

References

Alerstam, T., Rosén, M., Bäckman, J., Ericson, P.G.P. & Hellgren, O. (2007). Flight speeds among bird species: allometric and phylogenetic effects. *PLoS Biology*, 5 (8), pp. 1656-1662.

APEM Ltd (2017). *Kittiwake and auk displacement study - Westermest Rough*. Report for Neart na Gaoithe Offshore Wind Farm. NNG (2018) Appendix 9.5.

Band, B. (2012). *Using a collision risk model to assess bird collision risks for offshore wind farms*. The Crown Estate Strategic Ornithological Support Services (SOSS) report SOSS-02. Norfolk, British Trust for Ornithology.

Bowgen, K. & Cook, A. (2018). *Bird Collision Avoidance: Empirical evidence and impact assessments*. JNCC Report No. 614, JNCC, Peterborough, ISSN 0963-8091.

Camphuysen, C.J. (2005). Seabirds at sea in summer in the northwest North Sea. *British Birds* 98, 2-19.

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine*. September 2018. 86pp.

Cleasby, I. R., Wakefield, E. D., Bearhop, S., Bodey, T. W., Votier, S. C. & Hamer, K. C. (2015). Three-dimensional tracking of a wide-ranging marine predator: flight heights and vulnerability to offshore wind farms. *Journal of Applied Ecology*, 52: 1474-1482. doi:10.1111/1365-2664.12529.

Cook, A. S. C. P. & Robinson, R. A. (2016) *Testing sensitivity of metrics of seabird population response to offshore wind farm effects*. JNCC Report 553. April 2016.

Coulson, J. (2011). *The Kittiwake*. Poyser monographs series.

Daunt, F. (Unpubl). *Future GPS tracking of puffins on the Isle of May*. CEH and RSPB note to Forth and Tay Regional Advisory Group (FTRAG) – Ornithology sub group. February 2019.

Daunt, F., Bogdanova, M., Newell, M., Harris, M. & Wanless, S. (2011a). *GPS tracking of common guillemot, razorbill and black-legged kittiwake on the Isle of May, summer 2010*. Report to FTOWDG, Centre for Ecology and Hydrology, Edinburgh, UK: 65pp.

Daunt, F., Bogdanova, M., Redman, P., Russell, S. & Wanless, S. (2011b). *GPS tracking of black-legged kittiwake and observations of trip durations and flight directions of common guillemot at Fowlsheugh and St Abb's Head, summer 2011*. Report to FTOWDG, Centre for Ecology and Hydrology, Edinburgh, UK: 70pp.

