Welcome Home!
A new lifeboat for Baltimore, Co Cork
Page 31
**By Matt Murphy**

These are very difficult times in Ireland, in many ways interconnection and emigration. Like a personified tragedy we must not judge ourselves by the actions of those who have no representation. To bring this to the foreground, I believe that the Department of Marine is in the process of trying to look at this wonderful resource. Time and again political parties have included piou坐在 their pre-election manifestos, which invariably end up in coastal towns, which are the main source of work in many small coastal communities. The Marine Institute seems to have no interest in what is happening with the fish stocks in our humble Irish waters! One wonders also it does have to carry out research in other foreign waters such as the US and other faraway places? The Institute should be a vital component in the development of the Irish fishing industry. The management of our inshore waters is simply atrocious. Information on our inshore stocks of shrimps, crabs, whelks and lobsters is more or less unknown. The Marine Institute seems to have no interest in doing anything on these stocks. The semi-state body Bord Iascaigh Mhara (BIM – the Irish Fisheries Board) with its 30ft research vessel, which operates at a cost of around €30,000 annually, is beginning to do excellent work. Maybe small vessels are the way forward on these stocks, the lobster, could be greatly helped just by the stroke of a pen. We have no regulations on the V notching of female lobsters, yet many in the industry have been voluntarily carrying it out for nearly 10 years. This is frustrating for the fishermen who cannot fathom the delay in introducing such a regulation.

Rumours are rampant about the future of BIM. It is one of the few state bodies that have streamlined itself in the last few years. Numbers employed are down from 175 to 125 and state funding down from €28 million to €17 million. These cuts have been forced on them and yet it is much more aggressive in promoting and delivering new ideas to the industry, such as its seafood industry. It would be a great shame if the Marine Institute is not delivering to the fishing industry! The great speaker of the US Congress Tip O’Neill once said, “all politics is local”. Maybe the Marine Institute’s slogan should be “all research is local”? The Minister needs to have a radical pragmatic look at this body and its input into fish stocks and relevant national marine research.

It can be hard to constantly stress the importance of aquaculture. Whether one likes it or not the world needs and will need much more farmed fish in the future. Massive fishing vessels are plundering world oceans and have no interest whatsoever in conservation of fish stocks. We have the waters around our coast to build a great aquaculture industry with, I stress, good environmental practices. It would provide jobs in coastal areas. Some will say “but only a few”. Mussel, oyster and salmon farming began with a few jobs and they are now the main source of work in many small coastal communities. The Minister and his officials must sort out the problems holding back the development of the industry. Emigration is rampant around our coasts. We must begin to stop the haemorrhaging of our people.

There is a huge opportunity to create dynamic commercial fisheries and aquaculture industries with many added values, which can realistically deliver jobs for our children and grandchildren in the years to come. Can it happen? Miracles do but it will take courage and some sacrifice. It will also take the realisation that coastal Ireland will only be occupied by the old and an annual influx of day-trippers, which has already seen seafood companies create additional employment having avoided its facilities. Maybe the same accountability should be had by the Marine Institute in delivering to the fishing industry? The great speaker of the US Congress Tip O’Neill once said, “all politics is local”. Maybe the Marine Institute’s slogan should be “all research is local”? The Minister needs to have a hard pragmatic look at this body and its input into fish stocks and relevant national marine research.

**Editorial**

**We Must Grab the Opportunity**

By Matt Murphy

These are very difficult times in Ireland; a number of our most valuable resources are under threat from over-exploitation and emigration. Like a personified tragedy we must not judge ourselves by the actions of those who have no representation. To bring this to the foreground, I believe that the Department of Marine is in the process of trying to look at these wonderful resources. Time and again political parties have included piou in their pre-election manifestos, which invariably end up in coastal towns, which are the main source of work in many small coastal communities. The Marine Institute seems to have no interest in what is happening with the fish stocks in our humble Irish waters! One wonders does have to carry out research in other foreign waters such as the US and other faraway places? The Institute should be a vital component in the development of the Irish fishing industry. The management of our inshore waters is simply atrocious. Information on our inshore stocks of shrimps, crabs, whelks and lobsters is more or less unknown. The Marine Institute seems to have no interest in doing anything on these stocks. The semi-state body Bord Iascaigh Mhara (BIM – the Irish Fisheries Board) with its 30ft research vessel, which operates at a cost of around €30,000 annually, is beginning to do excellent work. Maybe small vessels are the way forward on these stocks, the lobster, could be greatly helped just by the stroke of a pen. We have no regulations on the V notching of female lobsters, yet many in the industry have been voluntarily carrying it out for nearly 10 years. This is frustrating for the fishermen who cannot fathom the delay in introducing such a regulation.

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Greylag Geese in Ireland

By Oscar Merne

ON my weekly visits to Bray Harbour (very close to my home in Bray town) to check on the resident flock of Mute Swans, Mallard, Turnstones, and various species of gulls, I always notice the little group of farmyard or feral geese that has taken up residence there for the last few years. Six of these birds are clearly descended from Greylag Geese, but, through generations of selective captive breeding, the birds have evolved into a rather larger version of their ancestors, with a much more pronounced sternum to which their pectoral muscles (“breast meat”) are attached. They are now so large and heavy that they can barely fly, and their plumage has changed from the all-grey of the wild birds to a motley patchwork of grey and white. Nowadays, most of their close cousins that are reared in farms for the market are cousins that are reared in farms for the market and are attached. They are now so large and heavy that they can barely fly.

There are accounts of wild Greylag Geese breeding in Ireland in the eighteenth century, in the midland bogs and Co. Down, and it may be that some of the domestic geese in Ireland nowadays are descended from these wild birds. It would have been quite easy to propagate domestic geese from eggs collected in the wild or from goslings or flightless moulting adult geese caught up in the wild.

Whatever about the origins of domestic and feral geese of Greylag type, it seems that in the nineteenth century there were probably less than 1,000 wild, migratory Greylag Geese coming to Ireland to spend the winter here. However, in 1898 Greylags “discovered” the Wexford Slabs, which had been emigrated about fifty years earlier on the north and south sides of Wexford Harbour. Numbers wintering on the Slabs rapidly built up to about 6,000 birds and the flock remained at this level until about 1950, when there was a sudden steep decline. There are two theories about the cause of this decline. The first is that increasing numbers of wild Greylag Geese at Arklow Pond have become so large and heavy that they can barely fly.

“bottomed out” at about 738 in January 1967 when a national census of the Greylags was carried out by the Irish Wildfowl Committee – one of the organisations that later formed BirdWatch Ireland. An increase in numbers began about 1975, coinciding with an overall increase in the Icelandic population to over 110,000 birds, and by the mid-1980s surveys were showing that over 3,000 Greylags were coming to Ireland. Numbers continued to increase slowly here in the 1990s, when nearly 4,000 birds were censused. The most recent estimates of numbers (autumn 2008) were of 4,761 migratory Icelandic, and 1,555 feral Greylag Geese in Ireland.

We know from recoveries of ringed birds that our wintering Greylags all come from the large breeding population in Iceland, which is currently estimated at 87,200 birds. Each autumn, when the goslings are big and strong enough and the adults have completed their annual feather moult (during which time they are flightless for several weeks), the Icelandic population migrates south-eastwards across the Atlantic Ocean to Britain and Ireland. The great majority spend the winter in Britain, mainly in Scotland. Nowadays, both the wild Icelandic Greylags and the feral populations are closely monitored by the conservation organisations so in future we will be able to follow accurately any changes that occur in their distributions and numbers.

The main places in Ireland to see Greylags in the winter months (October to March) are Loughs Swilly and Foyle, and the Foyle River between Derry and Strabane; fields around Strangford Lough (feral birds); the shores of Lough Neagh (feral birds); saltmarshes and fields on the west and south sides of Dunlack Bay; coastal fields in north Co. Dublin; Broad Lough and the coastal marshes north to Kilcoole; Poulnaphouca Reservoir in Co. Wicklow; the callows of the River Suir in the Portlaw area; Arklow Pond (feral birds), and Lady’s Island and Tacumshin Lakes (feral birds) on the south coast of Co. Wexford. There are about 15 other sites around the country which are visited regularly by smaller numbers of Greylag Geese.

OUT IN AFRICA

KATE and I travelled to Botswana last November. We visited Zambia and trekked into Zimbabwe. We concluded with a short stay in a game park some 200 miles to the north of Johannesburg. In all we spent eighteen days away from home. The nine days in Botswana were most certainly the highlight of our journey, particularly the visit to the Okavango delta in Botswana which is the world’s largest inland delta where most of the water of the Okavango river is either absorbed by the sands and plants of the delta or it evaporates. The delta is almost completely flat with less than two metres variation in height across its 15,000km². There are no roads inland delta where most of the water of the Okavango river is either absorbed by the sands and plants of the delta or it evaporates. The delta is almost completely flat with less than two metres variation in height across its 15,000km². There are no roads.

The “silver eyed” pride lay down and continued to watch the bufallo but they had no intention of chasing them. In the first place their stomachs were still full but secondly they would not hunt until the buffalo had exhausted the grazing in the area where they were. The buffalo would then start to move on and as they move the lions scrutinise the herd carefully and pick out a young buffalo which is unprotected or an old or injured buffalo which is unable to keep up. When a potential meal has been identified and when the lions feel hungry again they will hunt. The pride was named “the silver eyed pride” after the dominant female who is blind in one eye. The colour of that blind eye is clear silver.

Along the way we came upon a herd of elephants. There were two males, three females and four young. They were grazers and they picked up the grass with their trunk and fed it into their mouths. They also curled their trunks around the branches of trees and skillfully skimmed off the leaves they were doing and as they move the lions scrutinise the herd carefully and pick out a young buffalo which is unprotected or an old or injured buffalo which is unable to keep up. When a potential meal has been identified and when the lions feel hungry again they will hunt. The pride was named “the silver eyed pride” after the dominant female who is blind in one eye. The colour of that blind eye is clear silver.

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are enchanting they are less exotic. Hippopotamuses are plentiful. Because their skin is sun sensitive they stay in the swamps and rivers during the day but emerge at sunset to feed and sleep at night. From their size and general disposition they are a good advertisement for the vegetarian way of life. They are protective and defensive without being too aggressive.

Rhinoceros, whose numbers have been greatly reduced in recent years, are now on the “critical” extinction list. The young South African guide told us that the “critical extinction” list is so extreme that he believed that by the time he had children they would never see a rhinoceros. They are hunted for their ivory horns. The guide told us that he has frequently seen rhinos lying on the ground badly wounded with the horns savagely removed by poachers who export them to the orient for an exorbitant price where they are ground down to gratify the sexual expectations of what can only be grossly inadequate and mis-informed oriental males. Rhino numbers have been reduced by 90% in their habitats during the past twelve years. The consensus view is that they will not survive much longer.

In Zambia we lodged on the banks of the Zambezi river which flows past with pace and with dignity. A few miles further on, it falls abruptly over the edge of an almost vertical chasm with a mighty roar and a cloud of spray. The mist, which rises up hundreds of feet, has given the falls the name of Mosi-oa-Tunya which means “The Smoke That Thunders”. This is the real name of the place although it may be better known to many as the Victoria Falls. There is a large statue there to commemorate the purported discovery of the falls by David Livingstone in November 1855. I would suspect that they may have been discovered many thousands of years before that by the people who named it “Mosi-oa-Tunya”.

We swam in the Devil’s Pool on Livingstone Island at the top of the falls. There is a challenging jump from the top of a rock into the pool below. Once in the pool you make your way to the edge which is only a few feet away. You are held by your ankles and let forward so that your head looks right down over the falls. It is definitely the very best view that you can get of this magnificent water cascade, albeit that the Irish Health and Safety regime would not approve.

A road bridge across the gorge was completed in April 1905. It is one hundred and twenty eight metres above the Zambezi River and you can jump from it with bungee ropes strapped to your ankles. As a first time bungee jumper I found the experience underwhelming. As I write this however I read that a young Australian woman, Erin Langworthy, survived the fall when the bungee jump cord snapped. This occurred on the 31st December 2011. Her survival was miraculous but her determination to free her ankles and swim to the shore demonstrated an outstanding courage. A newspaper report of this event describes her fall into the freezing, crocodile infested waters of the Zambezi river. The waters of the river are not cold and crocodiles, generally, prefer to walk around white water rather than to swim through it. We learned this first-hand when our white-water raft capsized twice on a long and very satisfying white water raft run on that river.

After the accident on New Year’s Eve, a Zambian Government Minister, Given Lubinda, made the following statement: “The bungee has proven to be a very viable operation considering that more than 50,000 tourists jump on it every year. It has been in operation for ten years. This is the first time I am hearing of an incident. The probability of an incident is one in 500,000 jumps”. Even with these odds I may have to re-assess the future of my bungee-jumping career.
The Changing Face of Waste Management in Ireland

A GOOD NEWS STORY

By Brendan Keane

In the last 15 years, waste management in Ireland has changed dramatically and fortunately this has predominantly been for the better. In 1995 almost all household waste and a very large proportion of commercial waste was simply being landfilled (municipal waste). Hazardous waste from large producers was predominantly incinerated with only a proportion of solvents being recycled or recovered. In terms of policy, at an EU level we have seen significant developments over the same time. But while regulation has changed in Ireland, published policy has not yet undergone the same level of change. The current administration though has advised that this is in hand.

