its **axis**. On that journey round the sun, the parts of the Earth's surface which are tilted towards the Sun get more of its heat, while the parts that are tilted away, receive less of the Sun's heat. Areas of the Earth's surface are in differing positions relative to the sun as the year goes on, causing 'seasons'. Places which are closer to the poles experience greater variation in heat throughout the year-long journey around the sun.



Plants and animals that live in the sea are affected by the changing seasons as much as land-based species. Learn more in the rest of this pack.





DISCOVER

SPRING AROUND SCOTLAND'S COASTS

Spring in Scotland is an exciting time of the year. As the days warm and lengthen, activity, birdsong and colour bursts back into our landscapes. Spring around our coasts is a bustle of life with many of our **migrant** birds returning to build nests, lay eggs and raise chicks. In fact, 5 million seabirds return to Scotland to breed each year, after a long winter at sea. The majority have arrived by early spring and by March many of Scotland's seabirds have settled on their nests.



Gull eggs © Emily Burton

During April [puffins](#) return in large numbers and begin to nest in underground burrows. As the month progresses many birds will be sat on eggs, with the first [shag](#) chicks appearing by the end of the month. By May, around 500,000 seabirds are present on the Firth of Forth islands alone, including over 100,000 [gannets](#) and 90,000 puffins. The end of spring leading into the summer is the best time of year to see these magnificent colonies with their chicks.

Amazing wildflowers also come into bloom in spring, meaning lots of colourful flowers can be seen along the coast. Spring is a great time to responsibly visit one of Scotland's rare habitats, the **Machair**. This rare grassland supports a vast array of wildlife and is one of the last safe havens for one of Britain's rarest bee species, the [great yellow bumblebee](#). Read more about the Machair [here](#).

Beneath the waves, colourful [seaweeds](#) that often go unnoticed are also growing quickly at this time of year. Some marine animals that have been completely inactive over winter are now emerging. For example, [sand eels](#) (a type of fish) bury themselves up to 50cm in the sand for the winter months and by April will form large shoals. Sand eels are a hugely important source of food for other animals, including seabirds like puffins, who rely on them to feed their growing chicks.



Shag with chicks © Maggie Sheddan

SPECIES PROFILE



Male (left) and female (right) eider © Andrew Grieveason

Eider duck

SOMATERIA MOLLISSIMA

SIZE: Wingspan: 80 - 108cm
Length: 50 - 71cm
Weight: 1.2 – 2.8kg
Average lifespan: 8 years

LOCATION:

Eiders are true sea ducks that spend most of their lives in shallow coastal waters. When not diving for food, these birds spend much of their time sleeping and resting on the water's surface. They can be seen all year in Scotland and in spring are a common nesting bird all around the coast. During the summer, females can sometimes be spotted with a 'creche' of chicks (a group of chicks from a number of different birds), taking care of them.

WHAT DOES IT LOOK LIKE?

The eider duck is characterised by its wedge-shaped bill and bulky shape. The male eider is a striking black and white duck with a beautiful pale green patch at the back of the head, pinkish breast, and pale-yellow bill. The females are a mottled greyish brown colour so they blend in with the environment (an example of **camouflage**) but still have a similar head shape and size to the male.

FACTS:

- ◆ Eider ducks are the UK's heaviest and fastest flying species of duck, with a top speed of 60mph.
- ◆ Female eiders line their nests with soft feathers, or 'down', from their chests. These feathers were so prized for stuffing pillows and quilts, that the eider nearly became extinct in the 19th century.
- ◆ A male duck is called a drake and a female duck is called a hen.
- ◆ Eiders are diving ducks, swimming to depths of 10m in search of marine **molluscs**, **crustaceans**, and sea urchins.
- ◆ Eider ducklings leave the nest as soon as they hatch and can feed themselves. However, they are unable to fly for around 10 weeks.

SPECIES PROFILE



Sea Thrift

ARMERIA MARITIMA

SIZE: Height: 10 – 30cm

LOCATION:

Also known as “sea pink”, sea thrift is probably the most iconic flower at the seaside. It grows on [sand dunes](#), on [shingle](#), on [salt marshes](#) and on [rocky cliffs](#). It can be found all around Scotland’s coastline, particularly on the west coast, with magnificent blooms taking place in mid to late spring.

WHAT DOES IT LOOK LIKE?

Sea thrift forms dense tufts of grass like evergreen leaves at the base of the stem. Growing on the leafless stem are clusters of pink or lilac flowers with rounded petals.

