

### ***Key publications from the IMR Population Genetics group***

Collectively, members of the group have published >300 papers in peer reviewed international scientific journals in the past decade. The reference list below is associated with the in-text citations used above and reflects examples of work we have performed. The list is by no means comprehensive. Full publications lists are available by clicking on the scientific profile for the individual members of the group. Note, a small number of the papers listed below have a first author from outside of the group (and in some cases outside IMR). These articles are listed due to their importance and based upon a significant scientific contribution from one or several members of the group.

- 1 Glover, K. A. *et al.* Half a century of genetic interaction between farmed and wild Atlantic salmon: status of knowledge and unanswered questions. *Fish. Fish.* **18**, 890-927 (2017).
- 2 Solberg, M. F., Glover, K. A., Nilsen, F. & Skaala, Ø. Does domestication cause changes in growth reaction norms? A study of farmed, wild and hybrid Atlantic salmon families exposed to environmental stress. *Plos One* **8(1)**: e54469 (2013).
- 3 Solberg, M. F., Zhang, Z. W., Nilsen, F. & Glover, K. A. Growth reaction norms of domesticated, wild and hybrid Atlantic salmon families in response to differing social and physical environments. *Bmc Evolutionary Biology* **13:234**, doi:10.1186/1471-2148-13-234 (2013).
- 4 Solberg, M. F., Fjellidal, P. G., Nilsen, F. & Glover, K. A. Hatching time and alevin growth prior to the onset of exogenous feeding in farmed, wild and hybrid Norwegian Atlantic salmon. *Plos One* **9(12)**: e113697, doi:10.1371/journal.pone.0113697 (2014).
- 5 Solberg, M. F., Zhang, Z. & Glover, K. A. Are farmed salmon more prone to risk than wild salmon? Susceptibility of juvenile farm, hybrid and wild Atlantic salmon *Salmo salar* L. to an artificial predator. *Applied Animal Behaviour Science* **162**, 67-80 (2015).
- 6 Solberg, M. F., Dyrhovden, L., Matre, I. H. & Glover, K. A. Thermal plasticity in farmed, wild and hybrid Atlantic salmon during early development: has domestication caused divergence in low temperature tolerance? *Bmc Evolutionary Biology* **16:38**, doi:10.1186/s12862-016-0607-2 (2016).
- 7 Harvey, A. C. *et al.* Plasticity in growth of farmed and wild Atlantic salmon: is the increased growth rate of farmed salmon caused by evolutionary adaptations to the commercial diet? *Bmc Evolutionary Biology* **16**, 13, doi:10.1186/s12862-016-0841-7 (2016).
- 8 Harvey, A. C., Fjellidal, P. G., Solberg, M. F., Hansen, T. & Glover, K. A. Ploidy elicits a whole-genome dosage effect: growth of triploid Atlantic salmon is linked to the genetic origin of the second maternal chromosome set. *BMC Genet.* **18**, 12, doi:10.1186/s12863-017-0502-x (2017).
- 9 Glover, K. A. *et al.* A comparison of farmed, wild and hybrid Atlantic salmon (*Salmo salar* L.) reared under farming conditions. *Aquaculture* **286**, 203-210, doi:10.1016/j.aquaculture.2008.09.023 (2009).
- 10 Jørgensen, K. M. *et al.* Judging a salmon by its spots: environmental variation is the primary determinant of spot patterns in *Salmo salar*. *Bmc Ecology* **18:14** (2018).
- 11 Glover, K. A., Solberg, M. F., Besnier, F. & Skaala, O. Cryptic introgression: evidence that selection and plasticity mask the full phenotypic potential of domesticated Atlantic salmon in the wild. *Sci Rep* **8**, 10, doi:10.1038/s41598-018-32467-2 (2018).
- 12 Harvey, A. C. *et al.* Implications for introgression: has selection for fast growth altered the size threshold for precocious male maturation in domesticated Atlantic salmon? *Bmc Evolutionary Biology* **18**, 13, doi:10.1186/s12862-018-1294-y (2018).

- 13 Perry, W. B. *et al.* Evolutionary drivers of kype size in Atlantic salmon (*Salmo salar*): domestication, age and genetics. *Royal Society Open Science* **6**, 14, doi:10.1098/rsos.190021 (2019).
- 14 Besnier, F. *et al.* Epistatic regulation of growth in Atlantic salmon revealed: a QTL study performed on the domesticated-wild interface. *BMC Genet.* **21**, 17, doi:10.1186/s12863-020-0816-y (2020).