In contrast to 2010 the total recycling rate was 42% for municipal waste and this number continues to improve, but at a slower rate. In addition we appear to have decoupled the production rate of hazardous waste from actual manufacturing production levels. In addition Irish industry has started to realise that there is a real benefit in conserving resources in terms of food, energy, water and raw materials. In 1995 landfill was the only solution available, today we have the capacity to incinerate 200,000 tonnes of waste in Ireland’s newest state of the art waste to energy facility and we can use over 200,000 tonnes of Solid Recovered Fuel (SRF) (a fuel made to specifications from residual municipal waste) to replace over 120,000 tonnes of imported coal for Irish cement kilns. We have gone from almost 150 landfill sites in 1995 to less than 20 in 2012 (the 2010 confirmed number was 28). On the other hand we have gone from a handful of civic amenity sites (mainly operated by local authorities and which are key to recycling certain wastes), in the 1990s to 107 in operation in 2010. Today, all serious waste management processors operate recycling plants and we have the potential to have a thriving recycling industry for certain materials in Ireland. At a household level, the level of generation of waste per head which grew massively through the early years of the first decade has definitely plateaued out and current indications are that our consumer society has started to reduce the level produced per head – probably due more to economic influence then changed human behaviour arising from education – the quantity recorded per person in the EPA’s 2010 data set was 310kg / head for managed household waste.

So what has happened in Ireland in the intervening period to bring about these fundamental improvements. While there is no single answer there are a number of critical elements that have given rise to these changes. The primary driver being that the cost of landfill has now being significantly increased by the application of additional levies in September 2011, this will allow alternatives to become more competitive and the cost of landfill management has increased due to improved standards from the mid 90’s. Escalations in the levy are planned for future years with a view to it standing at €75 / tonne within another two years. This has being further supported by the imposition of the EU landfill directive and the EPA redefining the parameters for material that can be landfilled, this will prevent a return to a landfill society. We have also seen that local authorities have now almost completely exited the collection and disposal of household waste market (they never really operated in the commercial waste market) (With the exit of all Dublin authorities from the market in the recent past, Galway City Council and Waterford County Council are the last ones engaged in waste collection), this has meant that some of the ridiculous restrictive practices and local policies of the process have been removed. It is now an open market where industry must compete on cost, service and initiative. While this has a number of drawbacks it has generally yielded positive environmental benefits. In this open market at the turn of the new century companies took a view that there was a commercial opportunity worth investing in and the largest manifestation of this was the opening of a new 200,000 tonne waste to energy incinerator North of Dublin in late 2011 where approx €160 million was invested. On a more modest scale many commercial waste processors invested between €1 and €20 million on specific facilities that add value to the waste that they were collecting. Waste has been identified as a real resource. In total it is estimated that €500 million was spent by industry in the first 10 years of the new century. Today this sector employs over 6,000 people across the country. In addition to this increase in investment was the imposition of uniform licensing systems and application of standards for all facilities by the various competent authorities of which the EPA was the primary one. This standardisation coupled with enforcement at all levels is critical to achieving and maintaining these new standards of environmental protection. In the long-term it will yield to a higher cost per tonne of waste produced but coupled with waste prevention applied at source it will reduce cost or at worst be cost neutral.

The technologies now being used in Ireland to resolve our waste management needs are diverse and vary on a regional basis. For the householder, who still requires a lot more education in the area, the decision tree starts right at the point of purchase for the goods; will I use all of this item (e.g. food purchasing)?; can/will I do with the packaging from this item / is it recyclable (e.g. glass, cardboard, foam, timber, paper, metal)? How do I get rid of the residue or the product when I am finished with it?

Once the consumer has decided to discard the material the waste industry has to be properly engaged to deal with their decisions – which bin did they put it in? If it is in the dry recyclable bin the waste contractor should be geared up to optimally sort any form of packaging into its respective components – paper / cardboard / glass / metal and different plastics. Depending on how free of contamination these respective materials can be generated from the waste sorting process, they will command different prices on commodity markets. Plastics are probably the most diverse and difficult to reuse as

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### Table 1: Indicators (EPA National Waste Report 2010)

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<td>63%</td>
<td>61%</td>
<td>58%</td>
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<td></td>
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<tr>
<td>Non-municipal waste</td>
<td>34%</td>
<td>35%</td>
<td>37%</td>
<td>38%</td>
<td>39%</td>
<td>42%</td>
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<td>29</td>
<td>29</td>
<td>31</td>
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<tr>
<td>Number of bins accepted</td>
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<td>1,060</td>
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<tr>
<td>Number of bins accepted</td>
<td>924,956</td>
<td>1,083,909</td>
<td>452,510</td>
<td>411,512</td>
<td>442,503</td>
<td>507,804</td>
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<tr>
<td>Number of bins accepted</td>
<td>32%</td>
<td>22%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
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<tr>
<td>Household waste</td>
<td>1,914,368</td>
<td>1,775,282</td>
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<td>1,949,469</td>
<td>1,920,799</td>
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<td>Household waste disposed</td>
<td>0.370</td>
<td>0.420</td>
<td>0.370</td>
<td>0.362</td>
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<td>Household waste disposed</td>
<td>1,745,438</td>
<td>1,726,719</td>
<td>1,767,267</td>
<td>1,877,208</td>
<td>1,672,469</td>
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<tr>
<td>Household waste disposed</td>
<td>0.420</td>
<td>0.470</td>
<td>0.410</td>
<td>0.375</td>
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<td>Household waste disposed</td>
<td>1,110,904</td>
<td>1,370,240</td>
<td>1,208,560</td>
<td>1,165,267</td>
<td>1,160,267</td>
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<tr>
<td>Recycled household waste</td>
<td>0.297</td>
<td>0.281</td>
<td>0.281</td>
<td>0.283</td>
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<td>452,510</td>
<td>411,512</td>
<td>442,503</td>
<td>507,804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled household waste</td>
<td>22%</td>
<td>22%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>41%</td>
<td></td>
<td></td>
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</tbody>
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Notes:
- Municipal solid waste includes extended producer responsibility.
- Per person calculations based on CSO data (2000 data reference to 2010, i.e. 4,581,249 persons).
there are so many different types mixed together and all with different characteristics and possible uses. Single plastic types eg. HDPE free of significant contamination (e.g. soft drink / water bottles) do command premium prices for recycling back into new products, but mixed plastics are currently best utilised for their energy content. At present the optimum energy use is to turn them into ‘diesel’ from which 200,000 tonnes of this fuel which is supplied under tight specification from the waste industry, this number continues to grow and we would expect to see it doubled over the next 2 to 3 years. In the future we may see existing Irish coal power plants converting over to burn these types of materials which will reduce our dependence on imported fossil fuels. Modern waste to energy facilities such as the new plant in Duleek are built to incinerate all waste material instead, thus depleting the market of which degrades our natural bogs. Irish national policy has defined that as consumers should have at least a three bin system – Dry recyclables (green/blue bin or clear bag), organic waste (brown bin) and residual (black bin) – we must now maximise what goes into the recyclable bins while minimising the black / residual bin use. The residual bin should be the most expensive but materials placed in the other bins must meet the appropriate specification otherwise they make the next process un-workable. For example consumers must be educated that plastic or glass placed in one brown bin on a collection route may make that entire batch in that collection truck un-processable for a composting operation, the waste company may have to incinerate or landfill the material instead, thus depleting the resource and increasing costs for all producers. Irish industry has started to realise that there is a real benefit in conserving resources in terms of food, energy, water and raw materials. Programmes such as fostered by the NWPC (National Waste Prevention Committee) have yielded some very real and financially compelling savings. Initiatives like this will bring real changes in resource management and the waste industry. The National Waste Prevention Strategy has made real progress in helping organisations and interested householders achieve significant savings across all resources – water, energy, waste. Spearheaded by the EPA and delivered through various agencies, it is a model that if properly fostered can yield very significant long-term benefits.

A Beginner’s Guide to Ireland’s Wild Flowers

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. From June 2012, this guide will be available at €7.50.

A Beginner’s Guide to Ireland’s Wild Plants

A pocket-sized guide suitable for beginners of all ages. With the help of this book you will be able to explore the wonders of man on the shores around Ireland. From June 2012, this guide will be available at €7.00.

The Natural History of Sherkin Island, West Cork

An introduction to the natural history of Sherkin Island, West Cork.

The Water’s Edge

This DVD promotes to give children (and adults) an introduction to life on the water’s edge with hours of interactive nature at the DVD will help you learn about the animals and plants in a fun way.

For Further Information

Brendan Kearse BSc, HDip Ed.
Brendan has worked in the waste sector in Ireland for over 25 years and has established and ran a number of very successful niche companies in the market. He is currently a director of the Irish Waste Management Association and a member of the CIWM Irish branch. He represents the waste sector on the NWPC and was on the implementation committees for both the WEE and Batteries programmes.

Suggested further Ref : EPA National Waste Report 2010 – Published March 2012 and available on line at www.epa.ie

Waste Report 2010 – Published March 2012 and available on line at www.epa.ie

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Download the EndNote reference manager for free at www.endnote.com
A Field Trip to Ecuador

By Tom Kirby

IN August of last year I was fortunate enough to take part in a field trip to the Santa Lucia Cloudforest reserve in northern Ecuador. Organised by Sussex University, the trip took 25 undergraduates and faculty staff to the western slopes of the Andes. The reserve lies within the Chocó Andean Bioregion, an area recognised as a global biodiversity ‘hotspot’ that is rich in endemic plant and vertebrate species. Characterised by moist, high altitude rainforest (or cloudforest), the Chocó region has lost 70% of its original habitat and remains under continued threat of damage. In 1988 the Santa Lucia Reserve which covers 713 hectares of cloudforest was declared a protected area, offering hope to the many endangered species living within it. In the late 90s, having been affected by this new level of protection (which prohibited clear-felling and ‘slash and burn’ agriculture) and further impacted by the inherently poor quality of forest soils, a local agricultural cooperative turned to ecotourism as an alternative, sustainable source of income. After some years spent creating trails in the surrounding forest, the Chocó region has lost 70% of its original habitat and remains under continued threat of damage.

After an introductory talk and a night spent acclimatising to our surroundings, we spent the next four mornings walking the forest trails with faculty staff and local experts. We were trained to identify the common plant and animal families in the region, and received instruction in field sampling techniques. The afternoons saw thick rain clouds rolling up the hillsides from the valley below, sending us back to shelter in the lab where we could identify samples from the morning’s walk and hear talks on the ecology of the area. The remainder of our time at Santa Lucia was spent in small groups conducting research projects of our own design. Along with two colleagues I took part in a study looking at the distribution of epiphytic plants (ie plants that grow on the surface of other plants in a non parasitic way) along an altitudinal gradient. Needless to say, this involved much hiking but we were suitably rewarded with spectacular views and the opportunity to explore the further reaches of the reserve. Other members of our party focussed on a range of studies, including hummingbird territorial disputes, leaf litter invertebrates, mosses and liverworts, butterflies and forest slope dynamics.

I don’t want to give the impression, however, that life at Santa Lucia was all work. The lodge caters not only for visiting research groups, but for birders, honeymooners, volunteers and ecotourists of all kinds. So facilities are good, with solar-heated showers looking over the forest, comfortable cabins scattered around the main lodge and a kitchen that serves delicious (and generous) portions of Ecuadorian cuisine. In keeping with its ecotourism philosophy, much of the food served at Santa Lucia is grown on site. The vegetable plot outside the lodge provides all sorts of organic fruit and veg. Coffee and sugar are both grown and processed on site using traditional methods. The small cane plantation provides not only sugar, but also the raw ingredient for a particularly potent spirit that was enjoyed by all on the final night of the trip, and regretted by many the next day.

In addition to studies carried out by visiting parties, the staff and volunteers of Santa Lucia are involved in a number of long-term projects. These include a camera-trapping study carried out in partnership with Sussex University and Rainforest Concern UK that aims to establish the range and activities of large mammals in the area. A number of rare mammals have been recorded on the traps including the Paramo Wolf, the Puma and the Andean Spectacled Bear. Conservationists hope that the charming though little known Spec-tacled Bear may be the ideal ‘flagship’ species needed to promote conservation efforts in the region. Other studies carried out at Santa Lucia include a long term survey of the local birdlife, projects focusing on the forest canopy and monitoring programs looking at the impacts of climate change carried out in close association with the environmental charity Earthwatch. The ultimate goal of much of the work in the reserve is to build up a full species inventory of the area, a task that should be greatly helped by the completion, in 2012, of a new laboratory adjoining the lodge. Beyond their obvious benefits to the immediate locality, reserves such as Santa Lucia play an important role in large scale conservation by preserving representative areas of healthy, functioning ecosystems. Santa Lucia is working with nearby reserves to create a large protected block of forest that would allow free movement of the species within it.

Beyond its own environmental and scientific aims, Santa Lucia also works closely with local communities surrounding the reserve. In addition to promoting care of the natural environment, it has launched a number of initiatives to train local people in conservation, ecotourism and scientific study techniques. The reserve considers community participation as key to its sustainability and continued success.

I would happily recommend a visit to Santa Lucia to anyone with an interest in the natural world, a sense of adventure and a sturdy pair of legs. To find out more about the reserve you can visit their website at http://www.santaluciaecuador.com/.

Tom Kirby is an undergraduate studying Ecology and Conservation at the University of Sussex, UK.
An appreciation of the botanist, Maura Scannell

Mary J. P. (Maura) Scannell R.I.P.
18 March 1924 – 1 November 2011

By Matthew Jebb

MAURA SCANNELL was a remarkable body of work. Her collections in the herbarium are among the largest by any single Irish botanist; all the more remarkable when one considers that most were obtained during her own leisure time. Since retiring she remained an active visitor to the herbarium, a field botanist and author, contributing specimines, answering queries and publishing papers. Always immediately turned out, a font of knowledge and a remarkable conversationalist, Maura Scannell has been a central figure in Ireland’s botanical world for over 60 years. A skilled horsewoman in her youth, Maura graduated from University College Cork and became Assistant Keeper of the Natural History Division of the National Museum in 1949. It was there that she developed her deep and thorough understanding of the importance of plants in Irish culture and history.