FACTS:

- ◆ Sea thrift grows in a compact spongy cushion, which evolved to protect the ground under the plant, preventing soil erosion and limiting plant dehydration via the roots.
- ◆ Large clumps of sea thrift can be up to 100 years old.
- ◆ This species is highly salt tolerant enabling it to survive in these harsh habitats.
- ◆ In Gaelic, sea thrift is known as **tonn a’ chladaich**, meaning ‘beach wave’ – you’ll see why as the pink flowers blow like a Mexican wave in breezy coastal sites.
- ◆ In Britain, from 1937 to 1952, sea thrift was depicted on the back of the old three pence coin (thruppence).





DISCOVER

SUMMER AROUND SCOTLAND'S COASTS

Summer is the season with the longest days and hottest temperatures. Animals and plants make the most of these good conditions by eating and growing all they can. Lots of birds have hungry chicks to feed. Luckily, the sea is alive with tasty food and the seabirds use all sorts of different techniques to catch the fish that they need.



Diving gannet © Gareth Easton

[Gannets](#) dive like arrows, head first into the water, swimming deeper to catch fish with their long, powerful beaks. [Arctic terns](#) are more dainty, hovering above the water before dropping down and picking fish off the surface. [Puffins](#) float on the surface like ducks, before plunging under the water, using their feet and wings to swim and their beak to catch fish like sand eels.

When they've caught what they can, the adult birds head back to their nests, usually on islands or cliffs, to feed their hungry chicks. Like their parents, seabird chicks all look different. Often, they have adapted to have fluffy feathers which disguise them in their habitat (their homes), allowing them to blend in and stay safe from predators. This special adaptation is called **camouflage** and it's really important, as a seabird chick can look like a tasty treat to animals like stoats or herring gulls.



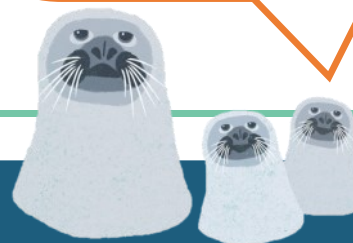
Puffin with sand eels © Susan Davies

If you are at a beach in summer, rock pools will be alive with scurrying, squirming, and swimming animals, as well as a jungle of colourful seaweed waving peacefully in the still water. If you kneel down beside a rockpool and watch really carefully, you might be able to imagine what life is like for the creatures living life on the tideline. You can learn how to rock pool safely and responsibly by watching our introductory video to rock pools [here](#).



Kittiwake chicks
© Maggie Sheddan

If you visit the Discovery Experience at the Scottish Seabird Centre in North Berwick, you can play an interactive 'Match the Chick' game!



SPECIES PROFILE



Blue Jellyfish

CYANEA LAMARCKII

SIZE: Up to 30cm across the body or “bell”
Average lifespan: 1 year

LOCATION:

These jellyfish are often seen around the UK coastline from May to October. During these months blooms of **plankton** attract these jellyfish inshore providing a plentiful food supply. They can often be seen washed up on the beach.

WHAT DOES IT LOOK LIKE?

As the name suggests these jellyfish are a striking blue purple colour, with a **translucent** bell. However, they start out pale and develop their colours as they mature. Paler individuals are easily confused with the larger but closely related Lions mane jellyfish. The blue jellyfish has four frilly mouth arms and many stinging tentacles.



FACTS:

- ◆ Jellyfish usually eat whatever food they find as they swim through water, which includes shrimp, krill, small fish, and **plankton**. Jellyfish are considered ‘passive’ feeders since they are not actively hunting or looking for food.
- ◆ Jellyfish don’t have a brain, bones or a heart and most don’t have any eyes. These incredible **invertebrates** use their stinging tentacles to stun or paralyse prey before digesting them.
- ◆ A group of jellyfish is known as a “smack” but is more commonly referred to as a “bloom”.
- ◆ Jellyfish are 98% water! If they wash ashore, they can evaporate in just a few hours.

SPECIES PROFILE



Beadlet anemone

ACTINIA EQUINA

SIZE: Diameter: 5cm

LOCATION:

Beadlet anemones are a common sight all around Scotland's coasts. They can be found in rock pools, attached to rocks normally on the middle to lower shore. Their body acts as a sucker to keep them in one place while the tide goes in and out.

WHAT DOES IT LOOK LIKE?

These anemones are usually red but their colour can sometimes vary to be green or orange. The true form of this fascinating creature is revealed when the tide comes in and it reveals thick short tentacles. Up to 192 tentacles are arranged into 6 circles. When the tide goes out the tentacles are moved inside the body of the anemone, leaving what resembles a blob of jelly. It can survive out of water for several days.

