

Requirements for delivering an effective Hen Harrier
Threat Response Plan:
Position statement of BirdWatch Ireland and the Irish
Raptor Study Group

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BirdWatch Ireland is the largest independent conservation organisation in Ireland. Established in 1968, we currently have over 15,000 members and supporters and a local network of 30 branches nationwide. The primary objective of BirdWatch Ireland is the protection of wild birds and their habitats in Ireland. In order to fulfil this objective we carry out extensive research and survey work; operate applied conservation projects and manage a network of reserves nationwide; prepare and advocate policies; recruit, retain and service a growing membership base; promote the importance of wild birds and biodiversity through field education, dedicated media and to the national media and build on existing partnerships with NGOs, with Government departments, the European Commission and farming organisations, and to establish new partnerships with other sectors. BirdWatch Ireland is the Republic of Ireland partner of BirdLife International, a partnership of over 100 bird conservation organisations across the globe. As a global and European partnership, BirdLife International influences decision-making processes through lobbying and production of robust information and policy material.

BirdWatch Ireland sit on the Consultative Committee of the Hen Harrier Threat Response Plan and have provided input and expertise throughout the development phase of the plan. We were partners in coordinating and delivering the fourth national survey of Hen Harrier in 2015 and have been involved in all national surveys to date, and partners on the current research project 'Supporting Hen Harriers in Novel Environments'. We compiled the data for Article 12 reporting on Hen Harrier status, pressures and threats for the National Parks and Wildlife Service. We also work towards increasing awareness of the species and its cultural and ecological importance through outreach, dissemination of research findings and engaging stakeholders through the creation of education materials including video, fact file, press articles, social media and features for national tv and radio.

The Irish Raptor Study Group (IRSG) carries out survey, monitoring and research on birds of prey and owls (raptors) in the Republic of Ireland. The IRSG aspire to secure the conservation and enhancement of Irelands raptor populations and the landscapes on which they depend. The IRSG's success depends on fostering an understanding and appreciation of raptors as natural assets, whose conservation can deliver investment for rural communities but also secure local and regional benefits. The IRSG also work to promote meaningful supports to landowners in designated Natura 2000 sites and to deliver their sustainable use and management.

The IRSG is uniquely placed to offer expertise, evidence, objectivity and direction on the most effective and appropriate conservation measures required to deliver positive long term outcomes for the Hen Harrier in Ireland. Our extensive knowledge and understanding of Hen Harrier's requirements has been informed from both state funded quinquennial national surveys since the year 2000 and supplemented by the work of the IRSG during intervening years. A large proportion of the data available to the Hen Harrier Threat Response Plan has been collected through the expertise, hard work and committed voluntary effort of hundreds of skilled Ornithologists and Raptor workers contributing to the work of the IRSG.

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Overview

BirdWatch Ireland and the Irish Raptor Study Group (hereafter referred to as 'we') welcome the development of a Hen Harrier Threat Response Plan (HHTRP), which in accordance with the legal requirements of Regulation 39 of S.I. No. 477/2011 aims to 'cease, avoid, reverse, reduce, eliminate or prevent threats to the Hen Harrier'. We feel that a HHTRP is the appropriate mechanism to implement, for the first time, an effective and urgently required conservation strategy to restore Hen Harrier populations and the habitats on which they depend. Our organisations will fully support a robust HHTRP which aims to achieve the stated objectives and deliver on our legal obligations with respect to Hen Harrier conservation. However, we are also cognisant of the complexity of the issues facing Hen Harriers and the varied stakeholder and political interests involved. To date, the evidence-based conservation actions required to address the known pressures and threats to Hen Harriers are also those which have met with greatest resistance. At present, the interests of stakeholders from farming and forestry sectors and aligned political agendas are inextricably linked to the fate of the Hen Harrier population due to both real and perceived conflicts of interests with regards to the management of the Irish uplands, including Special Protection Areas (SPA's). We firmly believe that an effective HHTRP can and should provide the instrument for dissolving such conflicts and achieving effective stakeholder consensus and collaboration to deliver for Hen Harrier conservation and stakeholders alike. We acknowledge however that this is undoubtedly a challenge, and will require a robust and transparent long-term strategy which does not pander to short-term economic interests. We are concerned that significant pressures may influence the integrity and outcomes of the HHTRP, through dilution of required measures, insufficiently targeted actions, or simply omission of key components integral to the success of the HHTRP.

