## 13 References

- Adams, D. C. and Otárola-Castillo, E. 2013. geomorph: an R package for the collection and analysis of geometric morphometric shape data. Methods in Ecology and Evolution, 4(4): 393-399.
- Albertsen, C.M. and Trijoulet, V. (2020). "Model-based estimates of reference points in an age-based statespace stock assessment model" Fisheries research 230: 105618, Special Issue: Next generation general stock assessment models DOI: 10.1016/j.fishres.2020.105618
- Alexander, Karen A.; Heymans, Johanna J.; Magill, Shona; Tomczak, Maciej T.; Holmes, Steven J.; Wilding, Thomas A. 2015. Investigating the recent decline in gadoid stocks in the west of Scotland shelf ecosystem using a foodweb model. ICES JOURNAL OF MARINE SCIENCE, Vol. 72, No. 2, 2015, p. 436-449.
- Anon. 2013. UK National Data Collection Programmes under Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU for the Collection, Management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy in 2011, 2012 and 2013. <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/3</u> <u>41475/2011-2013national.pdf</u>
- Bailey, N. DM Bailey, LC Bellini, PG Fernandes, C Fox, S Heymans, S Holmes, J Howe, S Hughes, S Magill, F McIntyre, D McKee, MR Ryan, IP Smith, G Tyldsely, R Watret and WR Turrell. 2011.: The west of Scotland marine ecosystem: a review of scientific knowledge. MSSR 09/11. 292pp.
- Beggs, S. 2007. Stock Identification of 0-group Herring in the Irish Sea (VIIaN): Otolith microstructure and shape. Working Document to ICES HAWG.
- Beggs, S., -Jan Schon, P.-J., McCurdy, W., Peel, J., McCorriston, P. and McCausland, I. 2008. Seasonal Origin of Irish Sea Herring. Working Document to ICES HAWG 2008. Bowers, A. 1964. 0-group herring in the North Irish Sea. Seasonal Report of the Marine Biological Station Port Erin, 77: 34–42.
- Bekkevold, D., Berg, F., Polte, P., Bartolino, V., Ojaveer, H., Mosegaard, H., Farrell, E.D., Fedotova, J., Hemmer-Hansen, J., Huwer, B., Trijoulet, V., Albertsen, C.M., Fuentes-Pardo, A., Gröhsler, T., Petterson, M., Janssen, T., Folkvord, A., Andersson, L. 2023. Mixed-stock analysis of Atlantic herring (*Clupea harengus*): a tool for identifying management units and complex migration dynamics. ICES Journal of Marine Science 80:173-184. Doi: 10.1093/icesjms/fsac223.
- Berg, Casper W., Nielsen, Anders and Kristensen, Kasper. 2014. Evaluation of alternative age-based methods for estimating relative abundance from survey data in relation to assessment models. Fisheries Research, 151: 91-99.
- Berg, F., Almeland, O. W., Skadal, J., Slotte, A., Andersson, L., Folkvord, A. 2018. Genetic factors have a major effect on growth, number of vertebrae and otolith shape in Atlantic herring (*Clupea harengus*). PLoS ONE, 13: e0190995.
- Berg, F., Lusseau, S. M., Bartolino, V., Gröhsler, T., Kvamme, C., Nash, R. D. M., Slotte, A. 2019. Using otolith shape analysis and machine learning techniques to discriminate between stocks of Atlantic herring. ICES CM 2019/C:427.
- Berg, F., Østgaard, H.D., Slotte, A., Andersson, L., and Folkvord, A. 2020. A combination of genetic and phenotypic characterization of spring- and autumn-spawning herring suggests gene flow between populations. ICES Journal of Marine Science. doi: 10.1093/icesjms/fsaa046.