FACTS:

- ◆ Beadlet anemones are one of the most aggressive anemone species and are highly territorial. If their tentacles encounter other individuals that aren't related, they will fight them. They do this with a ring of bright blue beads beneath their tentacles that are packed full of stinging cells. Over the course of a few days the victim will be slowly nudged and stung until they crawl away or drop off the rock.
- ◆ This anemone is known to eat almost anything it can catch, using its tentacles to stun and catch prey. This mostly consists of mussels, crabs, sea shrimps, sea snails and sea slugs. Occasionally it will take in a particularly large piece of food which it can't digest. When an anemone realises this it will spit it back up, which can be up to two hours later.



DISCOVER

AUTUMN AROUND SCOTLAND'S COASTS

Although autumn in Scotland sees many birds leaving for the winter months, a whole host of wonderful winter species are arriving too. Geese can be seen flying in their thousands, their iconic V-shaped traveling formation difficult to miss as they honk across the sky. Smaller birds like knot also make enormous journeys from the Arctic circle to boost the numbers of resident birds around the Scottish coast. All of this amazing **migratory** activity makes autumn a great time to go bird-watching, both by the sea and further inland. Keep an eye out for wading birds like curlew (see page 12), [turnstones](#) and [redshank](#), which, although present all year round, increase in number in the autumn. Watch the last of the guga (young gannets) fledge (leave the nest), feed and fly away.



Redshank (centre) with turnstones © Jamie McDermaid



Group of guga © Maggie Sheddan

While most animals raise their young in the spring, grey seals give birth in the late-autumn and winter. Seals 'haul out' (come ashore) to give birth to their young. Grey seal pups are easy to spot as they are covered in a white and fluffy coat. This first coat is not waterproof which means they could get cold if they go in the sea.

So, when grey seal pups reach around three weeks of age, they lose their fluffy white coat and their first waterproof coat grows in. We call this 'moulting'. To help with the moulting process, we will often see pups rolling around on the rocks to try and help rub their fur off.



Grey seals with pups © Emily Burton

SPECIES PROFILE



Grey seal and pup © Emily Burton

Grey seal

HALICHOERUS GRYPUS

SIZE: Length: Male grey seals up to 2.6 metres. Females up to 1.8 metres

Weight: Males weigh around 230kg can be up to 300kg, with females weighing around 155kg

LOCATION:

Grey seals are found all along Scotland's coast and can occasionally be spotted bobbing in the water or resting close to rocky shores. However, they are much easier to spot between September and December when they 'haul-out' onto the shore to give birth to their pups. Over 40,000 seal pups are born in Scotland each year. The Isle of May has the largest breeding colony of grey seals on the east coast of Scotland, with around 2,500 seal pups born here annually.

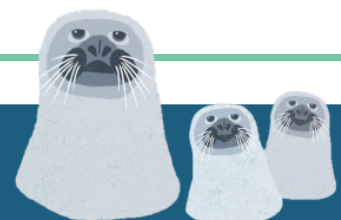
WHAT DOES IT LOOK LIKE?

Grey seals are large with around 6 centimetres of blubber (thick layer of fat) to protect them from the cold water. Their distinctive oval head running into a long snout, sometimes compared to a 'roman nose', sets them apart from the common (harbour) seal, which can also be seen in UK waters. Looking straight on, their nostrils are parallel (rather than V-shaped like common seals).

They are mainly grey, with patches, and markings unique to each individual. The upper part of the seal's coat is darker than the lower part, which acts as **camouflage**. Males generally have a darker coat and have less patterning than females. Pups are born fluffy and white.

FACTS:

- ◆ Grey seals often sleep in the water, with their noses bobbing above the surface like upright bottles, known as 'bottling'.
- ◆ Grey seals are known for the eerie 'singing' noise they make while competing for space at haul-out sites. This has led to many myths about 'selkies' – creatures who take the form of a seal in water and a person on land.



SPECIES PROFILE



Curlew

NUMENIUS ARQUATA

SIZE: Wingspan: 90cm
Length: 50 - 60cm
Weight: 770 - 1000g
Average lifespan: 5 years

LOCATION:

Around half of the UK population of curlews is found in Scotland and can be seen all around the coast. There is a particularly large concentration in the Solway Firth. Autumn to winter is the best time of year to see them as there is a large number of curlews arriving in winter from Scandinavia to enjoy Scotland's comparatively milder winter. They can be spotted in groups on mud flats and coastal areas **foraging** for food.

WHAT DOES IT LOOK LIKE?

The curlew is the largest European wading bird, around the same size as a female pheasant. They are mottled brown and grey with long pale blue legs. Curlews have a long, thin downward curving bill with a pink blush underneath.