REFERENCES



- Daunt, F., Wanless, S., Greenstreet, S.P.R., Jensen, H., Hamer K.C., & Harris M.P. (2008). The impact of sandeel fishery closure in the northwestern North Sea on seabird food consumption, distribution and productivity. *Canadian Journal of Fisheries and Aquatic Sciences*, 65: 362-381.
- Dierschke, V, Furness, R. W. & Garthe, S. (2016). Seabirds and offshore wind farms in European waters: avoidance and attraction. *Biological Conservation* 202: 59-68.
- Elliot, K.H., Chivers, L.S., Bessey, L. Gaston, A.J., Hatch, S.A., Kato, A., Osborne, O., Ropert-Coudert, Y., Speakman, J.R. & Hare, J.F. (2014). Windscaapes shape seabird instantaneous energy costs but adult behavior buffers impact on offspring. *Movement Ecology* 2014 2: 17. Available at: <https://doi.org/10.1186/s40462-014-0017-2>.
- Forrester, R.W., Andrews, I.J., McNerny, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. and Grundy, D.S. (eds) (2007). *The Birds of Scotland*. Aberlady, The Scottish Ornithologists' Club.
- Frederiksen, M. , Moe, B. , Daunt, F. , Phillips, R. A., Barrett, R. T., Bogdanova, M. I., Boulinier, T. , Chardine, J. W., Chastel, O. , Chivers, L. S., Christensen-Dalsgaard, S. , Clément-Chastel, C. , Colhoun, K. , Freeman, R. , Gaston, A. J., González-Solís, J. , Goutte, A. , Grémillet, D. , Guilford, T. , Jensen, G. H., Krasnov, Y. , Lorentsen, S. , Mallory, M. L., Newell, M. , Olsen, B. , Shaw, D. , Steen, H. , Strøm, H. , Systad, G. H., Thórarinnsson, T. L. and Anker-Nilssen, T. (2012), Multicolony tracking reveals the winter distribution of a pelagic seabird on an ocean basin scale. *Diversity and Distributions*, 18: 530-542. doi:[10.1111/j.1472-4642.2011.00864.x](https://doi.org/10.1111/j.1472-4642.2011.00864.x).
- Frederiksen, M., Wanless, S., Harris, M.P., Rothery, P. and Wilson, L.J. (2004). The role of industrial fisheries and oceanographic change in the decline of North Sea black legged kittiwakes. *Journal of Applied Ecology*, 41:1129–1139.
- Freeman, S., Searle, K., Bogdanova, M., Wanless, S. & Daunt, F. (2014). *Population dynamics of Forth and Tay breeding seabirds: review of available models and modelling of key breeding populations*. CEH report to Marine Scotland. 209 pp.
- Furness, R.W. (2015). *Non-breeding season populations of seabirds in UK waters. Population sizes for Biologically Defined Minimum Population Scales (BDMPS)*. Natural England Commissioned Report NECR164.
- Furness, R.W., Wade, H.M. & Masden, E.A. (2013) Assessing the vulnerability of marine bird populations to offshore wind farms. *Journal of Environmental Management* 119. 56-66.
- Greenstreet, S., Fraser, H., Armstrong, E. & Gibb, I. (2010) Monitoring the Consequences of the Northwestern North Sea Sandeel Fishery Closure *Scottish Marine and Freshwater Science* Volume 1 No 6.

REFERENCES



- Hamer, K.C., Monaghan, P., Uttley, J.D., Walton, P & Burns, M.D. (1993). The influence of food supply on the breeding ecology of kittiwakes *Rissa tridactyla* in Shetland. *Ibis*, 135, 255–263.
- Harris MP, Daunt F, Newell M, Phillips RA, Wanless S. (2010). Wintering areas of adult Atlantic puffins *Fratercula arctica* from a North Sea colony as revealed by geolocation technology. *Marine Biology* 157: 827–836.
- Harris, M.P. & Wanless, S. *The Puffin*. T & AD Poyser, London.
- Harris, M.P., Heubeck, M., Shaw, D.N. & Okill, J.D. (2006). Dramatic changes in the return date of Guillemots *Uria aalge* to colonies in Shetland, 1962–2005, *Bird Study*, 53:3, 247-252, DOI: 10.1080/00063650609461439
- Harwood, A. J., Perrow, M. R. & Berridge, R. J. (2018). Use of an optical rangefinder to assess the reliability of seabird flight heights from boat-based surveyors: implications for collision risk at offshore wind farms. *Journal of Field Ornithology* 89: 372-383. doi:10.1111/jfo.12269
- Horswill, C. & Robinson R. A. (2015). *Review of seabird demographic rates and density dependence*. JNCC Report No. 552. Joint Nature Conservation Committee, Peterborough
- Inch Cape (IC) (2018) *Inch Cape Offshore Wind (Revised design) EIA report*. (including all related documents) Available at <http://marine.gov.scot/marine-projects>. Last accessed: 7 March 2019.
- JNCC (2016) *Seabird Population Trends and Causes of Change: 1986-2015 Report* (<http://jncc.defra.gov.uk/page-3201>)
- Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. (2014). Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. *Journal of Applied Ecology*, 51, 31-41.
- Krijgsveld, K.L. (2014). *Avoidance behaviour of birds around offshore wind farms. Overview of knowledge including effects of configuration*. Bureau Waardenburg.
- Leopold, M.F., van Bemmelen, R.S.A & Zuur, A. (2013). *Responses of local birds to the offshore wind farms PAWP and OWEZ off the Dutch mainland coast*. Report to Prinses Amaliawindpark.
- Leopold, M.F. (2018). *Common guillemots and offshore wind farms: an ecological study of statistical analyses by Alan Zuur*. Wageningen University. Report CO93/18.
- MacArthur Green Ltd. (2015a). *Apportioning of the Flamborough Head and Filey Coast pSPA Gannet Population among North Sea Offshore Wind Farms*. East Anglia THREE Information for Habitats Regulations Assessment. Appendix 4. Document Reference – 5.4 (3).

