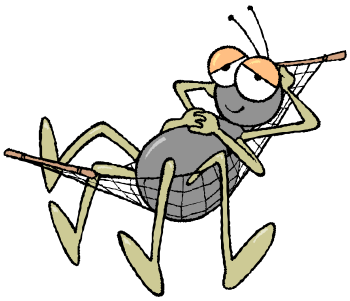

Nature's Web

Issue No. 10 Summer 2008

Inside This Issue...

Photo © Clive Timmons

Sanderlings are one of the many birds to be seen all year round on estuaries (see page 15).

Where Waters Meet!

On these hot summer days, many of us will be out enjoying country walks and strolls along the water front. Flowers are in full bloom and many birds are visiting Ireland for the summer months. In this issue we are taking a look at estuaries (page 15) and the wonderful life there. In this environment, where the river meets the sea, there is a constant mix of fresh and salt water. Many animals can tolerate this ever-changing environment and it is a great place to see such animals as shore crabs, cockles, oystercatchers, migrating geese, not to forgot the odd seal or two bobbing about in the water.

Many animals found in estuaries also use camouflage to help protect themselves. We explain how and why this works and describe some of the animals that use camouflage (page 4).

We are also look at cacti, plants which are typical of hot, dry climates. These plants are capable of storing water for long periods, making them ideals plants for areas of drought (as well as for household plants, for those who forget to water them!)

Editor's Page

Miriam's Turtle

Photo © Miriam Dunne

In late February, this year, a friend on the island discovered some unusual flotsom - a loggerhead turtle! Miriam Dunne often finds dead animals on the shoreline during the winter months. On this particular day, she found what she thought was a tortoise splayed out on the beach. To her delight, when she picked it up, it started to wave its arms and legs. On contacting Ocean World in Dingle, she found Kevin and Suzanne to be very helpful. They informed her that it was actually a Loggerhead Turtle (an endangered species, with a lifespan of up to 62 years, and which eats jelly fish among other things), who had come all the way via the Gulf Stream from Miami, Florida, all of 3,000 miles. Miriam was advised not to feed it and to put it in a quiet place out of the sun in a box filled with seaweed. It was suffering from hypothermia (its local sea temperature in Florida is 21oC), and needed insulin injections and gradual immersion in warm water tanks. Kevin came over straightaway from Dingle and collected Flipper. Sadly Flipper died a few nights later. He was only a juvenile, measuring 9" long, and didn't have enough body weight to survive. They also fear he may have eaten plastic or other environmentally unfriendly junk in the course of his journey. But at least he was given a fighting chance, received lots of kindness and didn't die alone in the Atlantic on the cold stormy nights that followed. Another turtle named Molly measuring 2ft and found in the similar circumstances is alive and well in Ocean World. **www.dingle-oceanworld.ie**

Smoked Haddock, Wholegrain Mustard & Poached Egg

What you need:

- 600g smoked fish, eg, haddock, coley, cod
- 3 large potatoes, peeled
- 4 thinly sliced spring onions or small bunch chives
- salt and pepper
- 150ml double cream
- 1tbsp honey
- 1tbsp Dijon mustard or wholegrain mustard
- 4 eggs, free range if possible

Serves 4

What to do:

- Make sure all the pin bones are removed from the fish. (Tweezers can help to remove any awkward bones).
- Cut fish into four equal-sized portions. Place fish into a saucepan. Add enough cold water to cover.
- Bring to a simmer over a low heat and poach for about four minutes or until fish is cooked. Remove and keep warm.
- Boil potatoes until soft, and mash. Add spring onions/chives to the mash and mix. Season with salt and pepper. Keep warm.
- In a small saucepan heat the cream and add in the honey and mustard, whisk gently to combine. Remove from heat.
- Poach the four eggs by bringing a shallow pan of water to a simmer and carefully cracking the eggs into the water, one at a time. Continue to barely simmer until the white has set around the yolk. Lift out and drain on a paper towel.

To Serve

Place a spoonful of mash in the centre of each plate, gently place fish on top, finish with a poached egg and the honey mustard sauce.

Brought to you by BIM. For more fish recipes visit www.bim.ie

Welcome to the Summer Edition of Nature's Web!

Dear Reader,

Welcome everyone to the summer issue of Nature's Web. As well as looking at the estuary in this issue, we are also focusing on beetles (of which there are 3,700 different species in Ireland and Britain alone!). We revisit St. Joseph's Primary School and Loughlan O'Brien fills us in on what they have been up to since we met them in our trial issue. John Joyce tells us about submarines and we get a little glimpse of the busy life of Christopher Barry, who works as a freshwater ecologist. Check out nature news from around the world on page 11 and enjoy a giggle with the jokes on page 13.

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

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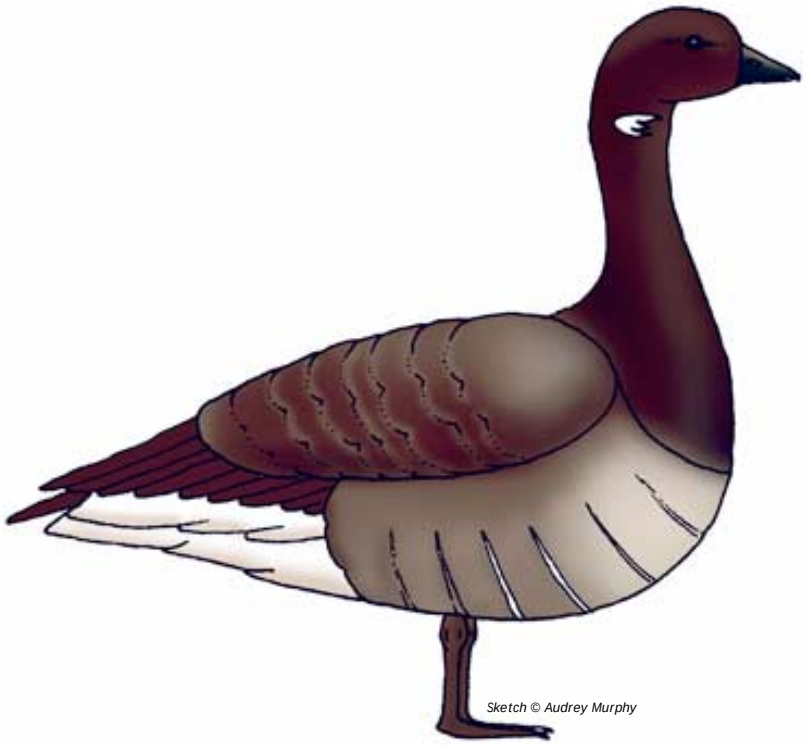