To both young and old, Maura was supremely generous with her time and energy, and a tireless correspondent. She was never too busy to be diverted by an interested schoolboy or schoolgirl visiting the museum, and had a long association, as a respected judge since the 1960s, of the annual Irish Young Scientists Exhibition. Many of today’s leading Irish botanists owe their love of botany to the remarkable adult who took the time to impart her enthusiasm for the plant world. Her fostering of scientists was shared with young and old – she assisted Evelyn Booth, then at the age of 82, to collate hundreds of records and to publish the *Flora of County Carlow* in 1979.

In 1979 she oversaw the transfer of the National Herbarium from the National Museum to the National Botanic Gardens, beginning a 20-year re-establishment of science at the Gardens. Last minute arrangements nearly resulted in major collections being disbursed, until Maura’s strength of will ensured they were moved in their entirety to the National Botanic Gardens. She was able to make full use of the gardens as a centre for taxonomic understanding. The nursery staff at Glasnevin were well used to her returning on a Monday morning with live plants to be grown on. A singular example was her dogged determination to resolve the identity of the ‘Renvyle Hydrilla’. Leading taxonomists in Britain had identified this plant as an *Elodea*, but when Maura finally showed it to the plant in the Garden greenhouses she was able to prove that the plant was, as she had always suspected, *Hydrilla verticillata*. Her great interest in history and books gave her the foresight to enable the Herbarium to acquire one of its more remarkable treasures – a bound collection of specimens dating from the 1690s and once owned by Thomas Molyneaux, a founder of the Dublin Society – this was bought from the library at Moore Abbey, in Monaster€e, by the authorities at the time.

The sum of her many specimines, publications and manuscripts represent a vast repository of knowledge about the plants that fill our landscape. Her dedication and assistance meant that she contributed more to the published work of others than to her own, through her thorough attention to correspondence, identification of samples and her intimate and eclectic knowledge of Irish history, geography, ethnography, zool-ogy, geology and botany. From 1963 to 1994 she had remained a constant and active member of the Irish regional committee of the Botanical Society of the British Isles, and in 1995 she was made an Honorary Member of the society.

Maura was presented with the National Botanic Gardens Medal in May 2008, in acknowledgment of her truly remarkable contributions to Irish botany. At the presentation she gave a spirited talk about her delight in the scale of botany, from the microscopic fungi she had discovered, new to science, in the grounds of the Botanic Gardens (*Dioscorea davidii* on the fruits of the Handkerchief tree, *Dcosidea involucrata* in 1976), to exploring for plants in the west of Ireland.

Maura produced over 200 scientific publications as well as several important florals and catalogues, besides her thousands of field observations she has left a thorough record of her correspondence in the National Herbarium. She remained intellectually agile and fascinated by all around her to her dying day.

She will be greatly missed by her colleagues, the staff at the gardens and botanists both at home and abroad.

Matthew Jebb, Director, National Botanic Gardens, Glasnevin, Dublin 9; www.botanicgardens.ie

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Matthew Jebb, Director, National Botanic Gardens, Glasnevin, Dublin 9; www.botanicgardens.ie
An Indian Cradling in Wiltshire

By Daphne Pochin Mould

I WAS born under an Indian tree, a huge deodar, with great branches and close-packed green-silver needles. It was a home birth and the exotic ivory white flowers of a magnolia peeked in the window. My folks had never been to India, though Kipling – “poet of the Empire” – was part of my infant reading. Next door, was an immensely tall, skinny tree, reaching for the clouds. I now know it was an American redwood and had crossed the Atlantic. However, we called it a Wellingtonia in honour of the victor of Waterloo. It was 1920, memories of World War I were all too close and bloody, as were older eighteenth and nineteenth century battles and conquests. The Raj was the great power, her ships ruled the waves and suburban villas were named after old, hard fought battles. But the British and their vanished Empire were only the last in a long series of successful raiders and ravagers from Norse Vikings on, who explored the planet and all that was in it. They mapped it, studied its plants and animals, exploited its riches (with no thought of “conservation” then) and killed or enslaved many of its old resident people. We thought of “conservation” then) and killed or enslaved many of its old resident people. We thought of conservation (now restored gardens at Woodstock (Inishmore) – the Monkey Puzzle” and planted it widely. It was no link with land or human contact till the start of European “pirate raids” on the New World. These Elizabethans were clever and adaptable – brave men. Human life was cheap, danger accepted and slowly we got to know the whole world. No modern instruments and no radio, only little wooden ships powered by sail alone. There was no link with land or human contact till the next port or they met another ship and hailed her. They learned the great prevailing winds that swept around the globe and how to link up with others to carry the cargo for sale or import. So they named them the Trade winds and these winds swept monkey puzzles into Irish gardens, tea and coffee onto Irish menus, and sugar – when only honey had been available. Bananas, melons, pineapples arrived as technical advances were made by growing exotic things in hot houses. The great 18th century gardens were full of colourful fruit and vegetables and guarded against a hungry peasantry by high 10ft walls. South facing inside walls were often faced with brick to warm up the sun’s heat and ripen the fruit against them.

Now small wooden, sail powered ships were sailing the world – exploring, mapping and describing. Zoologists met new animals and botanists new trees and plants. There was no phoning up only drawings, paintings and the handwritten word the only record. Coal fires were the only heat and long voyages ran through temperate and arctic cold. It was not easy importing new plants, seeds and roots but they did it. Some fruits would stand long journeys – oranges and lemons, nuts, coconuts and grapefruits – these were soeur to 18th century taste, but they liked to have one or two to bulk up a bowl of fruit. 1789 marked the first convict settlement on Norfolk Island from Botany Bay. “Pines grow here amazingly fast, some measured by the ship’s carpenter were 350 feet high and some 6 feet in diameter.” I imagine that they thought here were ready-made masts till they learned that the Norfolk Island pines is very flexible, bowing to every breeze. The British called it “the Monkey Puzzle” and planted it widely. The now restored gardens at Woodstock (Inisheer, Co. Galway) even has an avenue of them, equally dull to walk along or fly over – they are not avenue trees. Most of the incomers to Ireland came gradually over the centuries from Europe and nearby islands, culminating in imports from South America and Australia. Ancient Ireland had a quite limited range of trees. Only one species of oak – no beech, though it looks so natural here. But by the 18th century foresters and gardeners had a dazzling display of plants and shrubs in their nurseries. As for orchards, an early 19th century volume lists some 200 different sorts of apple, including cider apples. Judging by advertisements even quite small houses had “orchards in full bearing”. Our little garden had 6 apple trees, all different and fruiting.

The Knight of Kerry planned a great garden on Valentia Island with many of the new plants. But the salt laden gales which sweep over the island were not kind to tender plants, so he wrote to the Olden Times of the virtues of a new South American shrub the Fuchsia (named for Dr. Fuchs) as a shelter belt. Well, we all know what happened. The little plant took off and is now almost a symbol for Ireland, with the Irish naming it “The tears of God”. In Valentia the Knight’s cuttings grew and grew, one becoming an immense shrub, so big that each year the whole family was gathered around it to measure its ever-increasing girth. You can have the same, just plant a nice cutting in fertile soil in a good spot and leave it alone. The rhododendron, a mountain plant of the Himalayas, must have delighted landscape gardeners, with its quick-growing, glossy masses of foliage and great gaudy flowers. But it has become a pest. Nothing grows under its canopy of leaves and it is a danger to our ancient oak. Killer bees now wages war on it. In some southern parts of Kerry, the handsome Giant Rhubarb has become too invasive (Gunnera), while the Zebra mussel has got into our waterways where it is not wanted, possibly off visiting ships’ keels. So, take thought before introducing new plants or beasts. Australia does not want rabbits, nor Ireland mink and grey squirrels.
Estuarine and Coastal Water Monitoring

By Dr Robert Wilkes

Introduction

The EPA has been monitoring and assessing the estuarine and coastal status of our waters since the early 1990s. Following the introduction of the Water Framework Directive (WFD) the monitoring programme has intensified and the EPA now monitors over 120 water bodies up to four times per year. In addition to more traditional monitoring, such as nutrient and oxygen concentrations, the assessment now covers a wide range of biological elements such as seaweeds, phytoplankton and seagrass. This holistic ecological assessment is an essential part of the WFD and, in conjunction with the Marine Institute and Inland Fisheries Ireland programmes, we are now in a position to provide a comprehensive overview of the ecological status of our tidal waters.

2007-2009 WFD Assessment

To allow for assessment of Ireland’s ~15,000 km² of Coastal and Transitional waters the EPA has designated 113 Coastal and 196 Transitional waterbodies. These water bodies can be either a whole estuary or part of a large area broken into smaller units to allow for the practical implementation of a monitoring plan. A subset of these water bodies were then selected for monitoring to cover the wide range of pressures and environments encountered in Irish waters.

Ecological status is assessed on a ‘one-out-all-out’ basis. Overall ecological status of a water body is based on the biological quality element or physico-chemical standard with the lowest status. For example, if all the elements in a particular water body are at or near pristine conditions then the status of that water body is considered to be ‘high’. However, if any single biological quality element or chemical parameter is of lesser status then classification is based on that element.

The biological tools used for WFD monitoring have been specifically developed to allow for an ecologically relevant assessment that is practically and efficiently applied. Although relatively new, these assessment protocols are providing innovative ways of recording change in the environment. All the tools are designed to give a water body assessment on the WFD scale of High, Good, Moderate, Poor or Bad status. To ensure that we are using similar methods to other European countries, each tool has undergone a process of intercalibration which compares biological monitoring techniques across the EU.

Trophic Status Assessment

In addition to the WFD assessment the EPA must assess our waters for other obligations. The Urban Waste Water Treatment and Nitrates Directives require a measure of the degree of nutrient enrichment, or eutrophication. Eutrophication is assessed using the EPA’s Trophic Status Assessment Scheme (TSAS). This assesses the state of a waterbody based on a number of criteria namely nutrient enrichment (measurement of nitrogen and phosphorus concentrations), accelerated plant growth (phytoplankton/algae blooms and seaweed growths such as sea lettuce accumulations), and undesirable disturbance to the level of dissolved oxygen normally present.

• Eutrophic water bodies are those in which criteria in each of the categories are breached, i.e. where elevated nutrient concentrations, accelerated growth of plants and undesirable water quality disturbance occur simultaneously;

• Potentially Eutrophic water bodies are those in which criteria in two of the categories are breached and the third falls within 15 per cent of the relevant threshold value;

• Intermediate status water bodies are those which breach one or two of the criteria;

• Unpolluted water bodies are those which do not breach any of the criteria in any category.

Overall the EPA’s monitoring and assessment of the coastal and transitional waters points to generally unimpacted water quality. Only 5% by area is classified as eutrophic and, from an ecological assessment, over 64% of our surface waters currently meet WFD requirements of good status or better. However, challenges remain in preventing these high status waters from deteriorating and also for improving some badly impacted estuarine areas. Many areas continue to be directly impacted from municipal discharges and elevated diffuse nutrient inputs.

Dr Robert Wilkes, Environmental Protection Agency (EPA), John Moore Road, Castleheen, Co. Mayo, Ireland. www.epa.ie

For more go to http://www.epa.ie/downloads/pubs/water/coastal/
**Does the environment suffer in a recession?**

_By Alex Kirby_

RECESSIONS ARE miser-able affairs for most of us. But that’s not to say they don’t have their positive points – though you may have to strain pretty hard to see them.

Recently Natural England, the UK Government’s advisor on the natural environment, issued a bleak statement which read in part: “Our 2011–2014 settlement involved a £44.2m reduction in our grant-in-aid over the next four years. We introduced a new organisational structure in April 2011 involving a programme of voluntary redundancy (through which 400 members of staff have opted to leave the organisation) and a tighter focus on our delivery work…”

But it stands to reason that there will be some winners. If the economy slows down, then pollution is likely to follow. It happened in 2009, when greenhouse gas emissions in the European Union fell for the fourth year in a row. The European Environment Agency said then that emissions from the 15 EU member states that signed up to the Kyoto Protocol fell by 1.3% in 2008, compared with 2007. The EU environment commissioner, Stavros Dimas, said: “…part of the reduction… is due to the economic slowdown,… a view endorsed by Greenpeace Europe.

But the recession did little to lessen the world’s over-consumption of resources, according to the London-based New Economics Foundation (Nef). It calculates the day each year when the world goes into what it calls ecological debt – the date by which the world’s people have used the amount of natural resources that should last an entire year if used sustainably. In 2009, Nef said, “ecological debt day” fell on 25 September – just one day later than in 2008. This showed, it said, that the biggest recession for nearly a century had made very little difference to global consumption. Nef noted that one US citizen would, by four o’clock on the morning of 2 January, already have been responsible for emitting as much carbon as someone living in Tanzania would generate in the whole year, while a Briton would take until seven o’clock on the evening of 4 January to reach the same position.

In 2010 the Mostly Economics blog described a paper written by Matthew Kahn and Matthew Kotchen of the US National Bureau of Economic Research. Mostly Economics says the main thought of the paper, entitled Environmental Concern and the Business Cycle: The Chilling Effect of Recession, is this: “…as recession deepens and unemployment, people become less worried about global warming and environment concerns. The worries instead shift to unemployment and job issues.” This leads in turn, the authors argue, to increased media coverage of the recession and less reporting and analysis of the environment. They conclude: “…effective environmental policy in general and climate-change policy in particular is more likely during economic booms.”

