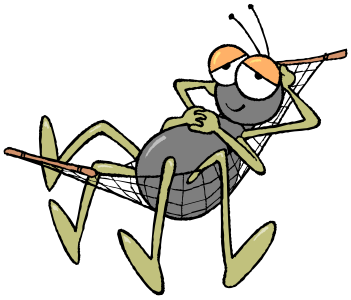

Nature's Web

Issue No. 60 Winter 2020

Inside This Issue...

The National Monuments Service's underwater archaeologist Connie Kelleher examining one of the bronze guns recovered from the 1588 Spanish Armada wreck of *"La Juliana"* in Co. Sligo.

Hidden Heritage

Image courtesy of Karl Brady, National Monuments Service

Editor's Page

Wrecks in County Cork

The West Calf Island in Roaringwater Bay where the passenger and cargo ship the "*Stephen Whitney*" struck the rocks in 1847.

In this issue, we're looking at the archaeology of wrecks and the National Monuments Service's (NMS) free online Wreck Viewer. With Cork having the second longest coastline in Ireland, it has a long history of maritime activity and its fair share of shipwrecks. The NMS has over 3,000 wrecks recorded off the coast of Co. Cork, with those with a known location shown in the Wreck Viewer. These include the remains of the 1797 French frigate *La Surveillante* in Bantry Bay; the 1916 gun-running ship the *AUD* and the 1917 German mine-laying submarine *UC-42*, both just outside Cork Harbour; and the ocean liner RMS *Lusitania*, lost 11.5 nautical miles off the Old Head of Kinsale in the year 1915.

In Roaringwater Bay and Long Island Bay, there are a number of wrecks, including the *Stephen Whitney*, a 1,034 tonne ship, which was travelling from New York to Liverpool, carrying 76 passengers, a crew of 34 and a cargo of cotton, corn, cheese, flour and clocks. On 18th October, 1847, as it neared Mizen Head, a thick fog set in. The signal light on Cape Clear, which was used at the time to let ships know their location, was not visible. Unfortunately, the crew mistook the lights at Crookhaven for the Old Head of Kinsale, resulting in the ship striking the western Calf Island. Sadly, 92 people died in the tragedy. This tragedy led to the Cape Clear warning light being replaced by the Fastnet Lighthouse.

As Gaeilge! We are delighted to have teamed up with An Gúm, who are translating Nature's Web into Irish. Issues are now available, as gaeilge, at:
http://www.gaeilge.ie/maidir-le-foras-na-gaeilge/an-gum/lion-dulra/

Roast Haddock with Champ

Photo courtesy of www.bordbia.ie

What you need:

- 4 x 175g skinless and boneless haddock fillets
- salt and freshly ground white pepper
- 1 tablesp. olive oil
- Cherry tomatoes on the vine
- 25g butter
- 4 scallions, finely chopped
- 6 tablesp. milk
- 900g freshly cooked floury potatoes, cut into even-sized chunks

What to do:

Preheat the oven to 200C/400F/Gas mark 6.

Arrange the haddock fillets on a non-stick baking sheet and season, then drizzle over the olive oil.

Roast in the oven for 8-10 minutes until cooked through and tender. This will depend on the thickness of the fillets.

Toss the tomatoes in a little olive oil and roast in the oven for 5 minutes. Melt the butter in a small pan and gently sauté the scallions until softened. Pour in the milk and bring to a simmer.

Mash the potatoes and then using a wooden spoon, beat in the scallion and milk mixture until you have achieved smooth, creamy mash. Season to taste.

Divide the champ among warmed plates and arrange a piece of roasted haddock on each one to serve.

Brought to you by Bord Bia **www.bordbia.ie**

Welcome to the Winter Edition of Nature's Web!

Dear Reader,

Welcome to the Winter 2020 issue of Nature's Web. In this issue we feature wrecks and those who document this part of our island's heritage. Connie Kelleher, from the Underwater Archaeology Unit at the National Monuments Service, tells us all about her work on wrecks and Paul Kay explains what marine life likes to live on them. Invasive species can be a real problem in some areas and one of the most troublesome is the Japanese Knotweed. Cork County Council's Heritage Service explains what the plant is like and what you should and should not do with regard to it. Barrie Dale introduces Narky the Whale and when you read the poem you will know why he is so unhappy!

Check out nature news from around the world on page 12 and enjoy a giggle with jokes on page 13.

We would love to hear your views and comments and suggestions for future articles. Have a good read!

Susan

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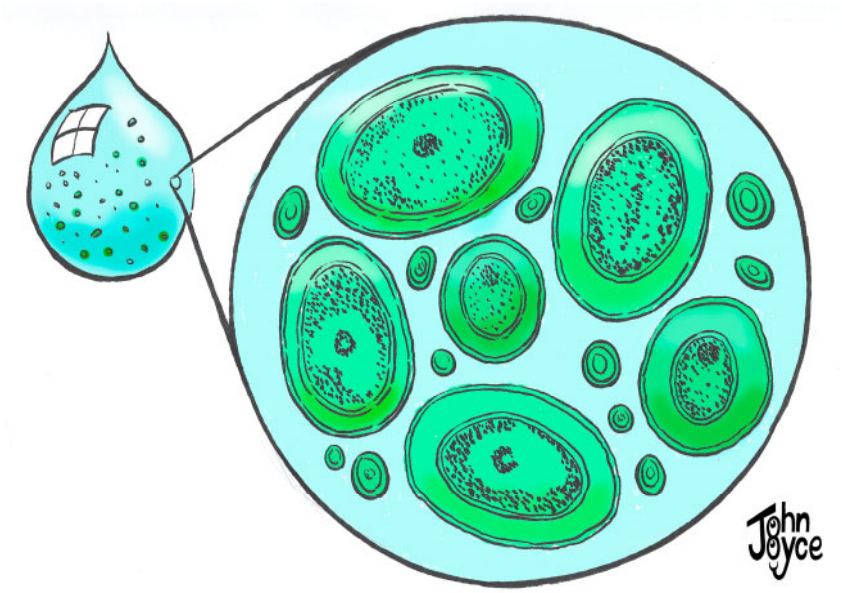
The Invisible Universe

By John Joyce

Avast there, Mateys!
We must be thankful for every drop of water in the ocean.
Let me explain why….