Sketch © Audrey Murphy

Brent Goose

Latin: *Branta bernicla*
Irish: Cadhan

The pale bellied brent goose is a black goose that is often seen around Ireland's estuaries in the winter time. Although it prefers to spend the summer in the Canadian arctic, where it breeds and lays its eggs, it gets too cold and dark to stay there all year round.
Ireland's mild winters and food rich estuaries provide a perfect habitat for the birds during the colder months of the year. The birds feed on the green seaweeds, eelgrass and coastal grasses that grow in these areas and sometimes, the geese can even be seen grazing on sports fields! The geese are also very noisy when they gather in large flocks and they make a call that sounds like a throaty 'rroonk.' Up to 20, 000 brent geese make the long journey from Canada to Ireland each year in the autumn, stopping off in Iceland for a short break. This is an amazing feat, considering the long journey that the birds have to make. The rich feeding grounds in Ireland's estuaries must certainly be worth it!

Fact File

Colour: Black head, neck and tail, with small white patch on side of neck. Dark grey wings and back and light grey underneath.
Length: 55-62 cm
Diet: Eelgrass, dry land grasses and seaweed.
Habitat: Estuaries and mudflats.
No. of eggs: 3-5.

DID YOU KNOW?

Brent geese can probably make the journey from Ireland to Iceland in about 15 to 20 hours if the weather is good. That's a distance of about 1100km!

Photo © Clive Timmons

For the winter months, Ireland's Brent Geese travel from the islands of the Canadian high arctic.

Developed by Sarah Varian & Sherkin Island Marine Station for the Living Coasts Living Seas Project.

Sea Life & Camouflage

Animals that live in the sea face many dangers and one of the most dangerous is predators. Some animals use camouflage to protect themselves. This means that they have the ability to hide or blend in with their surroundings. An animal may be born with a particular colour or pattern and will therefore hide in an area that matches the colour of its own body. Others can change colour depending on the colour of their surroundings or if danger is near.

The octopus and squid can change their colours rapidly in order to sneak up on prey or to warn off predators. Many fish and animals are speckled so they can blend in with stones or sand without being seen and others are striped so they can hide in vegetation. Some animals even mimic or copy other animals or plants to hide from predators.

If a creature cannot change colour, it may 'decorate' itself with leaves or seaweed in order to hide. It may also allow another animal to live on it, for example a sea anemone living on a crab. The Sea Hare, changes colour according to what it is eating. If it eats green seaweeds it turns greenish in colour and changes to reddish in colour if it feeds on red seaweeds. This means Sea Hares will blend in with their surroundings as they eat.

Fish that live close to the sea floor are often dark in colour on the top side of their body, to match the dark sea bottom. This makes it harder for predators, such as birds and sharks, to see them from above. Fish that live closer to the surface are often lighter on the underside of their body to match the brightness coming from the sky. This makes them invisible to predators underneath.

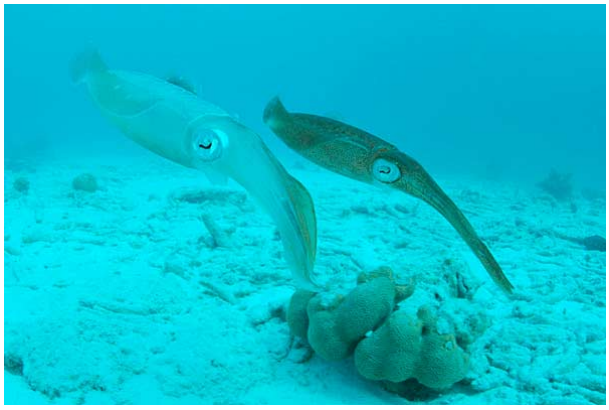


Photo courtesy of Aqualmages CC-BY-SA-2.5

Caribbean Reef Squid, showing how they can change colour to blend in with their surroundings.

Photo courtesy of Mila CC-BY-SA-1.0

Fish blending with Fire Coral in Fiji.

Photo © Sherkin Island Marine Station

Flatfish are darker on top to match the surface of the seabed, making it harder for predators to see them.

Humans in Disguise

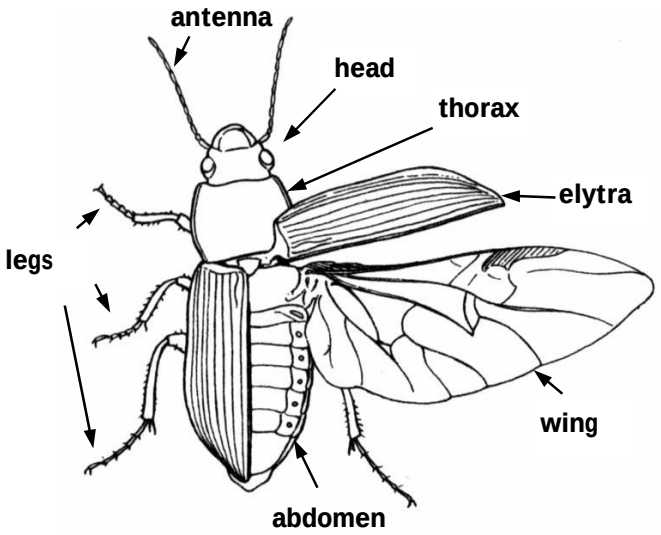
Unlike animals, humans don't have the ability to change the colour of their skin to suit their surroundings, however they use other means to blend into the background when necessary. People wear special coloured clothing to match their location: white when in the snow, black at night, browns and greens when in the forest. Humans also paint their faces and wear leaves and branches in order to blur the lines of their body. From a distance, it becomes much harder to pick out the human shape.

Beetles

By Stuart Munro

Beetles are EVERYWHERE, they are to be found all over the world; from the tropical rainforests to the deserts and even in the cold arctic regions. They live in trees, on the ground (hiding under logs & stones or in the bushes), some live in the nests of bees/wasps/ants and birds, or burrow into wood and some even live in the water of ponds & rivers (but not in the sea).

Beetles have a hard outer shell, called an EXOSKELETON, they do not have bones inside them like we do. This limits the maximum size they can grow to; but there are still some very large beetles in the world. As with most insects, beetles have 3 main body sections; **head**, **thorax** & **abdomen**. Most beetles have 2 pairs of **wings** and can fly, however their wings are usually not visible because they are protected under the hard case which covers their abdomen; this covering is called the **elytra** and is actually made from the first pair of wings which have become hardened in beetles, these elytra then protect the more delicate flight wings from damage as they run around on the ground – sometimes the elytra are fused together in some ground beetles which are then unable to fly.