- 15 Solberg, M. F., Robertsen, G., Sundt-Hansen, L. E., Hindar, K. & Glover, K. A. Domestication leads to increased predation susceptibility. *Sci Rep* **10**, 11, doi:10.1038/s41598-020-58661-9 (2020).
- 16 Skaala, O., Wennevik, V. & Glover, K. A. Evidence of temporal genetic change in wild Atlantic salmon, *Salmo salar* L., populations affected by farm escapees. *Ices Journal of Marine Science* **63**, 1224-1233, doi:DOI 10.1016/j.icesjms.2006.04.005 (2006).
- 17 Glover, K. A. *et al.* Three decades of farmed escapees in the wild: A spatio-temporal analysis of population genetic structure throughout Norway. *Plos One* **7(8)**: e43129 (2012).
- 18 Glover, K. A. *et al.* Atlantic salmon populations invaded by farmed escapees: quantifying genetic introgression with a Bayesian approach and SNPs. *BMC Genet.* **14**:4, doi:doi:10.1186/1471-2156-14-74 (2013).
- 19 Heino, M., Svåsand, T., Wennevik, V. & Glover, K. A. Genetic introgression of farmed salmon in native populations: quantifying the relative influence of population size and frequency of escapees. *Aquaculture Environment Interactions* **6**, 185-190, doi:10.3354/aei00126 (2015).
- 20 Skaala, O. *et al.* An extensive common-garden study with domesticated and wild Atlantic salmon in the wild reveals impact on smolt production and shifts in fitness traits. *Evolutionary Applications* **12**, 1001-1016, doi:10.1111/eva.12777 (2019).
- 21 Skilbrei, O. T. Adult recaptures of farmed Atlantic salmon post-smolts allowed to escape during summer. *Aquaculture Environment Interactions* **1**, 147-153, doi:10.3354/aei00017 (2010).
- 22 Skilbrei, O. T., Holst, J. C., Asplin, L. & Mortensen, S. Horizontal movements of simulated escaped farmed Atlantic salmon (*Salmo salar*) in a western Norwegian fjord. *Ices Journal of Marine Science* **67**, 1206-1215, doi:10.1093/icesjms/fsq027 (2010).
- 23 Skilbrei, O. T. Reduced migratory performance of farmed Atlantic salmon post-smolts from a simulated escape during autumn. *Aquaculture Environment Interactions* **1**, 117-125, doi:10.3354/aei00013 (2010).
- 24 Skilbrei, O. T., Heino, M. & Svåsand, T. Using simulated escape events to assess the annual numbers and destinies of escaped farmed Atlantic salmon of different life stages, from farms sites in Norway. *Ices Journal of Marine Science* **72**, 670-685 (2015).
- 25 Skaala, Ø. *et al.* Performance of farmed, hybrid, and wild Atlantic salmon (*Salmo salar*) families in a natural river environment. *Canadian Journal of Fisheries and Aquatic Sciences* **69**, 1994-2006, doi:10.1139/f2012-118 (2012).
- 26 Skaala, O., Glover, K. A., Barlaup, B. T. & Borgstrom, R. Microsatellite DNA used for parentage identification of partly digested Atlantic salmon (*Salmo salar*) juveniles through non-destructive diet sampling in salmonids. *Marine Biology Research* **10**, 323-328, doi:10.1080/17451000.2013.810757 (2014).
- 27 Besnier, F. *et al.* Identification of quantitative genetic components of fitness variation in farmed, hybrid and native salmon in the wild. *Heredity* **115**, 47-55, doi:10.1038/hdy.2015.15 (2015).
- 28 Bicskei, B., Bron, J. E., Glover, K. A. & Taggart, J. B. A comparison of gene transcription profiles of domesticated and wild Atlantic salmon (*Salmo salar* L.) at early life stages, reared under controlled conditions. *Bmc Genomics* **15**:884, doi:doi:10.1186/1471-2164-15-884 (2014).
- 29 Bicskei, B., Taggart, J. B., Glover, K. A. & Bron, J. E. Comparing the transcriptomes of embryos from domesticated and wild Atlantic salmon (*Salmo salar* L.) stocks and examining factors

- that influence heritability of gene expression. *Genetics Selection Evolution* **48**, 1-16, doi:10.1186/s12711-016-0200-6 (2016).
