Curlew Conservation Programme

Annual Report 2018

An Roinn Cultúir,
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Summary

- The possibility of Curlew becoming extinct as a breeding species in the coming years, is one of the greatest conservation concerns in Ireland. Decades of habitat loss and fragmentation and losses to predators have seen the species decline in numbers by 96% since the late 1980s/early 1990s. Unfortunately, these threats are very much present and active.
- The Curlew Conservation Programme is a pilot effort for a new approach to Curlew conservation in Ireland. It was introduced in 2017 and is coordinated by the National Parks & Wildlife Service of the Department of Culture, Heritage & the Gaeltacht and involves a wide range of actors, proactively working to help Curlew. Central among these are the landowners where Ireland's last remaining Curlew breed.
- The Curlew Conservation Programme provides a wide ranging and comprehensive framework that includes habitat maintenance, enhancement and creation; survey effort, nest protection; public and community engagement and much more.
- There are two main pillars within the Curlew Conservation Programme; one which delivers on the ground action and another which progresses research for a species that has received little attention in Ireland heretofore. Both pillars are closely intertwined and complementary.
- A locally-led approach is taken, whereby seven important locations for breeding Curlew in Ireland each have a locally-based team, working with local people and adapting techniques, efforts and priorities to what works best locally.
- Local teams, known as Curlew Action Teams (CATs), were comprised of three main roles:
    - A Curlew Conservation Officer
    - A Nest Protection Officer
    - A Curlew Champion.

    An assistant role was assigned to CATs where required.

- The second year of the Curlew Conservation Programme saw direct efforts in the following areas:
    - Stack's Mountains (County Kerry)
    - Lough Corrib
    - Lough Ree
    - North Roscommon/Mayo
    - Mid-Leitrim
    - North Monaghan
    - Donegal

  The CCP was active in South Leitrim in 2017, but it was agreed in early 2018 that this important area (holding six pairs in 2017) would come under the auspices of the newly formed Curlew Project European Innovation Partnership.

- The Curlew Conservation Programme was well received on the ground, where the local teams liaised closely with landowners and local communities, in the search and protection of breeding Curlew.
- A total of 60 pairs were recorded by the Curlew Conservation Programme in 2017. Comparing like for like (i.e. removing the South Leitrim area), the number of pairs in the operational area of 2018 declined from 54 pairs to 45 pairs. It is thought that very poor weather in the Spring of 2018, allied with extreme drought conditions as the season progressed, resulted in fewer pairs breeding overall. However, breeding territories continue to become extinct, especially those with older birds that may not have reared young for a number of years.
- Of these 45 pairs, the breeding success of 44 pairs was determined; with just 13 pairs believed to have reared chicks. The total number of juveniles recorded to have fledged was 19, representing a breeding productivity of 0.43 fledglings/breeding pair, which is just above the threshold of 0.425 fledglings/pair required for a stable population. While the number of pairs settling to breed was lower than in 2017, the breeding productivity has improved since the first year of the programme (2017), when it was 0.38 fledglings/pair.
- A number of significant habitat works were undertaken in 2018, which should benefit Curlew in 2019 and beyond.
- The Curlew Conservation Programme continues to build skillsets, experience and momentum. The programme is widely supported, both nationally and internationally and most importantly in the local areas where Curlew are breeding.
- It is hoped that the Curlew Conservation Programme will continue into the future, acting for Curlew conservation with local people and learning valuable lessons along the way in what is essentially a pioneering project to support a species that is a very well respected part of the Irish avifauna, landscape, culture and heritage.

Background

The Eurasian Curlew is protected under Irish and EU law. It is Ireland's only Red Listed bird species on the IUCN list of threatened species. A national survey commissioned by NPWS in 2015 and 2016 found drastic declines of the national breeding population of Curlews. Whereas 3750-4000 pairs are estimated to have bred in the Republic of Ireland in the late 1980s, there now remains no more than 150 pairs (O'Donoghue & Donaghy, 2018). This represents a 96% decline. Breeding productivity is so low that population viability analysis predicts that unless 0.425 fledglings are produced by every pair, the Curlew will go extinct as a breeding species in Ireland within 5-10 years (A. Lauder, unpubl. data).

The National Parks & Wildlife Service of the Department of Culture, Heritage and the Gaeltacht introduced the Curlew Conservation Programme in 2017. This programme now focusses on seven core Curlew breeding areas, with a view to delivering robust and effective measures that can be rolled out at a national level in future years. A research programme is built into the programme, to inform how effective these measures are and what factors are most greatly influencing Curlew breeding success in Ireland.