Beetle Babies

The young beetles (called a LARVA), look nothing like the adult beetles and are usually not seen by us, preferring to hide under stones or burrow into the ground or dead wood where they will change first into a PUPA (quite like butterflies) and then hatch out into the fully formed adult (called an IMAGO). These larvae often look like caterpillars, and quite often eat different foods than they will as adults.

What's in a name?

Beetles are grouped together in the Order COLEOPTERA which comes from the Greek words *coleos* = sheath and *pteron* = wing.

Beetles are the largest Order in the animal kingdom; estimates range between 330,000 to more than 500,000 species worldwide, with more than 3,700 found in Ireland & Britain so far. (New species are being discovered all the time and these numbers will probably get larger!).

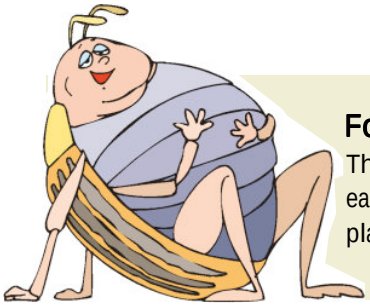
All Shapes and Sizes

Not all beetles are the plain brown or black that you see most commonly, many are very brightly coloured and can even be shiny metallic blues, greens and reds!

When it comes to size & shape, beetles hold most of the records in the insect world; the South American Hercules Beetle (*Dynastes hercules*) (below) is probably the largest beetle in the world at 180mm long, whereas the smallest beetles can be less than half a millimetre long!

Photo courtesy of Arpingstone

The Hercules Beetle



Food, glorious food!

There is very little in this world that probably isn't eaten by one type of beetle or another; some eat plants, seeds, nectar from flowers, dead animals, other insects and even poo!!

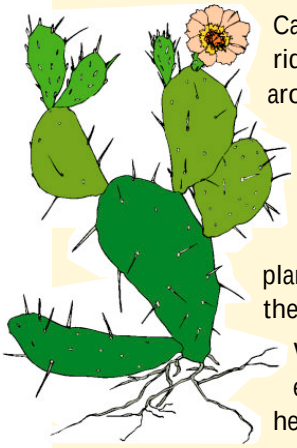
The Cactus

Golden Barrel (*Echinocactus grusonii*), also known as Mother-in-law's Cushion!

A true cactus is part of just one family of plants (with up to 2000 species) that are also classified as succulents. Confusingly, all cacti are succulents, however not all succulents are cacti!

Succulents are plants that grow in hot or dry places where few other plants could survive and have evolved many clever ways in which to reduce water-loss.

Cacti originate mainly from the Americas, though they have now been introduced to warm countries in Europe and to Australia (where one species is now a serious pest). A few species can be found in Africa and Asia.



Cacti have clusters of spines that emerge from ridges or bumps. These create a micro-climate around the plant that helps trap moisture from dew, and also serve as protection against grazing animals.

All succulents have waxy skin that directs any rainfall directly down the stem of the plant to its roots and prevents evaporation from the flesh within.

Water is stored for long periods inside the enlarged, fleshy stem, and gathered with the help of a shallow but far-reaching root system.

By Jenna Poole

A giant amongst Cacti

The largest species of cacti is the Saguaro Cactus of North and South America. It averages 15m tall and holds a record of over 17m.

A plant with a night-life!

Cacti only open their pores (to take in carbon dioxide and release oxygen as part of the photosynthesis process) at night. This reduces the risk of evaporation that would occur if pores were opened during the heat of the day. The carbon dioxide is then stored in chemical form until the daytime when it can be converted through photosynthesis (for which sunlight is essential) into energy.

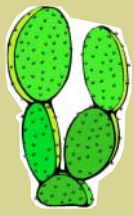
Also, some species flower only at night. This is because they are pollinated by nocturnal animals such as moths and bats.

Cacti and people

In many countries, cacti are used to construct a living fence for livestock.

Gardeners and plant collectors have long been interested in cacti and succulents for their unusual form and often large and beautiful flowers. Why not try growing one yourself? They do not need as much watering as other plants and definitely do not need to be walked as often as a dog!

One species of cactus produces a delicious fruit and is known as the prickly pear. This plant is also grown widely in Mexico as the host plant for a beetle that is used to produce a valuable red dye.



Prickly Pear

All in a Day's Work

Christopher Barry – Freshwater Ecologist

Christopher Barry works as a freshwater ecology research assistant at the Agri-Food and Biosciences Institute, Queens University Belfast .

What does your work involve?
My work involves studying animals and plants in rivers and lakes and looking at how they respond to things like pollution and climate change.

Have you always been interested in what you do?
I've been fascinated with the natural world since I was a youngster and was lucky enough to spend much of my childhood in Africa surrounded by all sorts of creatures. My love of the outdoors and an awareness of the pressures that we are putting on our natural spaces cemented my decision to pursue a career in the environmental sector.

What training did you do to get where you are today?
My training started outside of the classroom as I spent a lot of time chasing butterflies, reading books about animals and I learnt a lot by keeping aquarium fishes as a hobby. At school I studied the sciences and then went to university to study a degree in marine and freshwater biology. After university I wanted to get more practical experience and spent a fascinating year at the Sherkin Island Marine Station as a volunteer recording aquatic insects and monitoring butterflies and moths.