REFERENCES



- MacArthur Green Ltd. (2015b). *Apportioning of the Flamborough Head and Filey Coast pSPA Kittiwake Population among North Sea Offshore Wind Farms*. East Anglia THREE Information for Habitats Regulations Assessment. Appendix 4. Document Reference – 5.4 (4).
- MacArthur Green Ltd. (2017). *Estimates of Ornithological Headroom in Offshore Wind Farm Collision Mortality*. Report to Crown Estate.
- Marine Scotland (2014). *Seagreen Appropriate Assessment*. Available at: <https://www2.gov.scot/Topics/marine/Licensing/marine/scoping/Seagreen3/seagreenaa>
- Marine Scotland (MS) (2017). *Marine Scotland Licensing Operations Team: Scoping Opinion for Seagreen Phase 1 Offshore Project*. 15 September 2017. Scottish Government, Edinburgh.
- Marine Scotland (MS) and Scottish Government (SG) (2018). *Appropriate Assessment for the Neart na Gaoithe offshore wind farm*. 21st May 2018. Available at: <https://www2.gov.scot/Topics/marine/Licensing/marine/scoping/Mainstream-NeartnaGaoithe/mainstreamaa>
- MCCIP (2018). *Climate change and marine conservation: Sandeels and their availability as seabird prey*. (Eds. Wright P, Regnier T, Eerkes-Medrano D and Gibb F) MCCIP, Lowestoft, 8pp. doi: 10.14465.2018.ccmco.006-sel
- Murray, S., Harris, M.P., & Wanless, S. (2015). The status of the gannet in Scotland. *Scottish Birds* 35: 1, 3-18.
- Murray, S., Wanless, S. & Harris, M. (2014). The Bass Rock - now the world's largest Northern Gannet colony. *British Birds* 107, 765-769.
- Neart na Gaoithe (NNG) (2018). *Neart na Gaoithe Offshore Wind Farm Environmental Impact Assessment Report March 2018*. NnG Offshore Wind (including all related documents). Available at: <http://marine.gov.scot/marine-projects>. Last accessed: 7 March 2019.
- Nelson, E., Caryl, F. & Vallejo, G. (2015). *Analysis of Marine Ecology Monitoring Plan Data – Robin Rigg Offshore Wind Farm. Operational Year 5 Technical Report – Ornithological Monitoring*. Report for E.on Climate and Renewables. 63 pp.
- NTS (National Trust for Scotland) (2017). *First gannet chick hatched at St Abb's Head*. Online article at <https://www.nts.org.uk/stories/first-gannet-chick-hatched-at-st-abbs-head>
- NTS (National Trust for Scotland) (2018). *St Abb's Head National Nature Reserve seabird summary report for 2017*. 9 pp.
- Percival, S. (2013). *Thanet offshore wind farm - ornithological monitoring 2012- 2013*. Report for Thanet Offshore Wind Ltd.