This report presents the main points of the Curlew Conservation Programme in 2018.

Introduction

The Curlew Conservation Programme has been designed to deliver action on the ground, at a local level, empowering local people to take ownership and involvement. The Agri-Ecology Unit of the National Parks & Wildlife Service manages this programme. In its second year, the Curlew Conservation Programme was present in seven areas, which collectively accounted for about 50% of pairs confirmed in the national breeding survey in 2015 and 2016. In comparison to efforts in 2017, efforts in Roscommon were augmented by work in nearby East Mayo, while south Leitrim and south Lough Corrib were left to the newly established "Curlew Project" EIP, co-financed under the Rural Development Programme by the European Commission and Department of Agriculture, Food & the Marine.

Curlew Conservation Programme action was implemented in the form of field surveys, working with landowners to protect nests from predation (seen as the greatest constraint to breeding success) and habitat maintenance, creation and enhancement. Each area had a locally based team (primarily consisting of local people) to carry out this action. In total, 21 people were enlisted on the local teams between April and August 2017. National Parks & Wildlife Service regional staff were centrally involved in a number of areas, particularly in North Lough Corrib and in the North Midlands Region.

1. Stacks
2. Lough Ree
3. Roscommon/Mayo
4. Leitrim
5. Monaghan
6. Donegal
7. Lough Corrib

Figure 1. The seven Curlew Conservation Action Areas.

Local Action – the Curlew Conservation Team and the Curlew Conservation Partnership

Regional National Parks & Wildlife Service staff have for a number of years been undertaking surveys and proactive efforts for Curlew. The addition of dedicated Curlew Action Teams in some of the most important areas has enhanced these efforts. These teams were given dedicated geographical areas and the support and autonomy to provide local solutions that were appropriate to the sites in question. The roles included in the Curlew Action Teams are now described.

Curlew Advisory Officer

This was the lead role locally. The Curlew Advisory Officer (CAO) was the primary link between their local project team, the local community and the Curlew Conservation Programme manager. The CAO was tasked with nest finding, nest protection, liaising with and providing advice to landowners and team members on curlew conservation, local administration, ecological recording.

Local Curlew Champion

This was a pivotal role and was the key to fostering and maintaining positive relations between the project and the community. One of the key ingredients in realising success in an agri-environment scheme is to gain real 'buy in' from the landowners and local community. This is best achieved by local people hearing positive soundings from local people. The Curlew Champion was tasked with encouraging close working relationships between project personnel and landowners, organising meetings, building a positive profile for Curlew and the NPWS Curlew Conservation Project among landowners and local community, highlighting issues and proposing solutions for landowners and the project.

Curlew Nest Protection Officer

One of the key constraints for breeding Curlew is the difficulties they are experiencing in hatching eggs and rearing young (Franks et al., 2017). Predation is believed to be a main cause of breeding failure (Ainsworth et al., 2016). In effort to address the issue of predation, a two-pronged approach was designed – nest protection fences and predator control. The role of the Nest Protection Officer was be to humanely and legally cull Fox, Mink, Hooded Crow and Magpie solely in the vicinity of Curlew breeding territories (within 1km of nest sites). The Nest Protection Officer was also to assist in efforts to find breeding Curlew, and indeed in assembling and maintaining nest protection fences. The presence of Nest Protection Officers proved to be largely welcomed by locals, particularly livestock farmers. The efficacy of the predator control efforts employed shall be critically analysed by the Curlew Research Officer.

Curlew Action Team Assistant

The breadth of work involved in Curlew conservation efforts was realised in the first year of the programme, 2017. In truth, significant resources are required and an additional fieldworker, while not a complete solution, was welcomed in some of the larger and busier areas. This assistant role was to be utilised as required, whether in terms of supplementing survey effort or community engagement or any other aspect of the local team effort.

Figure 2. Curlew Action Teams

Curlew Conservation Partnership

In order to engage proactively with those who own and manage lands where Curlew breed, the Curlew Conservation Partnership (the public engagement aspect of the Curlew Conservation Programme) has been designed to allow payments for landowners (primarily farmers, but also others as appropriate), for their time and efforts with the Curlew Conservation Programme. Payments are operated under the auspices of the National Parks & Wildlife Service Farm Plan Scheme (NPWS, 2017) and any double-funding/contradiction for works planned under the Green Low-carbon Agri-environment Scheme (GLAS) are avoided. Plans are designed and agreed with landowners/land managers to deliver a better environment for breeding Curlew. Payments can be made for various aspects of maintaining, creating and improving habitats and for a participant's time investment in liaising with the local CAT. The partnership element is very important in building strong and positive relationships between the local landowners/land managers and the local CAT.

