Nesting opportunities and habitat suitability to support choughs - a report to North Devon Coast AONB

Breton chough at Baggy Point. Rob Jutsum

RSPB December 2017
Claire Mucklow

Contents

1. Summary

Until 1910, choughs were a resident breeding species along the North Devon coast. They probably disappeared due to a combination of habitat change, and persecution as happened in other areas (ie Gower, Anglesey and Cornwall) in the late 19th and early 20th centuries.

Over the last decade there have been records of choughs visiting North Devon's coast meaning recolonisation is likely in the future. The nearest choughs are resident in Pembrokeshire and Gower, which is only a hop across the Bristol Channel, and, since 2001, Cornwall where they are gradually recolonising their former range along the North coast from sites in West Cornwall.

This report focuses on measures that can be adopted to enhance nesting and feeding opportunities to encourage these visiting choughs to stay and breed once again. A resident chough population in North Devon would also help sustain a stronger and more linked North-West European population.

A combination of boat based surveys (to assess nest site potential) and field work (to assist in targeting habitat management) was undertaken in June 2017 by the RSPB as part of the North Devon Coast AONB Coastal Creatures Project.

The surveys found areas of suitable habitat and other sites that could be brought into favourable condition along the AONB coast, however more could be done to link these habitats and ensure openness and accessibility of the swards is chough friendly year round across the network. The assessment of the cliffs for nesting opportunities however found few 'typical' caves or significant cracks or crevices and although there will be some sites chough could use, this is thought to be a limiting factor for choughs to successfully recolonise the North Devon coast within the AONB.

Given experience elsewhere (particularly in Mid Wales where nest sites are few but habitat exists), a combination of focused management on a few sites to make them 'chough ready', plus the installation of nest boxes in these areas would heighten the chances of the birds finding and using these sites into the future.

2. Background
Choughs - a UK perspective

Choughs are 'green listed' on the current Birds of Conservation Concern (BoCC) list (they were formerly 'amber listed'). However this is somewhat misleading. In a recent (August 2017) evaluation of birds in Great Britain against criteria used by the International Union for Conservation of Nature (IUCN), choughs are considered Red listed in the 'Vulnerable' category and thus at risk of extinction from Britain*.

With a combined total of only 394 pairs in the UK/Isle Of Man (2014 UK/IOM wide survey), a reduced range, the Scottish population in trouble and fast declining, and fewer than 15 pairs in England (all in Cornwall) choughs are highly conservation dependent and classed as a rare resident species. Their requirement for appropriately managed grazed habitats at a landscape scale makes them vulnerable to changes in management driven by agricultural practices, subsidies and policy.

Chough continues to be a priority species for the RSPB to ensure their status in the UK remains stable and favourable.

* (IUCN) is a global authority on the state of the natural world, and the process used to create their Red List of Threatened Species is widely recognized as the most comprehensive, objective approach for evaluating the conservation status of plants and animals across the globe.

3. Chough history in North Devon

Choughs were formerly resident along the North Devon coast with the last documented breeding record at Lynton in 1910. Not a great deal is known about their numbers but past records suggests they historically bred along much of the north Devon coast. Areas mentioned in particular include Hartland Point, Clovelly to Bideford Bay, the cliffs between Croyde, Baggy Point, Morthoe, and Ilfracombe, and further east toward the Valley of the Rocks, Lynton and Countisbury Hill (Brown and Grice 2005). Unlike for Cornwall, no precise cliff nest locations have been documented.
As with many other areas in the UK, including in Cornwall and parts of Wales, choughs died out in North Devon probably due to a combination of habitat loss, persecution and perhaps disease. Habitat loss: grazing retreated away from the immediate coastal strip favoured by choughs, making it unsuitable. Persecution: choughs were trapped (a price on their heads as an agricultural pest), caught for taxidermy or taken into captivity. The effects of diseases on choughs is better understood now and in areas where food is difficult to find choughs can pick up parasites such as gape worm that can adversely affect a population not in robust health (this is currently thought to be an issue in Scotland).

4. **Why is the recolonisation of North Devon important?**

North Devon is a crucial link in the chain between populations in Brittany, Cornwall and Wales. Recolonisation will help facilitate movement and interchange on a more regular basis, increase the breeding population, and help decrease the risk of genetic issues.