FACTS:

- ◆ Curlews are named after their haunting display call ('cur-lee').
- ◆ Curlews move inland to lay their eggs, in wet grassy areas or roughly grazed moorland, on the ground in an area referred to as a 'scrape', made by the males after several trial nests. The parents incubate the eggs (keep them warm and safe until they are ready to hatch) for about four weeks.
- ◆ The end of a curlew's bill is very sensitive and acts like tweezers, allowing it to feel around the mud for prey. As its bill is so long (almost the same length as its body) it enables the curlew to probe much deeper than other wading birds, exploiting a food source that no other bird can get to.
- ◆ Although curlews can be seen all around the UK coastline, their numbers continue to decline. So much so that in 2015 they were placed on the UK Birds of Conservation Concern 'red list' meaning urgent action is needed to help these wonderful birds.

SPECIES PROFILE



© Jamie McDermaid

Knot

CALIDRIS CANUTUS

SIZE: Wingspan: 47 - 54cm
Length: 23-25cm
Weight: 125 - 215g
Average lifespan: 7 years

LOCATION:

Knots are usually seen in large numbers overwintering in the UK from their Arctic **breeding** grounds. They are generally absent from western and northern Scotland but can regularly be seen along the east coast favouring muddy and sandy shores, especially **estuaries**. They form large tightly packed flocks at their main wintering sites, jostling shoulder to shoulder probing the mud and sand. Internationally important populations of knot regularly occur on the north Solway Firth, Firth of Forth, inner Moray Firth, Cromarty Firth and Montrose Basin.

WHAT DOES IT LOOK LIKE?

The knot is a medium-sized wader that is longer and bulkier than [sanderling](#) or [dunlin](#). In summer the chest, belly and face are brick-red, with speckled rust-brown upperparts. In winter they are silvery grey on top and white underneath. The bill (beak) is long, black, and straight whereas the dunlin has a slightly down curved bill and the sanderling bill is shorter.

FACTS:

- ◆ A long distance **migrant**, the knot can travel up to 15,000 km stopping along the way to feed. They will lose up to 80% of their body weight during these long flights.
- ◆ Knots eat **invertebrates**, **molluscs** and **crustaceans** which they find by probing their bills into the mud and sand. They have special sensory organs at the tip of their bills to help detect buried prey.
- ◆ Due to their preferred wintering sites being **estuaries**, populations are particularly vulnerable to any changes such as tidal barrages (artificial barriers to prevent flooding), sea-level rises and human disturbance.

DISCOVER

WINTER AROUND SCOTLAND'S COASTS

The coldest season of the year brings about many changes in Scotland as the days grow shorter, the temperature drops, and the frosts arrive. Winter is a tough time for many native animals. Some will stock up in autumn and hibernate through the winter, others will move away or adapt to conditions. Juvenile gannets (guga), having built up their strength on fish, will make the perilous journey south, up to 5,000km, to the west coast of Africa. Puffins will leave their **breeding** grounds in August and travel to the middle of the North Atlantic and Arctic Ocean, where they stay on open ocean in groups called 'rafts'.

Although many of our summer visitors will head away for the colder months, a whole host of winter visitors will arrive. Scotland provides ideal conditions for many winter **migrants** from Iceland, Greenland, Scandinavia and the arctic looking to escape the cold and extreme weather to enjoy the relatively mild winter in Scotland. Hundreds of thousands of swans, geese and ducks move south to Scotland. 100% of pink-footed geese and barnacle geese from Greenland, Iceland, and Svalbard pass through or winter here.

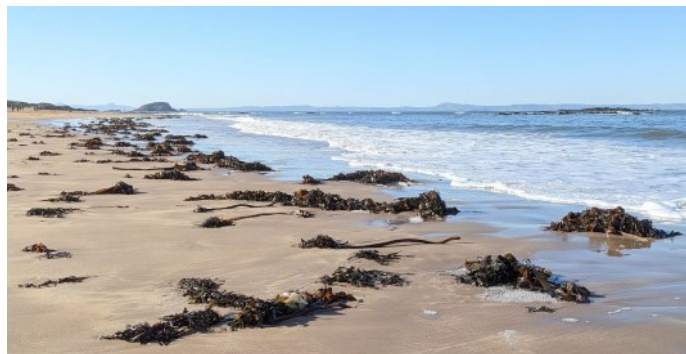


Barnacle geese

Winter can also bring storms which can see **kelp** stripped from the seabed. The seaweed and other organic matter washed ashore provides an ideal home for many small **invertebrates**, providing food for **foraging** birds. Many species of wading birds can be spotted over the winter months. Stormy seas can also offer interesting beachcombing finds from whelk egg cases such as the one shown below, to [sea urchin](#) tests (outer skeletons), crab claws and seabird bones.