In 2018, a community fund under the Curlew Conservation Partnership was awarded to six separate local Curlew conservation projects, allowing conservation efforts on a wider geographical basis, driven by the local people themselves, with support and advisory from the Curlew Conservation Programme.

Local Action in 2018

Areas

As already stated, the second year of the Curlew Conservation Programme saw direct efforts in the following Curlew areas:

- Stack's Mountains (County Kerry)
- Lough Ree
- North Roscommon/East Mayo
- Leitrim
- North Monaghan
- Donegal
- Lough Corrib

Surveys

Surveys were largely focussed within 3km of Curlew territories known from the 2015 and 2016 surveys and territories discovered in 2017, but were not limited to these areas and a wide net was cast by the Curlew Action Teams where they sought and received reports of Curlews from elsewhere in their regions. Word of mouth and local media and outreach materials were used to seek reports of Curlew during the breeding season. Curlew Action Teams and/or NPWS staff in each area adopted survey techniques to suit their landscape, terrain and individual circumstances. A combination of walkover surveys, vantage point surveys, use of tape lures and discussions with local landowners were used. For the lake areas (Lough Corrib and Lough Ree), logistics included the use of boats to access islands and this brought its own intricacies (in terms of avoiding disturbance of birds as boats approached the islands). Even though each CAT had the flexibility to adopt the survey techniques that best suited their local requirements, data collection was standardised and collated centrally.

Some of the core objectives of the survey work were to determine as closely as possible, where the Curlew were nesting, where they were feeding and the outcomes of the breeding efforts. Determining nest and feeding locations was imperative to directing nest protection efforts and informing habitat maintenance, creation and enhancement works. These data and data pertaining to breeding results would also be central to the research project that follows the action on the ground, in order to determine the efficacy of measures carried out, to learn more about Curlew ecology in Ireland and to monitor location population trends over the coming years.

Figure 3. Survey efforts drew on a toolkit of vantage point watches, walked transects, use of tape lure and talking to local people.

Nest Protection

Predation of Curlew nests (eggs and chicks) has been identified as excessive and population viability analysis shows that in the absence of action, Curlew will no longer exist as a native Irish breeding bird after 2025 (Alan Lauder, unpubl. data). Nest Protection efforts in 2017 and 2018 primarily focussed on the targeted removal of North American Mink (*Neovison vison*), Red Fox (*Vulpes vulpes*), Magpie (*Pica pica*) and Hooded Crow (*Corvus corone*). The reduction of generalist predators will also benefit various other breeding birds. Nest protection fences were deployed at four sites in 2018 and provded beneficial in helping Curlew hatch out chicks.

Figure 4. Curlew nest in County Monaghan. This nest was protected using a nest protection fence (above, showing incubating Curlew inside the fence). The chicks successfully hatched from the eggs, but were later suspected to have been predated by a cat when the chicks were mobile and outside the sanctuary of the fence.

Engagement with Landowners and Communities

One-to-one engagement with local people, especially landowners, was a feature of the Curlew Conservation Programme throughout the course of the breeding season and beyond. Some nests in silage fields were protected from silage harvesting and nests in turbary (turf cutting) areas were protected from mechanical operations, all in close cooperation with the farmers/turf cutters.

Figure 5. One-to-one engagement with landowners, farmers, turf cutters and silage contractors was essential in saving Curlew nests and promoting Curlew friendly practices.

Figure 6. A small area in a silage field that was not cut in order to safeguard a Curlew nest. Other fields were delayed entirely, with the farmers receiving remuneration for doing so.

Local festivals, community events, school talks, marts and much more were attended by members of the CATs in 2018. Various events around the country were organised by the Curlew Conservation Programme for World Curlew Day on 21 April. One such local gathering was that in the Stack's Mountains of County Kerry. This community approach brought together hundreds of school children and teachers from the schools of the Stack's Mountains, with an educational and fun aspect to mainstreaming consciousness of the Curlew and the importance of the local area. This instilled pride in the next generation, who in turn told their siblings and parents and wider relations, thereby raising the profile of the Curlew, the local conservation initiatives underway and links between the community and "their" Curlew, something not many communities can claim nowadays.

The day's events included the raising of the Curlew flag, traditional music by the schools, an illustrated talk on Curlew and other birds of the Stack's Mountains, award ceremony for an art and short story competition run in the lead-up to World Curlew Day, and finally, the Curlew Cup.