BirdWatch Ireland and the Irish Raptor Study Group have provided input to the HHTRP through the Consultative Committee since its initiation in 2015, until the last meeting of this committee which convened in March 2016. Although we have received no formal communication on the current status of the HHTRP since this time, we understand that a draft plan has been submitted to the European Commission, prior to being disseminated to the Consultative Committee and subsequent public consultation. We are therefore not in a position to provide comment on specific components of the draft HHTRP, however we would welcome the opportunity to share our recommendations and concerns for the HHTRP in as specific detail as is reasonable. We are concerned that once the HHTRP is approved by the European Commission, the opportunity to provide comment will merely be a token gesture which will not result in any real change. We also feel that it is necessary that the HHTRP should be reviewed in the context of the possible requirement of screening for a Strategic Environmental Assessment.

The purpose of this statement is therefore to highlight our views on the required components of the HHTRP, which are informed by an intimate understanding of the ecological requirements of Hen Harrier populations in the Republic of Ireland, as well as our legally binding obligations to deliver effective conservation of Hen Harriers – both of which in combination are essential to the success or otherwise of the HHTRP. We provide a brief context to the HHTRP and refer to existing sources of information for further reference. Thereafter we outline the principles and components which we strongly feel should be reflected and incorporated in the HHTRP, and we hope that this position statement will aid the Commission in their review of the draft HHTRP, and make ourselves available should any further detail be required.

Background

The Birds Case

Directive 2009/147/EC 'the Birds Directive' provides a comprehensive framework of protection for all wild birds naturally occurring in the European Union. The Directive instructs Member States to maintain the populations of wild bird species at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational needs. The Hen Harrier is listed on Annex 1 of the Birds Directive (2009/147/EEC). Under Article 4(1) of the Birds Directive Member States are required to classify "the most suitable territories in number and size" as SPAs for Annex I species, including the Hen Harrier. Ireland was due to complete this classification process by 1981 and failure to do so resulted in a breach of obligations under Article 4(1) of the Birds Directive as per one of the key findings of the CJEU ruling against Ireland in 2007 (Case 418/04), which stated, *inter alia*, that Ireland had not designated SPAs in accordance with the required standards of protection; had not taken targeted action to prevent the deterioration of habitats and had not carried out appropriate assessment of activities that might impinge on such habitats. Case 418/04 remains open, pending the outcome of Ireland's subsequent commitment to rectify the issues of contention.

Special Protected Area's (SPA's) for Hen Harrier

In accordance with requirements under Article 4(1) of the Birds Directive the National Parks and Wildlife Service (NPWS) initiated the designation process for Hen Harrier in 2003 with the identification of the nine most suitable areas in which to establish SPAs. In 2007, six of these areas were designated as SPAs based on their national importance for breeding hen harriers (see www.npws.ie/protected-sites), which include parts of Counties Clare, Cork, Galway, Kerry, Laois, Limerick, Monaghan, Offaly and Tipperary, together making up 2.3% of the surface area of the Republic of Ireland.

The NPWS and the Forest Service (FS) within the Department of Agriculture, Food and the Marine (DAFM) initiated a framework in 2007, the Hen Harrier Protocol, which allowed for a certain level of afforestation in Hen Harrier SPAs. The European Commission intervened, considering the Protocol was subject to the provisions of the SEA Directive, requiring project environmental assessment before implementation. The findings of the third national survey of Hen Harriers in 2010 identified a serious decline in the Hen Harrier populations, and at the same time research findings provided evidence to link the proportion of second rotation pre-thicket forest and a decline in Hen Harrier breeding success, indicating that habitat preferences in relation to forest may not reflect habitat quality. The Hen Harrier Protocol was eventually suspended, and as of 2015, the Forest Service has not issued any further afforestation licences for lands within the Hen Harrier SPA network, over half of which is forest plantation.