- Berg, F., Seljestad, G., Bekkevold, D., Kvamme, C., Dahle, G., Glover, K. 2021. Stock splitting to estimate individual survey estimates for herring stocks occurring during the HERAS survey – Genetics as new method." In Report of the Working Group of International Pelagic Surveys (WGIPS), 11-15 January 2021
- Bergström, U., Olsson, J., Casini, M., Eriksson B.K., Fredriksson R., Wennhage H., Appelberg M. (2015). Stickleback increase in the Baltic Sea - A thorny issue for coastal predatory fish. Estuarine, Coastal and Shelf Science. 163:134 – 142.

- Brunel, T & Dickey-Collas, M 2010. Effects of temperature and population density on von Bertalanffy growth parameters in Atlantic herring: a macro-ecological analysis. Mar Ecol Prog Ser Vol. 405: 15– 28, 2010. doi: 10.3354/meps08491
- Burke, N., Brophy, D., and King, P. A. 2008. Otolith shape analysis: its application for discriminating between stocks of Irish Sea and Celtic Sea herring (Clupea harengus) in the Irish Sea. – ICES Journal of Marine Science, 65: 1670–1675.
- Burke, N., Brophy, D., Schön, P-J., and King, P. A. 2009. Temporal trends in stock origin and abundance of juvenile herring (Clupea harengus) in the Irish Sea. ICES Journal of Marine Science, 66: 1749–1753.
- Cardinale, M., Möllmann, C., Bartolino, V., Casini, M., Kornilovs, G., Raid, T., Margonski, P., Grzyb, A., Raitaniemi, J., Gröhsler, T., Flinkman, J. (2009). Effect of environmental variability and spawner characteristics on the recruitment of Baltic herring *Clupea harengus* populations. Marine Ecology Progress Series, 388, 221-234.
- Chen, K.-Y., Marschall, E.A., Sovic, M.G., Fries, A.C., Gibbs, H.L., Ludsin, S.A. 2018. assignPOP: An r package for population assignment using genetic, non-genetic, or integrated data in a machine-learning framework. Methods in Ecology and Evolution 9: 439-446.
- Clarke, M., and Egan, A. 2012. Evaluation of proposed long-term management plan for Celtic Sea Herring. ICES CM 2012/ACOM:75. 48 pp.
- Clarke, M., and Egan, A. 2017. "Good luck or good governance? The recovery of Celtic Sea herring." *Marine Policy* 78 (2017): 163-170.
- Darby, C. D., & Flatman, S. 1994. Lowestoft VPA Suite Version 3.1 User Guide. MAFF: Lowestoft.
- Dodson, J.J., Daigle, G., Hammer, C., Polte, P., Kotterba, P., Winkler, G., Zimmermann, C. (2019). Environmental determinants of larval herring (Clupea harengus) abundance and distribution in the western Baltic Sea. Limnology and Oceanography, Limnology and Oceanography 64, 2019, 317–329
- EU Council Regulation 2023/194 of 30 January 2023 fixing for 2023 the fishing opportunities for certain fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, as well as fixing for 2023 and 2024 such fishing opportunities for certain deep-sea fish stocks. http://data.europa.eu/eli/reg/2023/194/oj
- EU, 2023b. Agreed record of conclusions of fisheries consultations between Norway and the European Union on the regulation of fisheries in Skagerrak and Kattegat for 2023. 17 March 2023. <u>https://oceans-and-fisheries.ec.europa.eu/document/download/62b3194f-c482-4e1c-b7df-</u> 94ea865237fa en?filename=2023-eu-norway-skagerrak-fisheries-consultations en.pdf
- EU Council Regulation 2022/109 of 27 January 2022 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters.