The Curlew Cup was a Gaelic Football competition, played out by the schools for the pride and honour of claiming the Curlew Cup and bragging rights over nearest neighbours, at least for a year until rivalries will be renewed. This approach can be replicated across the last remaining strongholds of Curlew in Ireland. It does not necessarily have to be Gaelic Football. It simply needs to be something that is special to the locality and build on this as a celebration of and by the community. There was a genuine understanding by the schools as to the importance of the Curlew and their local area, and there was follow-up engagement with the local Curlew Champion after to learn even more about Curlew and to follow their progress during the breeding season.

Figure 7. World Curlew Day. The Curlew Conservation Programme organised various events across the country including the above in the Stack's Mountains, Co. Kerry.

Outreach and educational material was produced by the Curlew Conservation Programme, including information leaflets, posters and stickers. These were all very popular in the localities where the CATs were active, but also nationally. The National Ploughing Championships were held over 3 days in September, with more than 90,000 people attending the first day. The Department of Culture, Heritage & the Gaeltacht's marquee was centrally located and received large footfall. The sound of the Curlew's bubbling call drew many to the Curlew Conservation Programmme stand where people could learn about the Curlew and the conservation efforts, or reminisce on times when the bird was much more common in the Irish Summer or report locations where Curlew may be breeding. It was interesting to note the generational gap, with those over 45 remembering well the Curlew, but those under 20 often not even knowing what the mounted Curlew on the table in from of them was.