- 30 Anon. Rømt oppdrettslaks i vassdrag. Rapport fra det nasjonale overvåkningsprogrammet 2016. *Fisken og Havet, særnummer 2b-2017* (2017).
- 31 Glover, K. A. *et al.* Domesticated escapees on the run: the second-generation monitoring program reports the numbers and proportions of farmed Atlantic salmon in >200 rivers annually *Ices Journal of Marine Science* **76**, 1151-1161 (2019).
- 32 Glover, K. A. *et al.* The future looks like the past: Introgression of domesticated Atlantic salmon escapees in a risk assessment framework. *Fish. Fish.*, **15**, doi:10.1111/faf.12478 (2020).
- 33 Madhun, A. S. *et al.* The ecological profile of Atlantic salmon escapees entering a river throughout an entire season: diverse in escape history and genetic background, but frequently virus-infected. *Ices Journal of Marine Science* **74**, 1371-1381, doi:10.1093/icesjms/fsw243 (2017).
- 34 Quintela, M. *et al.* Siblingship tests connect two seemingly independent farmed Atlantic salmon escape events. *Aquaculture Environment Interactions* **8**, 497-509 (2016).
- 35 Castellani, M. *et al.* IBSEM: An Individual-Based Atlantic Salmon Population Model. *Plos One* **10(9): e0138444**, doi:10.1371/journal.pone.0138444 (2015).
- 36 Castellani, M. *et al.* Modelling fitness changes in wild Atlantic salmon populations faced by spawning intrusion of domesticated escapees. *Evolutionary Applications*, Early online: DOI: 10.1111/eva.1261 (2018).
- 37 Dahle, G. Cod, *Gadus morhua* L, populations identified by mitochondrial DNA. *Journal of Fish Biology* **38**, 295-303, doi:10.1111/j.1095-8649.1991.tb03115.x (1991).
- 38 Dahle, G. & Jorstad, K. E. Hemoglobin variation in cod - a reliable marker for Arctic cod (*Gadus morhua* L). *Fish Res.* **16**, 301-311, doi:10.1016/0165-7836(93)90143-u (1993).
- 39 Knutsen, H., Jorde, P. E., Andre, C. & Stenseth, N. C. Fine-scaled geographical population structuring in a highly mobile marine species: the Atlantic cod. *Molecular Ecology* **12**, 385-394, doi:10.1046/j.1365-294X.2003.01750.x (2003).
- 40 Knutsen, H. *et al.* Transport of North Sea cod larvae into the Skagerrak coastal populations. *Proceedings of the Royal Society B-Biological Sciences* **271**, 1337-1344, doi:10.1098/rspb.2004.2721 (2004).
- 41 Knutsen, H. *et al.* Are low but statistically significant levels of genetic differentiation in marine fishes 'biologically meaningful'? A case study of coastal Atlantic cod. *Molecular Ecology* **20**, 768-783, doi:10.1111/j.1365-294X.2010.04979.x (2011).
- 42 Knutsen, H. *et al.* Climate Change and Genetic Structure of Leading Edge and Rear End Populations in a Northwards Shifting Marine Fish Species, the Corkwing Wrasse (*Symphodus melops*). *Plos One* **8**, doi:10.1371/journal.pone.0067492 (2013).
- 43 Jorde, P. E., Knutsen, H., Espeland, S. H. & Stenseth, N. C. Spatial scale of genetic structuring in coastal cod *Gadus morhua* and geographic extent of local populations. *Marine Ecology Progress Series* **343**, 229-237, doi:10.3354/meps06922 (2007).
- 44 Sodeland, M. *et al.* "Islands of Divergence" in the Atlantic Cod Genome Represent Polymorphic Chromosomal Rearrangements. *Genome Biol. Evol.* **8**, 1012-1022, doi:10.1093/gbe/evw057 (2016).
- 45 Wennevik, V., Jorstad, K. E., Dahle, G. & Fevolden, S. E. Mixed stock analysis and the power of different classes of molecular markers in discriminating coastal and oceanic Atlantic cod (*Gadus morhua* L.) on the Lofoten spawning grounds, Northern Norway. *Hydrobiologia* **606**, 7-25, doi:10.1007/s10750-008-9349-5 (2008).
- 46 Ottera, H. *et al.* Is spawning time of marine fish imprinted in the genes? A two-generation experiment on local Atlantic cod (*Gadus morhua* L.) populations from different geographical regions. *Ices Journal of Marine Science* **69**, 1722-1728, doi:10.1093/icesjms/fss135 (2012).