- The North West European chough population (UK, Isle of Man, Ireland and Brittany) is isolated from the other European populations.
- Research has shown that the choughs in NW Europe have different sub populations but they are genetically quite similar and interchange between these sub populations is essential for their genetic health.
- From a post WWII low, which saw a contraction of range, numbers have increased in the UK and some range recovery has happened (ie Anglesey, Gower, Cornwall).

- The recolonisation of Cornwall in 2001 after a gap of nearly 30 years (birds from Ireland) has seen successful breeding each year since. In 2017 the Cornish population is approximately 40 individuals.
- The Cornish recolonisation is particularly important, providing a bridge between the Breton and Welsh/Irish birds.

5. Why hasn't it happened yet?

Until relatively recently it was thought choughs were much more sedentary than we now know they actually are. Ringing records show there is regular movement between UK countries and over large distances, although recruitment into the breeding population does not necessarily follow. From the early 20th century to now there have been incidental records of choughs visiting North Devon's coast. These records do seem to be increasing in regularity, not surprising given the proximity to Gower and Pembrokeshire across the Bristol Chanel where there are seemingly stable populations.

DNA studies (Wenzel et al) show the recolonisers to Cornwall were from Southern Ireland (and at least one other bird subsequently turning up on the Isles of Scilly was also from Irish stock). Colour ringed individuals from Wales and Brittany have been seen at a few sites along the North Devon coast (see Annex), some of those sightings being within the breeding season. So far the choughs have not stayed for more than a few days or possibly a couple of weeks. There could be a number of reasons for this:-

- Young birds prospecting for a territory but too young to breed so drift away
- Wrong combination of sexes to stay and breed
- The habitat is not suitable or sufficient in area so they move on
- No suitable safe nest sites to entice them to stay
- A combination of the above

Is there sufficient quantity and quality of habitat to support choughs and are there suitable nest sites for them? A past study (Davies RSPB 2010) looked in general terms at habitat and its suitability along the North Devon coast and indicated that some areas where grazing management was in place could be used by choughs if they made a comeback. These areas were relatively small and fragmented but with an increase in management using suitable stock, plus bracken/scrub management more habitat could be brought into condition for chough.

Little information exists on exactly where chough used to nest in the past and ad-hoc surveys from land found few typical nest sites given choughs require a cave or deep crevice. This is mainly because the geology precludes the formation of cracks and caves and where there may have been nest sites in the past vegetation could be covering them, making cracks and fissures inaccessible now. There will certainly be suitable nest sites but they are not that frequent or obvious.

6. Project brief

As part of the North Devon AONB's Coastal Creatures Heritage Lottery Funded project the RSPB was tasked with assessing parts of the AONB coast for its suitability to support choughs in terms of a combined nesting and habitat approach and make recommendations on the best areas to focus habitat management and, if necessary, nest site provision to encourage choughs to recolonise.

7. The surveys

7.1 Nest site assessment

Choughs nest tucked away on ledges in sea caves, quarries, within fissures/crevices, in old buildings (and some modern buildings), and in mine shafts. Most of the natural sites chosen by choughs are relatively easily spotted ie significant sea caves and obvious holes or crevices. All these sites are relatively safe from predators.

Historic information on nest location in Devon is limited to general areas along the coast, ie 'Hartland', which is not terribly useful. In Cornwall helpfully there is more detail on whereabouts of old nest sites, which is useful in predicting where choughs may breed in the future.

Given that large stretches of the North Devon coast are not easily viewable from the cliff top and surveys from beach level are not always practical, the surveys undertaken by boat were important to understand the location and extent of potential nest sites and whether this could be a limiting factor.

Two mornings of surveys were arranged by the AONB team for 12 June (Lynton/Morte Point) and 13 June 2017 (Clovelly-Welcombe Mouth). These covered the most likely stretches of coast within the AONB where choughs had been spotted in recent years (an area outside the AONB was included as it coincided with a departure point). The weather was perfect for surveying on both days, sunny, calm seas and the specially chartered rigid inflatable boat (RIB) enabled manoeuvrability close to the cliffs.