Hen Harrier population status and trends

The Hen Harrier population in Ireland has suffered long term population declines. The fourth national survey of Hen Harriers in Ireland was carried out in 2015, which resulted in an estimated the population of 108 to 157 breeding pairs of Hen Harrier, representing a decrease of 8.7% over the five-year period since the 2010 survey (Ruddock *et al.* 2012 & 2016). A comparison of Hen Harrier numbers in survey areas covered across all four national surveys carried out to date since 1998–2000, indicates a population decline of one third (33.5%) (Barton *et al.* 2006, Ruddock *et al.* 2012, Ruddock *et al.* 2016). Between 2005 and 2015 Hen Harrier numbers have declined by 27% within the SPA network - where they should be thriving (Barton *et al.* 2006, Ruddock *et al.* 2016).

Pressures and threats on the Hen Harrier population

The main pressures and threats which impact Hen Harriers in Ireland as per Article 12, include afforestation on open ground, forest and plantation management and the modification of cultivation practices. In addition to the loss of nesting and foraging habitat through afforestation, other issues of conservation concern facing the Hen Harrier include agricultural intensification,

degradation of upland habitats, increased predation, disturbance and habitat loss from illegal burning, continued degradation and destruction of nesting and foraging habitat on blanket bog due to peat extraction, large-scale wind energy developments in upland areas including Hen Harrier SPAs, illegal persecution, recreational disturbance, and there are also concerns over juvenile survival and recruitment into the breeding population.

Within the SPA network, afforestation and forest maturation is one of the main threats to Hen Harrier conservation. Although Hen Harriers will use the early growth stages of plantation forests for nesting and foraging, once the forest matures and the canopy closes (typically 9-12 years after planting), use by Hen Harriers declines and this habitat becomes largely unsuitable. Hen Harrier breeding success has been observed to decrease noticeably when the proportion of second rotation pre-thicket forest in the surrounding landscape is greater than 10% (Irwin et al. 2012). The SPA network is currently comprised of over 52% commercial forest plantation (Moran & Wilson-Parr, 2015), compared to an overall national total of 11% forest cover (Forest Service 2013). Even in the absence of further land use change, forest maturation within these SPAs over the next decade will result in a substantial decrease in areas of suitable habitat available for the Hen Harrier.

The Hen Harrier Threat Response Plan

The legal basis for the HHTRP is established in Regulation 39 of the European Commission (Birds & Natural Habitats) Regulations 2011 (SI NO. 477), the objectives of which are to develop and implement an appropriate Threat Response Plan to cease, avoid, reverse, reduce, eliminate or prevent threats to the Hen Harrier; and specify a timeline for achievement of its objectives. The HHTRP has been developed by the National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht (DCHG). The NPWS commenced the HHTRP in June 2013, with a timeline for completion by June 2015. An inter-departmental Steering Group represented by the Department of Agriculture, Food and the Marine (DAFM); Department of Communications, Climate Action and the Environment (DCCA); and the Department of Housing, Planning, Community and Local Government (DHPCLG) have contributed to the development and will commit to the future implementation of the HHTRP. A Consultative Committee represented by relevant stakeholder groups from forestry, agricultural, renewable energy sectors and environmental non-government organisations have also contributed to the plan during its development phase. Three sector documents on forestry, agriculture and wind energy were compiled to inform the consultation process and development of the HHTRP (<https://www.npws.ie/publications>), in addition to a report on habitat mapping of the SPA network (<https://www.npws.ie/sites/default/files/publications/pdf/IWM83.pdf>).

The NPWS are responsible for the final sign off and publication of the HHTRP taking into account the views expressed in the public consultation process as per the Terms of Reference. At the time of writing the Consultative Committee has not viewed or commented on the HHTRP and the public consultation process has not been initiated, however we are aware that a draft HHTRP has been prepared by the NPWS and submitted to the European Commission.

