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Peregrine on Cuilcagh

CANN Project news from the lockdown

Well, when we put together the last newsletter we were looking forward to a very different spring and summer from the one we ended up with. For CANN, coping with Covid has led to some significant innovations and different ways of working. All fieldwork research and outdoor activities came to a halt and only restarted tentatively at the beginning of June with hugely different work patterns imposed by the necessity to socially distance, even up a mountain!

The teams kept in touch by Skype and Microsoft teams, sometimes feeling a little like the Muppets in their iconic theme tune arches, as we battled with dodgy downloads and IT interruptions. However, the plus side is that our carbon footprint decreased sharply, and we proved that face-to-face meetings don't have to involve travel…something that may well continue after lockdown. Some work though has suffered. We are missing almost a full breeding season of bird data, our nest protection work has had a rough start, and we have been unable to do all the scientific recording necessary for monitoring the water quality on the loughs. Luckily the virus struck after the end of the vegetation control season, so our rhododendron and pine control works were finished and hopefully will be able to continue in the autumn. Make sure to visit our twitter feed, Instagram our Youtube Channel and our website news (www.thecannproject.org) to keep really up to date.

COLLABORATIVE ACTION for the NATURA NETWORK

CANN

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News from the Islands

Native tree planting on Eilean na Muice Duibhe

Back in February amid Storm Ciara, with its rain, snow and vicious winds our contractor Starling Learning, battled the elements to plant 2250 native tree saplings on 1.8ha of land on a small plateau near the River Laggan.
Trees planted included downy birch, willow, rowan, hazel, holly, and crab apple. All species are robust and low growing and can tolerate harsh winds. The planting took place in an area where we had removed rhododendron ponticum several years ago. Our aim is to provide additional tree cover along the river valley and to strengthen the existing woodland corridor so increasing species diversity. What was once a rhododendron desert with bare, dry, sterile soil will become a biodiverse woodland – the tree species chosen support up to 450 different insects and mites and up to 160 different species of lichen.
We also hope that the planting will help stabilise riverbank water runoff and bank erosion. Trees are increasingly recognised for their importance in managing water flow. Their leaf canopies help reduce erosion caused by falling rain. Their leaves also provide a wide surface area where rainwater lands and evaporates without even reaching the ground. Roots take up water and help create open conditions in the soil that promote infiltration.
Planting was informal with varying density of saplings. Planting stock was sourced from the appropriate seed zone for Islay, meaning that the trees are tough and should survive well even in extreme conditions, to aid their survival further, tree shelters were placed over each sapling.

”Trees we plant today are the forests we enjoy tomorrow “ -Matshona Dhliwayo

Uragaig Common Grazing, Isle of Colonsay

Urugaig Common Grazing belongs to the Uragaig crofting township and is situated on North Colonsay SSSI. The Isle of Colonsay landowners and community have made a concerted effort to clear the island of rhododendron. Uragaig is the only remaining area of the plant on the island. Unless it is removed, this will be a seed bank to re-infest the rest of the island.

Scottish Natural Heritage have previously surveyed the site to develop a removal plan. There is a mix of dense, mature plants on steep slopes and open areas of sparse, small plants and seedlings.

CANN partners, Argyle and the Isles Coast and Countryside Trust (ACT), started a tendering process to appoint contractors for this project. This process was disrupted by the lockdown and travel restrictions which meant potential contractors could not carry out a site visit to price the work. The deadline was extended so ACT could gather additional information to assist the contractors in seeing the scope of the work. ACT now plan to start work in September (depending on the COVID 19 situation).

Even without Covid, Colonsay is a logistically difficult to reach. At the best of times there are limited transport options – in winter there are only 4 ferries per week and these are liable to disruption from weather. So, fingers crossed that the contractors can get in and out and beat this beast on Colonsay once and for all to create a rhodi-free island.