Whelk egg cases © Dora Roden



Kelp washed up on shore at North Berwick © Dora Roden

SPECIES PROFILE



© Andrew Grieveson

Goldeneye

BUCEPHALA CLANGULA

SIZE: Length: 40-48cm
Wingspan: 72cm
Weight: 750-1kg
Average lifespan: 6 years

LOCATION:

The goldeneye is a medium-sized species of diving duck. Since first nesting in Scotland in 1970, a small but growing **breeding** population has become established in the highlands. In winter, additional birds from Northern Europe visit Scotland, boosting the goldeneye population. They can be found in small numbers in lochs and reservoirs across the country.

WHAT DOES IT LOOK LIKE?

A medium sized duck with a large rounded head. Adult males have a dark head with a greenish gloss and a circular white patch in front of the striking yellow eye. The beak is fairly small and narrow. The smaller females are mottled grey with a chocolate brown head. Goldeneyes show a large area of white on the inner wing when in flight.

FACTS:

- ◆ Goldeneye ducklings can feed themselves once they leave the nest but still require protection. Some young will join another female's brood forming mixed broods, known as "creches".
- ◆ Common goldeneyes are diving birds that forage under water. They will eat **crustaceans**, **molluscs** and aquatic insects.
- ◆ Male goldeneyes demonstrate a complex series of courtship displays. Their many moves include the "head throw kick," where the male bends his head backwards with his bill pointed up, then quickly thrusts his head forward, kicking up water with his feet. The loud, double whistle sound made as part of its courtship display can be heard up to 1 kilometre away.

SPECIES PROFILE



© Susan Davies

Purple sandpiper

CALIDRIS MARITIMA

SIZE: Wingspan: 40-44cm
Length: 20 – 22cm
Weight: 60 – 75g

LOCATION:

Purple sandpipers are mainly winter visitors to the UK. This hardy species prefers rocky shores covered with seaweed and are commonly spotted **foraging** with flocks of [turnstones](#). You can see them all around the UK coasts, however most are found in Orkney, Shetland, and along Scotland's east coast.

WHAT DOES IT LOOK LIKE?

Purple sandpipers are medium sized wading birds with plump grey bodies, light bellies, and dark streaks. It has a downcurved beak and bright orange legs. In flight they have a distinct white line on their wings and their tails are black with white sides. In the summer, they are browner in comparison to their darker grey appearance in winter. The name purple sandpiper refers to the tricky to see, purple sheen on some of the wing feathers.

FACTS:

- ◆ Purple sandpipers breed on arctic tundra but most of them spend winters on North Atlantic shores in places farther north than any other shorebird. They are remarkably faithful to wintering sites, with individuals returning to the exact same stretch of coast year after year.
- ◆ Only one or two pairs of purple sandpiper nest in Scotland, but their location is kept secret to protect them from disturbance. They are on the UK Birds of Conservation Concern 'red' list due to the decline in their wintering status (more than 30%).
- ◆ Purple sandpipers forage along rocky shorelines and can be seen flipping over seaweed in search of **prey**. They feed on mainly insects and **molluscs**, and also some plant material.

BLOG



SEASONAL HIGHLIGHTS

Read on for a personal perspective on Scotland's changing seasons from one of our Discovery Experience team. If you visit our Centre why not tell us about your own favourite wildlife experiences?

I moved to Scotland more than 12 years ago and instantly fell in love with the culture, people and of course the wildlife. All year round there are fascinating wildlife spectacles taking place throughout Scotland. From bellowing red deer during the magnificent rut, to the iconic osprey returning from wintering grounds in Africa for spring, and from over 40,000 barnacle geese wintering on Islay, to orcas hunting on the west coast and the remarkable courtship display of the capercaillie to name but a few.



Clockwise from top left: Red deer bellowing (Pixabay), Barnacle geese (Pixabay), Orcas © Hugh Harrop, Capercaillie (istock)

Scotland's marine and coastal life is spectacular, with a variety of different habitats support thriving populations of marine mammals like dolphins, porpoises, whales, and seals. They are also home to vast numbers of seabirds, fish and other marine wildlife like **crustaceans**, sponges and cold water corals. Species present can shift with the seasons, meaning there is always something new and exciting to discover whatever the time of year.