Using aerial photos and maps plus the knowledge of AONB and National Trust staff on board, it was possible to pinpoint any suitable nest site and ask questions about the management of the cliff tops and general area.

See table 1 for site specific observations.

7.2 Habitat assessment

Choughs have a largely invertebrate based diet with much of their prey (especially tipulid larvae) found sub-soil. As such they require easy access to the soil and need a mosaic of habitats through the year at a landscape scale in which to forage. Grazing is key to providing the conditions choughs prefer helping to keep grasslands shorter and accessible. Stock provide dung for invertebrates to colonise.

During the breeding season pairs stay close to their nest site for feeding and provisioning chicks (or risk nest failure by travelling further afield). Outside the breeding season choughs will roam more widely and use arable fields, sand dunes, the strand line, golf courses, and semi improved habitats inland of the coast.

An assessment of habitat and its suitability for chough along the North Devon coast was undertaken by the RSPB (Davies 2012) This produced a broad picture of the general condition of the cliff tops and slope and immediate hinterland in terms of accessibility of sward. Rather than repeat this assessment, using a combination of local knowledge and the most suitable areas from the previous study, a few areas were chosen to revisit and assess alongside nest site criteria.

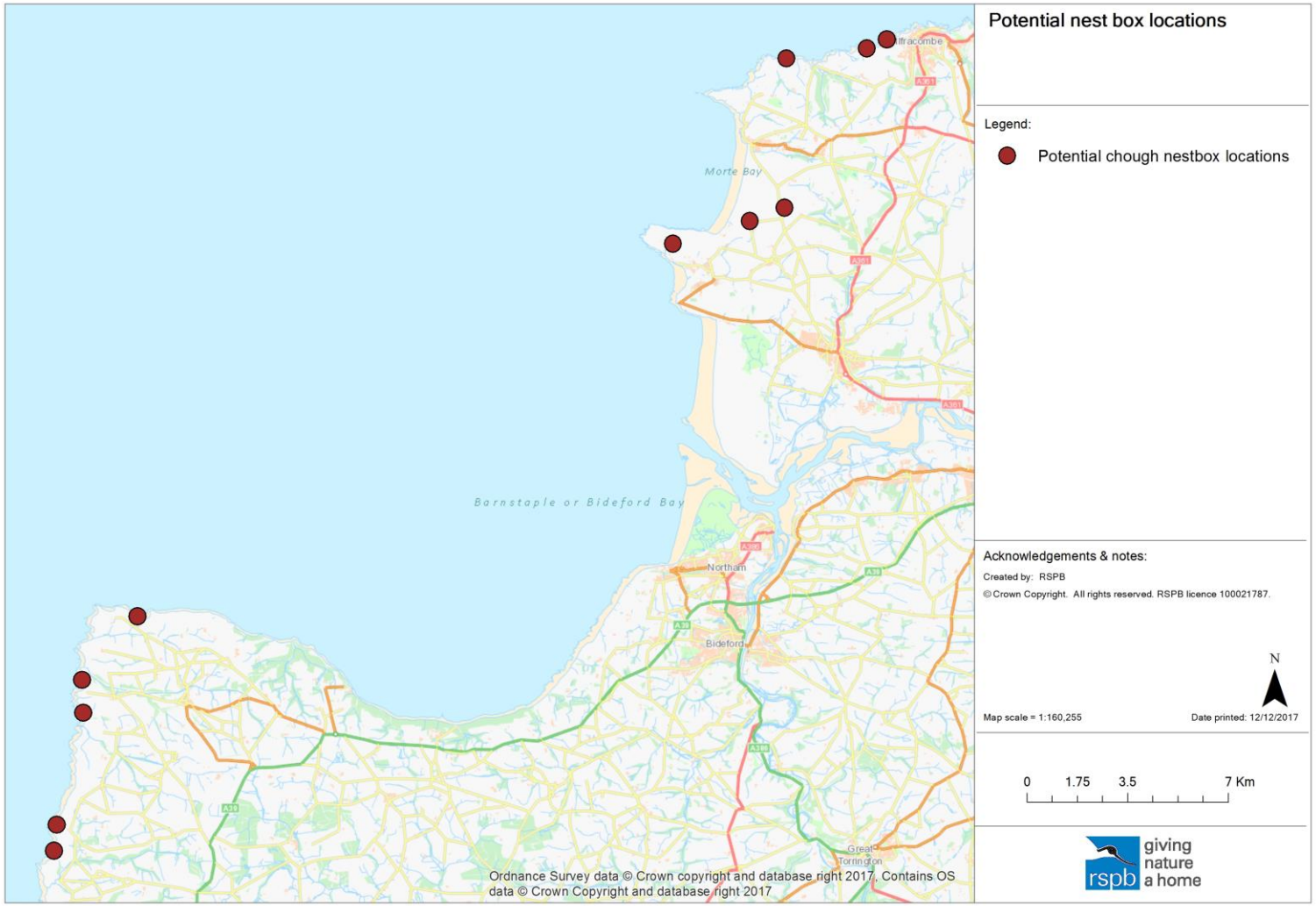
See table 1 for habitat observations and recommendations.