Ammonia monitoring on Cuilcagh and Sliabh Anieran

We are placing ammonia monitors across the NI raised bog sites and across Cuilcagh and Sliabh Anierin to record what the levels are on these sites.

UW team hard at work, whatever the weather—this is Fermanagh, not Iceland! Placing ammonia recording equipment

And later the same day , showing how quickly the weather can change

This information will feed into the national monitoring programme in NI, to help us understand the impact ammonia might be having on these sites. It is hoped that in a remote area like Cuilcagh and Sliabh Anierin that the levels will be low, but there have been no direct measures on the site .

Ammonia is the reduced form of nitrogen, and is deposited on our peatlands from the air. Ammonia has been shown to be a major component of nitrogen enrichment of our peatlands, which are N-limited systems and therefore very sensitive to damage from ammonia. It is estimated that 45% of the plant species extinctions that occurred in the UK between 1987 and 1999 were associated with increased nitrogen, this is probably also the case in Ireland, perhaps even more due to the importance of the agriculture sector. Nitrogen enrichment of these habitats has a direct toxic effect on mosses, lichen and dwarf shrubs. The effect is most evident on bryophytes, particularly our important bog building species – sphagnum mosses. A reduction in sphagnum cover therefore negatively impacts the ability of these peatlands to sequester carbon. Lichens are also particularly sensitive because they take their nutrients from the air – too much nitrogen is toxic to them. Rich lichen diversity can be smothered by slimy algal growth, which proliferates in a N-rich environment. Nitrogen enrichment changes the plant species composition characteristic of blanket bogs and raised bogs towards Nitrogen-loving/tolerant species, leading to changes to the structure and function of these habitats. Most of NI and ROI's precious designated peatland sites are exceeding their critical load for ammonia. We are also doing extensive Ammonia monitoring studies on our lowland raised bogs.

The Wetter the Better

One of the most significant pieces of work that CANN is undertaking is the rewetting of our Special Area of Conservation (SAC) bogs. We need to map the water levels within the bogs to help us identify which drains are the most important and plan the blocking. We also need to monitor water levels after the work, to directly measure the benefits our restoration work is having on the sites. In a healthy bog, the water table should be at least 10cm from the surface for 90% of the year. When water tables are low, Sphagnum moss cannot grow and reproduce, and the bog slowly dies. We won't be there to observe the changes in the vegetation composition towards a healthy, wet peatland community after drain-blocking (this will take years). However, a rise in the water table within the life-time of the project shows us that these systems are well on their way to recovery.

Roisin out on Cuilcagh measuring in all weathers

On Cuilcagh, we will be placing almost 300 peat dams. We must measure the water table in every season, so we go up the mountain and out on the bogs every month to take manual readings (rail, hail or shine). We also have automatic loggers or piezometers in place which take a water table reading every 15 minutes. Our consultants on this project RPS Ireland, will analyse this data to determine the impact of our drain-blocking works before the end of the project.

Overall, on the fourteen raised bogs in the 8 SACs that Ulster Wildlife is working on for CANN, we will be installing several thousand dams. Different types of dam are being used.

Digger on bog mats at Cranny

Peat dams, such as those made this year at the Cranny Bogs around Fintona, are built by digging out wet peat from below the bog surface and packing it into the drains to create watertight dams that stop the flow of water in the conduit and raise the water table up close to the surface. This work started early in 2020 and was not helped by the wettest February on record which made using a 12t digger very challenging. The work could not be done without bog mats: although they weigh nearly half a ton each, they spread the weight of the digger across a much larger area like a giant digger bog-snowshoe!

The works have been a real success so far and water built up behind the dams quickly, even after several weeks without rain they were still full of water. However, after nearly 12 very dry weeks, the drains began to dry up, showing that even with these works, no habitat is immune from the impacts of climate change!

Plastic dams working well

On a small number of sites, we are installing plastic dams, and at one location, Garry Bog near Ballymoney, the most

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significant drains will be blocked with combined peat and timber dams.