- EU 2016/1252. Council Regulation (EU) 2016/1252 of 26 July 2016 amending Regulations (EU) 2016/72 and (EU) 2015/2072 as regards certain fishing opportunities. <u>EUR-Lex 32016R1252 EN EUR-Lex (euro-pa.eu)</u>
- EU 2017 COUNCIL REGULATION (EU) 2017/127 of 20 January 2017 fixing for 2017 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters http://eur-lex.europa.eu/legal-con-tent/EN/TXT/?uri=CELEX%3A32017R0127
- EU, 2018. Council Regulation (EU) 2018/120 of 23 January 2018 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2017/127. <u>https://eurlex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R0120&qid=1653908461064</u>
- EU, 2019. Council Regulation (EU) 2019/124 of 30 January 2019 fixing for 2019 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters

https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:32019R0124&qid=1653908570958&from=EN

- EU, 2020. Council Regulation (EU) 2020/123 of 27 January 2020 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters. <u>https://eur-lex.europa.eu/legal-</u> <u>content/EN/TXT/HTML/?uri=CELEX:32020R0123&qid=1653908756046&from=EN</u>
- EU 2021. Council Regulation (EU) 2021/92 of 28 January 2021 fixing for 2021 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters <a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02021R0092-20211101&qid=1653909029717">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02021R0092-20211101&qid=1653909029717</a>
- Farrell, E.D., Campbell, N., Carlsson, J., Egan, A., Gras, M., Lusseau S.M., Nolan, C., O'Connell, S., O'Malley, M., White, E. 2021. Herring in Divisions 6.a, 7.b and 7.c: Scientific Assessment of the Identity of the Southern and Northern Stocks through Genetic and Morphometric Analysis. Final Report. European Commission. Service Contract EASME/EMFF/2017/1.3.2.1/SI2.767459. 251 pp.
- Farrell, E.D., Andersson, A., Bekkevold, D., Campbell, N., Carlsson, J., Clarke, M., Egan, A., Folkvord, A., Gras, M., Lusseau, S.M., Mackinson, S., Nolan, C., O'Connell, S., O'Malley, M., Pastoors, M., Pettersson, M. and White, E. 2022. A baseline for the genetic stock identification of Atlantic herring, Clupea harengus, in ICES Divisions 6.a and 7.b–c. Royal Society Open Science 9:220453. Doi: 10.1098/rsos.220453.
- Grainger, R.J.(1978) A Study of Herring Stocks West Of Ireland and their Relations to Oceanographic Conditions. Phd thesis, University College Galway.
- Grainger, R.J., (1980a). Irish West coast herring fluctuations and their relation to oceanographic conditions. Symposium on the Biological basis of Pelagic Stock Management No. 29
- Grainger, R. J., (1980b). The distribution and abundance of early herring (Clupea harengus L.) larvae in Galway Bay in relation to oceanographic conditions. Proc. R. Ir. Acad., Sect. B 80:1-60.
- Gröger, J.P., Hinrichsen, H.-H., Polte, P. (2014). Broad-scale climate influences on spring-spawning herring (Clupea harengus L.) recruitment in the western Baltic Sea. PLoS One 9, e87525, Doi:10.1371/journal.pone.0087525.
- Gröhsler T, Oeberst R, Schaber M, Larson N, Kornilovs G (2013) Discrimination of western Baltic springspawning and central Baltic herring (Clupea harengus L.) based on growth vs. natural tag information. ICES J Mar Sci 70(6):1108-1117, doi:19.1093/icesjms/fst064.
- EU 2018/120. COUNCIL REGULATION of 23 January 2018 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2017/127. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R0120&from=EN
- EU 2019/124. COUNCIL REGULATION of 30 January 2019 fixing for 2019 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2017/127 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0124&from=EN
- Fernández, A.C. and Prista, N. 2012. Portuguese discard data on anglershouthern *Lophiuspiscatorius* and blackbellied angler *Lophiusbudegassa* (2004-2010). Working document-07 presented at WKFLAT2012. ICES CM: ACOM: 46.
- Han, F., Jamsandekar, M., Pettersson, M. E., Su, L., Fuentes-Pardo, A., Davis, B., Bekkevold, D., Berg, F., Casini, M., Dahle, G., Farrell, E. D., Folkvord, A., Andersson, L. 2020. Ecological adaptation in Atlantic herring is associated with large shifts in allele frequencies at hundreds of loci. eLife, 9: e61076.