More evidence of the impact of the recession on the US came in a report from its Energy Information Administration, which said that electricity generation in the US fell by 4.1% in 2009, the biggest fall in 60 years. As coal costs rose and natural gas prices dropped steeply, industrial demand for electricity declined by 9.1%. Further pressure on some traditional fuels came from wind, solar and biomass, which together grew by 14% that year. But continuing low natural gas prices were another factor altogether. If today’s hopes of a shale gas boom are realised – and even more, if carbon capture and sequestration proves commercially possible – the prospects for renewable energy sources may need radical rethinking.

In 2008 Scientific American published a podcast entitled Is a Global Recession Good for the Environment? (if you don’t want to listen to the whole thing, the sub-head of the announcement by answering the headline’s question: “Seems like when the economy’s bad, the environment improves, but history shows otherwise.” The author argued that recessions damage the environment by limiting the economic activity which could pay for improvements. He also blamed over-farming and drought for helping to cause the 1930s Mid-West dust bowl, worsening the Great Depression, and caused in part by it. The World Bank also blamed the economic crises which affected south-east Asia in 1997, for increasing environmental damage like illegal logging and fishing with cyanide.

Well, that was then. We’re four years on from 2008: what’s happening now? Fast-forward to 5 December 2011 and an article published in the UK daily _The Independent_. Headline: “Recession did not curb CO2 emissions… the world was on track to meet the 2°C target that most experts believe is necessary to avoid dangerous climate change.”

Unlike previous global recessions, which caused long-term dips in carbon dioxide emissions lasting several years, the recent recession caused just one year’s fall of 1.9 per cent, which was quickly reversed by a dramatic rebound of 2010 and 2011, said Professor Corinne Le Quéré of the Tyndall Centre for Climate Change Research at the University of East Anglia.

We’re at the edge of one of the non-governmental organisation campaigns for the environment’s pinch now. But that’s certainly not the case for them all. Craig Bennett is director of campaigns at Friends of the Earth UK. He told me:

> “With FoE’s income, the picture is fine at the moment. Many NGOs which have relied on funding on foundations have suffered a lot, but we’re lucky as around 75% of our income comes from our individual supporters. It’s difficult to increase their number and the contributions they make, but most of them are staying loyal. In some places abroad, though, funding has been a real problem, especially in central and eastern Europe.

“But money isn’t the whole picture. There’s a real economic crisis which has changed is the context in which we campaign. The Chancellor, George Osborne, believes the environment could restrain economic development, saying: ‘We are not going to save the planet by exporting valuable jobs.’ He’s said we should not go further or faster than other countries in trying to cut greenhouse gases. In a recession many politicians are happy to treat the environment as a scapegoat.”

The head of media at the UN Environment Programme, Nick Nuttall, struck a similarly upbeat note when we spoke: “There have been some reductions in the core budget as a result of belt-tightening among some key supporting nations. But it has not been as severe as among some multilateral organisations. And in terms of UNEP’s other financial flows – trust funds earmarked for specific projects – some countries, notably from northern Europe, have actually increased support. Overall, from UNEP’s perspective, there is a recognition that the environment is becoming an increasingly important issue reflected in current funding levels at a time of austerity measures in many nations.”

You pay your money and you makes your choice then. But do be sure you really do pay your money: green is never cheap.

Alex Kirby is a former BBC News environment correspondent.
WHEN Piet Van Den Hove and his family sailed to Ireland about 30 years ago he had little money, and little else. Housed in an old ruin he had bought on some land in the craggy mountains of County Kerry, his wife and children shivered in the Celtic cold. Among the family’s mottled possessions was a symbol of Piet’s seafaring past – a rockhopper.

The rockhopper is a heavy circular weight which was attached to trawling nets and sunk to the bottom of the ocean, where it was dragged along behind a fishing boat. Now mostly considered defunct and too destructive, the rockhopper is washed up on shores and abandoned. But when Piet needed a way to warm his new Irish home, he also found a way to give life to the ocean relic. He transformed his rockhopper into a combustion stove, and it gave instant and lasting heat which spread into the corners of the house.

Soon, Piet and his son Bart were making RockHopper Fisherman’s Stoves for others in the area. When Martin Davies married into the family, the skill was passed along to him.

Now Piet is retired, and Bart has sadly passed away, but the Van Den Hove creative tradition lives on in the same workshop with Martin at the helm.

“I think it's a fantastic form of recycling as the rollers, or bobbins as they are called, cause so much damage to the seabed,” says Martin.

“This is a much better use for them. Also, they come from the cold environment of the sea, and then go on to produce this fantastic heat.”

Martin now has a friend who sources the rockhoppers for him when they wash up on a beach in Clifton, County Clare. Every rockhopper has led a different life on the seabed, which makes its shape and size unique, leading to every product sold also having its own special characteristics. The tradition has a limited life, as there is no knowing when the sea will stop providing materials for the craft, but while it carries on, every rockhopper stove built tells the story of human ingenuity.

RockHopper Fisherman’s Stoves, Castlecove, Co. Kerry.
www.rockhopperstoves.com

This article is courtesy of “Collect Magazine”
www.collectmag.com.au
MACKERELS, BONITOS & TUNAS
(Family Scombridae) in Irish & Northern European Waters

By Declan T. Quigley

MACKERELS, Bonitos & Tunas belong to a small albeit commercially important Family of marine fish (Scombridae) composed of 2 Sub-Families (Gasterochromatinae & Scombrinae), 15 genera and 51 species. The Sub-Family Gasterochromatinae contains only one aberrant species, the Butterfly Kingfish (Gasterochisma melanops), which is restricted to temperate waters circum-globally in the Southern Hemisphere. Although a total of 7 genera and 11 species belonging to the Sub-Family Scombrinae have been recorded from Northern European waters, including 5 genera and 9 species from Irish waters, most of these species only occur as rare vagrants (Table 1).

A number of other Scombrid species have occasionally been found in Southern European & Mediterranean waters, including the West African Spanish Mackerel (Scomberomorus trachurus), Wahoo (Acanthocybium solandri), Narrow-banded Spanish Mackerel (Scomberomorus commerson) and Indian Mackerel (Rastrelliger kanagurta). The latter two species are normally found in the Indo-West Pacific, but entered the Mediterranean through the Suez Canal.

Several more species occur in the Western Atlantic, including 3 species of Scombrids, King Mackerel (S. caudata), Atlantic Spanish Mackerel (S. maculatus), Cero (S. regalis) and Black-fin Tuna (Thunnusallinga). The last species is only considered common off the North African coast (southwards to Senegal). There are only 3 records from Northern European waters, all from southern Scandinavia (Skagerrak-Kattegat). The species attains a maximum weight of about 13kg.

Table 1. Mackeral, Bonito & Tuna (Family Scombridae), Sub-Family Scombrinae in Irish & Northern European Waters

<table>
<thead>
<tr>
<th>Tribe</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Length</th>
<th>Live Weight</th>
<th>Frozen Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scomberidae (Mackerel)</td>
<td>Atlantic Mackerel</td>
<td>Scomber scombrus</td>
<td>1.7m</td>
<td>30kg</td>
<td>20kg</td>
</tr>
<tr>
<td></td>
<td>Scomberomorus (Bonito)</td>
<td>Scomberomorus scombrus</td>
<td>2.1m</td>
<td>100kg</td>
<td>60kg</td>
</tr>
<tr>
<td></td>
<td>Scomberomorus (Swordfish)</td>
<td>Xiphias gladius</td>
<td>3.2m</td>
<td>1500kg</td>
<td>1000kg</td>
</tr>
</tbody>
</table>

Atlantic Mackerel (Scomber scombrus) - The Atlantic Mackerel is a common, indigenous, cool temperate species. It supports one of the most economically important commercial fisheries in Irish & Northern European waters; c. 61,500 tonnes were landed by Irish vessels during 2011. The species attains a maximum weight of about 3.4kg.

Atlantic Chub Mackerel (Scomber colias) - Although the Atlantic Chub Mackerel is found world-wide in tropical and warm temperate waters, it has only been recorded on 7 occasions from Irish inshore waters (<200m). However, due to its overt similarity to the Atlantic Mackerel, it is possible that the species may not always be recognized. Indeed, it is relatively common in the Bay of Biscay and there were numerous reports of its presence in the English Channel during 2001. Unlike the common Atlantic Mackerel, the Atlantic Chub-Mackerel does not have a swim bladder. The species attains a maximum weight of about 2.17kg.

Plain Bonito (Oryynopsius uniculus) - Although the Plain Bonito is endemic to the Eastern Atlantic, it is only locally common off the North African coast (southwards to Senegal). There are only 3 records from Northern European waters, all from southern Scandinavia (Skagerrak-Kattegat). The species attains a maximum weight of about 13kg.

Atlantic Bonito (Sarda sarda) - The Atlantic Bonito is found in tropical and warm temperate waters throughout the North & South Atlantic and is a moderately regular visitor to Northern European waters. It is not always reliably recorded from southern UK and Irish waters during 2011. It is easily recognized by the numerous dark oblique strips on the dorsal surface. The species attains a maximum weight of about 11kg.

Bullet Tuna (Attax rochei rochei) - Although the Bullet Tuna is found worldwide in tropical and warm temperate waters, it has only been recorded on 5 occasions from Irish inshore waters (<200m), particularly off the SW coast, but it is probably rarely recognized or recorded due to its small size – the species attains a maximum weight of about 3kg.

Little Tunny (Euthynnus alletteratus) - The Little Tunny is found in tropical and warm temperate waters throughout the North & South Atlantic, but there are only 4 records from Northern European waters, 3 from southern Scandinavia (Skagerrak-Kattegat) and one from Southern Scotland. It is easily recognized by the presence of several distinctive dark spots below the pectoral fin. The species attains a maximum weight of about 16.5kg.

Skippjack Tuna (Katsuwonus pelamis) - Although the Skipjack Tuna is found world-wide in tropical and warm temperate waters, it has only been recorded on 10 occasions from Irish inshore waters. However, since it is mainly occurs in offshore oceanic waters, it is possible that the species may be more common in Irish waters, at least seasonally, particularly off the SW coast. It is easily recognized by the lateral strips on the belly. The species attains a maximum weight of about 34.5kg.

Albacore (Thunnus alalunga) - The Albacore is found world-wide in tropical and warm temperate waters, however, there are only 6 records from Irish inshore waters since 1990. The species being increasingly exploited by Irish pelagic trawlers during the summer and autumn in offshore waters to the SW of Ireland (c. 3,550 tonnes were landed during 2011). It is easily recognized by the exceptionally long pointed pectoral fins. The species attains a maximum weight of about 60.3kg.

Yellow-fin Tuna (Thunnus albacares) - The Yellow-fin Tuna is found world-wide in tropical and warm temperate waters. There are only 6 records from Irish inshore waters during most years, the species is more frequently encountered in offshore waters, most recently as a small and relatively catch small in the Albacore fishery. The species is generally regarded as endangered throughout its range due to years of poor regulation and intensive commercial exploitation but there is increasing evidence that the status of at least some stocks may be improving due to increased monitoring, control and enforcement in recent years. The species is highly valued in Japan for making the finest sushi; a single fish weighing 269kg was sold for $736,000 in January 2012.

The species is often confused with Yellow-fin and Big-Eye Tunas. Definitive identification involves an examination of the number of gill rakers on the first arch (23-31) and the ventral surface of the liver which is striated in both Big-Eye & Atlantic Blue-fin Tunas but smooth in the Yellow-fin Tuna. The species attains a maximum weight of about 218kg.

Atlantic Blue-fin Tuna (Thunnus thynnus) - The Atlantic Blue-fin Tuna ranges widely throughout the North & South Atlantic, including the Mediterranean and Black Sea. Although small numbers are recorded from Irish inshore waters during most years, the species is more frequently encountered in offshore waters, most recently as a small catch small in the Albacore fishery. The species is generally regarded as endangered throughout its range due to years of poor regulation and intensive commercial exploitation but there is increasing evidence that the status of at least some stocks may be improving due to increased monitoring, control and enforcement in recent years. The species is highly valued in Japan for making the finest sushi; a single fish weighing 269kg was sold for $736,000 in January 2012.

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By Anthony Toole

IN 1770, when Captain James Cook ran aground on a coral reef, while surveying what is now the coast of North Queensland, he named the headland he had mapped earlier in the day, Cape Tribulation, for this, he recorded, was where his troubles began.

On our visit, in 2010, tribulations were far from our minds. For we stood on a pristine, curved beach, of that white perfection that conjures the popular image of a south sea paradise. Fewer than half-a-dozen people shared the beach with us. Above the high-tide line, and completely covering the steep slopes of the cape, was a forest of ferns, pandanus, vines and mangroves of a density that defied penetration. There was hardly a ripple on the sea, which was indeed the colour of turquoise crystal.

The forest was the Daintree, which spreads down to the edge of the Coral Sea, where it meets Australia’s Great Barrier Reef, making this the only place in the World where two UNESCO World Heritage Sites touch.

Until quite recently, the Daintree tropical rainforest was thought to be merely an extension of those in South-east Asia, and hence comparatively unimportant. This led to the danger of its being exploited by loggers and land developers. However, the discovery of its enormous diversity of life forms, some of them extremely ancient, coupled with an acceptance of the reality of continental drift, have brought the realisation that this is the oldest continuously evolving rainforest in the world. It is a survivor of the break-up of the supercontinent, Gondwanaland, and at 155 million years old, is three times as old as the Amazon rainforest.

Within its 1200 square kilometres, less than 1% of Australia’s land area, is one of the most complex ecosystems on earth. It contains the richest diversity of plants in Australia, with upward of 1800 species. Its 430 species of bird represent 20% of the country’s total. It has 30% of its frogs, reptiles and marsupials, 65% of its bats and more than 12000 species of insect.