- 47 Westgaard, J. I. & Fevolden, S. E. Atlantic cod (*Gadus morhua* L.) in inner and outer coastal zones of northern Norway display divergent genetic signature at non-neutral loci. *Fish Res.* **85**, 306-315, doi:10.1016/j.fishres.2007.04.001 (2007).
- 48 Glover, K. A., Dahle, G. & Jorstad, K. E. Genetic identification of farmed and wild Atlantic cod, *Gadus morhua*, in coastal Norway. *Ices Journal of Marine Science* **68**, 901-910, doi:10.1093/icesjms/fsr048 (2011).
- 49 Kirubakaran, T. G. *et al.* Two adjacent inversions maintain genomic differentiation between migratory and stationary ecotypes of Atlantic cod. *Molecular Ecology* **25**, 2130-2143, doi:10.1111/mec.13592 (2016).
- 50 Johansen, T., Repolho, T., Hellebo, A. & Raae, A. J. Strict conservation of the ITS regions of the ribosomal RNA genes in Atlantic cod (*Gadus morhua* L.). *DNA Seq.* **17**, 107-114, doi:10.1080/10425170600624701 (2006).
- 51 Michalsen, K., Johansen, T., Subbey, S. & Beck, A. Linking tagging technology and molecular genetics to gain insight in the spatial dynamics of two stocks of cod in Northeast Atlantic waters. *Ices Journal of Marine Science* **71**, 1417-1432, doi:10.1093/icesjms/fsu083 (2014).
- 52 Varne, R. *et al.* Farmed cod escapees and net-pen spawning left no clear genetic footprint in the local wild cod population. *Aquaculture Environment Interactions* **7**, 253-266, doi:10.3354/aei00153 (2015).
- 53 Dahle, G. *et al.* Analysis of coastal cod (*Gadus morhua* L.) sampled on spawning sites reveals a genetic gradient throughout Norway's coastline. *BMC Genet.* **19**, 17, doi:10.1186/s12863-018-0625-8 (2018).
- 54 Johansen, T. *et al.* Genomic analysis reveals neutral and adaptive patterns that challenge the current management regime for East Atlantic cod *Gadus morhua* L. *Evolutionary Applications*, **16**, doi:10.1111/eva.13070 (2020).
- 55 Knutsen, H. *et al.* Stable coexistence of genetically divergent Atlantic cod ecotypes at multiple spatial scales. *Evolutionary Applications* **11**, 1527-1539, doi:10.1111/eva.12640 (2018).
- 56 Jorde, P. E. *et al.* The making of a genetic cline: introgression of oceanic genes into coastal cod populations in the Northeast Atlantic. *Canadian Journal of Fisheries and Aquatic Sciences* **78**, 958-968, doi:10.1139/cjfas-2020-0380 (2021).
- 57 Chung, M. T. *et al.* First measurements of field metabolic rate in wild juvenile fishes show strong thermal sensitivity but variations between sympatric ecotypes. *Oikos* **130**, 287-299, doi:10.1111/oik.07647 (2021).
- 58 Johansen, T. *et al.* "Real-time" genetic monitoring of a commercial fishery on the doorstep of an MPA reveals unique insights into the interaction between coastal and migratory forms of the Atlantic cod. *Ices Journal of Marine Science* **75**, 1093-1104, doi:10.1093/icesjms/fsx224 (2018).
- 59 Westgaard, J. I. *et al.* Large and fine scale population structure in European hake (*Merluccius merluccius*) in the Northeast Atlantic. *Ices Journal of Marine Science* **74**, 1300-1310, doi:10.1093/icesjms/fsw249 (2017).
- 60 Knutsen, H., Jorde, P. E., Bergstad, O. A. & Skogen, M. Population genetic structure in a deepwater fish *Coryphaenoides rupestris*: patterns and processes. *Marine Ecology Progress Series* **460**, 233-246, doi:10.3354/meps09728 (2012).
- 61 Catarino, D. *et al.* The role of the Strait of Gibraltar in shaping the genetic structure of the Mediterranean Grenadier, *Coryphaenoides mediterraneus*, between the Atlantic and Mediterranean Sea. *Plos One* **12**, 24, doi:10.1371/journal.pone.0174988 (2017).
- 62 Saha, A. *et al.* Geographic extent of introgression in *Sebastes mentella* and its effect on genetic population structure. *Evolutionary Applications* **10**, 77-90, doi:10.1111/eva.12429 (2017).