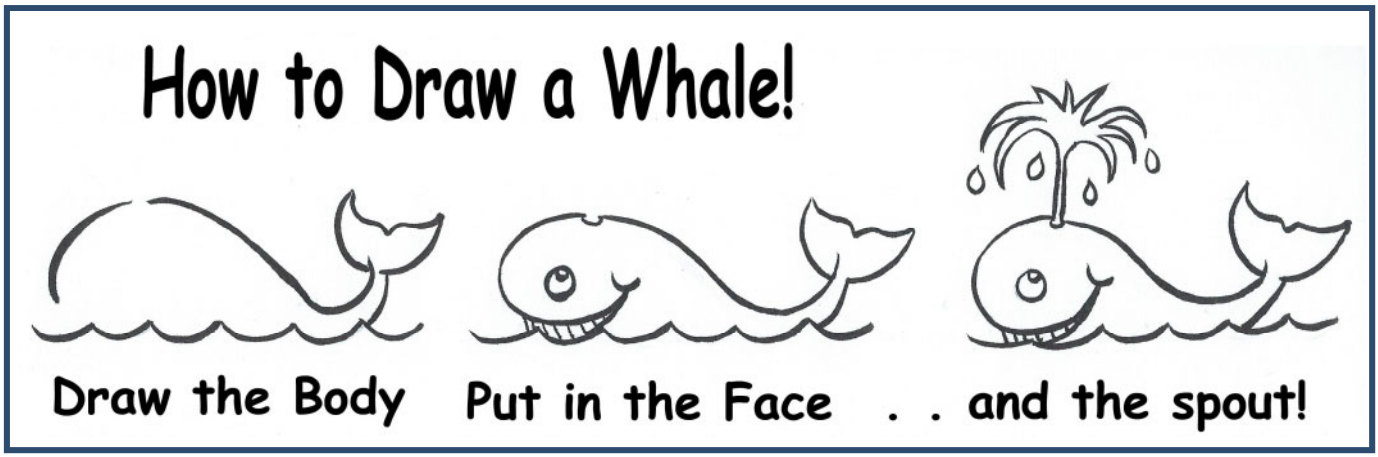
There's an 'invisible universe' of plants and animals, which live in every drop of seawater. Microscopic marine plants called 'phytoplankton', each consisting of only one living cell are responsible for an estimated fifty to eighty five percent of all the oxygen produced across the globe. Yet phytoplankton are so small as to be invisible to the human eye except when really favourable circumstances, caused by increased nutrients and sunlight, allow them to grow and multiply by the million. This increased growth creates 'algal blooms' or 'Red Tides', so called because the sheer number of phytoplankton cells in the water causes the Sea to change colour.

Just as land plants provide the vital ecological service of removing carbon dioxide from the air and creating oxygen for us to breathe so marine plants, such as phytoplankton and seaweeds, remove carbon dioxide from seawater and create oxygen for marine animals. In fact, it has been estimated that around half of all the oxygen created by terrestrial and aquatic plants on planet Earth comes from tiny marine phytoplankton – enough, quite literally, for 'every second breath' that we take! The remainder comes from the larger seaweeds such as kelp, from the rain forests and other terrestrial plants.

Just like land plants, phytoplankton need sunlight to grow and reproduce. This means they can only thrive in the upper layers of the Ocean down to around 250 metres, where light can penetrate.

The most active of the 5,000 known species of phytoplankton is *Prochlorococcus*, a type of marine cyanobacteria, which contains the green pigment chlorophyll. Like land plants, it is capable of absorbing carbon dioxide and releasing oxygen using energy from the Sun by a process called 'photosynthesis'. *Prochlorococcus* is so small that millions of its tiny cells can fit inside a drop of water. But this species alone is so abundant in the Ocean that it produces around twenty percent of the oxygen we breathe. In fact, the total amount of ALL phytoplankton in the Ocean at any one time has been estimated at over a BILLION tonnes, with forty five billion tonnes created and dying over the course of a year.

So take a deep breath . . . and thank the Ocean for every second breath that you take!



Follow Black John the Bogus Pirate and his crew on Facebook at https://www.facebook.com/BlackJohntheBogusPirate/

Japanese Knotweed

Japanese knotweed in flower.

Image courtesy of Robbie Murphy

Scientific Name: *Fallopia japonica* **Irish Name:** Gliúneach bhiorach

Japanese knotweed is classified as one of the top 100 worst invasive species worldwide and is one of the most problematic invasive alien species in Ireland. It is very common and widely distributed across a variety of habitat types in Ireland and is most prominent on roadsides, waste ground and in wetland habitats where it out competes native species and forms dense thickets.

Japanese knotweed is native to Japan, China, and parts of Korea and Taiwan. It is not as problematic in those countries as it has natural enemies that keep it under control. Introduced to Europe as an ornamental plant in the 19th century, it quickly established wild populations.

How do you recognise it?

The stem have a green hollow bamboo-like appearance and are dotted with dark blue-purple speckles. The leaves are oval with a pointed tip, and have a distinctive zig-zag growth pattern on the stem. The off-white coloured flowers are small and clustered and hang from the joint of the stem and the leaf. They flower from August to October. The roots are tough, thick and wood-like in their appearance. If snapped they show a bright orange colour inside and have a consistency similar to that of a carrot. New rhizome growth (its root structure) is white in appearance and can be delicate. These root structures can extend up to 7 m in a lateral or sideways direction (but usually only up to 5 m), and 2 m deep from the overground parent plant.

Note the zig-zag pattern of the stem.

The stem's mottled colouration.

Colonising a road side.

Images courtesy of Cork County Council Heritage Unit

This information is excerpted from the full leaflet "Control and Management of Invasive Plant Species — Japanese Knotweed". It was prepared by Cork County Council Heritage Unit as an action of the Cork County Biodiversity Action Plan, 2012, and which can be downloaded from:
https://www.corkcoco.ie/en/arts-heritage-irish-language/publications-documents-links
Thanks to John Kelly of Invasive Species Ireland, and to Collette O'Flynn of the National Biodiversity Data Centre for their assistance with this leaflet.

Invasive Alien Species

Invasive alien species are animals and plants that are introduced accidentally or deliberately into the wild where they are not normally found, and which have adverse impacts on the environment, usually by out competing native species for natural resources.

What should you do if you find Japanese knotweed?

If you do find Japanese knotweed on your property, the most important thing that you can do is prevent any further spread of the species. In fact, it is against the law to plant, disperse, allow dispersal or cause the spread of Japanese knotweed. Do not strim, cut, flail or chip the plants as tiny fragments can regenerate new plants and make the problem even more difficult to manage. It is also advised not to dig, move or dump soil which may contain plant material as this may contribute to its spread. It grows fast, can grow through concrete and tarmac, it forms large thickets and can cause serious structural damage.

Japanese knotweed can be controlled successfully through the appropriate use of herbicides by a competent person. However, it is advised to prepare a management plan and to get expert help before tackling a large infestation of Japanese knotweed.

Further information regarding best practise techniques for the control and management of Japanese knotweed can be found on the Invasive Species Ireland website at www.invasivespeciesireland.com To record sightings and records of Japanese knotweed or any other invasive alien species, log on to the National Biodiversity Data Centre at www.biodiversityireland.ie

Waxwing are known to be very clever birds.

The Waxwing

Scientific Name: *Bombycilla garrulus* **Irish Name:** Síodeiteach

Berries

Berries from the Rowan tree (or Mountain Ash) are the Waxwing's main food. They also eat cotoneaster and hawthorn berries. A good crop of berries can mean a larger population the following year. Some times they eat fermented berries, resulting in the birds becoming a little tipsy!