At the southern end of Daintree is Mossman Gorge, and though not as pristine as the forest to the north, allows a glimpse of what it contains. A boardwalk runs for a kilometre through tall trees that provide some relief from the sun’s heat. At intervals, short side tracks run down to the Mossman River, where deep pools fill the gaps and hollows among enormous, water-smoothed boulders.

We spent a little time sunbathing on almost unbeatable hot rock slabs before leaping into the water and retreating to a cooler sandy patch beneath the trees. Above us, a yellow-bellied sunbird flew back and forth, busily constructing a hanging nest from leaves, grass and cobwebs. A bush turkey scrawnged through the undergrowth, occasionally venturing closer, to peck at a bag or pile of clothing in search of food. Dragonflies settled on branches, and vivid, blue Ulysses butterflies flew through the trees and out over the pools.

There were large numbers of jungle perch in the quieter pools, juvenile fish that had somehow matured, from their birthplaces in the sea. Also found here, though we did not see any, are saw-shelled turtles, which are one of the few predators capable of eating, without being poisoned, Australia’s environmental scourge, the cane toad.

The barrier to northward progress through the forest is the Daintree River, which can only be crossed by ferry. Close to the ferry are a number of small companies that provide short boat trips up the river. We chose ‘Nice-n-Easy’ that offered what proved to be a 90-minute, very personalised cruise, rather than the usual one-hour trip.

We drifted across to the far shore, where mangroves grew out of the mud, and dense jungle vegetation overhung the water. We spotted an amethyst python coiled on a thick branch. Elsewhere, an estuarine crocodile rested on the mud beneath the trees.

We sailed up what appeared to be a narrow creek, but turned out to be a channel, separated from the main flow by a substantial island. Up a tiny tributary creek, we caught a glimpse of the back of Fat Albert, at five metres in length, the biggest crocodile in the Daintree River.

While returning to the jetty, we passed a muddy bank, on which numerous fiddler crabs scurried into and out of holes. A white-lipped green tree frog clung to a nearby sapling.

About ten kilometres north of the Daintree ferry, the forest achieves its greatest accessibility to visitors in the Daintree Discovery Centre. This is not a zoo, but a natural part of the forest, through which the animals and birds roam freely. It is designed with a view to minimal environmental impact, and gives the deepest insight into the full diversity of the Daintree Rainforest. An audio guide can be hired at Reception, which gives information about what can be seen at each numbered station on the trails, as well as the ways in which the Aboriginal people of the area made use of the plants to be found here.

From Reception, we followed the Arial Walkway, through the mid-level of the forest, passing a huge variety of trees with names like Daintree Hickory, North Queensland rosewood, Noah’s walnut and black palm. Many were decorated with spiders’ webs or contained hollows, visible from the walkway, which provided homes for birds, bats, snakes, possums and other forest creatures. Vines twisted around many of the trunks, which also supported epiphytes, such as basket fern and birds nest fern, which clung to the trees and obtained sustenance from the capture of falling leaves and the water trickling down the trunks.

The walkway curved round to the Theatre and Interpretive Centre. This contains displays of rainforest timbers, fungi and seeds as well as trays of beetles, moths and butterflies. There are also charts showing the invertebrates, snakes, lizards, birds and mammals that dwell in the rainforest, and large posters illustrating the geological history of the area and its climate. These are supplemented by audio-visual displays, six in number, which run from 11 to 45 minutes, and can occupy a significant, though highly informative portion of a visit.

The Cassowary Circuit runs from, and returns to the Theatre. A cassowary is a large, flightless bird, which evolved, along with the emu, 80 million years ago. It is a solitary and somewhat shy bird, and one perhaps needs a little luck to see one walking through the undergrowth. Also breeding here is the orange-footed scrub fowl, which builds the largest nest of any bird, consisting of a huge pile of dead leaves, inside which it lays up to two dozen eggs, which are incubated by heat from the rotting vegetation.

Plants that can be seen on this trail include idot fruit, an extremely rare tree, the seeds of which are so toxic that nothing will eat them. They are so little dispersed that they grow only in a limited number of places. Also found here is the cassowary plum, the fruit of which can only be digested by the cassowary.

The Bush Tucker Trail also follows a circuit from the Theatre, but has some side trails, one of which leads back to Reception. It concentrates mainly on the various plants that can be eaten, or which contain pharmaceuticals, or have other uses, many arising from Aboriginal culture: scrub breadfruit, Davidson’s plum, native figs.

An interesting plant seen here is the strangler fig, which grows up the trunk of a host tree, which eventually dies, leaving the fig standing by itself. One of these stump figs, which are one of the few predators of the cassowary, was that appeared in David Attenborough’s television series, ‘The Private Life of Plants.’

The dominating feature of the Discovery Centre, rising 23 metres above the forest floor, is the Canopy Tower. This has five platforms at various heights, which together afford unparalleled views over the forest. As well as the trees themselves, and the epiphytes they support, one is most likely, from here, to get the best sightings of the many forest birds: sunbirds, double-eyed fig parrots, Torres Strait imperial pigeons, Wompoo pigeons, or perhaps the flying foxes that roost here.

The Daintree Discovery Centre is not a place to visit in a hurry. We came twice, spending a number of hours on each visit. To encourage this, the admission price allows further visits within a week at no additional cost.

On our return to the ferry from Cape Tribulation, though the road was good, we were continually reminded that we were in wilderness.

An hour spent on the Marrdja Botanical Walk told us something of the evolution of the Daintree. Somewhere near Cooper Creek, we had to slow down to allow a lace monitor to cross the road.

Then just before we reached the ferry, the forest presented us with an unexpected free gift. At the roadside, not quite hidden by the vegetation, stood a cassowary and its chick. I stopped the car not three metres from them and photographed them through the window. After a couple of minutes, and quite unconcerned by our proximity, they slowly stepped onto the road, and continued round behind the car, and crossed over, to disappear into the forest.

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DAINTREE
the World’s Oldest Rainforest
Photography by Anthony Toole
(See article on page 15)
Are you pleased that the potential of aquaculture is at last being recognised by the Government?
I am pleased that both the Government and the EU Commission are finally waking up to the potential and necessity of aquaculture. It is a pity that it took the economic crisis to reveal that the emperor of service industries, call centres and mobile transitory industries really had no clothes in comparison to the food sector.

Can the industry respond to the challenge?
Without a doubt. Despite the years of frustrating apathy at regulator and political level, the industry could never afford to lose hope. On our own, we kept developing better ways of farming fish and keeping competitive while our services and supports were being kicked one by one from under us by successive ministers and administrations who saw no value in keeping coastal communities thriving.

much blame for the lack of development of the industry is the lack of licensing. Can you explain the problem?
It is a situation most sane people refuse to believe could occur. Through the ineptitude and bureaucracy of our own civil servants and politicians, the country was walked along to commercial production in a legal hole with Brussels since a 2007 European Court of Justice judgement.

Are there added value opportunities?
Well I would add clams, scallops and abalone to that list firstly. Some markets demand bulk supplies of live shellfish such as oysters and bottom grown mussels, and are willing to pay for it. More value can be added to live exports through investment in quality systems, training, and increasing our understanding of the impacts of handling and machinery on the stocks. BIM in Clonakilty has begun an exciting period of work with IFA members on new products for mussels and Bord Bia will also be rowing in sustainable ways to promote the greater consumption of locally grown shellfish on the domestic tourism market.

Over 180,000 tonnes of Chilean mussels are being exported to European markets. Is this effecting Irish Producers?
Undoubtedly. The import of Chilean frozen seafood meats has damaged the European market and has had a domino effect of forcing product out of its traditional market zones, causing havoc further down the line. The Spanish, French, Danish and Dutch industries are similarly impacted. It looks like Chile is using Europe as a dumping ground while selling at much better prices in the United States. The Commission must wake up to this crisis and through our European organisation EMFA, based in Paris, IFA will fight for our EU colleagues to challenge these imports.

The mussel industry is under severe pressure due to the closing of the processing factory at Bantry. What are these producers doing with their mussels?
The closure of Bantry was a body blow for the sector and one which I have strongly lobbied the corporate memory from the Department, it would have been far more pleasurable to literally hang one’s head off a brick wall.

The reason the industry keeps going is because our products are in demand and we produce the best quality possible.

At present we only farm two shellfish species, oysters and mussels. These are mostly being exported in bulk. Are there added value opportunities?

These alternative species are high value but both of them need scale and marketing to achieve their potential, as well as the ever present challenge of sourcing quality juveniles.

Are you worried that French oyster companies have already purchased over 60% of Irish oyster farms?
I don’t know where that figure comes from. However I am not surprised that French producers are looking to Ireland to spread their potential risk, given what has happened in France in the last 4 years with summer mortalities. Irish producers need to be aware of the value of the sites they are sitting on and not give them away lightly but that being said, we have a very symbiotic relationship with France – we purchase seed there and it is our main market for fully grown oysters. There are commercial realities to be faced and sectors, which have been under the government’s development radar, have been forced to look elsewhere for development.

What is your view of the new proposal by BIM to apply for offshore fish farming licences off the Aran Islands?
IFA welcomes this initiative by Minister Coveney and BIM as it raises the profile of the sector, has the potential to create jobs and poses questions regarding investment and scale which to date have been largely ignored by officialdom. We have been consistent in saying to the Minister that the project must not distract or take the foot off the gas in terms of the 500+ existing licence applications sitting in his Department – they must get priority.

The past number of years have seen volumes fall but overall value increase. Today’s value at the farm gate is over €115 million and while salmon prices have eased dramatically, Irish organic salmon is holding its own and oysters are still experiencing a very strong trade. So, because you cannot magic up a farmed fish in a few months (despite what some may think) I would hope that on quality and price we can add a good few million euro to that figure in 2012.

Finally, are there any species, other than those already mentioned, being farmed abroad which could be commercially farmed here in Ireland?
The key to successful aquaculture is 1) choosing the right species – one that is not going to be exposed to the unpredictable peaks and troughs of wild caught stocks of the same species and 2) cracking the ever present juvenile problem. Cod is a good fit for this, with a good deal of expertise gleaned over the years. Personally I’d like to see breakthroughs in the juvenile production stages of species such as eel or freshwater crayfish. More work could be done on re-establishing native oyster beds and of course the potential for seaweed production for a range of food and non-food applications is tremendous.
**John Akeroyd introduces another Roaringwater Bay island**

West Cork’s Roaringwater Bay is always full of interest and variety. During the last 20 years, with other botanists working at Sherkin Island Marine Station, I’ve had the good fortune to visit the Bay’s remoter, less populated and seldom visited islands. So far in Sherkin Comment I’ve described West, Mid and East Calf, West and East Skeam, Castle and Horse. Now I shall look at Long, the third largest of the islands, which lies off Schull on the northern shore of the Bay – the sea adjacent to the Mizen Head peninsula is often called Long Island Bay. Although less studied botanically than some other islands, Long has a known flora of 332 species, and has yielded some of our most interesting plant records, including four plants listed in the Red Data Book of rare Irish species.

Geologically, Long Island or Inishfada and the other islands in Roaringwater Bay are of Upper Devonian age (350 million years ago), formed largely of purplish mudstone rocks of the Castlehaven Formation. Long, Castle and Horse form an island chain and may once have been a single island, reputedly rent apart in the mid-9th century in a huge storm. Like Castle and Horse, Long is low-lying, no more than 31m at its highest point. The island is just under 5 km long but is less than 1 km wide, and has a somewhat indented rocky coast with some shingle strands. A road runs most of the island’s length, fading into a path towards the eastern end – where a small amount of copper was mined from time to time during the mid-19th century, and where today stand a small beacon and landing stage. The island was occupied by the Normans in the early Middle Ages, later passing to the O’Mahony’s (who built the castle on nearby Castle Island) and then the Earls of Cork.

Long has few trees, other than some shrubby willows and planted aspen and poplars, also elder, gorse and hedges of fuchsia and Japanese spindle. The island soil, derived from eroded rock and glacial drift, and traditionally improved with seaweed, is fertile enough for tillage. In the 19th century, Long was a farming and fishing community of over 300 inhabitants, and at the western end of the island you can still see the grassed-over ridges of former lazy beds that extend right down to the strand. A century and a half of famine, poverty and emigration had by the 1990s reduced this number to 20, but today it is just 6, although augmented by holiday visitors in summer.

Much of the island is pasture, grazed by cattle and sheep, and at the western end are species-rich heath and coastal grassland. The rich grassland flora includes much of interest to the botanist, including orchids, sedges and five species of pearlwort. The heath flora includes Hitter-vetch, at one of its few sites on the islands, and the little clover-like Bird’s-foot, Red-listed in Ireland, on rockier ground. Boggy places support several interesting plants such as the insectivorous plants Pale Butterwort and, along Atlantic coasts of Europe and are able to thrive in the mild climate of West Cork.

The few potato patches still hold rare weeds of tillage, relics of when there were more people: these include the rare Purple Fumitory and Sharp-leaved Fluellen, the last Red-listed and restricted to Counties Cork, Dublin and Wexford. Here and there on waysides grow escaped mints and the stately yellow daisy Elecampane, an old medicinal plant. A more recent find was Knotted Hedge-parsley, a diminutive carrot and parsley relative, always rare and sporadic in Roaringwater Bay. No doubt Long will long continue to yield botanical interest and surprises!

**John Akeroyd, who has been visiting Roaringwater Bay since 1986, edited The Wild Plants of Sherkin, Cape Clear and adjacent islands of West Cork (1996) and co-authored its Supplement (2011).**
A Cat and Mouse Game

By Ciaran Byrne

IN a recent article I outlined in detail the kinds of situations which are regularly faced by IFI officers when carrying out their protection duties, and while there is a significant and growing body of anglers and commercial nets men who are acutely aware of the finite nature of the inland fisheries resource, there are still those who flout the laws of the land at every available opportunity.