REFERENCES



RHDHV (2015). *East Anglia THREE Environmental Statement*. Available at: <https://infrastructure.planninginspectorate.gov.uk/>

RHDHV (2018). *Norfolk Vanguard Offshore Wind Farm Information for the Habitats Regulations Assessment*. June 2018. Available at: <https://infrastructure.planninginspectorate.gov.uk/>

Sandvik, Hanno & Reiertsen, Tone & Erikstad, Kjell & Anker-Nilssen, Tycho & Barrett, Robert & Lorentsen, Svein-Håkon & Systad, Geir & Myksvoll, Mari. (2014). The decline of Norwegian kittiwake populations: Modelling the role of ocean warming. *Climate Research*. 60. 91-102. 10.3354/cr01227.

Scottish Government (2018). *A low carbon economic strategy for Scotland. Scotland – a low carbon society*. Available at: <https://www2.gov.scot/resource/doc/331364/0107855.pdf>.

Seagreen (2012) *Seagreen Environmental Statement Volumes I-III*. September 2012. (Seagreen ref: A4MRSEAG-Z-DOC100-SPR-060).

Seagreen (2013). *Seagreen Phase 1 Offshore Project Addendum. Part 2 Habitat Regulations Appraisal. Information to Inform Appropriate Assessment*. October 2013. Report for Seagreen Wind Energy Ltd. This

Seagreen (2017). *Seagreen Phase 1 Offshore Project. Scoping Report. Round 3: Firth of Forth*. May 2017. 179PP.

Seagreen (2018). *Environmental Impact Assessment Report*. Available at: <http://marine.gov.scot/data/seagreen-alpha-and-bravo-eia-report-volume-1-technical-chapters>

Searle, K.R., Mobbs, D., Butler, A., Bogdanova, M., Freeman, S., Wanless, S. & Daunt, F. (2014). *Population Consequences of Displacement from Proposed Offshore Wind Energy Developments for Seabirds Breeding at Scottish SPAs (CR/2012/03)*. Report to Marine Science Scotland. [online] Available at: <http://www.gov.scot/Resource/0040/00404982.pdf> (Accessed March 2018).

Skov, H. Durinck, J. Leopold, M.F. & Tasker, M.L. (1995). *Important Bird Areas for seabirds in the North Sea*. BirdLife International, Cambridge, UK; 156pp.

Skov, H., Heinanen, S., Norman, T., Ward, R.M., Mendez-Roldan, S. & Ellis, I. (2018). *ORJIP Bird Collision and Avoidance Study*. Final report – April 2018. The Carbon Trust. United Kingdom. 247 pp.

SMart Wind (2015). *Hornsea Offshore Wind Farm (Zone 4) Project 2 Environmental Statement*. Available at: <https://infrastructure.planninginspectorate.gov.uk/>

SNCB (2014). *Joint response from the Statutory Nature Conservation Bodies to the Marine Scotland Science avoidance rate review*.

