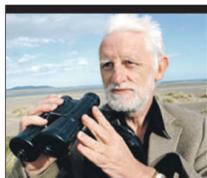


Coming in from the cold

In January 2007, a strange bird was seen on the sea off Farnham in Yorkshire. It was clearly a member of the diver family, four species of which were on the British and Irish bird lists, but this individual looked somewhat odd. The definitive Collins Bird Guide did not feature the bird. Nor should it have done so: the visitor had come from the far side of the world.

Pacific divers move to inland lakes to breed but seldom travel very far from the sea. How, then, did this bird get to Europe? Had it flown across the landmasses of North America or Asia? Not very likely. Its presence remained an enigma. Then two more Pacific divers turned up, one off Cornwall, the other off Pembrokeshire. A sighting, last January, off the Clare coast near Ballyvaughan added the species to the Irish list. This, or another individual, has reappeared and is still there.

In America, divers are known as 'loons', an evocative term. You might think that the name comes from 'luna', Latin for moon as in 'lunatic', inspired by the mournful calls of divers on the lonely Arctic lakes where they breed. The great northern loon's 'song' has even been mistaken for the howl of a wolf. The language experts, however, say that the name derives from an old Norse term, 'lomin', meaning 'lame'. To become the world's most proficient diving birds, loons had to position their legs so far back on their bodies that walking became



Richard Collins

impossible. Divers come ashore only to nest and, on land, they shuffle about awkwardly. Confined to the northern oceans, there are only five loon species. All of them are now on the Irish list.

But how did the new arrivals get here? Finding a sea route between the Atlantic and the Pacific was a problem for sailors as well as birds. The elusive Northwest Passage, from Baffin Bay east of Greenland to the Beaufort Sea north of Alaska, was once the Holy Grail of marine exploration. John Franklin's two ships, with 128 crew members, vanished while searching for the elusive route in 1847. In those days, the passage remained almost permanently frozen but global warming has changed that; ships, and pre-

sumably birds, can negotiate the channel in summer.

Speaking on RTE's Mooney Show, ornithologist Eric Dempsey suggested that this is the route which Pacific divers take to the North Atlantic.

There is, however, another possibility. Global warming has also opened the North East Passage, which stretches from the Bering Sea along the north coast of Russia to the Barents Sea and Norway's North Cape. Pacific divers breed in Siberia east of the Lena River. The distance from Malin Head to the mouth of the Lena is 5,500km, about the same as that to Alaska via the Northwest passage. It seems more likely that the divers work their way along the Russian coast and down into European waters rather than crossing

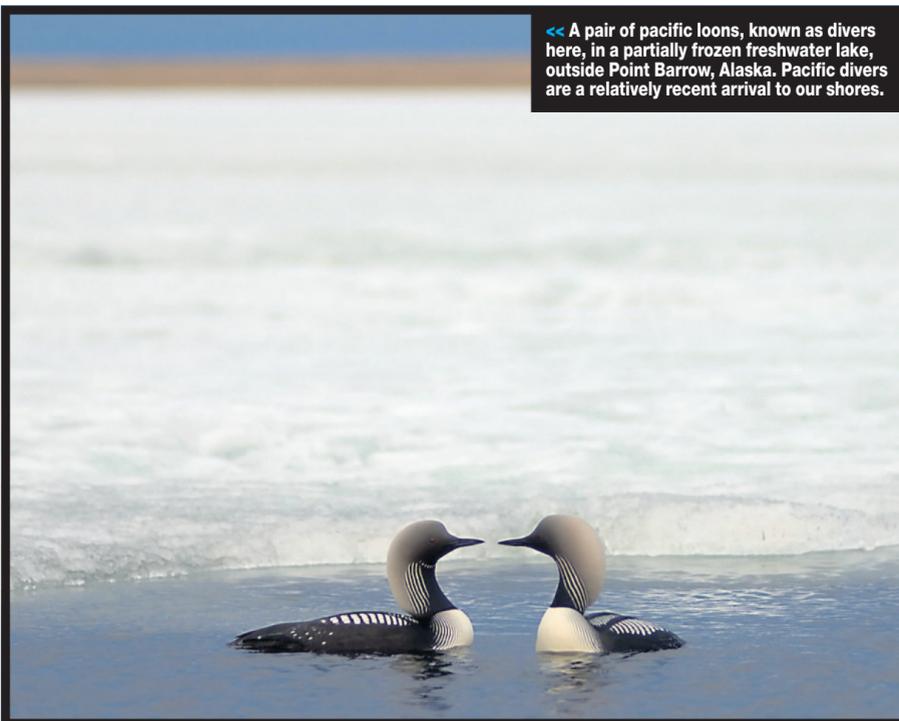
the Atlantic, having negotiated the Northwest Passage.

But divers are not the only strange visitors from the Pacific. The long-billed murrelet is a distant relative of our puffin. This little seabird nests in coniferous forests, sometimes far inland. An adventurous bird, it is prone to vagrancy, wandering the coasts of the Pacific Ocean.