Delivering an effective Hen Harrier Threat Response Plan

For the HHTRP to deliver on its aims to, cease, avoid, reverse, reduce, eliminate or prevent threats to the Hen Harrier, it is necessary to establish a robust and transparent strategy with measurable deliverables for the long-term, which reflect the peer-reviewed scientific evidence, best practice conservation techniques, effective stakeholder engagement and above all our binding legal obligations under the Birds and Habitat Directives. We have outlined the following principles and components which we feel are integral to an effective HHTRP:

- **Apply the scientific evidence**

The Hen Harrier has been the focus of extensive research and monitoring, including a national survey undertaken every five years over the past two decades, which has facilitated a detailed understanding of the conservation status and ecological requirements of the species as well as specific factors which influence Hen Harrier populations. It is essential that the outcomes of the HHTRP are directly aligned and informed by the peer-reviewed ecological data on Hen Harrier, specifically evidence on the primary pressures and threats on Hen Harrier populations. We have concerns that this may not be the case, as throughout the consultation process of the HHTRP, the available peer-reviewed scientific evidence was disputed or disregarded where the research findings were viewed as incompatible with economic interests.

We wish to highlight the specific example of afforestation within the SPA network – high levels of afforestation and forest maturation are recognised as one of the primary threats to Hen Harrier populations in Ireland. Based on the ecological requirements of Hen Harriers, the level of forest cover in the SPA network is too high (Irwin *et al.* 2012), yet there remains significant pressure that further afforestation in SPA sites is licensed. Any proposed increase in afforestation within the SPA network would be contrary to the scientific evidence, detrimental to Hen harrier populations and upland areas, and would not only represent a severely failed HHTRP but would be a breach of our obligations under the Birds and Habitats Directives.

- **Apply the Precautionary Principle where scientific evidence is lacking**

Despite extensive research and monitoring of Hen Harrier populations in Ireland, there remain knowledge gaps on specific aspects of Hen Harrier ecology and factors which effect their populations. In this regard, lack of evidence of the effects of specific management or development activities on Hen Harrier populations cannot be used as rationale to permit such activities to proceed – ‘absence of evidence is not evidence of absence’. Consequently, where there is uncertainty – the obligation is to apply the Precautionary Principle – unless scientific evidence can provide certainty there are no impacts.

This is particularly relevant to wind energy developments, although targeted research has assessed the relationship and impacts of wind energy developments on Hen Harriers in Ireland, there remain knowledge gaps both nationally and internationally of the effects of the development and operation of wind farms on Hen Harrier. Several non-designated areas which are important for Hen Harriers are subject to increasing pressure from wind farm development which has the potential to have cumulative impacts on regional populations. All three candidate sites for Hen Harrier SPA protection which were excluded from the 2007 SPA designation, now have extensive windfarms in planning, under construction or already constructed.

Article 6(2) requires proactive management of sites to avoid deterioration of habitats for species and disturbance of species in designated sites. EU Environmental law governing this area – such as the Birds and Habitats Directives and the EIA Directive and Water Framework Directive – all are underpinned by the Treaty of the Functioning of the EU (TFEU). Article 191 of that provides for the Precautionary Approach which is required to inform action and decisions in environmental matters.

- **Provide clarity and transparency to stakeholders**

The SPA network has not performed, as evidenced by the fact that Hen Harrier populations have declined within the SPA network, with an overall loss of 26.6% recorded between 2005 to 2015 (Barton *et al.* 2006, Ruddock *et al.* 2016). Management of the SPA network has clearly fallen short in terms of conservation, but has also failed the landowners within designated sites. Lack of communication and engagement with landowners from the outset of the designation process has led to frustration and disillusionment on the ground. Landowners within the SPA network maintain that designation has devalued lands and resulted in discriminatory financial losses due to restrictions on afforestation and wind energy developments. There is a lack of clarity of the management requirements and expectations on farmers within the SPA network, as well as the

schemes and financial incentives available to them presently and into the future. There is an urgent requirement to "do the maths" on the various payments and incomes for the land holdings in question both within and outside of designated sites. Proper and feasible consideration of any issue or discrepancy arising in income in the short or long term needs to be identified and addressed appropriately, and providing clarity on such issues should be a key outcome of the HHTRP.