- Hatfield, E., Zuur, A.F., Boyd, J., Campbell, N., Chubb, J.C., Collins, C.M., Coughlan, J., Cross, M.A., Cross, T.F., Cunningham, C.O. and Geffen, A.J., 2005. WESTHER: A multidisciplinary approach to

the identification of herring (Clupea harengus L.) stock components west of the British Isles using biological tags and genetic markers. ICES. CM 2005/K:01. 18pp.

- Harma, C., Brophy, D., Minto, C., and Clarke, M. 2012. The rise and fall of autumn-spawning herring (Clupea harengus L.) in the Celtic Sea between 1959 and 2009: Temporal trends in spawning component diversity. Fisheries Research 121–122: 31–42.
- Hintzen, N. T., Roel, B., Benden, D., Clarke, M., Egan, A., Nash, R. D. M., Rohlf, N., and Hatfield, E. M. C. 2015.Managing a complex population structure: exploring the importance of information from fisheries-independent sources. – ICES Journal of Marine Science, 72: 528–542.
- ICES, 1994. Report of the Study Group on Herring Assessment and Biology in the Irish Sea and Adjacent Waters. ICES C.M.1994/H:5. 67 pp.
- ICES. 2006. Report of the Herring Assessment Working Group South of 620 N (HAWG), 14–23 March, ICES Headquarters. ICES CM 2006/ACFM:20. 647 pp.
- ICES 2007. Report of the Herring Assessment Working Group for the Area South of 62°N (HAWG). ICES CM 2007/ACFM:11, 340 pp.
- ICES. 2008. Report of the Herring Assessment Working Group South of 62 N (HAWG), 11-19 March 2008, ICES Headquarters, Copenhagen. ICES CM 2008/ACOM:02. 601 pp.
- ICES. 2010. Report of the Herring Assessment Working Group for the Area South of 62n (HAWG), 15 23 March 2010, ICES Headquarters, Copenhagen, Denmark. 688 pp.
- ICES, 2012a. Report of the Anglerfish (Lophiuspiscatorius) illicia and otoliths exchange 2011. 61 pp.
- ICES. 2012b. Report of the Benchmark Workshop on the Flatfish Species and Anglerfish (WKFLAT), 1–8 March 2012, Bilbao, Spain. ICES CM 2012/ACOM:46.
- ICES. 2013. Report of the Benchmark Workshop on Sprat Stocks (WKSPRAT), 11–15 February 2013, Copenhagen, Denmark. ICES CM 2013/ACOM:48. 220 pp
- ICES. 2013. Report of the Benchmark Workshop on Sprat Stocks (WKSPRAT), 11–15 February 2013, Copenhagen, Denmark. ICES CM 2013/ACOM:48. 220 pp
- ICES. 2014a. Interim Report of the Working Group on Multispecies Assessment Methods (WGSAM), 20–24 October 2014, London, UK. ICES CM 2014/SSGSUE:11. 104 pp.
- ICES. 2014b. Report of the Workshop to consider reference points for all stocks (WKMSYREF2), 8-10 January 2014, ICES Headquarters, Copenhagen, Denmark. ICES CM 2014/ACOM:47. 91 pp.
- ICES. 2015a. Report of the Benchmark Workshop on West of Scotland Herring (WKWEST), 2–6 February, Dublin, Ireland. ICES CM 2015\ACOM:34. 229 pp. ICES. 2015b. Report of the Herring Assessment Working Group for the Area South of 62°N (HAWG), 10– 19 March 2015, ICES HQ, Copenhagen, Denmark. ICES CM 2015/ACOM:06. 864 pp.
- ICES. 2016. Report of the Working Group on Multispecies Assessment Methods (WGSAM), 9–13 November 2016, Woods Hole, USA. ICES CM 2016/SSGEPI:20. 206 pp.