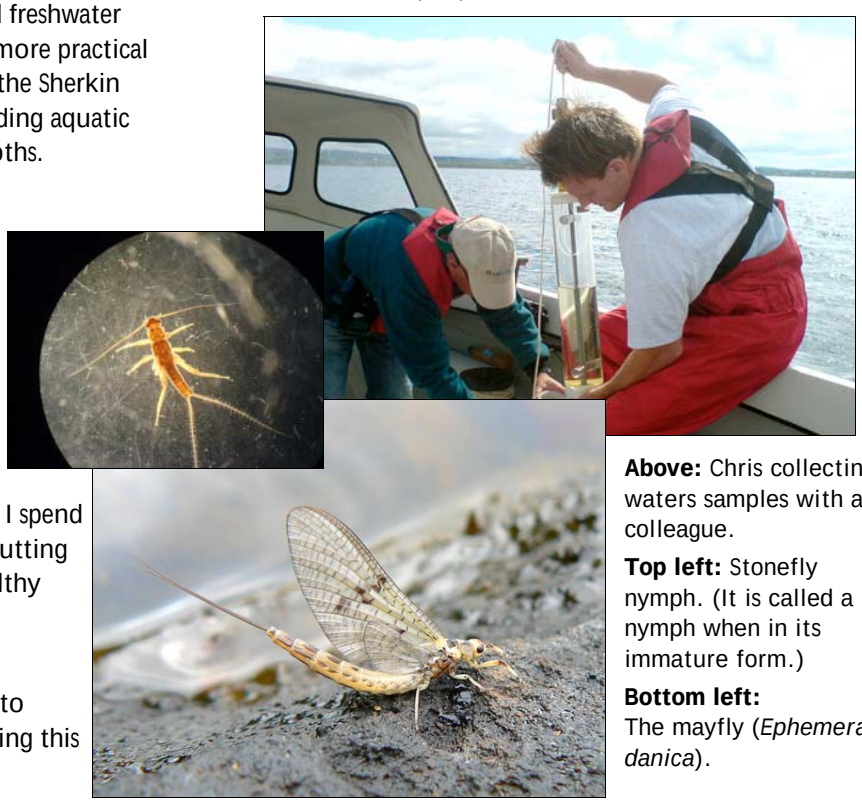
What is a day in your life like?
The thing I like most about my job is that there's almost no such thing as a typical day. I spend days out in the field collecting insects, microscopic life and samples of water. Then back at the lab I get a closer look, where we measure things like nutrients and record and count planktonic plants and animals using a microscope. Like almost everyone I spend more time than I'd like at the computer putting results together, but overall it's a very healthy balance that doesn't often feel like work.

What's the worst thing about your job?
Often we find out what needs to be done to improve and preserve habitats but translating this information into the necessary action on the ground can be a huge challenge and very frustrating.

Where does your work take you and what equipment do you use?
At the moment I'm studying some beautiful lakes and rivers in counties Fermanagh and Leitrim, looking at the effects that forestry and agriculture can have. Last year I had the great opportunity to visit Greenland to study the lakes, which the land is peppered with. We use devices to take samples of water and nets to collect aquatic insects and plankton as well as probes to measure things important to aquatic life like oxygen and temperature. In the lab we use many different analysers to measure the chemistry of water.

Do you work alone or as part of a team?
I work as part of a team both within broader projects and within the specific parts of my work. It would be almost impossible to get my job done well without the support and encouragement of colleagues and experts.

What advice would you give someone wanting to do your job?
Get as much practical experience as you can and demonstrate your enthusiasm. Join clubs and societies as they are a great way to keep up to date with what's going on and to meet people interested in the same field.



Photos © Christopher Barry

Above: Chris collecting waters samples with a colleague.

Top left: Stonefly nymph. (It is called a nymph when in its immature form.)

Bottom left: The mayfly (*Ephemera danica*).

Green School Revisited

In our "Trial Issue" of Nature's Web, we featured St. Joseph's Primary School, Fairview, Dublin 3, who were working towards achieving a Green Flag. Loughlan O'Brien (5th Class) wants to update readers on all the science and nature studies that have been going on in "Joey's" since then!

When we were last in this magazine we said we were hoping to get our first Green Flag soon, and in February 2006 we were all delighted to achieve our goal! But that was only the start of our great science and nature adventure in Joey's! Soon after that we started exploring natural energy, and our first task was to release nearly 2000 biodegradable helium filled balloons into the sky! Each one was tagged with our school address and the finders were asked to post them back to us. The prevailing south westerly winds sent them to North East England first, so we got balloons back from around Newcastle. Then the winds changed and about a week later we got balloons back from France, Germany, Austria and then Poland. Our winning balloon was posted back with photographs from Serbia!!!

Then our school's Science Club got interested in natural, balloon powered propulsion. The lads studied cephalopods, squid and cuttle fish and did loads of experiments. They interviewed a marine zoologist at Dublin Zoo too. Then they showed the project in the BT Young Scientist and Technology Exhibition!

Then we turned our attention back to the school. We all thought our yard looked a bit grey so we dug up the concrete in one corner of our yard to turn it into a nice garden! Local business people in the Irish Financial Services Centre came to help with digging and laying out the flower beds. Then we put in a bird house, flowers, trees, a vegetable patch and grass. It looks great now! We use solar energy to power our fountain and our 2nd Green Flag flies there too! In September, we're hoping to get birds to nest there, and watch their nests with live tiny video cameras!

E Twinning is an online way for schools across Europe to share projects, photos and videos with each other! This year our Green School Students' Council twinned with Ecole Elementaire Charles Digeon in Saint Mandé, in Paris, France. We held an online video conference with the school sharing our work on science and nature studies! We could wave at their class on the interactive whiteboard and they waved back. It was amazing! Our glamorous Green School Students' Council are holding another conference in May!

A man from RTE news came into school this Spring and asked 6th Class all about flowers and budburst. They had been studying 'The Signs of Spring' and taking temperature readings every day as part of "The Green Wave Project" for our Discover Primary Science studies! They showed them talking on their interactive whiteboard. It was great seeing our school on News2Day on The Den!

Then, two boys were interviewed with Ms.White and Eanna Ni Lamhna by Newstalk 106 on a Saturday morning about the Green Wave Project. It's all about checking to see where in Europe spring starts first, and where in Ireland.

So as you can see, we've been doing loads of really interesting science and nature studies in our school since you last heard from us! For nature studies we've earned 2 Green Flags and been on TV for our work on The Green Wave Project. And in science, we've won The Discover Primary Science Award of Excellence for the last 4 years in a row!

I have lots of friends in other schools and I don't think they do enough of this kind of work. It's interesting learning all the cool ways you can study science and nature. Most of all, it's important to look after our environment!

Photos © St. Joseph's Primary School

Above: The Great Joey's Balloon Race. Left: Joey's Garden.

By Loughlan O'Brien, 5th Class, with a little help from Mr.Caulfield, Class Teacher. St.Joseph's CBS Primary School, Marino Park Avenue, Dublin 3.

www.stjosephscbs.ie

Tommy Time

Hi Kids, I'm Dr. Tommy Prawn, I'm a mad scientist that lives in the river Shannon in Ireland. My good friends at Nature's Web rang me on the watermobile and told me ye had a few questions about science and asked if I could answer them. I told the gang at Nature's Web "no probs, of course I would try to answer the questions you asked." So here I go…….. Enjoy!

Remember, if you have any other science questions, just send them into editor@naturesweb.ie and they'll pass 'em on to me!

Dr. Tommy

How Does Popcorn Pop?