BLOG



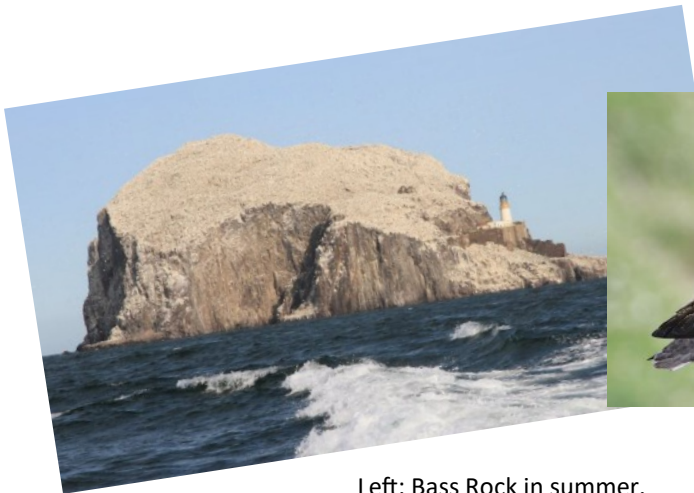
SEASONAL HIGHLIGHTS

Springtime is my favourite time of the year with the humming of bees, forests bursting into colour with incredible floral blooms like bluebells carpeting the forest floors and the return of our magnificent seabird colonies.



Marvellous concentrations of auks (puffins, razorbills, guillemots), gannets, fulmars and kittiwakes occur in many parts of the country. In North Berwick, during the height of summer the top of the nearby Bass Rock appears to turn white due to the sheer number of gannets nesting there. Our wildlife boat trips are in full swing during the summer and there aren't many experiences more memorable than being surrounded by the gannet colony on a boat in the height of breeding season. Just don't look

up! Scotland's seas are rich in plankton during the summer months attracting huge amounts of fish as well as larger predators such as whales, seals, dolphins, and basking sharks.



Left: Bass Rock in summer.
Middle: Puffin with sandeels.
Right: Guillemots. All images © Susan Davies



BLOG



SEASONAL HIGHLIGHTS

As summer fades away into autumn, many of the seabirds we've grown so fond of **migrate** away for the winter. By August most of the puffins around Scotland will have moved to the North Atlantic for richer fishing grounds. The gannets will be around a little bit longer with many young gannets making the perilous journey south to Africa for the first time. However, Scotland's coast is still bustling with life as grey seal pupping season starts and a host of wonderful winter species start to arrive. Thousands of these migrants will use the Isle of May as a stopping point to refuel and feed up, surprisingly huge numbers of blackbirds have been recorded there. Over the years numbers have varied, peaking at 30,000 on 28th October 2004 and 20,000 on 31st October 2009.



Left: Grey seal pup © Maggie Sheddan. Right Isle of May © M Roden.

While for many the Scottish winter seems bleak, the stunning landscapes transform and amidst the cold and grey there is still a wealth of wildlife to explore. Scotland's coasts are of international importance for wintering waterbirds. Fabulous species like scoter, goldeneye and pintail are just a few of these and many populations explode in winter with birds coming from Iceland, Scandinavia and Russia. Also watch the skies for thousands of geese travelling in their iconic V-shaped formations. Whatever the time of year Scotland is an incredible, unique place with amazing and diverse wildlife and no matter the weather or season there will always be something fascinating to see right on your doorstep.



Check out the rest of the pack to learn more about some of the species mentioned in this blog.



PUZZLE

SEASONS WORDSEARCH

Q	M	L	X	V	M	F	Z	N	U	S	C	A	B
A	A	K	T	M	V	O	X	X	W	E	L	X	L
A	P	P	G	K	L	C	U	Q	A	A	I	M	D
U	G	N	D	S	P	R	Y	L	T	S	M	R	D
T	M	L	E	A	K	D	K	H	T	O	A	J	P
U	T	B	D	S	P	R	I	N	G	N	T	W	Y
M	C	A	M	O	U	F	L	A	G	E	E	I	B
N	F	R	Z	F	O	R	A	G	I	N	G	N	R
N	I	G	D	T	P	F	E	P	C	Q	W	T	E
M	I	G	R	A	T	I	O	N	E	G	S	E	E
P	J	D	Y	O	A	S	U	M	M	E	R	R	D
I	C	L	Y	M	W	H	E	R	R	T	D	L	I
I	O	K	C	G	B	T	G	M	U	F	K	S	N
U	X	S	C	G	W	N	H	H	V	A	L	V	G

Can you find the words below in the wordsearch?

SPRING

SUMMER

AUTUMN

WINTER

SEASON

FORAGING

GROWTH

CAMOUFLAGE

MIGRATION

BREEDING

MOULT

CLIMATE



FACTFILE

CORMORANTS VS SHAGS

Cormorants and shags can be found all year round, along our coasts. From a distance these closely related, black, reptilian, almost Jurassic-looking birds can easily confuse experienced bird watchers. Both species are fish-eating water birds that will be found swimming low on the water with their heads pointed towards the sky. On land they will be resting upright on rocks in their familiar spread eagle pose, as they dry their wings.