In this regard it is incumbent upon IFI officers to catch offenders and deal with them robustly. IFI faces similar challenges to practically every other enforcement agency in Ireland and throughout the world, and that is the age old game of ‘cat and mouse’. The warning printed boldly on the literature for my house alarm is ‘This alarm will not stop a person breaking into your house’.

The fundamental point is that while it might put the burglar off for a while, and it may even put him off for good, if a burglar really wants to break into my house he will. A similar situation is faced by enforcement agencies generally, and IFI specifically, in that if a person wants to engage in illegal fishing of any sort he may be put off by the enforcement activities of IFI, or even the laws in place to prevent such actions, but if he really wants to engage in illegal fishing, he will, and to a large extent there is little that can be done to stop him in such situations.

I recall a very senior member of An Garda Síochána setting out the situation very clearly in an interview on crime and crime statistics, he said what he was saying “the criminal only has to get it right once but the Gardaí have to get it right 100% of the time” this statement is true of all types of enforcement activity. So the question is what are IFI doing about it? And the answer is IFI is innovating, using new modern technologies to ensure that the enforcement effort is targeted at the places most likely to yield results and also at the people most likely to engage in illegal fishing activity. This might seem like a statement of the blindingly obvious, however it has been IFI’s experience that many stakeholders do not understand that IFI staff are constantly out there patrolling our rivers, lakes and coastline and just because you do not see the officers it does not mean they are not there, it is highly likely that the officers were engaged on a stakeout operation during the night or on a night kayak patrol. As a nation we have grown used to the idea of covert Garda operations, and most of us who drive have witnessed the incredibly successful Garda Traffic Corps, stopping aberrant cars on our roads, using their unmarked vehicles. Well the situation at present is that a significant amount of IFI’s enforcement activity is done on a covert basis, as interestingly, criminals tend to watch their backs and they do not keep regular hours.

Most recent in the long line of new technologies being used by IFI is remote web based camera systems to focus on particular illegal fishing hot spots. Recently profiled on national and international news networks, IFI have commenced using these small, mobile, covert cameras to focus on specific problem areas throughout the country. The small camera technology per se is not that new, as similar devices have been used previously, what is new and innovative is the additional functionality and military grade encryption security built into the process of recording and transmitting images. These cameras are tiny, they can be placed in a very covert location, aimed at the particular weir or pool, they have excellent optics and can work in the lowest of light levels using infrared technology, they have a fantastic battery life, and most importantly of all, they have built in motion detectors which will send the IFI protection officers a text to their mobile phone when they detect movement. Rather than immediately launching the ‘cavalry’, the officer can then, using the data end of the mobile phone login to the camera and watch live footage of what is going on. This allows the officer to separate events of concern such as poaching from random events like the movement of animals. Our officers are usually called to these events at times of darkness. Using other specific technologies such as night vision cameras, which allow officers to operate in very low light conditions and thermal imaging cameras, which allow officers to operate in complete darkness, they can quickly assess the situation and determine the best approach to the incident.

This technology allows IFI to have eyes in many places and directs the reducing manpower compliment in a more effective and efficient manner. IFI aim to continually harness the power of modern technologies and are already examining the use of high definition functionality in our cameras for roll out in 2012. Finally, I again want to reiterate that illegal fishing is an environmental crime and will not be tolerated, and the only way we can effectively eliminate this scourge on our rivers and lakes is with your help and assistance.

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Inland Fisheries Ireland

Inland Fisheries Ireland have just published these two publications. The Erne guide is by Michael Fitzpatrick and Shane O’Reilly, two of the foremost experts on coarse angling in IFI. The sea angling guide is by Norman Dunlop the renowned sea angler. Both publications contain detailed information on angling venues, methods, seasons for various fish species and bait availability. There is also essential contact information on angling guides, chartered boat skippers, fish species and safety regulations. Each of these 70 paged guides contains excellent maps of areas to fish and many colour photographs of fish. They are invaluable reference books for those new to the sport and especially to tourists who can plan their visits to numerous angling locations featured in these guides. Both guides are available free from Inland Fisheries Ireland Tel: 01-8842600, www.fishinginireland.info and www.fisheriesireland.ie
By Kristi Leyden

Surveying the Spiders of Sherkin Island

Collecting pitfall traps on Sherkin.

Survey methods and identification

While spiders can occur in almost all situations and any time of the year, most Irish spiders mature in spring and early or late summer. This survey was conducted during four separate visits to the island during July and September. Eleven habitats were selected to represent Sherkin’s main habitats encompassing: coastal grassland; wet grassland; agricultural grassland; deciduous woodland; coniferous woodland; bracken; flush; heath; roadside hedgerows; human-associated habitats; and a wooded area bounding farmland.

Spiders are well known predators of fellow arthropods, mainly insects, that use a number of different mechanisms which include hunting, lying in wait and/or snaring prey on a web. Several surveying techniques were employed in this survey to exploit these predation traits. The main surveying method was trapping, using pit-fall traps for hunters or web-weavers at ground level. This was augmented with tarantulas; and a wooded area bounding farmland.

Survey findings

35 species were identified representing ten families. In all, 490 spiders were collected during this survey 322 of which were identifiable species. Of the mature specimens, 142 were male and 180 were female.

Notes on some of the spiders found

Aranes diadematus (Family: Agelenidae)

This beautiful spider, one of Ireland’s largest seen in its orb web amongst hedgerows and bracken on Sherkin. The species has a large abdomen which can vary in colour. Those recorded, had a bright orange-red colour with the species distinctive white cross marking the dorsal side of the abdomen.

Linyphia triangularis (Family: Linyphiidae)

This species was abundant throughout Sherkin, particularly in September amongst bracken and hedgerows. They are distinctive in that they hang from their horizontal sheet web with the ventral side of their abdomen facing up.

Pardosa pullata (Family: Lycosidae)

This was the second most abundant species in the survey. 24 males and 42 females were caught in total, with the vast majority collected in July with pitfall traps. This species was found in coastal and wet grassland.

Pachygnatha degeeri (Family: Tetragnathidae)

Commonly referred to as daddy-long-legs, this spider was extremely abundant in human-associated habitats seen mainly in room corners in its open loose web. An interesting observation of this species was made while on a separate visit to Sherkin in mid-summer 2010. Here a large number of crane fly (Family: Tipulidae) undertook an annual mating swarm became readily available prey for P. degeeri when they found themselves trapped in buildings.

Metellina mengei (Family: Tetragnathidae)

This spider was observed on the island where its web was found in the corners of external windows. The family Tetragnathidae is easily identifiable due to one segment of their web being left vacant.

Pachygnatha degeeri (Family: Tetragnathidae)

This species had the highest abundance in the survey, accounting for approximately 40% of the mature identifiable spiders collected. P. degeeri can occur in a wide variety of situations. On Sherkin, it was found in coastal, wet, and agriculture grassland, along with flush and heath.

Discussion

There were 35 species of spiders identified in this survey, approximately 9% of the total Irish spider fauna. Those species found are all relatively common and widespread or else locally abundant in their particular habitats. A similar spider survey carried out on Tory, Co. Donegal between 2002 and 2006 (Martin Cawley) listed 110 species. While overall recorded species richness and abundance in this survey was lower than expected, the data collected sets an important baseline. In light of findings and expert advice, the author would recommend future surveyors of Sherkin Island’s spider fauna to increase sampling periods to include spring and early summer, along with extending the trapping and targeted collecting period.

Additional spider information

Sources of general reading on spider identification and ecology include the British Arachnological Society (www.britishspider.org.uk) and Collins field guide to spiders of Britain and Northern Europe (HarperCollins Publishers).
Cleaning up the Mess We Made

Part 2 of a 3-Part Series

By Walter Muggard

In my previous article I wrote about some of the industries that have, over the span of the past two or three centuries, contributed much to our prosperity, comfort and conveniences, but have also churned out astonishing amounts of toxic industrial wastes. These wastes have increasingly been made up of “unnatural” chemicals – chemicals that never existed in nature, and to which humans and other organisms therefore never had a chance to evolve any tolerance.

Solvants are among the most important and widely-used industrial chemicals. From paint thinners to cleaning agents to manufacturing intermediates, solvents are ubiquitous in the industrial world. Two of the most common solvents are trichloroethylene (TCE) and tetrachloroethylene (also known as perchloroethylene, PCE or “perc”). The former has uses in a wide variety of industries from extraction of vegetable oils to medical anesthesia, but is most commonly used as a degreaser and cleaner for metals and electronics. The latter is most commonly used as a cleaning fluid. Both are probable human carcinogens, and are frequently found at toxic waste sites. (In the U.S., TCE is a contaminant at over half of all sites on the federal “Superfund” list of the worst toxic waste sites in the country.)

Polychlorinated biphenyls – PCBs – are a group of chemicals invented early in the 20th century. With superior characteristics as dielectric and hydraulic fluids, and with numerous other useful properties, millions of pounds were in use by the middle of the century, in a wide range of industrial and commercial applications ranging from capacitors and transformers to paint, caulk, cement, and even fabric. By the 1970s it was widely recognized that PCBs are probable human carcinogens and have a variety of other adverse health effects, and were therefore banned in the U.S. and elsewhere. Unfortunately, one of the characteristics that made PCBs so useful also makes them a most troublesome environmental contaminant: they are extremely resistant to breakdown or degradation; thus, they persist in the environment for a long, long time. They also “bioaccumulate,” which means that concentrations in living organisms tend to increase as one moves up the food chain. As humans, we are at the top of the food chain, and by now populations literally everywhere on earth – no matter how remote – have PCBs in their body tissues.

Virtually every industry has its signature waste products. The paper industry, without which modern life would be unimaginable, is the third largest source of pollution in North America, with chlorinated wastes including dioxins – some of the most dangerous substances known. The automobile industry, a major driver of the world economy, is also one of the major sources of lead and mercury pollution. The lead is primarily from batteries, while the mercury is from certain kinds of switches (now being phased out). The cement industry manufactures the second most widely used product on earth (after only water), but is also a major source of mercury and cadmium pollution (and, now incineration; indeed, the European Union has lately eclipsed the U.S. in some areas of environmental protection. One arena, however, where America remains arguably pre-eminent is toxic waste site remediation – with eminent is toxic waste site remediation – with billions of years. These wastes come from nuclear power plants and nuclear weapons manufacture, of course; but other industries also use and discard radioactive materials, from medical diagnostics to smoke detectors to food sterilization. Today, radioactive waste disposal is highly regulated, but it was not always so. For example, early in the 20th century a company called U.S. Radium extracted radium from ore, and used it for painting luminescent numbers on the dials of watches. A large amount of ore waste was left over, which still contained radioactive elements. The company gave this waste material away free to builders who used it as fill for home construction. Decades later, the yards of hundreds of homes had to be excavated to remove the dangerous radioactive materials.

An estimated 100,000 different chemicals are in commercial use today; the vast majority of which never existed in nature. All of these cars and do end up as wastes. We know that many of these chemicals are dangerous, some of them extremely so. What we don’t know is perhaps even more worrisome: most of these chemicals have never been tested for toxicity. Even the ones that have been tested have usually been considered on their own, without analysis of possible synergistic effects from exposures to multiple chemicals.

And what have we done with this vast assortment of unnatural industrial wastes? The same as we have done with our wastes since the dawn of civilization – we have simply thrown them away. We have dumped them into rivers and lakes and into the ocean; we have dumped them into wetlands; we have dumped them into old mine shafts and into any other handy hole or depression in the ground. We have soiled our communal nest with barely a thought for the consequences. No industry is without blame; and as individuals we are all complicit in the toxic legacy of global industrialization.

The result was the Environmental Decade, an extraordinary period of legislative action starting at the very beginning of 1970 and extending to the very end of 1980. This eleven year period saw the enactment of all the major U.S. environmental statutes – laws that created the regulatory and remedial programs in operation today. Air pollution, water pollution, and the management of hazardous and toxic wastes were the subject of laws passed during that extraordinary period of legislative action. And what have we done with this vast assortment of unnatural industrial wastes? The same as we have done with our wastes since the dawn of civilization – we have simply thrown them away. We have dumped them into rivers and lakes and into the ocean; we have dumped them into wetlands; we have dumped them into old mine shafts and into any other handy hole or depression in the ground. We have soiled our communal nest with barely a thought for the consequences. No industry is without blame; and as individuals we are all complicit in the toxic legacy of global industrialization.

In the United States during the 1960s, public concern over environmental problems began to grow dramatically. It was spurred on by such events as the shameful spectacle of a major river on fire due to industrial pollution; and by Rachel Carson’s seminal book *Silent Spring*, a grim but scientifically credible view of a soon approaching springtime devoid of the sounds of birds and animals, decimated by chemical pollution. The public demanded increased regulation, and it was obvious that action was called for at the national level.

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Meanwhile, many other countries have followed America’s lead in enacting environmental legislation; indeed, the European Union has lately eclipsed the U.S. in some areas of environmental protection. One arena, however, where America remains arguably pre-eminent is toxic waste site remediation – with respect to both the legal structure that compels cleanups, and the technology to carry them out. America’s Environmental Decade culmi-
nated on December 11, 1980 with the enact-
ment of the Comprehensive Environmental
Response, Compensation and Liability Act
(CERCLA). While the laws passed earlier dur-
ing the Decade created regulatory programs to
curb future pollution activities, CERCLA
looked backward to the environmental prob-
lems caused by past practices. The law
established a special fund of money, paid for
through taxation on the chemical industry,
for use by the Environmental Protection Agency
(EPA) to clean up toxic sites created by bad
waste handling practices in the past; it is this
element that gives the law its colloquial name
of Superfund.