Pop corn is my second favourite food after bits of worms and snails, which is what I eat. Although my mother says I'm like the rubbish bin, I'll take anything. I was eating popcorn the other evening in the cinema, with my girlfriend, Tammy van Prawnette, she is Dutch. Problem is, I'm a prawn, and we are not supposed to eat much salt. I ate too much and was so dried out I left the cinema looking like a tayto. I had to sit in the bath for an hour before I looked like my gorgeous self again.

Only popcorn kernels can pop, and the secret is water. Each kernel contains a small amount of water stored in a circle of soft starch inside the hard outer casing. When heated to around 450 ºF, the moisture turns to steam, creating pressure within. As the pressure builds, the casing eventually gives way, and the kernel explodes and pops, allowing the water to escape as steam and turning the kernel inside out. If you have ever popped popcorn, you know that it explodes everywhere!

Do Male Seahorses Get Pregnant?

Seahorses are the only kind of animal in the world in which it's the male that gets pregnant. Seahorses are faithful to each other and some species even stay together for life. When mating, seahorses do a kind of dance -- tails linked, inseparable. They'll promenade around the bottom, twirling around sea grass shoots or corals and this is a daily dance that will happen every single morning between them. The female injects eggs into the male, who has a pouch where the eggs are fertilized and nurtured until they're born. A seahorse, depending on the species, can deliver between 15 and 1,000 babies at a time and can deliver in the morning and get pregnant again in the afternoon. Then again, the delivery only takes half an hour.

1,000 babies. How many nappies would you go through in a week? All I can say is I'm glad I'm not a seahorse. You would have to share your room with your 999 other brothers or sisters!

Do Maggots Really Clean Wounds?

Using leeches and maggots to clean wounds and promote their healing was not an uncommon practice hundreds of years ago. These methods are regaining popularity as antibiotics become less effective. Maggots are especially useful for aiding the healing of gangrenous infections. Maggots are immature blowflies (a type of fly) in their second or larval stage of life. Young blowfly maggots are implanted directly onto a wound, where they eat dead flesh, clean out dead skin, and kill harmful bacteria that need injured tissue to survive. Once maggots reach their fill of dead and dying flesh, they're removed from the wound and new maggots are applied. Blood can then flow throughout the tissue, promoting the growth of new flesh. How gross is that!

Dr. Tommy Prawn would like to acknowledge the help of his good friend James Ring. Text: © James Ring

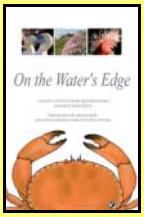
Learn More

A Beginner's Guide to Ireland's Wild Flowers
Have you ever wanted to put a name to the wild flowers you see about you every day, or while on a walk, or on holiday? With the help of this pocket-sized guide, you will be able to do just that. Beginners of all ages will be introduced to the many common wild flowers found around Ireland. *206pp*

Only €8.50 including postage

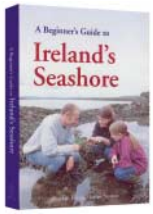
Sea Life DVD: *"On the Water's Edge"*

Sherkin Island Marine Station has launched a new dvd called '*On the Water's Edge*'. It is made up of a short film on life beside the sea and is presented by Audrey Murphy. It includes 6-10 hours of interactive material for children of all ages. *Available from: Sherkin Island Marine Station, Sherkin Island, Co. Cork. €13.30 including postage.*



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 including postage



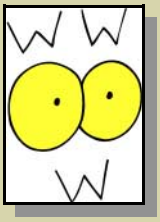
Only €1.95 each including postage or €12.00 for all eight! *32pp each*

Sherkin Island Marine Station has published a range of colouring books, guides and activity books for children. Each thirty two page *Colouring & Guide Book* gives you the chance to colour, identify and learn about the wildlife around Ireland. *My Nature Diary* and *Safety Sam* activity book will keep you busy for hours.

To order books, send your name and address along with a cheque or postal order made payable to Sherkin Island Marine Station to:

Matt Murphy,
Sherkin Island Marine Station,
Sherkin Island,
Skibbereen, Co.Cork. Ireland.

Visit: www.sherkinmarine.ie



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:

Brent Goose: http://www.birdwatchireland.ie/Default.aspx?tabid=157;
http://www.rspb.org.uk/wildlife/birdguide/name/b/brentgoose/index.asp

Camouflage: http://www.howstuffworks.com/animal-camouflage.htm

Beetles: http://www.naturalworlds.org/goliathus/index.htm

The Cactus: http://cactiguide.com/

Green Schools Programme: http://www.greenschoolsireland.org/ http://www.stjosephscbs.ie

Seashorses: http://www.nationalaquarium.ie/species/seahorseProfile.php

Moony Cam: http://www.rte.ie/radio/mooneygoeswild/features/mooneycam/index_robin.html

Hurricanes: http://www.nhc.noaa.gov/

NASA Pheonix Lander: http://www.nasa.gov/mission_pages/phoenix/main/index.html

Grey Wolves: http://www.dublinzoo.ie/news/howl-lovely.asp
http://www.bbc.co.uk/nature/wildfacts/factfiles/148.shtml

Irish Water Safety: http://www.iws.ie/

Submarines: http://www.submarine-history.com/ http://www.clarelibrary.ie/eolas/coclare/people/holland.htm

Estuary: http://www.birdweb.net/broadmeadow.html http://www.epa.gov/owow/estuaries/kids/index.htm

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

The World Around Us

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

Nesting Birds Provide Great Excitement

Photos courtesy of www.mahons.org

Above: The Great Tit tending her hatching chicks.
Top: Nuala & Barry's bird box.

Everyone was really excited listening to Mooney Goes Wild on RTE 1 recently, waiting for the news that five robin chicks, being filmed live on the Mooney Cam 2008, had fledged the nest. The happy event took place on 21st May and to learn more about the lead-up to this event visit the website link on page 10.

Some children on Sherkin were thrilled to have a similar show closer to home, when Barry and Nuala Mahon discovered that a Great Tit had laid six eggs in the bird box in their garden on the island. They were able to feed a video link from their bird box to their television and view the show from the comfort of their own home. All six hatched and the young great tit chicks are on the verge of fledging the nest and should be on their way any day.

Hurricane Season in the Atlantic

The 2008 Atlantic hurricane season is just beginning. It officially starts on 1st June and goes right through until 30th November. Forecasters are expecting that 6 to 9 storms will turn into hurricanes of varying strength. The National Oceanic and Atmospheric Administration Climate Predition Center says that an average Atlantic hurricane season would bring 11 tropical storms, of which six reach hurricane wind speed of 74 mph (119 kph). Scientists can choose from a list of 21 names provided for the 2008 season.