The drain blocking aims to keep the high bog as wet as possible, so peat formation can happen, thus locking up carbon and maintaining the habitat as wet as possible for the plants and animals that rely on these unique places.

BEFORE Blocking

AFTER Blocking (red flag marks dam)

Life is short...go birding

Peregrine, the fastest animal on the planet

Our partners at the Golden Eagle Trust were as frustrated with the lockdown as anyone. Unfortunately, since the bird breeding season waits for no man, this work could not be rescheduled, and the team missed vital surveys during April and May. They didn't just sit around though and were able to catch up on reporting their findings and contributing to conservation and species action plans for Garry Bog. The team was able to restart surveys in late May and staff and GET volunteers worked night and day to complete the first round of visits to each site. So far three pairs of hen harriers have nested in Monaghan. Sadly, two of them failed, possibly due to agricultural activities or turf cutting. Turf cutting activities on Sliabh Beagh are higher than ever recorded before. This is probably due to Covid19, giving people a lot of extra time on their hands combined with the most fantastic spring weather. This is the most significant issue for this site complex and its birds. Other activities such as recreational off-roading and an increase in the number of dogs off the leash have also harmed the mountain's biodiversity with several pairs of Curlew disturbed while nesting. Despite these setbacks on Sliabh Beagh, our monitoring team on Cuilcagh got some beautiful shots of peregrine and even an immature White-Tailed Sea Eagle. This bird, known as the flying barn door because of its enormous wingspan, had probably been exploring along the nearby Shannon-Erne waterway. The heartland of this species is in the South West where they were reintroduced from Norwegian stock in 2007 by the Golden Eagle Trust. Around a dozen pairs are now established and breeding in Ireland again.

White-tailed sea eagle through the view finder

Mountain Habitat regeneration

The Cuilcagh Mountain and Cuilcagh-Anierin Uplands Special Areas of Conservation (SACs), are part of an extensive upland area found in south-west Fermanagh and west Cavan and Leitrim, straddling the border. Work has just started on the top of Cuilcagh mountain to repair damage to the delicate Montane heath there. This kind of Alpine and Boreal heath develops above the treeline. It is characterised by plants such as heather and crowberry that are low growing owing to exposure to high winds and even long lying snow, which suppresses their growth and favours the growth of some lichens and bryophytes such as wooly fringe moss and fir club moss. As the plants are already only just hanging on by the skin of their teeth, the slightest additional disturbance can cause damage to the plant cover which then exposes the delicate peat soils to erosion.
Work to repair this damage is painstaking and is all done by hand. The team are down on their hands and knees, putting together a giant rock, plant and soil jigsaw puzzle. They search for the exact shape of stone to fit, delicately easing the vegetated turfs into the right place and finishing it all off so well that you can barely see that they have been there. This work is the start of a significant project which will continue into the autumn. We will show you the finished repaired heath in the next edition but even after just a couple of week's work you can see the difference that has been made.

BEFORE work began, bare rock showing, little vegetation

AFTER first tranche of work completed, shallow heather-clad soils recreated

Research and planning for the future

One of the deliverables for the CANN project is to create a Conservation Action Plan (CAP) for each of the SACs within the project. Conservation Action Planning is a powerful tool to guide conservation teams to develop focused strategies and measures of success. As actions are taken, and outcomes are measured, Conservation Action Plans are revised to incorporate new knowledge. They are living documents which will shape the future of the management of each site. They are created in consultation with landowners and the community within and around the sites. They consider the most up-to-date science and the traditional land usage that originally created the rich habitats in the first place. Research is being undertaken by our academic partners to understand the mechanisms behind the way the ecosystems work. The CAPs for all SACs managed by Scottish Natural Heritage have been completed, and the Covid Lockdown has had a silver lining in giving the teams uninterrupted time at the computer to work on many others. All these documents will be put up on our website and will be given to the relevant national body in charge of the SACs for legacy use after CANN is over.