- ICES 2016a. General context of ICES advice. In Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2.
- ICES. 2016b. Report of the Workshop to consider FMSY ranges for stocks in ICES categories 1 and 2 in Western Waters (WKMSYREF4), 13–16 October 2015, Brest, France. ICES CM 2015/ACOM:58.
- ICES 2016b. Greater North Sea Ecoregion Ecosystem overview. In Report of the ICES Advisory Committee 2016. ICES Advice, 2016. Book 6. Section 6.1.
- ICES 2016. Report of the Working Group on Integrated Assessments of the North Sea (WGINOSE). ICES CM 2016/SSGIEA:06.
- ICES. 2016. Report of the Workshop on Blue Whiting (Micromesistius poutassou) Long Term Management Strategy Evaluation (WKBWMS), 30 August 2016, ICES HQ, Copenhagen, Denmark. ICES CM 2016/ACOM:53. 104 pp.

- ICES. 2022a. Herring Assessment Working Group for the Area South of 62° N (HAWG). ICES Scientific Reports. 4:16. <u>http://doi.org/10.17895/ices.pub.10072</u>
- ICES. 2022b. Working Group on International Pelagic Surveys (WGIPS). ICES Scientific Reports. 4: 82. 622 pp. <u>http://doi.org/10.17895/ices.pub.20502822</u>
- ICES. 2023a. Benchmark Workshop on North Sea and Celtic Sea stocks (WKNSCS). ICES Scientific Reports. 5:04. 324 pp. <u>https://doi.org/10.17895/ices.pub.21558681</u>
- ICES. 2023b. Working Group of International Pelagic Surveys (WGIPS). ICES Scientific Reports. In prep
- Jardim, E., Azevedo, M. and Brites, N. M. (2015) 'Harvest control rules for data limited stocks using length-based reference points and survey biomass indices', Fisheries Research, 171, pp. 12–19. doi: 10.1016/j.fishres.2014.11.013.
- Johnsen, E., Totland, A., Skålevik, Å., Holmin, A. J., Dingsør, G. E., Fuglebakk, E., & Handegard, N. O. (2019). StoX: An open source software for marine survey analyses. Methods in Ecology and Evolution, 10(9), 1523–1528. <u>https://doi.org/10.1111/2041-210x.13250</u>
- Jombart, T. 2008. adegenet: a R package for the multivariate analysis of genetic markers. Bioinformatics, 24: 1403-1405.
- Kanstinger, P., Beher, J., Grenzdörffer, G., Hammer, C., Huebert, K.B., Stepputis, D., Peck, M.A. (2018). What is left? Macrophyte meadows and Atlantic herring (Clupea harengus) spawning sites in the Greifswalder Bodden, Baltic Sea. Estuarine, Coastal and Shelf Science, 201, 72-81.
- Kornis, M., S., Mercado-Silva, N., Vander Zanden, M., J. (2012). Twenty years of invasion: a review of round goby Neogobius melanostomus biology, spread and ecological implications. Journal of Fish Biology, 80:2, 235-285
- Kotterba, P., Kühn, C., Hammer, C., Polte, P. (2014). Predation of threespine stickleback (Gasterosteus aculeatus) on the eggs of Atlantic herring (Clupea harengus) in a Baltic Sea lagoon. Limnology and Oceanography 59 (2): 578–587.
- Kotterba, P., Moll, D., Hammer, C., Peck, M.A., Oesterwind, D., Polte, P. (2017). Predation on Atlantic herring (Clupea harengus) eggs by the resident predator community in coastal transitional waters. Limnology and Oceanography, 62(6), 2616-2628.
- Kotterba, P., Moll, D., von Nordheim, L., Peck, M.A., Oesterwind, D., Polte, P. (2017b) Predation on larval Atlantic herring (Clupea harengus) in inshore waters of the Baltic Sea. Estuarine, Coastal and Shelf Science 198, 1-11.