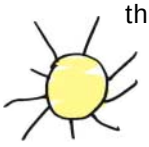
Dublin Zoo's Grey Wolf Pack Doubles in Size

Photos courtesy of William Campbell, USFWS

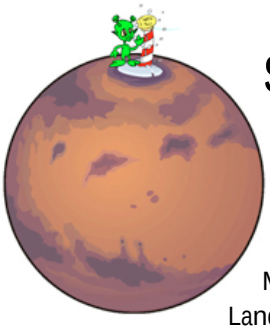
Grey Wolf

Exciting things are happening at Dublin Zoo and one of these is the doubling in size of the pack of grey wolves at the zoo, making it one of the largest groups in Europe! Four females and two males recently arrived from Longleat in the UK to join the resident group of five. The wolves have settled in well and their arrival gives the public a rare opportunity to see a large group of wolves together in one place.

A Message About Water Safety



Irish Water Safety would like everyone who is looking forward to swimming at Ireland's waterways and abroad this summer to update their safety knowledge first with the new **"14 Steps to Safe Swimming"** Guide. This important guide is designed to teach children and adults important water safety messages, helping to keep them save in and near the water. The leaflet will be available at lifeguard huts nationwide but can also be downloaded from www.iws.ie.



Spacecraft Lands on Mars' North Pole

For the first time (that we know of!!!) a space craft has landed on Mars' North Pole. NASA's Phoenix Lander will spend three months testing the site where it landed, particularly for signs of frozen water. The spacecraft was launched on 4th August 2007 and took 296 days to cover the 422-million-mile flight from Earth to Mars . The planet is so far away, it takes 15 minutes for messages from the spacecraft to reach earth!

BEETLES

Due to their huge variety of lifestyles and feeding habits some beetles have become pests to Humans and others have become helpful; we call these different types 'Insect Friend and Foes'.
Many beetles like the Furniture Beetle (*Anobium punctatum*), the larvae of which we call 'woodworm' and the Grain Weevil (*Sitophilus granarius*) have become serious pests from a Human point of view.
Others however, as predators of other insects, are beneficial to us; the best examples of which are the Ladybird and the Green Tiger Beetle.

Photo courtesy of Tristanba on Flickr

Green Tiger Beetle (*Cicindela campestris*)

A diurnal (daytime) predator, this attractive & brightly coloured beetle can be found active in bright, sunny conditions in dry, open areas. Voracious and efficient hunters, feeding on other insects, Tiger Beetles have relatively large eyes giving them good vision and long legs to allow them to run at quite fast speeds.

Seven-Spotted Ladybird (*Coccinella septempunctata*)

Instantly recognised by almost everyone, of any age, many people do not often realise that this is a beetle. This charming little insect is commonly regarded as a gardeners' best friend since they feed on aphids (greenfly) which damage so many plants in gardens and greenhouses.

Photo courtesy of Tmoertel CC-BY-SA-2.5

Photo courtesy of Hajor CC-BY-SA-1.0

Sacred Scarab Beetle (*Scarabaeus sacer*)

This large beetle will shape a lump of cow dung into a ball which it then rolls away to a safer place away from other beetles. This "dung ball" has an egg laid on (or inside) it and then buried in an underground chamber; the dung is the food source for the young larva when it emerges. The shape of the scarab beetles' head looks quite similar to the rays of the sun. As a result it was worshipped by the Egyptians as a symbol of the sun-god Amon-Ra and the promise of new life (because it combined 3 important things in the Egyptians lives – the sun, the soil and the cattle).

Great Diving Beetle (*Dytiscus marginalis*)

A common inhabitant of our ponds and streams, this beetle lives almost entirely in the water where both the larva and the adult are carnivorous feeding on other aquatic insects, worms and even tadpoles! The adults are able to fly, allowing them to travel between different bodies of water, usually at night.

Photo courtesy of Chrumps CC-BY-SA-2.5

Rose Chafer (*Cetonia aurata*)

Coloured a brilliant shining metallic green, the Rose Chafer does untold damage to garden plants; the adults feed on the leaves and flowers, while the larvae live underground (for up to 3 or 4 years) eating the roots of the plants.

Text by Stuart Munroe

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 If the weather is good, how long does it take the Brent Goose to travel from Ireland to Iceland?

2 What sea animal changes colour according to what it eats?

3 What is another name for the Gold Barrel cactus?

4 Where did Christopher Barry visit last year?

5 When does the Atlantic Hurricane season begin?

6 What type of turtle did Miriam Dunne find on Sherkin Island this February?

7 What do you call the hard case that covers the abdomen of the beetle?

8 What type of bird laid eggs in the Mahon's birdbox on Sherkin Island?

9 How long does it take a message to reach Earth from NASA's Phoenix Lander spacecraft on Mars?

10 At what depth do submarines generally operate at?

11 What do St. Joseph's Primary School, Fairview, Dublin, use to power their fountain?

12 How many babies can a male seahorse deliver at a time?

13 Name the Irish Water Safety's new leaflet?

14 How many spots has the ladybird *Coccinella septempunctata*?

15 In which county is Broadmeadow Estuary?

16 Where did the new wolves in Dublin Zoo come from?

Answers: (1) 15 to 20 hours; (2) Sea Hare; (3) Mother-in-law's Cushion; (4) Greenland; (5) 1st June; (6) Loggerhead Turtle; (7) Elytra; (8) Great Tit; (9) 15 minutes; (10) 250 metres; (11) Solar Energy; (12) 15 to 1,000; (13) "14 Steps to Safe Swimming"; (14) Seven; (15) Dublin; (16) Longleat, UK.

What am I saying....?

Have fun with your friends making up a title for this picture of a White-fronted Capuchin Monkey.

Photo courtesy of Diliff CC-BY-SA-2.5

Nature Jokes

What do you get when you cross a stream and a river?
Wet feet!

What do you call a cow that can't give milk?
An udder failure.

What day do fish hate?
Fry-days.

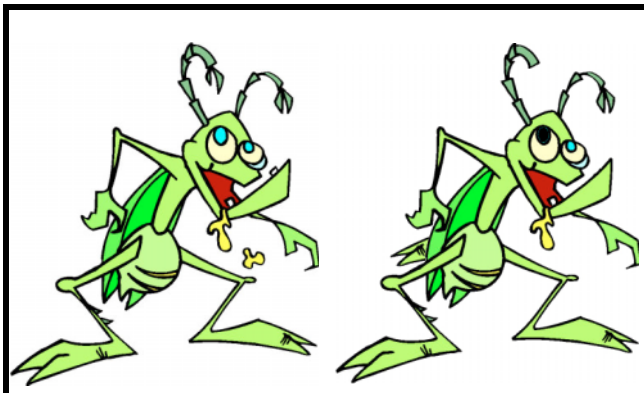
What kind of tree fits in your hand?
A palm tree.