Not all birds we see in Ireland breed here. Some are only passing through or spending time here as their breeding grounds (the place they call home) may have become inhospitable. This could be because temperatures are too hot in summer or too cold in winter and food supplies run out.

Waxwings are birds that visit Ireland in the winter months. Their breeding range stretches from Finland to Siberia and into the Pacific coast. Though many migrate to Scandinavia in the winter, a few birds do make it to Ireland each year, normally in the north and east of the country. On occasion a large numbers will arrive when they unexpectedly run out of food in Scandinavia.

Waxwings are less wary of humans than other birds. This is probably because they do not see many humans in their breeding grounds so are less suspicious of them.

Over half the birds in the world are perching birds, otherwise known as passerine birds. Waxwings belong to this group. They are able to grip on to branches, twigs and wire with specially adapted feet.

Looking Good!

Waxwings are very sharp looking birds. They are similar in size to the starling but on closer inspection, their colours are very different. They are light brown in colour, with dark markings around their eyes and on their chin. Their wing tips are mainly black, with white and yellow markings. On some birds, distinct red feathers can be seen. These look like blobs of wax and give rise to the bird's name—waxwing.

The red feathers on a waxwing.

The waxwing also has a very distinct tuft of feathers on the top of their head, known as a crest. The crest is generally used for display purposes.

FACT FILE

Colour: Light brown in colour with black, white, red and yellow markings.

Length: 18 cm

Diet: Mostly the berries from Rowan trees.

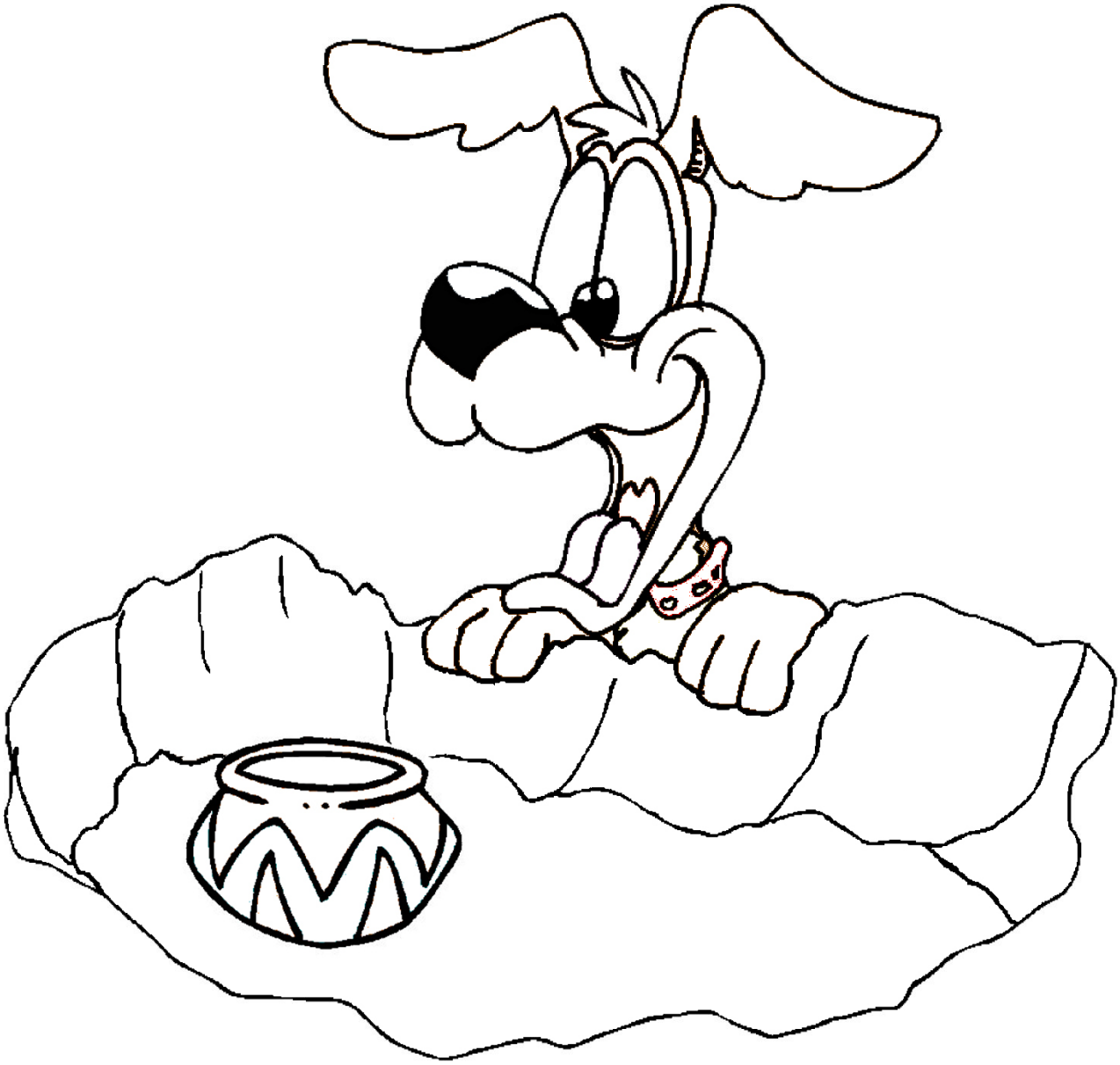
Habitat: Evergreen and mixed forests in breeding grounds.

No. of eggs per clutch: 3-7

Group Name: A group of waxwings is known as a museum.

Colour In

The Big Dig



All in a Day's Work

Connie Kelleher—Underwater Archaeologist

Hello, my name is Connie Kelleher and I am an underwater archaeologist with the National Monuments Service, Department of Housing, Local Government & Heritage

www.archaeology.ie

Image courtesy of Áine Brosnan

Connie and Mr Tumnus at the beacon, Baltimore, Co Cork.

Where do you work?
My office is in Killarney National Park, in the OPW National Monuments Depot, so I am lucky to be surrounded by nature, with Killarney lakes nearby.

Has this work always interested you?
I have always been interested in two things – the outdoors and old things! I guess archaeology allows me to indulge in both. I have also always been drawn to the coast and the sea, so my work enables me to experience the beauty and wildness of Ireland's diverse coastline.

What training did you do for your job?
I studied archaeology in University College Cork, both for my primary and master's degrees and then did my doctorate in Trinity College Dublin. As an underwater archaeologist, I also had to train as a commercial diver, which I did in Scotland. Under the diving regulations in Ireland, you have to be commercially trained in order to work underwater.

What is a day in your life like?
I have two strands to my work – as a member of the team in the National Monuments Service's Underwater Archaeology Unit dealing with such cases as new discoveries, survey or excavation and then also as district officer, where I liaise with OPW colleagues on the management and conservation of the national monuments in State care in the southwest. So depending on what is needed, I could be doing one or both on any given day.