8. Table 1 Observations and recommendations

Area	Nest site observations	Nest site recommendations	Habitat observations	Management recommendations
Foreland Point-Lynton	Foreland Point Lighthouse – one of a few coastal buildings to look at for nest boxes	Possible site for boxes (choughs have been seen in this area).	Not surveyed but likely limited to enclosed fields, which make up a significant area so a key stretch of coast	Landowner liaison to identify enclosed fields for more targeted management. Where possible graze unenclosed slopes.
Valley of the Rocks	Some crevices between Yellow Stone and Wringcliff Rock and along Wringcliff Bay. A few crevices west of Cuddy Cleave Wood (not typical nesting cliff)	Site for box (choughs have been seen in this area).	Suitable short trampled swards – but disturbed. Goats graze cliff, Also sheep grazed. Rocky outcrops important. Pastures behind coast likely foraging areas	Landowner liaison to identify enclosed fields for more targeted management
Woody Bay-Combe Martin	One 'through cave' possible? Possible cave/fissure at the 'A' frame. Likely crevices at Highveer Rocks, East Heddon's Beach and Elwill Bay west of Mare and Colt. Caves too small and below high water line.	Investigate from beach level	Not surveyed. Slopes not suitable. Enclosed fields are grazed mainly sheep. Likely some interest within shorter open heathland	Landowner liaison to identify enclosed fields for more targeted management
Combe Martin-Ilfracombe	Any caves too small and would be inundated at high spring tides. Possible fissure west of Widmouth Head		Not surveyed. Likely some interest within shorter open heathland	Landowner engagement
Ilfracombe-Torrs area	Likely caves at Brandy Cove Point.	Investigate at beach level, possibly nest box where more open cliff	Some habitat, sheep/cattle grazed. More potential area within enclosed land behind cliff.	Control bracken and heavier grazing to tackle dense sward. Flat Point fenced area could be target grazed?
Lee Bay -Bull Point	Small crevices east of Bull Point – maybe too small. Only likely nest sites would be higher cliffs, no obvious sites.	Nest box provision (Owner of Damage Barton observed choughs in barn).	Some suitable pastures over larger area at Damage Barton. Other areas too lightly grazed. Bracken dominates slopes.	Target grazing to open up dense swards preferably with cattle. Bracken control of slopes