- **Incentivise Hen Harrier conservation**

Changing attitudes towards Hen Harriers is important: however, this would be a natural by-product of effective agri-environment schemes which work for the farmer and biodiversity. Two schemes exist within Ireland's current Rural Development Programme (RDP) 2014-2020 that target conservation management for Hen Harriers within defined geographical areas:

- The Green Low-carbon Agri-Environment Scheme, which came into effect in 2015, includes a measure which aims to promote the maintenance and creation of suitable habitat for Hen Harriers, with a payment rate of €370/ha per annum. Whilst this measure may help to alleviate some of the pressures on landowners within the SPAs, the prescriptions are unlikely to be sufficiently targeted to make a real difference for Hen Harriers. Furthermore, a funding limit of €7,000 for each applicant means that farmers with lands over 19 hectares of Hen Harrier habitats cannot manage all of the target Hen Harrier areas. Finally, the operation and roll-out of the Hen Harrier measure does not require the use of specialist advisors with experience of managing habitats for Hen Harriers. As a result, certain actions may be targeted poorly, or even result in a reduction in the quality of certain habitats to Hen Harriers.
- The Hen Harrier Locally-led Agri-environment Scheme (LLAES) offers additional supports to GLAS and non-GLAS farmers to undertake specific actions for Hen Harriers. However, this scheme is not yet operational, so farmer uptake and the delivery of Hen Harrier conservation actions cannot yet be assessed.
- Between July and August 2017 the LLAES has undertaken extensive consultation with landowners prior to its launch, and the results of an attitudinal survey (published on social media November 16th 2017 @henharrierproject) of farmers in Hen Harrier SPAs provided clear insights into the challenges and desires of these communities. It is clear that ideally farmers want a future of farming enterprise in these areas, sustainable and viable with meaningful supports to deliver produce and wider environmental benefits.

One issue with RDP-funded schemes is the limited length of any agreements (typically five years) due to ties with the EU budgeting cycle. Each new iteration of the EU budget, and associated legislation (such as RDP regulations) mean that schemes change. This uncertainty is an issue for farmers, particularly when afforestation grants are available over much longer terms (15 years). Longer-term commitments to supporting farmers managing their land for Hen Harriers, supported through the national exchequer (much as afforestation premia are) has been identified as an urgent requirement in supporting Hen Harrier conservation actions.

- **Set Conservation Objectives**

According to Article 4(4) of Directive 92/43/EEC all sites submitted to the Commission must have established priorities for the maintenance or restoration of those sites (Conservation Objectives) at a favourable conservation condition (or Favourable Reference Values) within six years. To date, Conservation Objectives have not been established and 'Favourable Reference Values' for Hen Harrier populations have not been defined within the six sites designated as SPAs for Hen Harrier in 2007. BirdWatch Ireland have submitted a document to the NPWS and the Commission outlining the methods and required procedures for establishing Favourable Reference Values for Hen Harriers based on international best practice.

Conservation Objectives and Favourable Reference Values are important components to developing an effective conservation strategy for a given habitat or species, and would have several tangible benefits for the management of Hen Harrier SPAs and populations within, such as; defining measurable objectives required to achieving favourable conservation status; providing transparency to stakeholders as to the performance of the SPA network which would facilitate more efficient and realistic resource planning, and allowing the performance of the SPA network to be determined on an on-going basis which would facilitate effective reporting (e.g. Article 12), conservation planning and implementation of management plans on a site specific basis.

The HHTRP should provide the basis for the development and implementation of Conservation Objectives and defining appropriate Favourable Reference Values for Hen Harrier SPA sites.

- **No further afforestation in the SPA network**

Afforestation and forest maturation is recognised as the primary threat to Hen Harrier populations in Ireland. Wilson et al. (2012) found that Hen Harrier breeding success (nest survival) can decrease noticeably when the percentage of second rotation pre-thicket forest in the surrounding landscape is greater than 10%. At present, the proportion of forest cover across the SPA network exceeds 52% (Moran & Wilson-Parr, 2015). There is no published data available on what proportion of forest in the SPA network is second rotation pre-thicket.

It is critical that this negative relationship to the proportion of pre-thicket second rotation cover in the surrounding landscape is used to inform appropriate conservation measures at a relevant spatial scale within Hen Harrier breeding areas both in the SPA network and in the wider countryside. The conservation measures proposed in the HHTRP must result in positive population effects. As such the exact science of this 10% threshold needs to be considered in the HHTRP and accurate current and future data on forest demography must be presented in the HHTRP and used as an evidence-base to justify the conservation actions that will deliver long term population gains. The HHTRP must clearly present data on what proportion of pre-thicket second rotation cover is currently within the core Hen Harrier breeding areas and SPA network and show how this proportion will change in the future.