What is your main aim?
My aim, in line with the main priority of the National Monuments Service, is the protection of our cultural heritage. This is particularly important for our underwater cultural heritage, which is so finite. All too often because sites are covered by water they can be easily overlooked or considered of less importance because folk cannot visualise them. A ship that was lost essentially vanished in a single moment in time – the term 'time capsule' is often used – and it is trying to relay what that momentary event means culturally that is both exciting but also a challenge.

What is the best thing about your job?
There are several 'best' things – certainly knowing that it is helping to protect our cultural heritage for future generations is fulfilling. I also get to meet so many amazing people who are passionate about Ireland's archaeology. The range and diversity of our heritage here in Ireland also never ceases to amaze me – and of course, when new discoveries are made, that is always special.

What is the worst thing about your job?
Sometimes I have to deal with sites that have been damaged by treasure hunters and that is always upsetting. Wanton destruction of heritage that belongs to everyone is an injustice to all.

Do you enjoy your work?
Yes, absolutely. It is the variety that I enjoy. I can be in the office or out on inspections or in the water, while at the same time engaging with folk on cases or issues to do with archaeology. I also love diving, have done from an early age when my brother taught me to dive.

What equipment do you use?
For diving we use a variety depending on the type of site. We always dive as part of a team and can use scuba if in fairly benign water, but if in deep water or highly dynamic sites, or undertaking underwater excavation, we would use surface supplied equipment with full dive helmets. Our dive supervisor controls everything from the surface, so safety is the main thing.

Where does your work take you?
All over Ireland as an underwater archaeologist, both in freshwater and in the marine. As districts officer my area is the southwest, so parts of Cork, Limerick and all of Kerry dealing with sites like Tullylease, Ballinskelligs Abbey or Gallarus Oratory. Some of our most iconic national monuments.

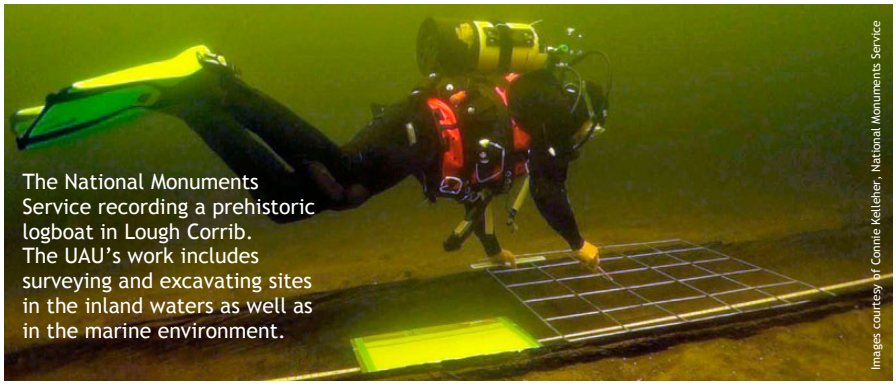
Do you work alone or as part of a team?
For diving we always work as part of a team. For inspections on land or as part of my districts work I would generally work alone. So again, there is a good mix.

What would you do if you weren't doing what you do?
I think I'd be involved in culture, either archaeology or history somehow, it's part of who I am. My parents and grandparents were always telling tales of the past, so it was in me from the start. And the sea – that would be in there too for sure. I love the sea.

What is the best piece of advice you have ever had?
Believe in yourself and don't be afraid to ask.

Carrying out dive surveys on Lough Corrib in Co. Galway.

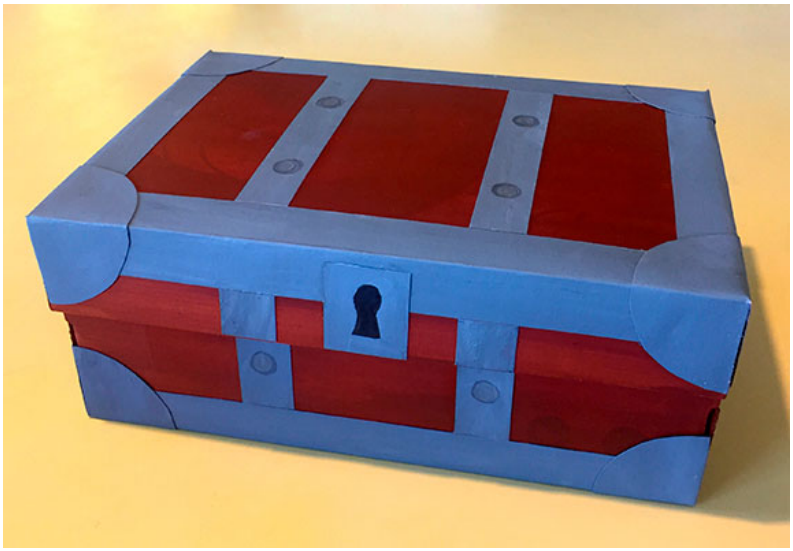
Gallarus Oratory national monument, Dingle, Co. Kerry.



The National Monuments Service recording a prehistoric logboat in Lough Corrib. The UAU's work includes surveying and excavating sites in the inland waters as well as in the marine environment.

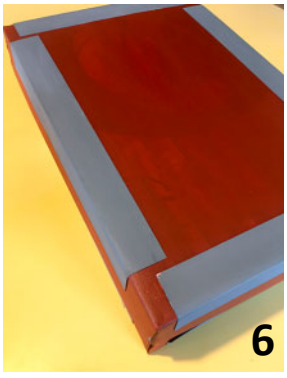
Images courtesy of Connie Kelleher, National Monuments Service

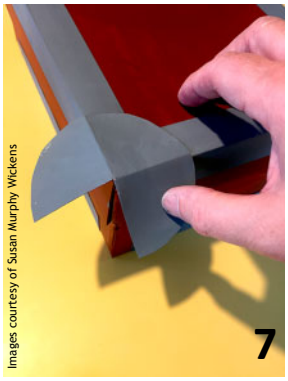
Make a SHIP'S CHEST

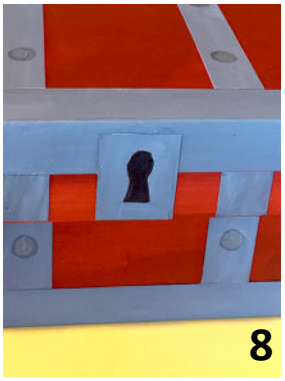


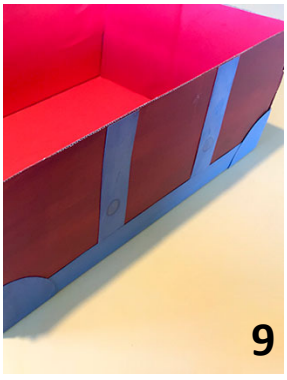
You will need:

- shoebox
- brown and grey paint
- paint brush
- card
- scissors
- bowl with a 10cm diameter
- black marker
- glue









Images courtesy of Susan Murphy Wickens

1. Paint the outside of the shoebox brown. Allow to dry thoroughly.
2. Using a bowl, roughly 10cm in diameter, cut out 8 circles of card.
3. Fold each circle in quarter and cut away one quarter.
4. Cut strips of card approximately 5cm wide and almost as long as the box sides. You will need 4 long and 4 short for the sides of this rectangular-shaped box. Fold all strips of card in half, lengthways. You will also need strips to cut up for straps and these can be painted with rivets.
5. Paint one side of all pieces of card. Cut a small rectangle of card for the keyhole, paint and draw a black keyhole.
6. When all the paint is dry, glue the long strips onto the edges of the box.
7. Glue the circles to each corner, centring it as in the picture.
8. Glue the keyhole to the front of the box.
9. Line the box with coloured card or paint.