REFERENCES



- SNCB (2017). *Interim displacement advice note*. JNCC, Natural Resources Wales (NRW), Department of Agriculture, Environment and Rural Affairs / Northern Ireland Environment Agency (DAERA/NIEA), Natural England (NE), Scottish Natural Heritage (SNH) and Joint Nature Conservation Committee. Available at: http://jncc.defra.gov.uk/pdf/Joint_SNCB_Interim_Displacement_AdviceNote_2017.pdf. Last accessed March 2019.
- SNH (2016a). *Interim guidance on apportioning impacts from marine renewable developments to breeding seabird populations in Special Protection Areas*. SNH guidance note.
- SNH (2016b). *Outer Firth of Forth and St Andrew's Bay Complex proposed SPA (pSPA) UK9020316*. SPA site selection document: summary of the scientific case for site selection.
- SNH (2017). *Example of calculation of non-breeding season impacts on Forth Islands SPA – to consider non-breeding season impacts and application of The Crown Estate's 'Headroom' recalculations to inform cumulative wind farm impacts*.
- SNH (2018a). *Interim guidance on apportioning impacts from marine renewable developments to breeding seabird populations in Special Protection Areas*. SNH guidance note. Updated 2018
- SNH (2018b). *Spreadsheets for kittiwake and razorbill apportioning 2018_09_24_neart_na_gaoithe_-_offshore_wind_-_reapportioning_of_breeding_1.xlsx and 2018_09_24_neart_na_gaoithe_-_offshore_wind_-_reapportioning_of_breeding*. Available at: <http://marine.gov.scot/data/neart-na-gaoithe-offshore-windfarm-revised-design-information-inform-appropriate-assessment>
- Stone, C.J., Webb, A., Barton, C., Ratcliffe, N., Redd, T.C., Tasker, M.L., Camphuysen, C.J. & Pienkowski, M.W. (1995). *An atlas of seabird distribution in north-west European waters*. Joint Nature Conservation Committee and Nederlands Institute voor Onderzoek der Zee, Peterborough.
- Swann, B. (2018). *Seabird counts at St Abb's Head to Fast Castle SPA in 2016 for Marine Renewables Casework*. Scottish Natural Heritage Research Report No. 964.
- Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W. & Burton, N.H.K. (2012). *Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas*. *Biological Conservation* 156; 53-61
- Thomas, L., Buckland, S.T., Rexstad, E. A., Laake, J.L., Strindberg, S., Hedley, S.L., Bishop, J.R.B, Marques, T.A., & Burnham, K.B. (2010). Distance software: design and analysis of distance sampling surveys for estimating population size. *Journal of Applied Ecology*. 47 (1) 5-14.
- Vallejo, G.C., Grellier, K., Nelson, E.J., McGregor, R.M., Canning, S.J., Caryl, F.M. & McLean, N. (2017). Responses of two marine top predators to an offshore wind farm. *Ecology and Evolution* 2017: 7, 8698-8709.

REFERENCES



- Vanermen N. & Stienen, E.W.M. (2019). Seabirds: displacement. Chapter 8 in Perrow, M.R. (Ed.) *Wildlife and Wind Farms, Conflicts and Solutions. Volume 3. Offshore: potential effects*. Pelagic Publishing
- Vanermen, N., Onkelinx, T., Courtens, W., Van de walle, M., Verstaete, H. & Stienen, E.W.M. (2015). Seabird avoidance and attraction at an offshore wind farm in the Belgian part of the North Sea. *Hydrobiologia* 756: 51 - 61
- Wade, H.M.; Masden, E.A.; Jackson, A.C.; Furness, R.W. (2016). Incorporating data uncertainty when estimating potential vulnerability of Scottish seabirds to marine renewable energy developments. *Marine Policy*, Vol. 70, 01.08.2016, p. 108-113.
- Wakefield, E.D., Bodey, T.W., Bearhop, S., Blackburn, J., Colhoun, K., Davies, R., Dwyer, R., Green, J., Grémillet, D., Jackson, A., Jessopp, M., Kane, A., Langston, R., Lescroël, A., Murray, S., Le Nuz, M., Patrick, S. C., Péron, C., Soanes, L., & Hamer, K. (2013). Space Partitioning Without Territoriality in Gannets. *Science* (New York, N.Y.). 341. 10.1126/science.1236077.
- Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I., Newell, M.A., Newton, S.F., Robertson, G.S., Shoji, A., Soanes, L.M., Votier, S.C., Wanless, S. & Bolton, M. (2017). Breeding density, fine-scale tracking, and large-scale modelling reveal the regional distribution of four seabird species. *Ecological Applications* 27 (7). 2074-2091. Available at: <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/eap.1591>
- Wanless, S., Frederiksen, M., Harris, M.P. & Freeman, S.N. (2006) Survival of gannets *Morus bassanus* in Britain and Ireland, 1959–2002. *Bird Study*, 53, 79–85.
- Welcker, J. & Nehls, G., 2016. Displacement of seabirds by an offshore wind farm in the North Sea. *Marine Ecology Progress Series*, 554, pp.173–182.