Currently, there is already too much forest cover in the SPA network, and any proposals or mechanisms to increase on existing forest cover within the SPA network would signify an extreme failure of the HHTRP, and a breach of our obligations under the Birds Directive, and undermine significant EU funding in agri-environment within Hen Harrier breeding areas. Recommendations to remove unproductive forest, enhance existing forest areas for Hen Harriers and/or expand Areas of Biodiversity Enhancement within the existing forest estate may provide conservation benefits if planned and implemented appropriately but cannot under any circumstances be used as a means to off-set further afforestation in these areas. There are clear ecological and legal problems with any such off-setting approach. Firstly, the target forest to be removed i.e. stunted, partially open conifer forest on wet heath can provide suitable foraging habitat for Hen Harrier. Secondly, the intended habitat targeted for afforestation, i.e. wet grassland, provides foraging habitat for Hen Harrier.

BirdWatch Ireland and the IRSG are totally opposed to any plan by the Forest Service to approve afforestation on improved agricultural grassland in SPAs under the premise that intensively managed grassland is of limited value to Hen Harrier. Improved agricultural can easily be reverted into low intensity grassland of benefit to Hen Harrier and this should be the preferred management option.

In a socio-economic context, the Hen Harrier LLAES Consultations have shown that farmers want to continue farming and in an ideal world do not see forestry as part of sustainable and viable farming future or as part of a vibrant rural economy. Clearly there is very little desire for more

forestry within farmers in these areas and the drive to plant in SPAs is from a minority of private vested forest business interests exerting political influence.

In a legal context, due to the known negative effects of forestry on Hen Harrier it is not envisaged the Forest Service, as the competent authority, can actually approve any future re-planting or afforestation in SPAs and be compliant with Article 6(3) and 6(4) of the Habitats Directive or the Birds Directive.

- **Adequate protection of Hen Harrier populations outside the SPA network**

Ireland has an unsatisfactory compliance record in protecting biodiversity in the wider countryside as evidenced by the Case C-418/04 i.e. 'The Birds Case' in which the Court of Justice of the European Union held that despite a requirement for Member States to 'make a serious attempt at protecting those habitats which lie outside the SPA's', 'Ireland has not transposed that provision fully and correctly by taking suitable steps to avoid pollution or deterioration of the habitats lying outside the SPA's'.

There is now a greater proportion of the national breeding Hen Harrier population outside the SPA network (Ruddock *et al.* 2012), and thus a holistic national conservation strategy which provides adequate protection to Hen Harrier populations in non-designated sites is urgently required.

The HHTRP should provide the basis for implementing conservation measures to ensure the viability of Hen Harrier populations in important non-designated areas, which should include the following;

- Implementation of protocols to ensure that Hen Harrier nests in non-designated areas are not impacted by forestry management and related activities and that proper steps are taken to mitigate disturbance. The Forest Service currently operate a 'Red Area procedure' in the SPA network whereby management activities are reduced or ceased during the sensitive nesting season in proximity to known nesting sites. An extension of such measures is urgently required outside the designated areas to provide similar protection to the breeding population in the wider countryside which predominantly nest in forested landscapes and thus are vulnerable to disturbance from forest management activities.
- Implementation of protocols to ensure the conservation of important Hen Harrier habitats within Natura 2000 sites and Natural Heritage Areas for which Hen Harriers are not qualifying interests and High Nature Value farmland which is protected under Article 6 of the supplementing regulations of the Rural Development Regulations (No. 1305/2013) – which are not currently in place.
- Review of the Appropriate Assessment Procedures currently operated by the Forest Service which are not fit for purpose to identify and protect habitats of ornithological importance outside of the SPA network is a clear breach of Ireland's legal obligations under Article 4(4) of the Birds Directive and Article 3(3) and Article 10 of the Habitats Directive.
- No further wind energy developments in important non-designated areas for Hen Harrier until there is an evidence base of the impacts and best practice guidance to ensure no negative impacts.