The Sad Tale of

Narky the Whale

By Barrie Dale

Did you hear the sad tale of Narky the whale,
Known the world o'er by a gash in his tail.
His nickname was "Narky", he always was narked
By the actions of humans that left him so marked.
From illegal whaling he had survived,
But one day a new sort of danger arrived.
A monstrous great speed-boat much faster than sail,
He only survived by the skin of his tail.

And day after day more monsters appeared,
With ever more danger, just as he'd feared.
Setting soundwaves in motion across the great ocean,
What could a whale do with such a commotion?
This befuddled his brain and left Narky below
Having lost all his senses of where he should go.

But all he could do was to swim on and on,
Across the great ocean, his senses all gone.
With horror his instinct sensed warning at last,
But too late, for his huge gleaming body sat fast.
On a long lonely beach his journey had landed,
And now in the hot steaking sun he was stranded.

Then humans arrived, and in sorrowful grief
Towed him back out to sea, but their triumph was brief.
The damage was done and his life ebbed away.
And the incoming tide washed him back with the spray.
Then scientists came, and at last he found fame:
But for all the wrong reasons, to every one's shame.

For peering inside him with shouts of dismay
They found mountains of plastic we'd all thrown away.
So next time you wonder what you can do
With all of those wrappings and shopping bags too.
Remember poor Narky
and all it will mean
If we love our dear oceans
and help keep them clean.

Wrecks & Marine Life

Images courtesy of © Paul Kay

A diver explores the wreck of the first world war cruiser *SMS Karlsruhe* in Scapa Flow, a body of water in the Orkney Islands, Scotland.

By Paul Kay

Before high quality underwater photography and video, wrecks were often thought of as intact vessels sitting upright on the seabed, looking very much like they did when afloat. In reality, their remains are more likely to be scattered over the seabed and difficult to tell apart from their surroundings. While they can be a fascinating time capsule, with their contents frozen at the point of sinking, much of their structure can be broken into pieces by the marine environment.

Even as the hard surfaces of the wrecks begin to collapse, they quickly become colonised by marine life. In some areas such as sandy seabeds, hard surfaces are rare so creatures which prefer them are drawn to wreckage, making homes in or on them. The type of creatures and plants that settle onto wreckage depends on many factors including depth, current, exposure to wave action and more. In short, the life on wrecks varies.

In really shallow waters where there is a lot of light, kelp and other seaweeds cover wreckage. However, such wreckage often disintegrates quickly as they are pounded by waves during storms. As they break up, they rapidly lose any resemblance to their original shape as ships, unless they happen to be in very sheltered areas indeed. Deeper wreckage is often less affected by the action of waves or storm surges and can last longer.

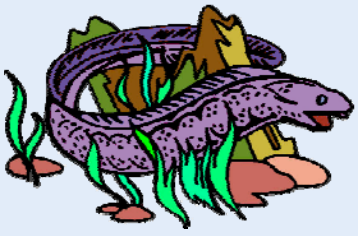
Steel ribs and plating survive for a long time, but as plating gradually disintegrates the ribs collapse too.

Life on Wrecks

In the cool Northern European sea, shallower wrecks become coated in creatures such plumose anemones which, as they are often all white, can give such wrecks a ghostly appearance. Others become covered in sponges, dead men's fingers, sea stars, sea squirts and much more. Sometimes so much marine life covers the wreckage that it becomes difficult to see the wreck itself, as it blends in so well with the surrounding seabed. When this happens the wreckage becomes almost indistinguishable from its surroundings, except perhaps for just a few obviously man-made parts.

***The Rondo* is a well-known wreck in the Sound of Mull, in Scotland. The wreckage lies on a sloping seabed and is most obviously colonised by large plumose anemones in places.**

Plants and animals which would normally be found on rocky seabeds often find wreckage to their liking. Marine animals such as fish, crabs, lobsters, starfish and others, find shelter in the nooks and crannies of wrecks as these are similar to the ledges and crevices found on rocky seabeds. Large animals, such as conger eels, also like wreckage, especially pipes. These are always an attraction for conger eels and given half the chance, they will live in one. Wrecks on sandy seabed often attract fish, which shoal around them, as they offer shelter in otherwise featureless areas.



See more on Page 11….

Wreck Inventory of Ireland Database and Wreck Viewer

By Connie Kelleher, Underwater Archaeology Unit

In Ireland, all wrecks over 100 years old are protected by law. Any activity on these wrecks requires permission and a licence, which are issued by the National Monuments Service. Unlicensed diving on protected wrecks or using metal detectors or other detection devices at such sites or to search for underwater archaeology is prohibited.

The Underwater Archaeology Unit (UAU) continues to collect information about shipwrecks. They maintain the Wreck Inventory of Ireland Database (WIID) and online Wreck Viewer. Both of these are updated as new sites are discovered or new information is obtained on known wreck sites. The WIID contains a list of over 18,000 shipwrecks in Irish waters, with the online Wreck Viewer providing information on all wrecks with known locations, over 3,900 records to date. The Wreck Viewer is accessible by clicking on: **www.archaeology.ie**

Working With Others

The National Monuments Service's UAU undertakes surveys and excavations of sites when required, as well as working with colleagues in other departments on seabed mapping and recording of shipwrecks. The work of INFOMAR, for instance, the joint seabed mapping venture between the Geological Survey of Ireland and Marine Institute, has identified significant numbers of new sites as well as detailed mapping of known wreck sites. This information in turn is added to the National Monuments Service's WIID and Wreck Viewer data.

Divers and fishermen are the eyes and ears of the sea and it is important to build constructive and sustainable relationships between the State and those using the ocean if our underwater cultural heritage is to be safeguarded for the future. The UAU liaises with local divers, dive clubs and fishermen on wrecks like the *UC-42* and RMS *Lusitania* or when working on projects like the 1588 Spanish Armada wrecks in County Sligo.

By working together our underwater cultural heritage can be recorded, managed and protected, as well as being enjoyed by everyone together as a shared heritage.