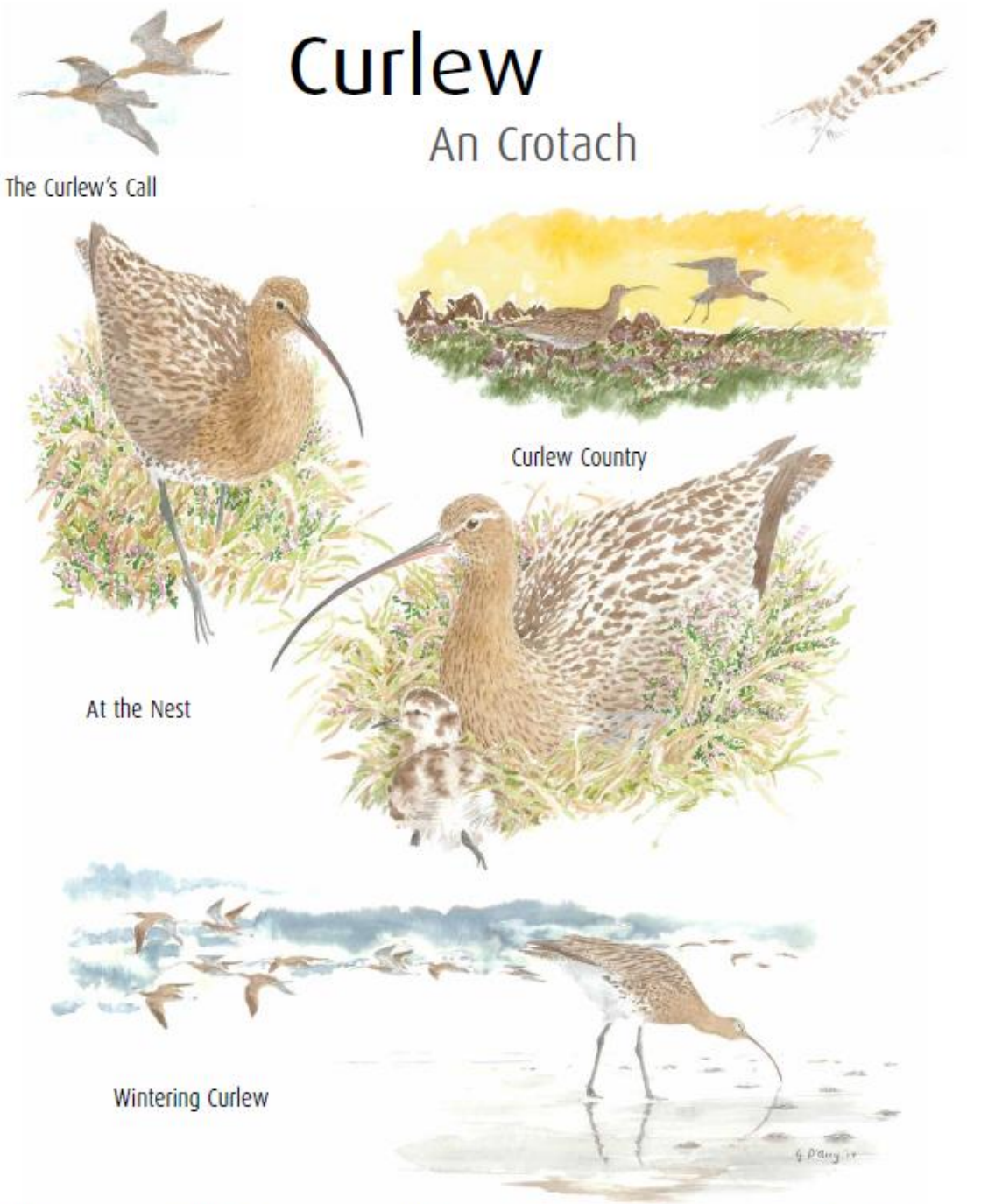

Figure 8. Curlew Poster

Figure 9. Curlew Stickers (regular sticker on left; car window sticker on right)

Figure 10. One of the interested visitors to the Curlew Conservation Programme's stand, Uachtarán na hÉireann, Michael D. Higgins.

It is important that local people and communities feel a sense of ownership of the Curlew conservation effort and are empowered to help in their own areas and the community fund and advisory support under the Curlew Conservation Partnership that was awarded to six separate local Curlew conservation projects was integral in that regard.

Habitat Enhancement

Habitat enhancement works were undertaken at a range of sites in 2018. This included the following efforts:

- Permanent predator and stock proof fencing
- Rush cutting
- Scrub clearance
- Drain re-profiling
- Wader scrape creation
- Lime application (to improve pH for soil invertebrate food)
- Tree removal (strategically undertaken near nesting site where Hooded Crows were using conifers as perching and outlook posts)

Figure 11. A permanent nest protection fence in the process of being built. Next to the fence is one of the landowners who has warmly welcomed the introduction of the fence and other efforts to help breeding Curlew on his and his neighbours' lands.

Figure 12. Areas where scrub was cleared under the Curlew Conservation Partnership (outlined in white).

Figure 13. A number of fields in Curlew territories with excessive Soft Rush (*Juncus effusus*) cover were cut in a considered way, to improve their usefulness for Curlew.

Figure 14. A number of fields were limed, in order to improve the pH for soil invertebrates such as earthworms, an important part of the Curlew's diet.

Ten farmers agreed to spread granulated lime on their fields, at a rate of one bag of granulated lime to the acre in autumn 2018 (this being supplied by NPWS). Allied to the lime spreading, it is proposed to carry out some basic monitoring of rush growth and soil invertebrates to determine if there is any effect from the lime spreading. The aim of this work is to create additional feeding areas close to known Curlew nest sites. Detailed soil tests were undertaken before application of lime and will be undertaken again in Spring 2019.

It was vital in undertaking habitat enhancement works, that the receiving environment and the ecological needs of other species were taken into account. Works were not undertaken where they were likely to impact negatively on other species of conservation concern. In many cases however, there were synergies to be realised from the habitat enhancement works, for example, scrub clearance on what once would have been species-rich grassland. Already, a number habitat enhancement works undertaken for breeding Curlew have been noted to bring spin-off benefits for other threatened species including breeding Lapwing, Snipe and Redshank, as well as winter visitors including Greenland White-fronted Geese. The continued proactive engagement with landowners will be essential to maintaining these positive results.

Populations (numbers and breeding outcomes)

The same areas as 2017 were covered again in 2018, but South Leitrim was not included, as it was agreed in early 2018 with the newly formed Curlew Project European Innovation Partnership (EIP), that the EIP would establish a presence in that area. Unfortunately, the EIP did not have any presence in this area in 2018. The EIP was active in the southern half of Lough Corrib, although it did not have a survey team. Towards that end, regional NPWS staff and the Lough Corrib Curlew Action Team undertook surveys across the entire lake.

Table 2 summarises the survey results for each of the six areas associated with the inaugural year of the Curlew Conservation Programme.