What has four legs but doesn't move?
A table.

What do you call a snowman with a suntan?
A puddle!

What kind of dog tells time?
A watch-dog.

How do you know if there is an elephant under the bed?
Your nose will be touching the ceiling.



Spot the five differences!

Into the Abyss . . .

The deepest point in the ocean is Challenger Deep in the Mariana Trench in the Pacific, it is 11,000m deep. On January 23rd 1960 scientists Jacques Piccard and Donald Walsh made the deepest ever dive there to 10,911m in the US Navy submersible, the bathyscape *Trieste*.

But most of the action in the ocean takes place in the shallow seas around the coast where sunlight can penetrate and give life. Darkness in the oceans usually starts at around 200 metres and no normal photosynthetic plants grow beyond this depth.

50 metres is the limit for sports diving with normal aqualungs, although the world record for free-diving without air tanks stands at 160 metres.

Submarines generally operate at around 250 metres deep, although special scientific vessels with thick pressure hulls can reach almost anywhere in the ocean.

Captain Cockle's Log

Welcome aboard shipmates! Together, we'll be taking a look at the world's greatest natural resource – the sea!

Words & pictures by John Joyce John Joyce 2004

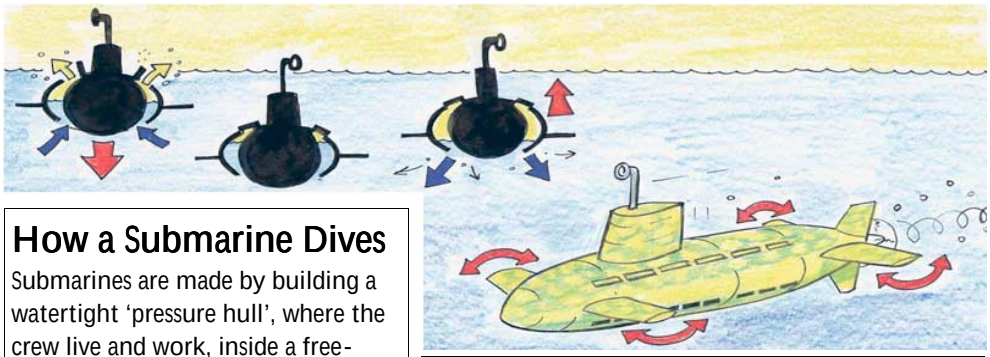
For more adventures from Captain Cockle, visit his website at

www.captaincockle.com

The Man from Clare...

The father of the modern submarine is generally recognised as an Irishman from Clare, John Phillip Holland (1841-1914). He emigrated to the USA in 1873 and, after working as a schoolteacher in Paterson, New Jersey, began designing submarines.

After a number of failures, he succeeded with the Holland I, a tiny two-ton, petrol driven sub in 1877. From there he moved to bigger and better boats that formed the first fleets of the US, British, Japanese and Dutch navies. He died only a few months before the first ever sinking of a warship by a submarine with a torpedo at the opening of the first World War.



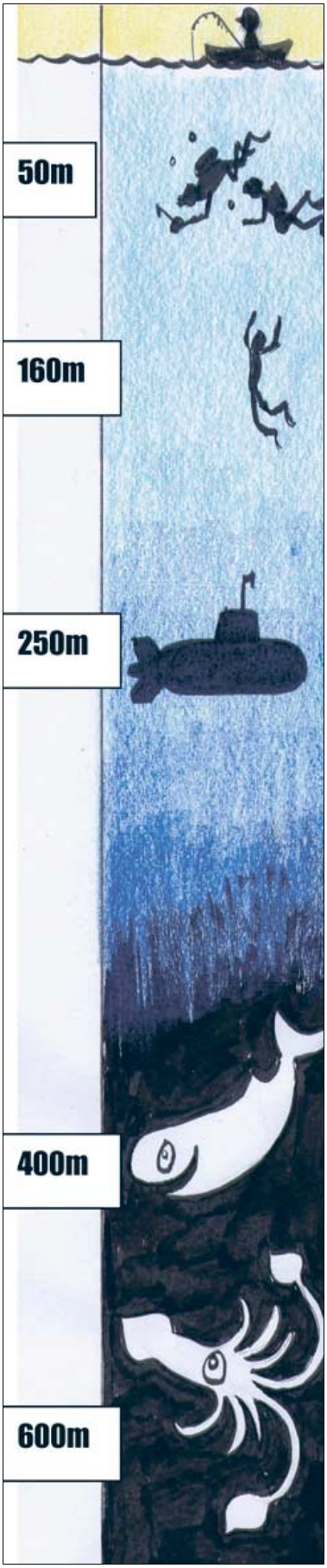
How a Submarine Dives

Submarines are made by building a watertight 'pressure hull', where the crew live and work, inside a free-flooding 'outer casing' with holes, or 'vents', at the top and bottom.

To dive – the crew open the upper vents allowing water to flow into the outer casing and the sub sinks. To surface - the crew closes the upper vents and blows the water out of the bootom vents with compressed air.

Submarines work best at 'neutral buoyancy' – when they neither rise or sink in the water. At this point they can be 'flown' underwater with 'diving planes' which work just like the flaps on the wings of an aircraft.

In fact, the controls of a modern atomic submarine look very similar to those of a plane, with a big 'joystick' to 'fly' the sub through the ocean depths.



Illustrations © John Joyce

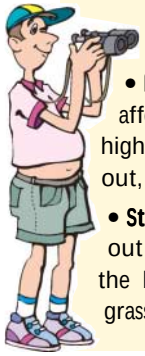
The Estuary

Photo © Anne Murray

Broadmeadow Estuary, Co Dublin – an area of huge importance to wildlife.

An estuary is an enclosed body of water that is formed when a river meets the sea. The freshwater mixes with the seawater and lots of mud builts up, making it a very special habitat for many animals and plants. Lots of animals depend on the muddy conditions for survival, so even though an estuary might look like a mucky place to us, they are actually very important areas for all sorts of wildlife. The mud is full of little worms, shrimp and snails, which are eaten by larger animals, such as birds and fishes. In fact, many estuaries are protected by law because of their importance as feeding grounds for migratory bird species. They also act as nursery areas for some fish species, as they provide plenty of shelter and food for the young. Salt marshes may occur in some estuaries, providing another habitat for wildlife. Some of the plants that live in salt marshes have special adaptations in order to survive in the estuary's muddy and salty conditions.