In December 1997, one was found drowned in a fishing net on Lake Zurich in Switzerland. The carcass is now in the Natural History Museum in Basel. Another murrelet turned up in Devon in 2006 and a third was found on a reservoir in Romania shortly afterwards. It's possible that these birds arrived via the Northwest Passage but, having reached the Atlantic, would they

have embarked on a crossing of the ocean and then flown hundred of kilometres inland? Moving westwards along the north Russian coast and down through the Baltic Sea seems a more likely route; murrelets are diving seabirds more disposed to swimming than flying. They are likely, therefore, to remain close to a coastline.

Whatever the routes taken by the birds, these strange sightings of them are a clear indication that global warming is affecting marine ecosystems and that new vistas are opening up for some birds. Similar changes must be taking place within the sea itself, affecting the distributions of fish and invertebrates. The consequences of rapid climate change are complex and unpredictable.



<< A pair of Pacific loons, known as divers here, in a partially frozen freshwater lake, outside Point Barrow, Alaska. Pacific divers are a relatively recent arrival to our shores.



Dick Warner

Help wanted in solving maple mystery

OLIVER RACKHAM is the acknowledged guru of woodland ecology and all things to do with trees. His knowledge is immense. I was reading one of his books the other day and a sentence jumped out at me.

"Maple is supposed to be an introduction in Ireland, but on not very good grounds; its pollen and wood have been found in prehistoric contexts."

This was news to me. There's no doubt that the tree Rackham is referring to is *Acer campestre*, the field maple, sometimes known as the English maple. It's an attractive, medium-sized tree that's easy to recognise when it's in leaf. The leaves are a classic maple or sycamore shape but very small, no bigger than a match box. In the south of England it's common in mixed woodlands and mature hedgerows and the definitive Collins Tree Guide says it's native in England and Wales, with the implication that it's not in Scotland and Ireland.



The leaves of the *Acer campestre*, the field maple — could they be added to our list of native species?

Recently it has become quite popular as a street tree or for planting in parks and gardens. But field maples naturalised or growing wild in a woodland or hedgerow situation are very rare in Ireland. In a lifetime of tree-hunting I have only found them at two locations in the entire 32 counties.

Both these locations had originally been 'demesne woods', in other words they had surrounded a large country house (actually a castle in both cases). I assumed that a rich and powerful landowner with a liking for exotic trees had imported them from England or Wales at some time in the past and they had managed to become naturalised.

I like the notion that I might be wrong. Field maples are attractive trees and the idea we may be able to add them to our very small list of native species is appealing. But what is the evidence? Oliver Rackham is an academic botanist so the sentence I quoted had a footnote. "Information from Richard Bradshaw, citing M. O'Connell for the pollen." Unfortunately, I haven't been able to track down this reference.

So I'm appealing for assistance from tree-lovers. Two things would help me to solve the mystery of whether or not field maple is a native Irish tree. First, any records of trees around the country that have the appearance of being self-sown and therefore either native or naturalised; second, any information on the Richard Bradshaw and M O'Connell mentioned in the footnote.

On the whole we have a good idea of which tree species are native to this country and which were introduced. This is mainly because we have so many bogs and peat is very good at preserving ancient tree pollen, and sometimes entire trees. But there are still a few question marks beside species that produce very little pollen — these are mostly insect-pollinated rather than wind-pollinated trees.

It was once thought that black poplar might be a rare native in the Shannon basin. This theory now seems to be out of favour. Beech is generally regarded as an introduction but there is one intriguing record of a prehistoric beech nut. The species may have established itself here briefly and then become extinct.

The biggest question surrounds Scots pine, which was once common all over these islands. But it died out in England and Wales thousands of years ago, leaving only a relict population in the Scottish highlands. It survived far longer in Ireland than in England or Wales but seems to disappear from the pollen record in the Middle Ages. It probably became extinct but it's possible a few groves survived in remote areas.

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A boost for endangered mussels

ASURE sign of a healthy river is the presence of the freshwater mussel which has largely disappeared in Ireland in recent decades. The reasons for its demise are obvious — the species survives only in pristine water.

Believed to be one of our longest living animals, with a lifespan of up to 120 years, it was once widespread, but is now found in very few catchments. Ireland is estimated to hold around 46% of Europe's freshwater mussel population, with the Munster Blackwater catchment said to have a large part of the national population.

The future prospects of the endangered species have been given a welcome boost by scientists from Queen's University Belfast, following a 12-year cultivation project. Over 300 of the mussels, which are threatened in many parts of Europe and North America, have been released back into the wild at a range of secret locations in Northern Ireland.

Importantly, the Queen's conservation scientists will be able to keep tabs on the mussels after attaching tags to the outside of their shells. The passive integrated transponders, or PIT tags, can be located by a re-



Donal Hickey

ceiver much like a metal detector.

In that way the researchers can then locate the animals in the riverbed and monitor each mussel's progress.

Since 1998, Queen's scientists have been working alongside experts at Ballinderry Fish Hatchery, in Co Tyrone, in the cultivation of these precious but very slow growing mussels which can reach 17cm in length.

In Northern Ireland they are currently teetering on the brink of extinction and the only counties in which mussels currently exist are Tyrone and Fermanagh,

according to Conor Wilson, a PhD student at Quercus, Queen's research centre for biodiversity and conservation science.