Table 2. Survey results for breeding Curlew in the CAT areas 2018

Region	Pairs	Successful Pairs	Fledglings	Breeding Productivity
Stacks	6	0	0	0
Lough Ree	16	6	6	0.38
Leitrim	3	1	2	0.66
Roscommon/Mayo	6	2	3	0.50
Monaghan	5	0	0	0
Donegal	2	0	0	0
Lough Corrib	7	4	8	1.14
TOTAL	**45**	**13**	**19**	**0.43***

* the outcome of one pair was unknown, so breeding productivity is that of 44 pairs

It should first be noted that the number of pairs that settled to breed (n=45) in 2018 had declined since 2017, when a total of 54 pairs were recorded breeding in these areas (overall, 60 pairs were recorded by the CCP in 2017, but six of those were in South Leitrim, which is now under the auspices of the Curlew Project EIP). This decline is thought to have been primarily driven by a very wet and cold spring, followed by a droughty summer. For example, on Lough Corrib in 2017, 15 pairs were recorded, whereas in 2018, just 7 pairs were recorded breeding. It is hoped that if conditions are more favourable in Spring 2019, that the number of pairs settling to breed may improve. The overall breeding productivity recorded in 2018 was 0.43 fledglings per pair. This is just above the threshold of 0.425 fledglings per pair required to maintain a stable population, as calculated by A. Lauder (Figure 15) using updated figures since Grant (1999) who estimated a threshold of at least 0.48 fledglings per pair was required to maintain a stable population. Either way, clearly the more chicks produced the better, but this may at least be tentative signs of an improvement in the breeding productivity of Curlew in the Curlew Conservation Programme areas. It should also be noted that similar sized populations in England were recorded to rear no fledglings at all in 2018 – in fact in recent years, a total of 250 breeding attempts in Southern England have reared only six chicks to fledging stage (Curlew Forum, unpubl. data). Whereas in 2017, Lough Ree stood out in terms of population growth and had a favourable breeding productivity rate, in 2018, this declined to a figure of 0.38 fledglings per pair, below the threshold required for a stable population. It is to be noted however, that the number of pairs recorded breeding on Lough Ree increased from 13 in 2017 to 16 in 2018. It was the other large lake area, Lough Corrib, that produced the highest breeding productivity in 2018 (1.14 fledglings per pair), with a total of eight fledglings recorded from seven breeding pairs (four of which were successful).

The Stack's Mountains in Kerry had a favourable breeding productivity in 2017, but in 2018, no chicks were reared in this important and most southerly breeding range. The number of pairs recorded (n=6) remained similar to that recorded in 2017.

Monaghan's relatively small, yet important population has remained stable since it was originally surveyed in 2015, with an additional, fifth pair recorded in 2018. However, just one chick has been recorded to fledge successfully in Monaghan since 2017, and it is clear that breeding productivity will have to improve if the population is to be sustained.

The breeding productivity in both Roscommon/Mayo and Leitrim was the lowest of the Curlew Conservation Programme in 2017. However in 2018, both areas were above the threshold required to maintain a stable population. This, allied with habitat enhancement works in Autumn/Winter 2018, gives hope for the future.

Donegal continues to be a great concern, despite previous and ongoing efforts with habitat enhancement works progressed by BirdWatch Ireland under INTERREG projects (HELP and CABB). Just two pairs were found in the county in 2018, neither of which fledged any young. Donegal is the only part of the Curlew Conservation Programme to date, where no young have been recorded to fledge.

Given the sensitive nature of the species, the locations of the pairs are held by the National Parks & Wildlife Service and may be made available upon request, subject to a data sharing agreement.