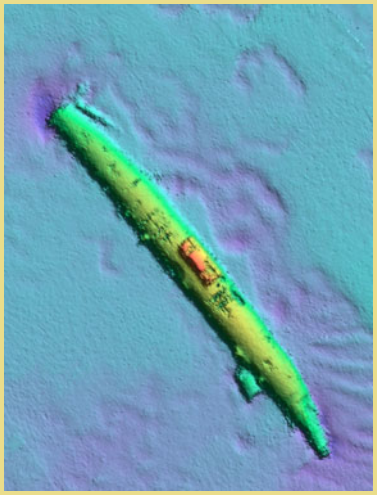


Image courtesy of © INFOMAR - Geological Survey Ireland/Marine Institute

Plan view of multibeam survey data of the German Submarine *UC-42* acquired by the RV *Keary* in 2018.

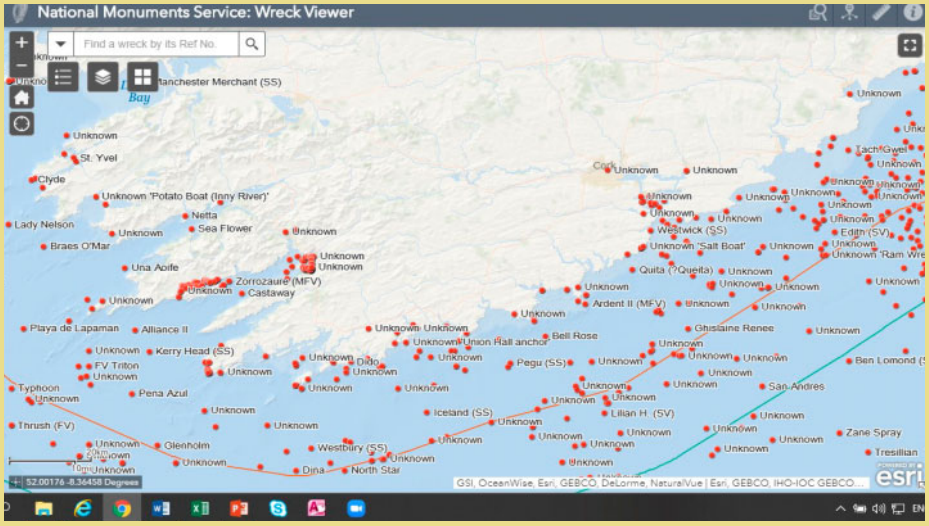


Image courtesy of © National Monuments Service

Detail taken from the NMS' online Wreck Viewer showing some of the known wrecks off the coast of Cork – accessible at www.archaeology.ie

Image courtesy of © Paul Kay

Perhaps one of the most famous wrecks in the world Greenpeace's *Rainbow Warrior* was raised and resunk and is now an artificial reef. The bow, shown here, is covered in jewel anemones.

A New Purpose Under the Sea

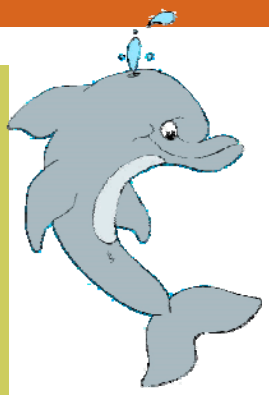
By Paul Kay

Whilst it is always sad when a ship sinks and becomes a wreck, the sinking can be helpful to marine life, providing the ship was not carrying a damaging cargo such as oil.

There are some advantages for marine animals living on or even near to wreckage. Some wrecks become legally protected because of their historical importance. This means that they are undisturbed by fishing or other activities, which might otherwise take place. As a result animals, such as rare fan mussels, can survive in these protected areas. Wreckage can also offer homes to animals, which the surrounding seabed cannot give them, such as some corals that have special needs. So wreckage can be home to creatures that otherwise may be rare to a locality.

The World Around Us

"Foreign Correspondent" Michael Ludwig reports on some interesting goings on in the natural world.

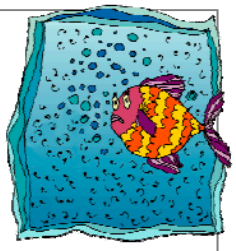


Where's Fungie?

From 1984, the Bottlenose Dolphin, known as Fungie, made its home in Dingle, Co. Kerry. Sightings of the very friendly dolphin in Dingle Harbour delighted generations of spectators. A male Bottlenose Dolphin can live for at least 40 years, and some have lived much longer. As Fungie is at least 37 years old, he is heading to old age. Whether he has reached the end of his life or has decided to go to new waters for awhile, no one knows for sure.

What is definite is that Fungie has helped raise the awareness of marine mammals in Ireland and further afield. This awareness helps us understand the importance of keeping our seas and oceans clean.

Microplastics and seafood



Sadly, more and more tiny fragments of plastics, known as mircoplastics, are getting into our foodchain. One way this happens is when plastics end up in the sea. The plastic breaks into tiny pieces and circulate in the water. Animals eat the plastic thinking it is food and it is held in their flesh. Humans can then accumulate plastics from the fish.

Scientists in Australia have carried out a study of five of the most popular seafood bought in the country to see how much plastic is in them. They found that every single sample that they took had plastic bits in it. Levels did vary from species to species and from individual to individual but it is a very disturbing find.

As humans we are at the top of the foodchain, therefore we are consuming any microplastics that enter our foodchain, whether its through our water courses, seas and oceans or food stuffs.

Magical Plants in the Witches Garden!

The National Botanic Gardens, Glasnevin, Dublin, is a place to enjoy the wonder and beauty of nature. It might not be possible for people to visit the gardens, however they have produced some fun videos to help you learn more about plants — from Flesh-Eating Plants, to Potion Plants to Desert Plants. Check them out at: http://botanicgardens.ie/blog/

You can also listen to a podcast called 'The Bots', in which Brian Gallagher looks at the lives of those who live, work, study, and relax in the vicinity of Ireland's National Botanic Gardens.

A Record-breaking Bird!

A Bar-Tailed Godwit has made a record-breaking journey from Alaska to New Zealand. The non-stop journey took 11 days and covered 12,000 kilometres. At times, the bird was flying at a speed of 89 km per hour. The migratory bird's journey was recorded using a satellite tag. Identified as "4BBRW", the bird started its journey in southwestern Alaska, flew by the Aleutian Islands as it made its way to a bay near the city of Auckland, New Zealand.

Darwin's Records

Charles Darwin was a 19th century naturalist who travelled the globe to learn about the natural world. He came up with the theory that all animals and humans are related and that species changed and evolved over time. This theory was first published in 1859 in his book "On the Origin of Species". At the time, the idea that humans were related to animals was considered wild.

The notebooks in which he documented his findings, are an invaluable record of his work. Sadly, it has recently been announced that two of his notebooks, housed in Cambridge University Library, in the UK, have been missing for the last 20 years. The notebooks, worth millions of euro, were initially thought to be mislaid within the vast library. Now, after extensive searches, it is feared they may have been stolen. One of the notebooks contains a rough sketch of a tree, showing Darwin working out his thoughts on the theory of evolution. Luckily the notebooks have been digitised so their contents are not lost forever.