Bull Point to Morte	Morte Point is too low lying and has no natural nest site – Taller cliffs are from Bull Point. east	Choughs seen recently at Rockham. Nest box on higher cliffs nearby	Suitable habitat in patches, mainly confined to footpaths or enclosed fields – some inland grazed fields also suitable.	Target grazing if possible with cattle to open up dense swards. Bracken control of slopes. Temporary fencing if appropriate to facilitate grazing.
Woollacombe area	Not surveyed Probably no natural nest sites given low lying area and soft cliff	Consider artificial site in quiet building or barn back from coast	More extensive habitat – network of dunes, inland fields and golf courses. Busy area for tourists	Continue with grazing management behind Woollacombe. Landowner engagement. Golf course assessment
Baggy Point	Not surveyed, northern cliff high enough for nesting	Possible nest box site in time (but busy site)	Grazed areas around headland, plus footpaths and weather maintained short swards, some enclosed pastures suitable.	Chough use this area so one to concentrate on. Potential for arable management
Saunton/Braunton/ Northam	Too low lying for nest sites		Not surveyed. These areas will have suitable dune/grassland habitat with exposed cliff face	Important for winter foraging Landowner engagement
Clovelly-Windbury	Few suitable nest sites		Not surveyed	Landowner engagement
Beckland Bay-Shipload Bay	A few possible holes/cracks along this stretch, none significant	Choughs recorded in area. Possible box location near Barley Bay	Gawlish sheep grazed with potential (cliffs very vegetated). Other enclosed fields suitable	Create network of fields with some shorter swards through year. Arable management.
Barley Bay-Hartland Point	A few holes Barley Bay area.	Possibly boxes if management secured	Some enclosed fields suitable. Limited areas on open cliffs	Landowner engagement
Hartland Pt to Milford	A few holes/crevices	Nest box provision	Grazed fields around Hartland quay suitable. Some suitable areas around St Catherine's Tor. Valley slopes in area not suitable	Target any grazing and scrub control to one or two sites.
Milford to Welcombe	Few likely natural sites	Nest box provision One of the key areas	From South hole to Welcombe suitable areas with grazing including open cliff and flowery open habit, potential within other enclosed fields.	Potential for more habitat between Welcombe and South Hole if more intensive arable fields managed. Some spring/summer grazing needed to ensure shorter swards.

9. Map of potential nest box locations



10. Example site. South Hole – Welcombe, where combined existing good habitat, potential for more management and nest box provision could provide suitable conditions for chough

Sheep grazing on unenclosed cliffs between South Hole and Welcombe

Shorter flower-rich swards suitable for chough. Fencing from footpath = less disturbance

Arable near cliffs is important for seed and invertebrate prey especially if managed with low-input spring cereals then overwintered stubble

Suitable stretch of cliff for nest box

Signage to help interpret grazing needs to be obvious and robust

Grazing and cutting should ensure some short open areas are available year round-(ie not all long grass in spring/summer)

11. Discussion

11.1 Nest sites

From the sea based surveys it is apparent how the geology generally does not support significant caves as few caves capable of supporting a nest (ie above high water with suitable safe ledges) were observed. There were also few likely crevices or fissures that shouted 'chough' – again mostly as a result of the geology and stratified nature of the rocks where angle of bedding plane means few natural cracks or where the cliffs are very friable. Some holes were apparent, although a number were surrounded by thick vegetation, which could act as a route into any future nest site for small mammals. Where woodland covers some parts of the coast ie around Clovelly, and patchy trees and scrub on parts of the Ilfracombe/Torrs cliff and Gawlish area for example the vegetation may cover old nest sites, we will never know. Choughs generally would not nest in such vegetated areas but could do so close-by on an open stretch of cliff.

There will undoubtedly be suitable crevices or holes-choughs can nest in small spaces - but the fact that the survey found few 'typical' sites, ie caves or large crevices, especially within areas of better habitat, points to nest sites potentially being a limiting factor for effective recolonisation and further distribution of choughs in this part of south west England.

In the UK choughs often frequent apparently suitable habitat but no breeding takes place; this is possibly because there are no likely nest sites. A study in Wales (Cross, Green and McKay, 1993) found that the effects of nest ledge or box provision were encouraging and often immediate. We know from this study and other Welsh data that at least 5% of choughs, a significant number, breed in nest boxes or where artificial ledges have been put in place – chough workers in Wales have been using boxes/ledges for the last 25 years, usually where there is insufficient natural (or man made) nesting sites. Boxes or ledges are used annually and pass from generation to generation of choughs. In areas where there are few nesting sites the boxes support a population that would not otherwise breed there (areas such Ceredigion with similar geology to North Devon).

Buildings are used by choughs as nest sites, both working agricultural buildings (barns) and old disused structures. This may be worth exploring especially where good habitat exists but nest opportunities on the coast would be unsafe for choughs ie where there is heavier pressure from tourism or public access. An area to consider looking for a structure would be just inland from Woollacombe where the network of dunes, golf courses, coastal grazed pastures and stocked farmland provide various habitats in close proximity – this area is less disturbed than the coast nearby.