- Landa, L., Duarte, R. and I. Quincoces. 2008. Growth of white anglerfish (*Lophiuspiscatorius*) tagged in the Northeast Atlantic, and a review of age studies on anglerfish. ICES Journal of Marine Science 65: 72– 80.
- Lewy, P. and Vinther, M., 2004. A Stochastic age-length-structured multispecies model applied to North Sea stocks. ICES CM 2004/FF:20
- Libungan, L. A., Óskarsson, G. J., Slotte, A., Jacobsen, J. A., Pálsson, S. 2015. Otolith shape: a population marker for Atlantic herring *Clupea harengus*. Journal of Fish Biology, 86: 1377-1395.
- Libungan, L. A., and Pálsson, S. 2015. ShapeR: An R package to study otolith shape variation among fish populations. PLoS ONE, 10: e0121102.
- Lyashevska, O., Harma, C., Minto, C., Clarke, M. and Brophy, D 2020. Long-term trends in herring growth primarily linked to temperature by gradient boosting regression trees. Ecological Informatics 60 (2020) 101154.
- Mackinson, S. and Daskalov, G., 2007. An ecosystem model of the North Sea to support an ecosystem approach to fisheries management: description and parameterisation. Sci. Ser. Tech Rep., Cefas Lowestoft, 142: 196pp.
- Mackinson, S. 2017. Working Document on the location and timing of spawning for herring in 6.aN for discussion in survey planning 2017. 21 April 2017.

- Mackinson, S., Pastoors, M., Lusseau, S., Armstrong, E., O'Connell, S, Haan, D., Burgraaf, D., Berges, B., McClean, A, Langlands, B., Scott, A., Wiseman, A., O'Malley, M., Clarke, M. 2018. The 2017 industryscience survey of herring in the Western British Isles (ICES div 6a, 7bc).
- Mackinson, S., Pastoors, M., Lusseau, S., O'Connell, S, Forbes-Birnie, J., Sakinan, S., Berges, B., Brigden, K., O'Malley, M., Farrel, Ed., Brigden, K. 2019. The 2019 industry-science survey of herring in the Western British Isles (ICES div 6a, 7bc). 98pp
- Mackinson, S., Pastoors, M., O'Connell, S, Berges, B., Forbes-Birnie, J., McAulay, S., Brigden, K., Fraser, S., O'Malley, M., Farrel, Ed. 2021. The 2020 industry-science survey of herring in the Western British Isles (ICES div 6a, 7bc). 115pp
- Mackinson, S and Berges, B. 2022. 6aSPAWN acoustic time series from industry surveys in 6aN. Working Document for 6a7bc herring benchmark meeting. February 2022
- Mackinson, S., Pastoors, M., O'Connell, S, 2023. The 2022 industry-science survey of herring West of Scotland (ICES div 6aN). 70p.
- Marshall, K.N., Koehn, L.E., Levin, P.S., Essington, T.E. and Jensen, O.P. (2019) Inclusion of ecosystem information in US fish stock assessments suggests progress toward ecosystem-based fisheries management. *ICES Journal of Marine Science*, Volume 76, Issue 1, January-February 2019, Pages 1– 9, <u>https://doi.org/10.1093/icesjms/fsv152</u>
- Moll, D., Kotterba, P., von Nordheim, L., Polte, P. (2018). Storm-Induced Atlantic Herring (Clupea harengus) Egg Mortality in Baltic Sea Inshore Spawning Areas. Estuaries and Coasts 4: 1-12.
- Moll, D. (2018). Contribution of coastal nursery areas to the spring-spawning population of Atlantic herring (Clupea harengus) in the Western Baltic Sea. Dissertation, University of Hamburg, p.233.