Fun Page

How much did you learn?

The answers to all these questions can be found in the newsletter...see if you can remember!

1 When was Fungie first seen in Dingle Bay?

2 Two notebooks, belong to which famous naturalist, were recently discovered as missing?

3 Who maintains the Wreck Viewer online?

4 What pattern does the stem of Japanese Knotweed make?

5 What creature did Black John draw?

6 The fruit of which tree is the main food of Waxwing birds?

7 "Narky the Whale" is known the world o'er by what?

8 Why is it important not to strim, cut or clip Japanese Knotweed?

9 Name the podcast about the lives of those who live, work and study in the National Botanic Gardens?

10 Fragments of which can be found in some fish?

11 Which sea creatures cover wrecks to give them a ghostly appearance?

12 Phytoplankton needs sunlight to grow. True or false?

13 From where to where was the ship "Stephen Whitney" travelling?

14 Where did Connie Kelleher study archaeology?

15 Which bird made a record-breaking trip from Alaska to New Zealand?

16 What is the email for the National Monuments Service?

HOW MUCH DID YOU LEARN?: 1. 1984; 2. Charles Darwin; 3. Underwater Archaeology Unit; 4. Zig-zag; 5. A whale; 6. Rowan/Mountain Ash; 7. By the gash on his tail; 8. Because it tiny fragments can create new plants; 9. "The Bots"; 10. Plastic; 11. Plumose Anemones; 12. True; 13. New York to Liverpool; 14. University College Cork (UCC); 15. Bar-tailed Godwit; 16. www.archaeology.ie

Image courtesy of Alan D. Wilson www.naturespicsonline.com

Think of a Title

Can you think of a caption for this photograph of a Silver Fox, taken in British Columbia, Canada?

Nature Jokes

How do mountains stay warm?
They wear snowcaps

What type of whales can fly?
Pilot whales!

Why can you never trust atoms?
They make up everything.

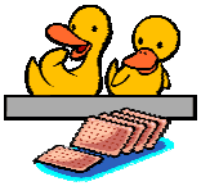
What was the farmer doing on the other side of the road?
Catching all the chickens!

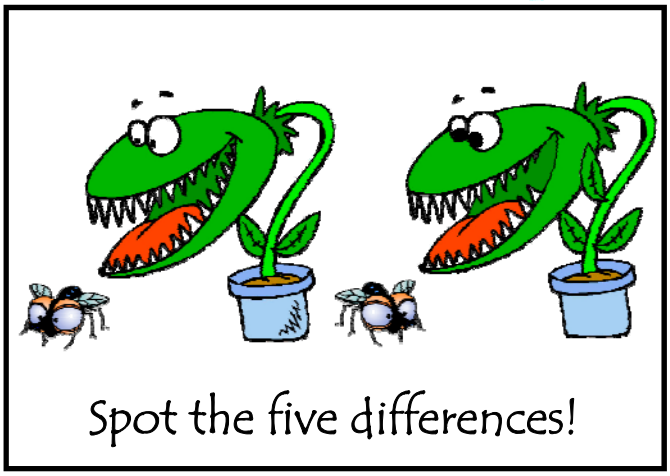
How does a polar bear build his house?
Igloos it

What are spider webs good for?
Spiders.

How do birds get strong?
They Egg-cersize

What do you call a crate of ducks?
A box of quackers.





Spot the five differences!

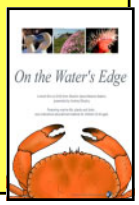
Learn More

Only €2.95 each including postage or €12.00 (plus €3.10 p&p) for all eight! *32pp each*

Sherkin Island Marine Station has published a range of colouring books, guides and activity books for children. Each 32-page *Colouring & Guide Book* gives you the chance to colour, identify and learn about the wildlife around Ireland. *Safety Sam's Activity Book* is filled with activities to encourage safety for children. *My Nature Diary* contains lined pages to fill in a daily record of sightings and nature news.

Sea Life DVD: *"On the Water's Edge"*

Produced by Sherkin Island Marine Station, the DVD '*On the Water's Edge*', features a short film on life beside the sea. Presented by Audrey Murphy, it includes 6-10 hours of interactive material for children of all ages. *Only €3.00 plus €2.00 p&p.*

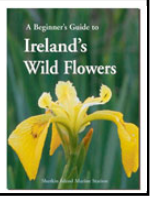


A Beginner's Guide to Ireland's Seashore is a pocket-sized guide, suitable for beginners of all ages. This book will help you to explore the wonders of marine life found on the shores around Ireland. *206pp*

Only €8.00 inc postage

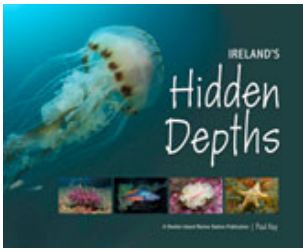
A Beginner's Guide to Ireland's Wild Flowers With the help of this pocket-sized guide, beginners of all ages will be introduced to the many common wild flowers found around Ireland. *206pp*

Only €8.50 inc postage



Ireland's Hidden Depths is another Sherkin Island Marine Station publication. Ireland's amazing marine life, glorious kelp forests and spectacular undersea scenery are featured in over 200 spectacular photographs by nature photographer Paul Kay. 277 x 227 mm 160 pps

Only €15.00 including postage



"An A to Z of Geology" explores the fascinating world of rocks and geology - a world of volcanoes, tsunamis, earthquakes, diamonds, gold and even dinosaurs! Produced by Sherkin Island Marine Station, in association with the Geological Survey of Ireland.

Only €5.99 plus €2.50 postage

To order books, visit: **www.sherkinmarine.ie** and pay by Paypal or **send your name and address along with a cheque or postal order made payable to Sherkin Island Marine Station to:** Sherkin Island Marine Station, Sherkin Island, Co.Cork. Ireland.

Useful Web Addresses

There are lots of websites to be found on the internet that will give you further information on topics we have covered in this newsletter. Here are a few that may be of interest:

Wrecks in County Cork: www.archaeology.ie

Black John—the Bogus Pirate: https://www.facebook.com/BlackJohntheBogusPirate/
https://www.marine.ie/Home/site-area/areas-activity/education-outreach/food-our-ocean
https://oceanservice.noaa.gov/facts/plankton.html

Japanese Knotweed: https://www.corkcoco.ie/en/arts-heritage-irish-language/publications-documents-links
http://invasivespeciesireland.com/species-accounts/established/terrestrial/japanese-knotweed

Waxwing: https://birdwatchireland.ie/birds/waxwing/
https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/waxwing/

Underwater Archaeology Unit—National Monument Service: www.archaeology.ie

Narky the Whale: https://iwdg.ie/species/ https://uk.whales.org/our-4-goals/create-healthy-seas/facts-about-plastic-pollution/