Cormorant drying its wings © M Roden



Cormorants on rocks in Fife © M Roden

Both are fascinating birds with unique adaptations. Cormorants and shags are both excellent divers, propelling themselves underwater to depths of up to 20 metres for cormorants or up to 40 metres for shags. They both have long necks to help them reach and long hooked bills for catching fish.

However, neither of these birds have waterproof plumage, like many other seabirds, meaning their feathers become waterlogged. This acts in their favour when fishing as, along with denser bones, it allows them to dive deeper and for longer periods. After fishing the birds will need to dry out and warm up, this is when you will see them perched on rocks with their wings outstretched.



If you happen to be further inland by a loch for example and are wondering if you are looking at a cormorant or shag, it's a cormorant. Shags very rarely are found inland as they mainly stay at the coast.



Shag on a nest © Susan Davies



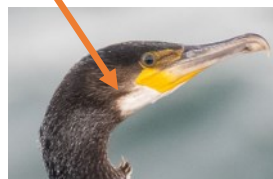
FACTFILE

CORMORANTS VS SHAGS

CORMORANT



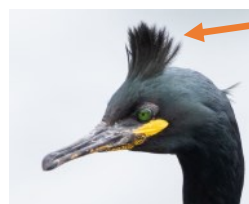
- ◆ Cormorants are larger than shags reaching heights of up to 1 metre with a wingspan of 145cm.
- ◆ Cormorants have thicker sturdier looking beaks.
- ◆ The plumage is black with a blueish tint. They have a bright white patch at the base of the beak and their thigh during the breeding season.
- ◆ Juvenile (young) cormorants are brown in colour and have a large white belly patch.



SHAG



- ◆ Smaller and more slender-bodied than cormorants, shags grow up to 80cm tall with a wingspan of 98cm.
- ◆ Shags have a more delicate beak and a steeper forehead.
- ◆ Their plumage is black with a green gloss which comes from an oil excreted from the preen gland, they have a yellow patch at the base of the beak.
- ◆ Juvenile (young) shags are brown in colour with a light brown patch on their belly.



- ◆ Shags have a characteristic crest on the top of the head during the **breeding** season. Shag is an old word for 'tufted'.

Images © Jamie McDermaid



CRAFT

PAPER PLATE SEASONS WHEEL

The wildlife that you can see changes with the seasons. This fun craft allows you to design four images which reflect the changing seasons. What will you choose to represent spring, summer, autumn and winter?



WHAT DO I NEED?

- 2 paper plates
- Pens or pencils
- Ruler
- 1 split pin fastener
- Scissors
- Other craft materials of your choice

1



Use a ruler to draw two crossed lines to mark equal quarters on both of your paper plates.

2



On one plate only, cut out a 'window' inside one of the quarters, leaving a little border as shown.

3



Lay the first paper plate on top of the second plate, lining up the quarters. Mark with pencil the shape of the window in each of the quarters. These will be the areas where you will create your designs.

4



You can now create your four seasonal wildlife designs—in order, one in each window space—on the plate without the window. We chose a puffin for spring, a jellyfish for summer, a seal for autumn and an oyster catcher for winter.

CRAFT

PAPER PLATE SEASONS WHEEL

5



You are now ready to bring your two plates together. Make a hole in the middle of each plate using a pencil, making sure that the two holes line up.

6



Place the plate with the window on top of the decorated plate and push the split pin through the holes in both plates before opening up the pin legs at the back.

Your seasons wheel should now turn, to display one season at a time. If you like, you can also decorate the front plate with a design of your own choice. We would love to see your finished work—send a photo of it to marineengagement@seabird.org