- **Establish guidelines for wind energy impact assessments and post-construction monitoring**

At present in Ireland there are no standard guidelines for professional ecologists and developers on the best practice survey requirements for birds or methods in place for assessing the impacts of wind energy interactions with birds. This issue equally requires clarification and progress from professional bodies representing Ecological Consultants (e.g. Chartered Institute of Ecology and Environmental Management) and the NPWS. Also, the issue of inadequate post-construction monitoring conditions assigned as part of the development consent process for wind farms needs to be addressed with appropriate Guidelines established. These Guidelines should be ratified by

relevant industry stakeholders and environmental professional organisations; implemented within the statutory authority; and, pro-actively disseminated to Local Authorities. Guidance should include a requirement for developers to engage with a suitably qualified Ornithologist with proven project expertise in Hen Harrier survey and assessment where the project may impact on suitable habitat for this species. A specific guidance note should also be published by NPWS for Cumulative Impact Assessment of Wind Energy Developments on Birds pursuant to Article 6(3) and 6(4) of the Habitats Directive.

- **Adequate protection of important non-breeding sites for Hen Harrier**

Over-winter survival and recruitment to the breeding population are factors which influence the viability of a species. There is evidence for high mortality rates of juvenile Hen Harriers, poor over winter survival and low recruitment to the breeding population which could be a factor in the recent population declines observed. Conservation efforts for Hen Harriers have been primarily targeted towards improving conditions within their breeding range and protection nesting pairs, which is essential, however the breeding season represents less than half of the Hen Harriers annual cycle. There is a good knowledge base of Hen Harrier winter roost sites in Ireland, yet currently no protection of these sites. An appropriate agri-environment scheme to protect and enhance important wintering sites for Hen Harrier could have significant benefits for the national population and the HHTRP should provide the basis to develop and implement such measures.

REFERENCES

- Barton, C., Pollock, C., Norriss, D.W., Nagle, T., Oliver, G.A. & Newton, S.** (2006). The second national survey of breeding hen harriers *Circus cyaneus* in Ireland 2005. *Irish Birds* **8**: 1- 20.
- Forest Service.** 2013. The Second National Forest Inventory Republic of Ireland Main Findings. Department of Agriculture, Food and the Marine, Wexford. Available at: [https://www.agriculture.gov.ie/media/migration/forestry/nationalforestinventory/2012/Forest Inventory Main Findings.pdf](https://www.agriculture.gov.ie/media/migration/forestry/nationalforestinventory/2012/Forest%20Inventory%20Main%20Findings.pdf)
- Irwin, S., Wilson, W., O'Donoghue, B., O'Mahony, B., Kelly, T., O'Halloran, J.** (2012). Optimum scenarios for hen harrier conservation in Ireland; Final Report 2012. Prepared for the Department of Agriculture, Food and the Marine by the School of Biological, Earth and Environmental Sciences, University College Cork.
- Moran, P. & Wilson-Parr, R.** (2015). Hen Harrier Special Protection Area (SPA) Habitat Mapping Project 2014. *Irish Wildlife Manuals*, No. 83. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.
- Norriss, D.W., Marsh, J., McMahon, D. & Oliver, G.A.** (2002) A national survey of breeding Hen Harriers *Circus cyaneus* in Ireland 1998-2000. *Irish Birds* **7**: 1-12.
- Ruddock, M., Mee, A., Lusby, J., Nagle, A., O'Neill, S. & O'Toole, L.** (2016). The 2015 National Survey of Breeding Hen Harrier in Ireland. *Irish Wildlife Manuals*, No. **93**. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Ireland.
- Ruddock, M. & Dunlop, B.J., O'Toole, L., Mee, A., Nagle, T.** (2012) Republic of Ireland National Hen Harrier Survey 2010. *Irish Wildlife Manual*, No. **59**. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Wilson, M. W., O'Donoghue, B., O'Mahony, B., Cullen, C., O'Donoghue, T., Oliver, G., Ryan, B., Troake, P., Irwin, S., Kelly, T. C., Rotella, J. J. and O'Halloran, J.** 2012. Mismatches between breeding success and habitat preferences in Hen Harriers *Circus cyaneus* breeding in forested landscapes. *Ibis* **154**: 578–589.