- Möller, H. (1984). Reduction of a Larval Herring Population by Jellyfish Predator. Science, 224:4649, 621-622
- Molloy, J. 1980. The assessment and management of the Celtic Sea herring stock. Rapp. P.-V. Reun. Cons. Int. Explor. Mer, 177:159–165.
- Molloy, J., and Corten, A. 1975. Young herring surveys in the Irish Sea. ICES CM H:11.
- Molloy, J., Barnwall, E., & Morrison, J. 1993. Herring tagging experiments around Ireland, 1991. Department of the Marine Fisheries Leaflet 154. 8 pp.
- Molloy, 2006 The Herring Fisheries of Ireland (1900-2005) Marine Institute, Galway, Ireland. 235pp.
- Moyano M, Illing B, Polte P, Kotterba P, Zablotski Y, Gröhsler T, Hüdepohl P, Cooke SJ, Peck M (2020) Linking individual physiological indicators to the productivity of fish populations: A case study of Atlantic herring. Ecol Indic 113:106146, DOI:10.1016/j.ecolind.2020.106146.
- N Bailey, DM Bailey, LC Bellini, PG Fernandes, C Fox, S Heymans, S Holmes, J Howe, S Hughes, S Magill, F McIntyre, D McKee, MR Ryan, IP Smith, G Tyldsely, R Watret and WR Turrell. 2011.: The west of Scotland marine ecosystem: a review of scientific knowledge. MSSR 09/11. 292pp.
- Nielsen, J.R., Lundgren, B., Jensen, T.F., Stæhr, K.-J. (2001). Distribution, density and abundance of the western Baltic herring (Clupea harengus) in the Sound (ICES Subdivision 23) in relation to hydrographical features. Fisheries Research 50, 235–258.
- Nielsen, A., Hintzen, N.T., Mosegaard, H., Trijoulet, V., Berg, C.W. (2021). "Multi-fleet state-space assessment model strengthens confidence in single fleet and provide detailed forecast options." ICES Journal of Marine Science <u>https://doi.org/10.1093/icesjms/fsab078</u>
- Nielsen, A. and Berg, C.W.(2014). "Estimation of time-varying selectivity in stock assessments using statespace models," *Fish. Res.*, vol. 158, pp. 96–101, Oct. 2014.
- Nolan, G., and Lyons, K. 2006. Ocean Climate variability on the western Irish shelf, an emerging time series. ICES CM/C:28.
- Nordheim von, L., Kotterba, P., Moll, D., Polte, P. (2018). Impact of spawning substrate complexity on egg survival of Atlantic herring (*Clupea harengus*, L.) in the Baltic Sea. Estuaries and Coasts 41(2), 549-559.

- Nordheim von L, Kotterba P, Moll D, Polte P (2020) Lethal effect of filamentous algal blooms on Atlantic herring (Clupea harengus) eggs in the Baltic Sea. Aquatic Conserv 30(7):1362-1372, DOI:10.1002/aqc.3329
- O'Donnell, C., Mullins, E., Lynch<sup>7</sup> D., Lyons, K., Keogh, N and O'Callaghan, S. (2018). Celtic Sea Herring Acoustic Survey Cruise Report 2018. FSS Survey Series: 2018/04
- O'Donnell, C., Mullins, E., Lyons, K., Connaughton, P, and Perez Tadeo, M (2020). Celtic Sea Herring Acoustic Survey Cruise Report 2018. FSS Survey Series: 2020/04
- O'Dwyer, P., McKeogh, E. and Berrow, S. 2016. Results of an Independent Observer Study of the Celtic Sea Herring Fishery, 2016. IWDG Consulting, Merchants Quay, Kilrush, Co Clare. 15 pp.