Tips for Birdwatching at an Estuary



- **Visit the estuary in the autumn or winter:** When planning a birdwatching expedition, it is a good idea to consider the time of year. During the summer, most of the migrating birds will have flown to the Arctic or Scandinavia to breed. They generally return during September or October and remain until March or April when they fly back north.
- **Keep an eye on the tide:** The state of the tide is important for birdwatching as it affects the birds' activity. The best time to visit the estuary is about an hour after high tide when the birds should be feeding close to the upper shore. As the tide goes out, the birds will be feeding further out on the mudflats so you may need a telescope!
- **Stay safe and respect the wildlife:** When you are visiting an estuary, do not venture out on to the mudflats or salt marsh as there is a danger of sinking! It is best to view the birds through your binoculars from a good vantage point on some nearby grassland. This also means that you will be less likely to disturb the wildlife.

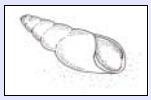
Animals & plants found in and around an estuary

Sketches © Sinead Begley

Waders & Wildfowl

Ducks, geese and waders can often be seen feeding on the mudflats of estuaries. Waders are birds which wade through the water to find their food.

Snails & their Relatives



Snails, cockles, mussels and winkles are shelled animals that live in mudflats and salt marshes. They are often eaten by birds and fishes.

Shrimp & Crabs

Shrimp and crabs belong to a group of shelled animals called crustaceans. They are very important in the diet of birds and fishes.

Worms

Ragworms and lugworms are well adapted for life in an estuary. They live in U-shaped tubes in the mud and are an important food for many waders.

Seaweed

Green and brown seaweeds are found in estuaries. Green seaweed is an important food for brent geese.

Salt marsh plants

Salt marshes contain a wide variety of grasses, sedges and rushes. These plants provide shelter and food for many small animals.

Plankton

Plankton are tiny animals and plants that live in the water. They are eaten by many of the worms and shelled animals.

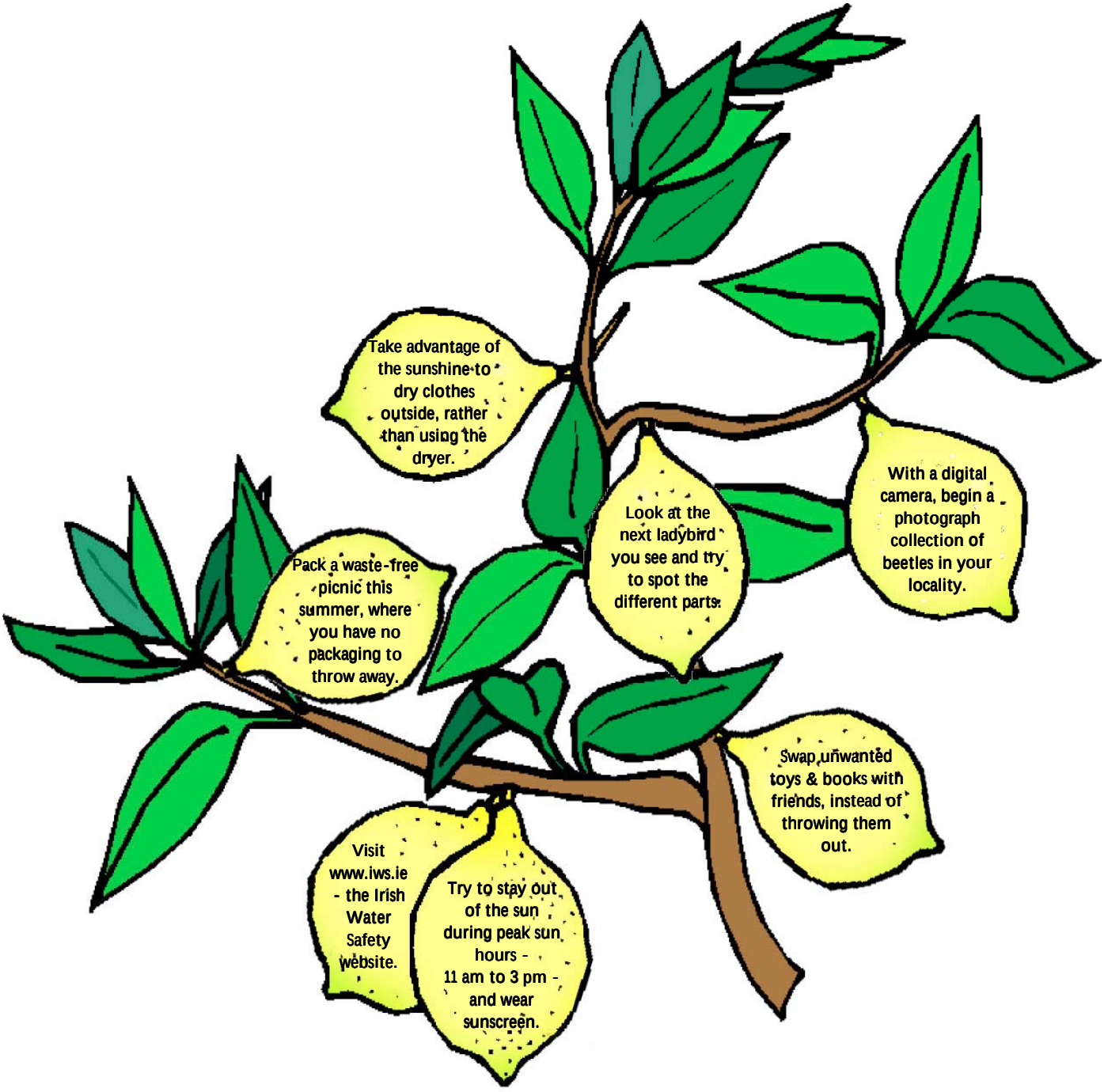
Fish

Estuaries provide a habitat for many fish species. Flatfish are well camouflaged and are commonly found buried in the mud.

Developed by Sarah Varian & Sherkin Island Marine Station for the Living Coasts Living Seas Project.

Nature's Noticeboard!

Summer 2008



Sherkin Island Marine Station would like to thank *PharmaChemical Ireland* for their support in making this newsletter possible. We would like to thank those who have contributed to this newsletter especially Christopher Barry, Sinead Begley, Ciaran Caulfield, Miriam Dunne, John Joyce, Michael Ludwig, Nuala Mahon, Stuart Munro, Loughlan O'Brien, Jenna Poole, James Ring, Sarah Varian and Clive Timmons.

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