11.2 Habitat

Given that in many places the coastal corridor (defined as the unenclosed cliff and slope) is narrow and difficult to manage and often cliffs are sheer, there are not extensive suitable areas within the cliff and slope for choughs to feed although there are stretches of crumbling cliff and scree which are suitable (ie Welcome/South Hole area and Hartland) and choughs will feed around rocky outcrops. Where there are slopes away from sheer cliffs (ie Morte area), these areas tend to feature denser vegetation (bracken/bramble and tussocky grasses), with better chough friendly habitat mostly on the grazed adjacent pastures or footpaths. There are places where stock is fenced onto the cliffs (near Welcombe, Baggy, and Valley of the Rocks for example) and these areas show some good patches of habitat.

Where there are more expansive areas, ie headlands and outside the AONB on Exmoor coast, suitable foraging habitat largely features along well trodden footpaths and as weather maintained areas. Where grazing does feature, it is often by sheep, which don't control dense vegetation well and their grazing can be detrimental to other species needs (ie flowering plants). Where grazing with cattle is in place on or very close to the cliff (ie north of Welcombe), the condition of the habitat is more open and much more suitable – but these areas are limited in number across the whole area. There are some arable fields close to the coast, (ie South Hole) which if managed appropriately with low input spring cereal these could be used by choughs in autumn and winter if left as stubble. Choughs forage more widely in winter and so stubble fields can be situated more inland from the coast (up to 1km).

It is often mentioned that management for choughs conflicts with the requirements for other species, but this is not necessarily the case. Sensitively timed grazing over a landscape has benefits for many threatened species including choughs (Rylands and Mucklow 2012). At sites where choughs breed, more targeted grazing at certain times of year is important to help ensure good productivity (Kerbiriou et al 2006). Management plans on a site by site basis helps ensure conflict with other species is at a minimum.

12. Recommendations

What could be done to maximise the chances of a recolonisation? A multi-pronged approach is needed.

Local National Trust staff, Natural England advisers and others know their sites well and since 2012, certain areas are in more favourable condition as stewardship agreements and grazing management have taken effect, which is encouraging. To maximise the chances of choughs recolonising, targeting habitat management and nest site provision in the same place makes for a win-win situation.

- Continue to provide and increase the habitat choughs need in key areas (see table 1) to help maximise chances of visiting birds taking up residence through:-
    - landowner engagement and encouragement across key sites and the wider area (agree who delivers this and how)
    - advice provision (agree who delivers this)
    - having bespoke management plans for each key site tailored to choughs, other important species, access and other site requirements
    - appropriate support and information exchange for local NT staff/tenants and other managers and advisers to tackle sites that may initially need more management
    - tweaking grazing/stock type and/or timing at key sites to ensure year round habitat around potential nest sites (ie some shorter swards needed all year round)
    - Keeping arable in the landscape particularly overwintered stubble after a low input spring cereal
    - targeting of current and any future agri-environment schemes
    - adding capital works into existing agreements where appropriate to facilitate grazing

- Supplement the lack of natural nest sites by:-
    - Nest provision through boxes and ledges at the most likely sites with suitable habitat. Use experts from Wales to help with siting and installation. Winter 2017/18

- Partnership and joint working
    - Create a networking group for coastal habitat restoration for flagship species such as chough. Potential partners are North Devon Coast AONB, Natural England, National Trust, RSPB, Bumblebee Conservation and local natural history groups among others.
    - Using local knowledge and skills, joint working and networking, engage with colleagues in Pembrokeshire, Gower and in Cornwall, to share experiences and issues.
    - Through the network, provide advice and landowner engagement.
    - Grow a network of volunteers to support surveys, monitoring and community work around costal habitat restoration.

13. Acknowledgements
Thanks to Jenny Carey-Wood and Catherine Oliver from the North Devon AONB team for their enthusiasm and support; Justin Seedhouse and Jonathan Fairhurst from the National Trust for their encouragement and for providing insight into the history and management of their respective sites and Siobhan Murphy, Natural England for supporting the idea of chough management and nest provision in advance of the birds returning.

RSPB December 2017
Claire Mucklow RSPB Species and Habitats Officer
claire.mucklow@rspb.org.uk

14. References

Brown, A & Grice, P (2005). *Birds in England.* A & C Black Publishing, London.