"Freshwater mussels are an important part of the ecosystem in many rivers as they filter water keeping it clean and clear. This improves the environment for other plants and animals, and ultimately, humans," he said.

"Our hope is that eventually, through a programme of breeding and tracking, we will be able to see the equilibrium restored in these rivers and bring the levels of mussels back to what they were 100 years ago, before they were affected by a variety of factors including overfishing and habitat degradation."

The year-long release programme of the mussels has just been completed and those involved say it has been a big success. Dr Dai Roberts, academic leader on the project, believes it will ultimately show whether captive breeding and release is a successful method of halting the decline of severely depleted populations.

Freshwater mussels are listed by the International Union for Conservation of Nature as globally en-

dangered. They have undergone a substantial population decline over the last century due to habitat loss, pollution, pearl fishing, river engineering and siltation.

Their life cycle involves mussels releasing larvae into the water. The larvae need to attach to fish gills, usually salmon or trout, for a period of about six months before falling on to the river bed to settle and grow into young mussels.

They burrow into sandy substrates, often between boulders and pebbles, in fast-flowing rivers and streams, and require cool, well-oxygenated and soft water which is free of pollution. In a detailed submission to the Department of the Environment, An Taisce outlined its concerns and threats to the freshwater mussel from forestry and farming operations, saying it was essential the forest service complied fully with the EU Habitats Directive.

"In doing so, the forest service must ensure that no damage occurs to the habitats and populations of freshwater mussels through granting of licences for afforestation, felling licences and forest road approvals," said Anja Murray, An Taisce's natural environment officer.

"It is with these licences that the forest service approves species mixes, use of pesticides and fertilisers, lays conditions for sediment traps and buffer zones, and approves planting regimes which dictate future management options." She also said use of chemicals in farming posed huge risks, warning that one accidental spill, or careless discharge, could obliterate a mussel population. There was a need for further investigation into the use and regulation of chemical products, she felt.

Furthermore, exemptions to the Nitrates Directive in sensitive areas were 'not compatible' with mussel conservation. An Taisce also highlighted problems caused by discharges to watercourses from septic tanks that were not working properly. This was a serious issue, Ms Murray said, but it was not being addressed.

However, a carrot suggested by Ms Murray was that landowners be financially rewarded, through a subsidised support scheme, for helping with mussel conservation.

Such a scheme would include work to stop silt from getting into rivers, buffer zones for silt and nutrients, and farming without toxins.

Nature savours another perfect day

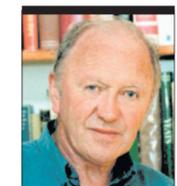
ON Easter Monday, at noon, newly released after a few days in the garage (by which I mean the hospital), I sat on a tussock in a warm spot by the bay and listened to the surf gently break and thanked the gods for being alive on such a day.

The sun shone on my back where I sat protected from the breeze, watching gusts ruffle the blue sea and spread out across it, the patterns of wind on water.

Between me and the further shore — and the house where we lived when we first returned to Ireland — white horses broke on a sandbank, more like white porpoises or salmon in shallow water fighting against the current to move upstream.

Two adult herring gulls cruised offshore and, because I was sitting quietly, gradually moved to the edge of the surf and drifted unafraid 20 yards from me. Lovely, they looked, riding the blue water, these common birds with white heads and breasts, mantles of silver grey and yellow beaks with a bright red spot and a yellow iris in the eye.

Scavengers they might sometimes be, but how clean they were, and peaceful, afloat in the element of lapping surf and rippling sea, clearly a bonded pair, not feeding, just drifting, just passing the time as I was and, perhaps, also enjoying the beauty of the day.



Damien Enright

Some walkers passed, with coloured caps and jackets. The wind blowing over the exposed sand was still sharp, but where I sat I might have been in Greece, by the Aegean, rather than west Cork, by the Atlantic. But who'd bother recalling balmy days in Greece in such a spot? Memory's white beaches and sparkling seas are marvellous to give comfort amongst the concrete of the city, a holiday remembered, a holiday looked forward to, but not here. In London, Yeats, standing on



"the pavements grey" was comforted by the memory of "lake water lapping with low sounds by the shore". The memory of these sounds sustained the great poet, and inspired a great poem.

But here, before me where I sat, was the living sea, rippled by a living breeze, with the sighs and gurgles of the surf breaking and a salt tang in the air. I recalled Shelley's poem, composed by the Bay of Naples, with surely some of the loveliest lines of the many written about the sea... "The sun is

warm, the sky is clear./The waves are dancing fast and bright..." The sheer simplicity paints afresh that long-ago Italian noon-time of light on water.

Shelley goes on to say, "Blue isles and snowy mountains wear/The purple noon's transparent light." That was in Italy; here, in west Cork, my view is hazy, high a cloud to the north and east, the sky still clear behind me to the south. Later, there will be rain, the forecasters say. Across the bay, beyond our old abode with its sur-

Herring gulls, scavengers they might sometimes be, but how clean they were, and peaceful, afloat in the element of lapping surf and rippling sea.

Picture: Sheena Jolley