Targeting water quality on Lough Arrow

Lough Arrow's water quality sampling started on the 20th of May for the 2020 season. We started this monitoring in May 2018 and it occurs yearly for the Spring, Summer and Autumn seasons. Sampling is carried out by CANN partner, The Institute of Technology Sligo, with the help of Inland Fisheries Ireland, Sligo County Council and The Environmental Protection Agency. A number of parameters are measured including pH, conductivity, dissolved oxygen, total chlorophyll, temperature and nutrients. This sampling compliments the routine Water Framework Directive sampling carried out by the EPA thus providing the CANN team with further insight into the dynamics which influence the overall ecological condition of this SAC.

Darren sampling in emergent vegetation

Sampling from shore

Ongoing monitoring of the dynamics which influence this Annex I habitat (Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.) are important as Ireland supports a significant proportion of Europe's representative examples of this Annex I habitat with some of the best examples occurring here. Due to this, Ireland has a particular responsibility in ensuring the Favourable Conservation Status of this Annex I habitat within Europe.

Traditional cattle on Sliabh Beagh

A growing partnership is being forged between new Sliabh Beagh landowners An Taisce (the National Trust for Ireland), the CANN project and a local farmer, Patrick McKenna. Fencing erected under the CANN project has enabled the reintroduction of traditional breed Dexter Cattle to the hills recently gifted to An Taisce. The Dexter is the smallest European cattle breed, much lighter than modern continental cattle breeds. This small size makes them ideally suited for grazing in the Irish uplands in summer as they can negotiate rough terrain without getting stuck in ditches, bog holes or drains. They also need less forage and can thrive on coarse plants found in the Irish uplands. Their grazing opens up areas of dense vegetation, allowing ground-nesting birds back in. Historically many of our mountains would have been farmed with cattle during the summers. Often referred to as “boolying”, this transhumance would have been widespread throughout Europe. It used to involve young people living rough in huts, on the mountain with their animals. However, this way of farming all but died out due to increased emphasis on larger, more intensively reared cattle breeds. So although Pat McKenna won’t be sleeping on the hills with his beasts, he is producing healthy, happy cattle with a very high-quality beef that has a sought-after flavour that he can sell at a premium price to specialist butchers and high-end restaurants. And the CANN project is reaping the additional benefit of well managed, biodiverse uplands.

Pat McKenna with his Dexter Cattle on Sliabh Beagh

News in brief

CANN project gets new PPE

New personal protective equipment with CANN logo and our funders SEUPB on it will shortly be distributed to all the teams. We will be sporting softshell jackets, poloshirts and fleeces to help promote the project and raise awareness about it.

Commonage grazing study under way

Michael Martyn and his colleagues, our contractors in this study on Cuilcagh Anierin had a chance to meet and chat to commonage shareholders at our landowner engagement event in January in Ballinaglera. Grazing is an essential tool in managing our most sensitive habitats and we need to understand the pressures the commoners are under and the knowledge they hold of current practice

Video in production

The CANN promotional video is in production. Film makers from ASG have discovered the joys of wading the bogs after the wettest February on record and are skilled in filming using drones to get some fabulous aerial shots. Covid delayed work (as with most things) but visits have just taken place on Lough Arrow and Sliabh Beagh and we look forward to seeing the end results in the Autumn.

Project Partners

Lead Partner: Newry, Mourne and Down District Council (NMDDC).

- Agri-Food and Biosciences Institute (AFBI);
- Argyll and the Isles Coast and Countryside Trust (ACT);
- Armagh City, Banbridge and Craigavon Borough Council (ABCBC);
- East Border Region (EBR);
- Golden Eagle Trust (GET);
- Institute of Technology Sligo (ITS);
- Monaghan County Council (MCC);
- Scottish Natural Heritage (SNH);
- Ulster University (UU);
- Ulster Wildlife (UW).

The CANN project partnership also works very closely with National Parks and Wildlife Service (NPWS) in Ireland and the Northern Ireland Environment Agency (NIEA).

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