Cross, Green and McKay, Chough nest ledge provision in central Wales, 1993 – (not available electronically).

Davies, M. Habitat assessment of the north Devon and Somerset coast. (2010). RSPB Exeter unpublished report

Rylands, K, Mucklow, C, Lock L. (2012) Management for choughs and coastal biodiversity – the need for grazing. RSPB Exeter report

Kerbiriou, C., Gourmelon, F., Jiguet, F., Bioret, F., Le Viol, I. & Julliard, R. (2006a) Linking territory quality and reproductive success in the chough (*Pyrrhocorax pyrrhocorax*): implications for conservation management of an endangered population. *Ibis*, **148**, 352–364

Stanbury, A, Brown, A, Eaton, M, Aebischer, N, Gillings, S, Hearn, R, Noble, D, Stroud, D, Gregory, R. (2017) The risk of extinction for birds in Great Britain. British Birds 110 September 2017 502 - 517

Wenzel MA, Webster MI, Blanco G, Burgess M, Kerbiriou C, Segelbacher G, Peirtney,Reid J. Pronounced genetic structure and low genetic diversity in European red-billed chough (Pyrrhocorax pyrrhocorax) populations. (2012) Conservation Genetics DOI 10.1007/s10592-012-0366-6

Paper on choughs and nest boxes
http://s571014022.websitehome.co.uk/wp-content/uploads/2015/11/nextboxes.pdf

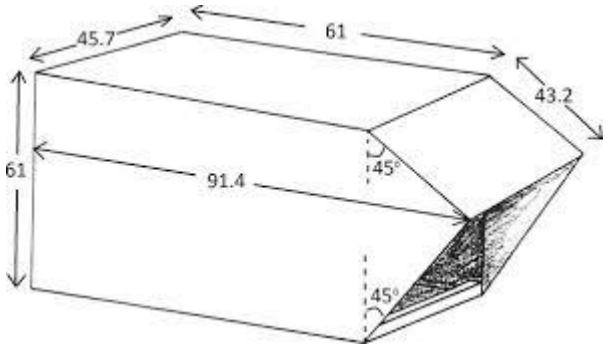
15. Annex 1
Historical chough information

Once widespread along the south and south-west coast of England, choughs decreased dramatically during the 19th century. The last successful breeding attempt in Devon was in 1910 in the vicinity of Lynton. Early information indicates that choughs historically bred along much of the North Devon coast. Areas mentioned in particular include Hartland Point, Clovelly to Bideford Bay, the cliffs between Croyde, Baggy Point, Morthoe, and Ilfracombe, and further east toward the Valley of the Rocks, Lynton and Countisbury Hill (Brown and Grice 2005).

Table 2
Recent chough activity North Devon

Year	Location
2006	Single bird (ringed and from Gower) at Middle Hope, Somerset (April). Single bird at Clevedon, Somerset (April) (possibly same bird). 2 choughs at Baggy Point (June)
2007	2 seen around Mortehoe (February) 5 individuals (ringed and from Gower) at Brean Down, Somerset (March). 3 choughs at Baggy Point (April)
2009	Single birds at Lynton (April) and Braunton Burrows (June)
2010	Two, east of Clovelly December
2011	Two, Valley of the Rocks March
2012	Four seen Foreland Point March
2012	Singles seen in July at Heddon's Mouth
2012	Single around Lundy in December
2013	Single around Lundy In January, February and May
2013	Two at Valley of Rocks in September
2014	Breton ringed bird Baggy Point February
2015	Single at Brownsham area April
2015	Single Morte area September 2015
2016	Two around Rockham March for up to three weeks

16 Annex 2 Examples of nest boxes and ledge installation by Tony Cross



17. Annex 3 Selection of photos from boat survey

Valley of the Rocks showing narrow crevices, a site for a nest box

Low-lying cliffs at Morte. The wider area could support choughs with some changes to grazing management

Vegetated cliffs with few typical nest sites between Hartland/Clovelly Potential for boxes

Foreland Point – potential site for nest box

Widmouth Head, an area that could be brought into suitable condition for chough

Cliff top grazing Torrs area. An area to target more intensive management by cattle grazing and scrub/bracken control. Site nest box on more open cliffs nearby