The Superfund law also created a radical
new liability scheme to help pay for these
costly cleanups. Those persons or companies
who generated the hazardous substances in
question, or who transported them to the site
being cleaned up, or who owned or operated
that site, can all be compelled to carry out the
cleanup themselves, or to reimburse the gov-
ernment for the costs of cleanup. This liability
is without regard to fault; that is, even if the
disposal of the hazardous chemicals was in
full conformance with then applicable law –
as it typically was – the enumerated parties
must pay.

The Superfund law has probably had as dra-
matic an effect on American business as all the
other environmental laws combined. Because
its imposition of liability appears to be retroac-
tive, not merely prospective, it strikes most
business people as highly unfair. (In legal
terms, it is not really retroactive. Rather, liabil-
ity is imposed today for past acts which have
created a mess that is still present and that
needs to be cleaned up today.) Cleanups can
often cost tens or even hundreds of millions of
dollars; some cost billions. The huge sums of
money involved guarantee attention from sen-
or corporate officials.

Since liability under the law is without regard
to fault or culpability, it has also had a
profound impact on virtually all commercial
land transactions: no buyer wishes to purchase
property which may subsequently prove to be
an enormous financial burden rather than an
asset. Indeed, sophisticated businesses involved
in property transactions and other financial
dealings, such as corporate mergers or
acquisitions, now routinely rely upon the pur-
chase, a business partner, or a takeover target.

More importantly, the Superfund law has
spurred American businesses to find ways to
reduce or eliminate the production of haz-

ardous wastes. The reasoning is simple, and
sensible: there can be no future liability for
wastes that were never generated in the first
place. If wastes must be generated, wise corpo-
rations will take care that they are disposed of
in a responsible manner, also to limit possible
future liability.

Soon after the Superfund law was passed,
EPA started identifying high priority toxic
waste sites around the country for inclusion on
a special list that Congress directed the Agency
to prepare. The notorious Love Canal site,
which more than any other was the reason for
the law having been enacted, was placed on the
list, along with several hundred others. About
1700 sites have been listed during the past 30
years. Cleanup work has been finished at about
two thirds of these (including Love Canal); but
among those where work has not yet been com-
pleted are some of the most technically
complex, expensive and controversial sites.

Identifying sites that cried out for attention
was comparatively easy; the hard part has been
figuring out how to clean them. Starting in the
early 1980s environmental professionals had to
more-or-less invent the science of toxic waste
site remediation out of whole cloth. It simply
hadn’t been done before, at least not to any
meaningful extent. And the complexities were
staggering.

The many different kinds of contaminants
pose different kinds and degrees of risk to
humans and other organisms; they behave in
different ways in the soil, in groundwater, in
surface water, or in the air; they respond differ-
ently (or not at all) to different treatment
methods; and if they degrade naturally, they do
so at different rates in different environments.

Many of these contaminants present health
or environmental risks at extremely low con-
centrations – parts per billion (e.g., PCBs,
benzene, TCE) or even parts for trillion (e.g.,
dioxin). To illustrate how small such concen-
trations are, consider this: one part per billion
(ppb) is equivalent to a single second of time
over a period of 30 years; and one part per tril-
lion (ppt) is like a single second of time over a
period of 30,000 years! In some cases the labo-
atory equipment needed to detect contaminants at such incredibly low levels did
’t even exist yet, or wasn’t widely available.

To complicate matters further, much of the
toxic waste problem was underground and out

of sight, and therefore difficult to assess. Tech-
niques had to be developed or adapted to track
the movement of contaminants through the soil
and into groundwater; then track the move-
ment of groundwater away from the source of
contamination, through soils of widely varying
porosity or – even more complex – through

Cracks that run in unpredictable ways in
bedrock.

One of the greatest difficulties in the early
days of the cleanup program was determining
“how clean is clean?” If one molecule of a
contaminant remains at a site after remedial
work is done, is that too much? How about
one gram? Or one kilogram, or ten or a hun-
dred or a thousand kilograms? What level of
risk is presented by such residual contamina-
tion? How does that level of risk compare to
other risks that day-to-day life presents, or
that people voluntarily take upon themselves
(lie smoking)? Is that level of risk acceptable
to society? Not unexpectedly, citizens’ views
differ wildly about the answer to this key
question.

In my final column of this series (in Sherkin
Comment No. 14), I’ll talk about answering the
“how clean is clean?” question, and finding
ways to clean toxic waste sites.

Any opinions expressed herein are the authors
own, and do not necessarily reflect the views of
the U.S. Environmental Protection Agency.

Walter Mugdan, Director,
Emergency & Remedial Response Division,
U.S. Environmental Protection Agency,
Region 2, New York City, New York, USA.
October, 2011
The annual professional meetings of the Irish Flora Committee catalogue only the biggest fish captured by fair angling, in and around the island of Ireland during the preceding twelve months. In 2011, the ISFC rated 587 species in four new records. The latter are a 2.1kg Rool/Dudd Hybrid, 1.33kg Blackmouthed Dogfish, 10.6kg Spur Dogfish and a 2.83kg Thin-lipped Mullet. It is interesting to read that visiting anglers from outside of Ireland feature well in the listings. It is great to see photographs of young anglers featured with their specimen fish. Sarah Lynch and her carp at the Lough in Cork City, Derick O’Brien with the heaviest Rudd of 2011 at the Lee Reservoir near Cork City, Lucy Jackson and her 3.19kg Tench from Blackies Lough, Liam Millitwick with the Thick-lipped Mullet at Rosscarbery, Co. Cork, Brian Lombard with a Golden Grey Mullet in Clonakilty, Co. Cork. This report is a gem and will appear to fish and marine anglers alike.

Matt Murphy

Dr John Akeroyd
Raptors
A Pocket Guide to Birds of Prey & Owls
Written & Illustrated by Declan Cairney

DECLAN CAIRNEY is 11 years old and lives in County Galway with his family. He wrote and illustrated “Raptors – A Pocket Guide to Birds of Prey and Owls” to celebrate Irish raptors. Published by Original Writing the book retails at €7.50 and all profits from the sale of the book go to The Golden Eagle Trust Ltd. The Trust is a registered charity dedicated to the restoration and conservation of Ireland’s native birds and their habitats, in particular declining and extinct species.

The guide can be enjoyed by children of all ages and adults alike. In his Foreword, Gordon D’Arcy says “Raptors, a pocket guide to Birds of Prey and Owls, written and illustrated by Declan Cairney, is a remarkable piece of work. It is the culmination of months of hands-on experience working with raptors in the Burren Birds of Prey Centre, by a birdman who is not yet a teenager! Declan’s knowledge and enthusiasm comes through in his writing. His artistic talent is evident in the dramatic poses of his bold illustrations. This pocket guide is thus a handy reference for the many people who, like Declan, admire these noble birds and who look for them both in captive circumstances and in the wild.

Though falcons, hawks and eagles are his first love, Declan has affection for all birds and indeed all nature. Despite his tender years he has, through this book, declared his adult intentions and is clearly well on his way to becoming a fully fledged naturalist.”

For more information on the Golden Eagle Trust, including the Red Kite Re-introduction project, visit www.goldeneagle.ie.

“Raptors – A Pocket Guide to Birds of Prey and Owls” can be purchased directly from Declan Cairney, Campsie House, Caherglassaun, Gort, Co. Galway. The price is €7.50 plus postage (€2.70 for 1, €5 for 2, €7.50 upto 10). ISBN: 978-1-908477-76-7

Supplement to The Wild Plants of Sherkin, Cape Clear and adjacent Islands of West Cork

SHERKIN and the other islands of Roaringwater Bay, S.W. Cork, have emerged as an area extraordinarily rich in wild plants – a significant hotspots of Irish botanical diversity. The Wild Plants of Sherkin, Cape Clear and adjacent Islands of West Cork, published in 1996 by Sherkin Island Marine Station, recorded a total of 592 flowering plants, conifers, ferns and stoneworts, including several plants new to the Irish flora. Most of these plants, native and introduced, were recorded since 1975 by botanists working at the Marine Station. In the 15 years since, our Marine Station botanists have added another 35 new plants to the flora, alongside a remarkable number of major rediscoveries and important extensions of known local and Irish distributions.

Not only have these researchers now refound almost all the botanical rarities that the famous botanist Oleg Polunin had noted on Sherkin and other islands in the late 1940, and added three other plants to the Irish flora, but also they have tracked down several plants long thought to be extinct. The Supplement shows how Sherkin and the adjacent islands in Roaringwater Bay remain the botanically richest 10-kilometre square in Ireland, with 14 Red-listed Irish species (although three of them are unfortunately apparently extinct) and over 40 other significantly rare Irish plants.

The three authors of the Supplement are Dr John Akeroyd, a former student of Oleg Polunin, a plant taxonomist with extensive experience of the Irish and European floras, who has been visiting Sherkin for 25 years; Dr Leander Wostenholme, who was a volunteer field botanist at Sherkin Island Marine Station in 1996 and 1997, followed which he was a senior plant taxonomist at Liverpool and Manchester Museums; and Jenna Poole, a volunteer field botanist at the Marine Station during the summers of 2007–2009, who added many new records and consolidated the extensive data and collections of previous researchers. The book derives from their work and that of numerous other individuals who have each made their unique and valuable contributions to this exciting recording project. Sherkin Island Marine Station is proud to present this latest publication that puts on record the results of one of the long-term recording projects that lie at the heart of our work and mission.


Download a free and exciting newsletter for children, featuring interesting and informative news on nature and the environment.

Produced by Sherkin Island Marine Station

Visit www.naturesweb.ie
**Junior Pages**

**Life is Just a Bag of Chemicals**

The Tree of Life

This is one possible version of how the main animal groups evolved from the first primitive ‘true cells’. At the base of the tree simple single cell animals develop into animals formed of sheets of cells working together in layers - such as jellyfish and sea anemones (see below). As millions of years pass, these simple animals become more complex - with specialist organs and nervous systems.

To the left of the tree animals develop with no backbone (invertebrates) and to the right of the tree animals gradually evolve a backbone and an increasingly complex nervous system. Many of the invertebrate animals - such as the insects, spiders, lobsters, crabs and worms have bodies that are divided into segments (see right). While to the right of the tree, the first appearance of a ‘backbone’ is seen in the free-swimming larva of the sea squirt.

Jellyfish and sea anemones share the same basic design and are closely related. In fact, a juvenile sea anemone is free swimming and looks exactly like a tiny jellyfish, while a juvenile jellyfish looks like a pile of cup-like sea anemones stacked one on top of the other.

Both animals share the same deadly stinging cells (nematocysts) that line their tentacles, although the sting of a jellyfish is far more powerful than that of an anemone.

Life on Earth Began in the Sea

Scientists believe that life on Earth began over 3,000 million years ago when individual atoms of four elements - oxygen and hydrogen (present in water) and carbon and nitrogen (present in the atmosphere) were combined together either in shallow pools at the edge of the ocean, or around deep-sea volcanic vents. The energy that brought them together could have been volcanic heat or lightning and it linked individual atoms of these four elements together into three sorts of long-chain molecules called proteins, carbohydrates and fats - the basis of life on Earth.

Life did not begin however until these molecules combined to form a simple bag or ‘cell membrane’ to contain them. This was the basis of the ‘cell’ structure that makes up all living things. Each cell contains a ‘nucleus’ in which all the genetic ‘blueprints’ needed to reproduce the cell are stored, energy generators called ‘mitochondria’ and ‘ribosomes’ that make the proteins needed to repair the cell.
Learn about birds with BirdWatch Ireland

Feeding Wild Birds Leaflet
Download this leaflet from the Learn about Birds section on BirdWatch Ireland’s website at www.birdwatchireland.ie

Learn how to identify the birds in your garden with our Free Garden Bird Charts. Send a SAE to: BirdWatch Ireland, P.O. Box 12, Greystones, Co. Wicklow.

BirdWatch Ireland has over 10,000 members and has branches throughout the country which organise events and outings in your area. Why not get your school to join? Write to us or visit our website for details: www.birdwatchireland.ie

BirdWatch Ireland has two educational web sites, catering for learning about birds in schools.

Visit the Working with Birds web site to learn about watching and feeding birds

Simply go to www.birdwatchireland.ie and go to the ‘learn about birds’ section

BirdWatch Ireland, P.O. Box 12, Greystones, Co. Wicklow. Tel: 01-2819878 Fax: 01-2819763
Email: info@birdwatchireland.ie
Website: www.birdwatchireland.ie

Drawing Maps of Bird Activity in your School

from BirdWatch Ireland

BIRDS can use your school grounds to feed, bathe, rest, attract a mate and even nest. You can show how they use your school grounds by plotting (marking on a map) the places where these things happen. You may be able to make maps of the school grounds for Mathematics or Geography.

The Map
Use your map to plot the following:
• Places where birds are seen feeding.
• Places where birds preen their feathers or dust-bathe.
• Places where birds are seen or heard singing.
• Places where birds are seen perching or resting.

MAPPING BIRDS’ SINGING PLACES

Many male birds sing to attract a mate and to tell other birds where their territories are (the places they will breed). They sing from trees, rooftops, street lights or other high points. These are called the birds ‘song posts’. The songs also warn other birds of the same kind against trying to take over the territories for themselves.

Making a Song Post Map

Discover which birds are singing around the school (If it is difficult to identify the birds, concentrate on one kind, such as the Blackbird. If you study several birds, use a separate map for each, or use different colours or symbols on one map). On your map mark:
• Where the birds are singing.
• The name of the bird at each song post they are using.
• The height of the song post, if possible (an estimate will do!).