- O'Malley, M., Clarke, M., O'Donnell, C., Murphy, I. 2016. Atlantic Herring in 6aS/7b,c Industry Acoustic Survey Cruise Report. FEAS Survey Series: Industry Survey/01/2016
- O'Donnell, C., O'Malley, M., Lynch, D., Lyons, K., Keogh, N. and O'Driscoll, D. (2017). Celtic Sea Herring Acoustic Survey Cruise Report 2017, 15-04 November 2017. FSS Survey Series: 2017/04. Marine Institute. http://hdl.handle.net/10793/1338
- O'Dwyer, P and Berrow, S (2017). Results of an Independent Observer Study of the Celtic Sea Herring Fishery, 2017
- O'Malley, M., Clarke, M., Smith, T. & Mullins, E. (2018). Atlantic Herring and Horse Mackerel in 6aS/7b; Industry Acoustic Survey Cruise Report. FEAS Survey Series: Industry Acoustic Survey/01/2017. Marine Institute. <u>http://hdl.handle.net/10793/1341</u>
- O'Malley M. Blaszkowski M. White E. O'Brien S. & Mullins E. (2019). Atlantic Herring and Horse Mackerel in 6aS/7b; Industry Acoustic Survey Cruise Report. FEAS Survey Series: Industry Acoustic Survey/01/2019. Marine Institute
- O'Malley M., Mullins E. & Nolan C (2020). Atlantic Herring in 6aS/7b; Industry Acoustic Survey Cruise Report. FEAS Survey Series: Industry Acoustic Sur- vey/01/2020. Marine Institute
- O'Malley, M. & Nolan, C 2021. NW Herring Industry Acoustic Survey: Acoustic Survey of Atlantic Herring in 6aS/7bc during spawning/pre-spawning aggregations. Working Document to WKNSCS 2022.
- O'Malley, M., O'Connell, S., Nolan, C., Farrell, E.D., White, E., Egan, A., Campbell, N., MacLeod, E., Pert, C., Mackinson, S., Nash, R., Berges, B. & Campbell, A. 2021. Splitting the Malin Shelf Herring Acoustic Survey estimates (2014 – 2020) using genetic results from the EASME project. Working Document to WKNSCS 2022.
- O'Sullivan, D, O'Keeffe, E., Berry, A., Tully, O. and Clarke, M (2013) An inventory of Irish Herring Spawning Grounds. Irish Fisheries Bulletin No 42 2013.
- Pelagic Advisory Council. 2016. Minutes of the Focus Group meeting on herring in area VIa and VII b,c. 27 January 2016, The Hague, The Netherlands. <u>http://www.pelagic-ac.org/me-dia/pdf/Minutes%20VIa%20herring%2027%2001%202016.pdf</u>
- Peck, M.A., Kanstinger, P., Holste, L., Martin, M. Thermal windows supporting survival of the earliest life stages of Baltic herring (Clupea harengus). ICES Journal of Marine Science, 69(4), 529–536 (2012).
- Pedersen, M.W. and Berg, C.W., 2017. A stochastic surplus production model in continuous time. Fish and Fisheries, 18(2), pp.226-243.
- Podolska, M., Horbowy, J., Wyszyński, M. (2006). Discrimination of Baltic herring populations with respect to *Anisakis simplex* larvae infection. Journal of Fish Biology, 68:4, 1241-1256.
- Polte P, Gröhsler T, Kotterba P, Nordheim L von, Moll D, Santos J, Rodriguez-Tress P, Zablotski Y, Zimmermann C (2021) Reduced reproductive success of Western Baltic herring (Clupea harengus) as a response to warming winters. Front Mar Sci 8:589242, DOI:10.3389/fmars.2021.589242.
- Prista, N., Fernandes, A., Pereira, J, Silva, C., Alpoim, R. and F. Borges. 2014. Discards of WGBIE species by the Portuguese bottom otter trawl operating in the ICES division 9.a (2004-2013). Working Document presented at WGBIE2014.

Smoliński, S., Schade, F.M., and Berg, F. 2020. Assessing the performance of statistical classifiers to discriminate fish stocks using Fourier analysis of otolith shape. Canadian Journal of Fisheries and Aquatic Sciences, 77(4): 674-683.