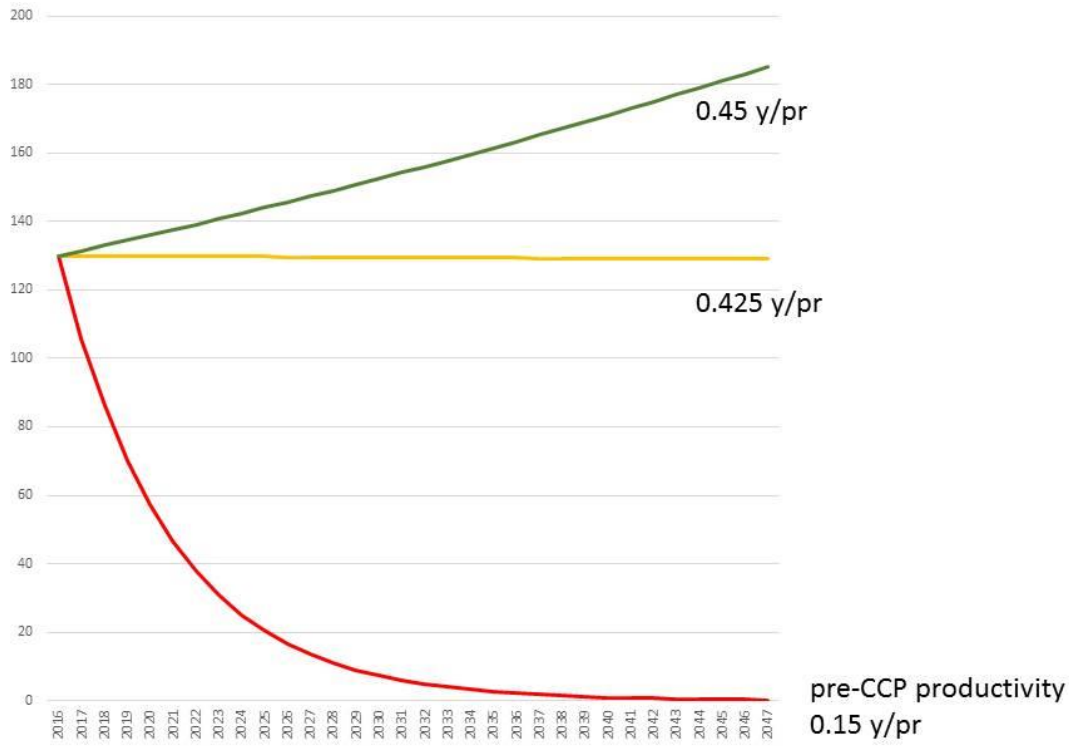

Figure 15. National Population Viability Analysis Graph based on mixed data sources from NPWS/BWI/BTO/RSPB (Lauder, unpubl. data).

Research

As part of the Curlew Conservation Programme, integrated research is underway at University College Dublin, financed by the National Parks & Wildlife Service of the Department of Culture, Heritage & the Gaeltacht. This is incorporating data from the breeding seasons as collected by the Curlew Conservation Programme, with the primary objectives of furthering knowledge of Curlew ecological requirements and the examining in greater detail the issues affecting their conservation. There are various aspects to this research including:

- Mapping of nest and territory locations recorded by the Curlew Action Teams
- An appraisal of and details of nest site selection according to habitat 300m around the nest and on a hinterland basis (3km radius from nest site)
- An appraisal of and details of breeding philopatry
- An appraisal of and details of breeding phenology (provided annually, with an overall synthesis at end of project)
- As part of the research pillar of the Curlew Conservation Programme, a MSc thesis was undertaken by postgraduate student, Sarah Keenan entitled “Relating patterns of land-use change to the decline of breeding Eurasian Curlew (*Numenius arquata*) in Ireland”. This work went towards a comparison of land use in territories that have been lost since 2007 and those that remain. Sites that retained Curlew had more grassland and less afforestation than sites that lost Curlew, but statistical significance was not found, mainly due to limitations of

the data set (namely CORINE). It is hoped that the use of more robust datasets will shed greater light on the impact of land use on Curlew in known breeding territories here.

- An appraisal of and details of predators frequenting Curlew nest sites, times and dates in relation to stage of breeding and frequency of activity
- An appraisal of and details of whether particular habitats/features correlate to predator type, abundance and activity
- A determination of hatching success
- A determination of fledging success
- An appraisal of and details of whether particular habitats/features/conservation interventions correlate to breeding success/productivity

There is also an important socio-economic aspect to the research element of the Curlew Conservation Programme, whereby the birds or the science are not viewed in isolation, but as a product of the presence and management of the landowners of the Curlew territories. Social studies are being undertaken to look at issues such as farm succession, attitudes towards habitat and landscape changes, understanding of Curlew, future prospects for land use in Curlew breeding territories and what landowners feel they need to deliver a favourable environment for Curlew.

Public Awareness

The Curlew is a well-known and much loved bird in Ireland, with links to landscape, literary, cultural and social heritage dating back thousands of years. Naturally, given the serious decline of the population, conservation efforts for Curlew in Ireland have been of interest to the public and the media whether local, national or online have featured the work of the Curlew Conservation Programme. There have been positive features in the Irish Times, Irish Examiner, various local newspapers and radio stations, Raidio na Gaeltachta, TG4, and RTÉ (both TV and radio). The positive profile of the Curlew Conservation Programme is important in maintaining the public support that the species has enjoyed. This is backed-up on the ground by good public relations through the local Curlew Action Teams, which themselves are primarily composed of local people.