Plot the song posts on to the map every day for a week, preferably for two. Some birds will be singing in the same area on most of your visits, others will be there only once or twice.

After a while, the plots on the map may begin to show patterns. You may notice that a particular bird is often found singing in the same place. These patterns can be used to find out about how birds live.

USING SONG POST MAPS

You can show information about song posts as graphs:
For example the heights from which most birds sing:
• Make your own graph from the information you have gathered.

Looking at the Maps

Are the song posts of any particular bird grouped together? If so, they are probably inside that bird’s territory. It may have other song posts outside the school grounds, so the whole territory may not be shown on your map.

Which birds have territories that include part of the school grounds?

How scientists use territory maps

BirdWatch Ireland’s annual Countryside Bird Survey (CBS) uses territory maps to count bird territories in farmland and woodland all over the country. Their conservation scientists use this information to discover how the populations of birds in Ireland are changing and what threats and dangers they face. You can read the latest CBS news at http://www.birdwatchireland.ie/Default.aspx?tabid=114
Butterfly Search

Find these eight butterflies in the wordsearch below and then discover which butterfly is missing in the group of drawings by studying the markings and colouring in each butterfly.

Peacock
Inachis io
Péacóg

Orange Tip
Anthocharis cardamines
Barr buí

Red Admiral
Vanessa atalanta
Aimiréal dearg

Speckled Wood
Pararge aegeria
Breacfhéileacán coille

Meadow Brown
Maniola jurtina
Donnóg fhéir

Small Tortoiseshell
Aglais urticae
Ruán beag

ANSWERS (Over, Down, Direction):
- Common Blue (14,8, W); Large White (12,9, E); Meadow Brown (1,1, E); Orange Tip (12,1, E);
- Peacock (21,1, S); Red Admiral (11,9, W); Small Tortoiseshell (1,6, E); Speckled Wood (20,3, W).

MISSING BUTTERFLY:
Common Blue.

Be a responsible dog owner AND a responsible member of your community – we all love dogs, but your dogs’ “business” is your business!!

Under Section 22 of the Litter Pollution Act 1997 it is an offence to fail to clean up if a dog in your charge fouls in any of the following places:
- Public roads and footpaths
- Schools/Sports Grounds
- Beaches
- Gardens and property attached to a person’s house
- Green spaces
- Walkways and Amenity Areas

If your dog fouls in these places – clean it up and dispose of it in a hygienic manner.

If you fail to do so you may be issued with a €150 “ON THE SPOT” fine or prosecution proceedings, maximum fine €3,000.
The caterpillars and butterflies want you to play their version of "Snakes and Ladders". Place one coin for each player on the Start square. Takes turns to roll the dice and then moves along that number of squares; land on the large butterfly and climb to the square with the small butterfly; land on the head of a caterpillar and slide down its body; land on a toadstool and miss a turn. The first player to reach the Finish square is the winner!
Gaisce – the President’s Award

Introduction by Stephen Peers

GAVISCE – the President’s Award had an outstanding year which saw 20,563 young people enter for the Gaisce Award in 2011. An important part of the work we do is to provide young people with ideas and opportunities to get involved with activities on a local and national level that are accessible. We have close working relationships with many organisations, for the benefit of our young participants and our one thousand volunteer President’s Award Leaders (PALS) who support our young Participants and maintain our high standards around the country. We have listed the organisations with which we have had great long-term relationships and some very exciting new pilot projects in 2011. In 2012 Gaisce – The President’s Award will see the role out of our new on-line registration process, a new website and the upgrading of our social media tools to make the Award even more accessible for young people, all over Ireland. On behalf of our Participants, President Award Leaders and staff at Gaisce we wish our new Patron and President of Ireland Michael D. Higgins an enjoyable experience and relationship with Gaisce in the coming years.

ECO-UNESCO – Conserving the environment, empowering young people

ECO-UNESCO has linked with Gaisce over the past number of years through a variety of ECO-UNESCO’s programmes and youth activities all of which aim to recognise and reward young people who take part in environmental and community programmes and action projects. ECO-UNESCO is Ireland’s Environmental Education and Youth Organisation, affiliated to the World Federation of UNESCO Clubs, Centres and Associations (WFUCA). Young people have been achieving their Gaisce Awards through a number of programmes with ECO-UNESCO: The Youth for Sustainable Development Programme, The ECO-Youth Choices programme and the Young Environmentalist Awards Nationwide Programme.

In 2011, a group who were participating in ECO-UNESCO’s ECO-Youth Choices Programme from Ballymun Regional Youth Resource Centre completed a local environmental intergenerational action project. The group took an environmental and social approach to conserving and enhancing their local environment. They came together on a Sunday to clean and garden a local older persons housing area that had become unkempt. The group washed windows, weeded and planted whilst engaging and involving the older persons to build relationships between generations. Their project along with over 150 others will be entered into the annual ECO-UNESCO Young Environmentalist Awards 2012 which aims to build environmental awareness and provide the groups with recognition for the work they have done. ‘ECO-UNESCO’s goals of youth empowerment and environmental protection fits so well with the Gaisce programme’ states Elaine Nevin, National Director of ECO-UNESCO. ‘Young people who engage in many of our programmes are involved with the Gaisce programme and are delighted that their involvement in ECO-UNESCO can go towards achieving their Award. For further information contact www.ecounesco.ie / e. yeo@ecounesco.ie / t. (01) 662 5491.

Prevention of Hearing Loss Awareness Campaign

SAORVIEW

SAORVIEW is currently rolling out an important national public information campaign in respect of Analogue Switch Off (ASO), the switch to digital and how people can continue to access their free-to-air Irish television services in digital format. It is imperative that people are fully informed of the requirement to switch their television reception method, and the timelines and practicalities of same to ensure that no-one is left behind in the switch to digital. To further this objective SAORVIEW has partnered with the Gaisce Award programme. The Gaisce youth volunteers will work towards raising awareness of ASO and helping older and vulnerable members of the community with digital switchover as part of their community involvement activities. For detailed information on the suggested activities young people can get involved with as part of the community involvement section of their Award please contact Gaisce – The President’s Award or www.saorview.ie

An Taisce – The National Trust for Ireland

Gaisce – The President’s Award has been actively promoting An Taisce’s Green-schools programme over the last 14 years. Promoting conservation is something Gaisce feels strongly about and young people really enjoy this activity and also creating their environmental awareness in the process, and the feel good factor that goes with it. For more information contact http://www.greenschoolsireland.org

Interested? If your school or youth group is not involved with Gaisce - The President’s Award you should contact: Head Office: Dublin.
Gaisce – The President’s Award, Ratra Hause, North Road, Phoenix Park, Dublin 8. Tel: 01 617 1999 Fax: 01 670 7060 Email: mail@gaisce.ie
Web Site: www.gaisce.ie

For more information on these specific projects contact Gaisce – The President’s Award, Development Officer, Stephen Peers at the above address.
THE people of Baltimore welcomed a new addition to their community on Wednesday 15 February 2012 when the RNLI delivered a €3 million Tamar class to the west Cork village. It has replaced the Hilda Jarrett Tyne class lifeboat, which served Baltimore since 1988. The new lifeboat left RNLI Headquarters in Poole on Saturday 11th February, calling at a number of lifeboat stations along the way before undertaking the final leg of the journey from Crosshaven to Baltimore Harbour.

Onboard the lifeboat was Baltimore RNLI crewmembers, Coxswain Kieran Cotter, mechanic Cathal Cotter, Jerry Smith, Ronald Carthy and Patrick Collins along with RNLI Training Divisional Inspector Owen Medland and Deputy Divisional Engineer Michael Carmody.

Ferry operators brought passengers out to escort the new lifeboat home and the harbour was full of local school children and residents in various crafts. The new lifeboat, which is named Alan Massey (ON 1302) was largely funded through a legacy from Mrs Dorothy May Massey from Watford in England, and has been named in memory of her late brother Alan, who it is understood had a love of the sea.

It was a proud day for Baltimore RNLI Coxswain Kieran Cotter who said, "We have been looking forward to this moment for a long time and we wish to acknowledge our volunteer lifeboat crew both past and present. The arrival of a new lifeboat to a station is an occasion of great pride and excitement. The Hilda Jarrett has served us well for over twenty years but as a Coxswain you look forward to receiving the newest lifeboat model with all the latest developments and technology onboard. We will spend the next month or so training all the volunteer lifeboat crew on her before we say goodbye to our Tyne class lifeboat, which will be returned to the relief fleet in Poole.

We have so many memories onboard that old lifeboat, one of the highlights being the Rambler rescue last August. However along with the successful rescues there have also been tragedies and most recently we witnessed this with the search for the missing crewmen from the Tit Bonhomme in Glandore Harbour. Our thoughts are with their families today."

The new Tamar class lifeboat is 16.3 metres in length with a maximum speed of 25 knots compared to the 14.3 metres of Baltimore RNLI's current Tyne class lifeboat which has a maximum speed of 18 knots. The lifeboat is self-righting in the event of a capsize and is fitted with an integrated electronics systems and information management system, which allows the lifeboat crew to monitor, operate and control many of the boats systems from shock mitigating seats.

The Tamar also carries a Y boat (an inflatable daughter boat) which is housed under the aft deck and deployed from a hinged door in the transom. The lifeboat has room for 44 survivors.

RNLI Training Divisional Inspector Owen Medland who made the journey with the lifeboat crew added, "I have been involved with this project for the last few years and today is a great day for everyone in Baltimore. This lifeboat represents a significant investment in safety along the west cork coastline. I wish the crew the very best and I know this lifeboat will go on to be a vessel that will save many lives and be a symbol of safety and protection for all those who venture out to sea."

Niamh Stephenson, Divisional Media Relations Manager, RNLI, Airside, Swords, Co. Dublin. T: 01-8900460. E: nstephenson@rnli.ie

Websites: www.rnli.co.uk www.baltimorelifeboat.ie
Dredging and Seasonal Constraints in the US

ESTUARIES are places where freshwater and saltwater meet and mix. These areas are also places where sediments eroded from the land settle to the bottom of the waterway. Beginning in the 1970s, dredging and its associated resuspension of sediments began to be a focus of attention for estuarine researchers. The impacts of dredging had always been recognized for their removal of seafloor habitat but it became apparent that suspended sediment could have a significant impact on aquatic resources. This came under scrutiny by regulatory agencies initially when considering the dragline form of dredging. A dragline dredge casts an openmouth bucket out from the crane and pulls it back laden with sediment. The bucket recovery resuspends large amounts of sediment which is carried from the dredge site by the prevailing currents. The dispersion of those suspended sediments creates a zone of redeposited materials radiating outward from the dredging and across a far larger than removed by the dredging. Early life stages of aquatic resources frequently rely on estuarine habitat and these areas are often the site of port and terminal facilities. These uses can create conflicts between protecting resources and expeditiously procuring necessary dredging projects. Invoking the work of researchers investigating the impact of suspended sediment on commercially important shellfish such as the eastern oyster (Crassostrea virginica) and the northern quahog (Mercenaria mercenaria) regulators were able to determine specific values for the impact initiation levels. Understanding the amount of energy expended to separate food from sediment and the cessation of feeding by these shellfish opened the door to managing dredging impacts. It was not long after those shellfish studies were embraced that finfish egg and larval investigations revealed similar results for benthic and pelagic forms as well. As a result the first seasonal constraints on dredging were invoked targeting those summer spawning and early life stage activities period. These seasonal constraints sought to address the main spawning and nursery period but also took into account that dissolved oxygen in water is temperature sensitive (declining as water warms) and public use of coastal waters is at its maximum levels in summer. Simply, dredging was an undesirable competitor with other, on-going, higher valued activities in estuarine environments. To some degree and fortunately, the summer period had proven to be difficult for dredging because of the nature and extent of those competing human activities. Sediment laden waters and dredging equipment obstructing channels had made the work difficult. As a result, dredging in summer has become prohibited, generally, except in special situations.

While most finfish spawn during warmer seasons, the winter flounder (Pseudopleuronectes americanus) spawns in mid-winter and their eggs settle to the bottom. Beginning in mid-January and extending into April the eggs mature, hatch, the larvae grow then metamorphosis into the bottom dwelling, adult form. The maturation process takes far longer than most other species. In the late 1980s, researchers discovered that winter flounder egg development could be impeded or terminated by partial to complete burial with clean or contaminated sediments. This implied that the species was not well adapted to conditions in estuaries. As the species is in decline throughout its range, regulatory agencies moved to create a new, protective, no dredging period that applied the research insights to known and presumed winter flounder spawning areas where dredging was being planned. The addition of this second seasonal constraint has had a profound impact on dredging. The dredging season has been significantly reduced to as little as four months. To overcome this situation, a wide variety of equipment and dredging techniques have been created “Environmental buckets” that limit sediment loss, allowing “barge overflow” of surplus water to make dredging more efficient, “piggybacking” or bundling dredging projects in an area to limit the number of times it is disturbed and sequential dredging (moving to areas where resources are not present) are all techniques that have enabled dredging projects to proceed. Perhaps two of the most valuable insights obtained from the investigations are the extent of a dredge’s resuspended sediment field and the use of local conditions to allow dredging to occur without significant impacts to nearby aquatic resources. Sediment characteristics, dredge equipment and the operator are human components that are as important as water flow, local currents and wave sizes. By understanding the local conditions, dredging and aquatic resources can peacefully coexist, usually, and allow the continued use of coastal ports. With the coming of ever larger ships and the upgrading of the Panama Canal, Ports throughout the world are considering or building new facilities. In most instances, that requires dredging and possible impacts to fishery resources. Creating a Dredged Material Management Plan that protects natural resources as it allows the improvements to progress can make the project a successful experience.

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