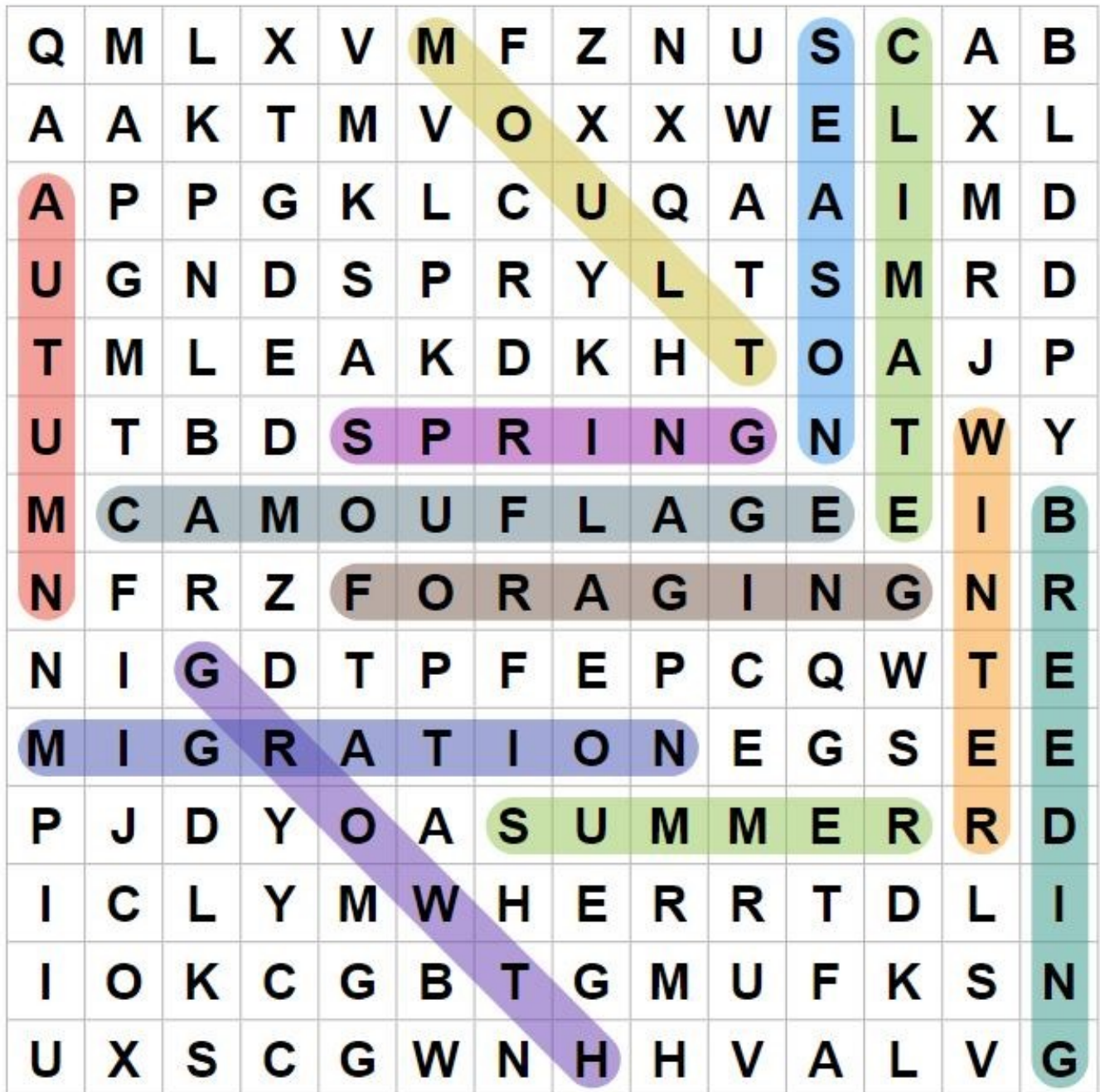




ANSWERS

SEASONS WORDSEARCH

Did you find all 12 of the words linked to seasons?



GLOSSARY

AXIS	The imaginary line that an object turns around (running through its centre).
BREEDING	When living things create offspring (produce young).
CAMOUFLAGE	When animals conceal themselves by blending into their surroundings, either by the pattern, colour or texture of their skin, or the use of materials around them.
COLONY	A place where lots of birds gather together.
CRUSTACEAN	An animal from the group that includes crabs, lobsters and shrimps which usually has a hard external skeleton.
ESTUARY	The end of a river, where it meets the sea.
FORAGING	Going from place to place searching for things to eat or use.
INVERTEBRATE	An animal without a backbone or bony skeleton—ranging from microscopic mites to spiders, worms and even giant squid.
KELP	The name of various large brown algae seaweed species.
MIGRANT	Movement of species, either temporary or permanent, from one place to another
MOLLUSC	A subset of invertebrates, molluscs are soft-bodied animals including snails, slugs, octopuses, clams and oysters. All molluscs have a mantle.
PLANKTON	Drifting organisms (often tiny) that live in the surface layers of the ocean
PREDATION	When an animal hunts another animal for food.
PREY	An animal that is hunted or killed by another animal for food.
MACHAIR	Machair is a Gaelic word meaning “fertile plain”. This is the name given to the rare dune grassland habitat which only occurs on exposed western coasts of Scotland and Ireland.
TRANSLUCENT	A material where some light passes through it but objects on the other side of it will not be clearly seen.