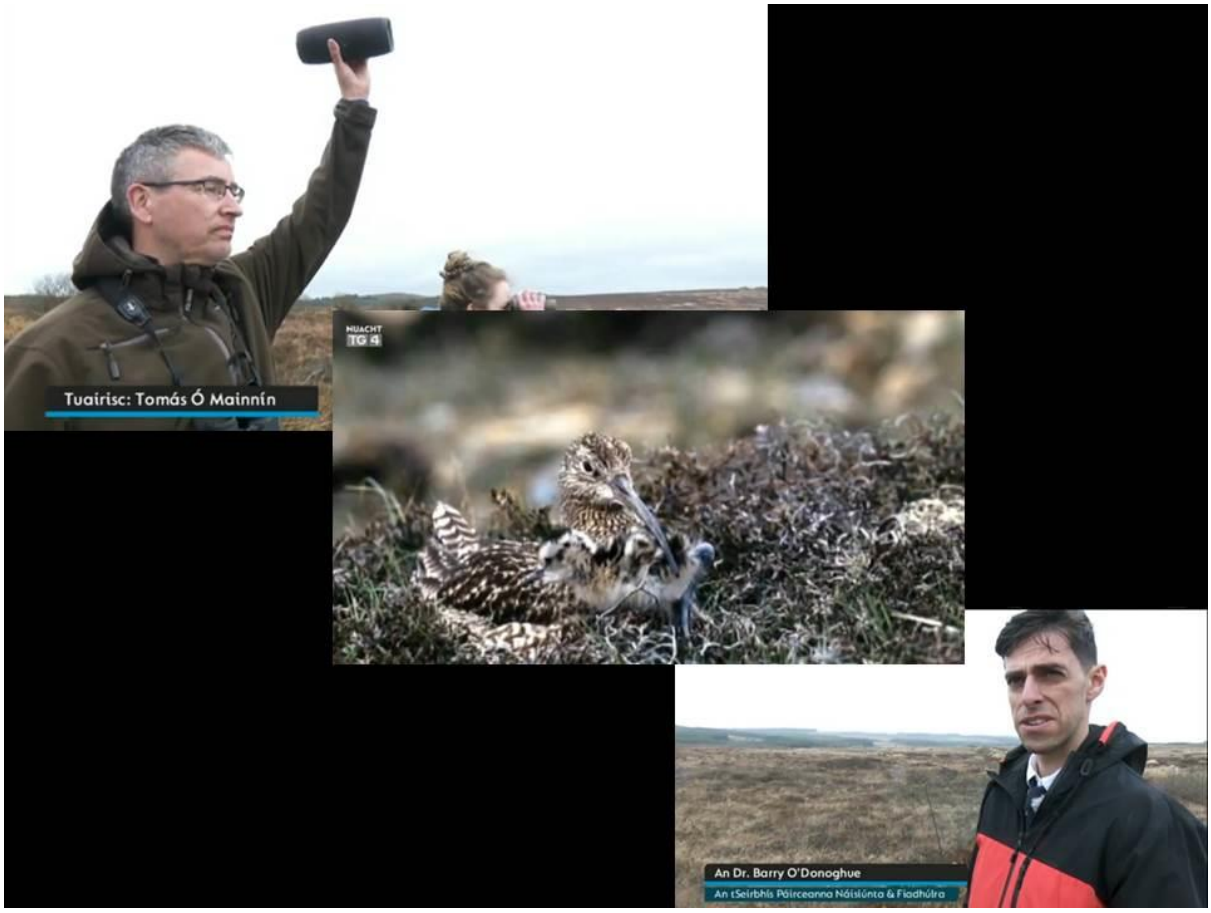

Figure 16. One of the features on national television in April 2018.

Conclusion

There may be some green shoots in terms of improving the breeding productivity of Curlew in the conservation areas. This is ultimately what is required if the long-term decline of Curlew in Ireland is to be arrested and turned around. There is however, a significant challenge ahead, perhaps one of the most difficult challenges in Ireland today. The Curlew Conservation Programme is however building knowledge and expertise and capacity, and the learnings of this programme will be essential to informing wider national rollout. Already, valuable feedback has been given to the Curlew Task Force which is making recommendations on future policies for Curlew conservation and to the Department of Agriculture, Food & the Marine, who administer the national agri-environmental schemes. It is clear that a holistic approach will be required, involving all the various stakeholders, and maintaining and fostering the positive support that is alive across Ireland for the much loved Curlew.

Acknowledgements

Minister Josepha Madigan for her support of the Curlew Conservation Programme. Katherine Licken, Niall Ó Donnchú and Ciarán O'Keeffe for their leadership and vision.

All landowners who engaged proactively with and facilitated the efforts of the Curlew Action Teams.

All local community centres and parish halls, schools and local groups who supported the Curlew Conservation Programme – this is your heritage and your programme. The Lyreacrompane Community and Resource Centre was integral to the Curlew Cup and World Curlew Day activities in the Stack's Mountains in 2018.

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The various media outlets that featured the Curlew Conservation Programme in 2018.

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