Wrecks & Marine Life: https://www.archaeology.ie/underwater-archaeology/wreck-viewer
http://www.scapaflowwrecks.com/wrecks/karlsruhe/3d/index.php

Marine Life & Archaeology: http://www.habitas.org.uk/marinelife/

Fungie: https://dingle-peninsula.ie/122-fungi-the-dingle-dolphin.html https://iwdg.ie/bottlenose-dolphin/

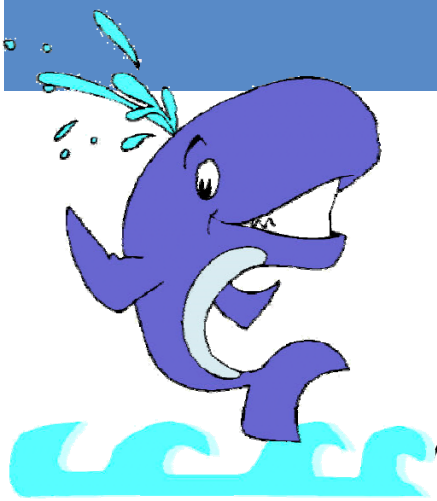
Microplastics and seafood: https://www.uq.edu.au/news/article/2020/08/research-reveals-microplastic-content-levels-seafood

Magical Plants in the Witches Garden: http://botanicgardens.ie/blog/

A Record-breaking Bird: https://www.livescience.com/bar-tailed-godwit-record-flight.html
https://birdwatchireland.ie/birds/bar-tailed-godwit/

We cannot be responsible for the content of external websites, so please observe due care when accessing any site on the internet.

Wordsearch



Nature's Web Winter 2020 Wordsearch

Try out this giant wordsearch containing words found in this issue of the newsletter.

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

(OVER,DOWN,DIRECTION): Archaeology (2,12,N); Bar-tailed Godwit (18,15,NW); Botanic Gardens (2,14,NE); Charles Darwin (4,5,SE); Connie Kelleher (18,1,S); Diving (3,3,S); Fungie (7,10,SW); Invasive Species (1,15,N); Japanese Knotweed (16,18,W); Life on Wrecks (13,12,NW); Magical Plants (17,5,S); Microplastic (17,3,SW); Narky the Whale (14,17,W); National Monuments (17,11,SW); Ship's Chest (4,15,E); *Stephen Whitney* (1,16,E); Waxwing (6,1,SE); Wreck Viewer (3,11,NE).

Archaeology

Bar-tailed Godwit

Botanic Gardens

Charles Darwin

Connie Kelleher

Diving

Fungie

Invasive Species

Japanese Knotweed

Life on Wrecks

Magical Plants

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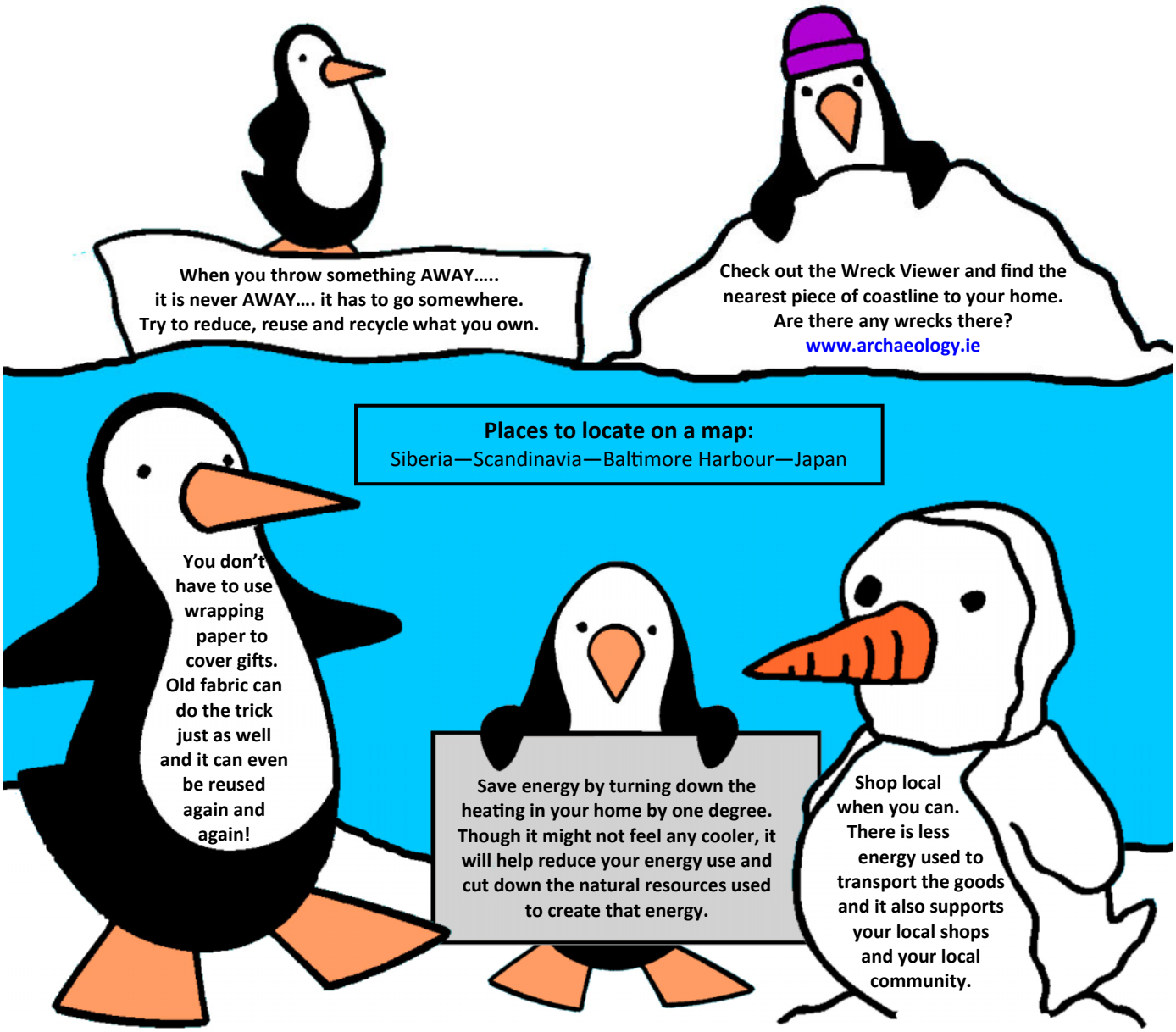
Winter 2020



Sherkin Island Marine Station would like to thank the following for their help with this newsletter, especially Bord Bia, Cork County Council Heritage Service, Barrie Dale, John Joyce, Paul Kay, Connie Kelleher, Michael Ludwig, National Monument Service, Robbie Murphy, Conor Nelligan, Jez Wickens and Alan D. Wilson.

Visit the Sherkin Island Marine Station website at www.sherkinmarine.ie

epa
Environmental Protection Agency

We appreciate support from the EPA toward the newsletter.