- 63 Johansen, T., Danielsdottir, A. K., Meland, K. & Naevdal, G. Studies of the genetic relationship between deep-sea and oceanic *Sebastes mentella* in the Irminger Sea. *Fish Res.* **49**, 179-192, doi:10.1016/s0165-7836(00)00193-4 (2000).
- 64 Saha, A. *et al.* Cryptic *Sebastes norvegicus* species in Greenland waters revealed by microsatellites. *Ices Journal of Marine Science* doi:10.1093/icesjms/fsx039 (2017).
- 65 Johansen, T., Naevdal, G., Danielsdottir, A. K. & Hareide, N. R. Genetic characterisation of giant *Sebastes* in the deep water slopes in the Irminger Sea. *Fish Res.* **45**, 207-216, doi:10.1016/s0165-7836(99)00132-0 (2000).
- 66 Johansen, T., Danielsdottir, A. K. & Naevdal, G. Genetic variation of *Sebastes viviparus* Kroyer in the North Atlantic. *Journal of Applied Ichthyology* **18**, 177-180, doi:10.1046/j.1439-0426.2002.00320.x (2002).
- 67 Johansen, T. & Dahle, G. Discrimination among species of the genus *Sebastes* in the North Atlantic by random amplified polymorphic DNA. *Sarsia* **89**, 478-483, doi:10.1080/00364820410002695 (2004).
- 68 Christensen, H. T. *et al.* Comparison of three methods for identification of redfish (*Sebastes mentella* and *S. norvegicus*) from the Greenland east coast. *Fish Res.* **201**, 11-17, doi:10.1016/j.fishres.2018.01.003 (2018).
- 69 Saha, A. *et al.* Hierarchical genetic structure in an evolving species complex: Insights from genome wide ddRAD data in *Sebastes mentella*. *Plos One* **16**, 22, doi:10.1371/journal.pone.0251976 (2021).
- 70 Saha, A. *et al.* Seascape genetics of saithe (*Pollachius virens*) across the North Atlantic using single nucleotide polymorphisms. *Ices Journal of Marine Science* **72**, 2732-2741, doi:10.1093/icesjms/fsv139 (2015).
- 71 Myksvoll, M. S. *et al.* Linking dispersal connectivity to population structure and management boundaries for saithe in the Northeast Atlantic. *Marine Ecology Progress Series* **680**, 177-191, doi:10.3354/meps13862 (2021).
- 72 Westgaard, J. I. *et al.* Genetic population structure in Greenland halibut (*Reinhardtius hippoglossoides*) and its relevance to fishery management. *Canadian Journal of Fisheries and Aquatic Sciences* **74**, 475-485, doi:10.1139/cjfas-2015-0430 (2017).
- 73 Knutsen, H., Jorde, P. E., Albert, O. T., Hoelzel, A. R. & Stenseth, N. C. Population genetic structure in the North Atlantic Greenland halibut (*Reinhardtius hippoglossoides*): influenced by oceanic current systems? *Canadian Journal of Fisheries and Aquatic Sciences* **64**, 857-866, doi:10.1139/f07-070 (2007).
- 74 Johansen, T. & Naevdal, G. Genetic analysis of population structure of tusk in the North Atlantic. *Journal of Fish Biology* **47**, 226-242, doi:10.1111/j.1095-8649.1995.tb06058.x (1995).
- 75 Knutsen, H. *et al.* Bathymetric barriers promoting genetic structure in the deepwater demersal fish tusk (*Brosme brosme*). *Molecular Ecology* **18**, 3151-3162, doi:10.1111/j.1365-294X.2009.04253.x (2009).
- 76 Gonzalez, E. B., Knutsen, H., Jorde, P. E., Glover, K. A. & Bergstad, O. A. Genetic analyses of ling (*Molva molva*) in the Northeast Atlantic reveal patterns relevant to stock assessments and management advice. *Ices Journal of Marine Science* **72**, 635-641, doi:10.1093/icesjms/fsv135 (2015).
- 77 Quintela, M. *et al.* Isolation and characterization of twenty microsatellite loci for the ballan wrasse, *Labrus bergylta*. *Conserv. Genet. Resour.* **6**, 425-428, doi:10.1007/s12686-013-0114-3 (2014).
- 78 Quintela, M. *et al.* Is the ballan wrasse (*Labrus bergylta*) two species? Genetic analysis reveals within-species divergence associated with plain and spotted morphotype frequencies. *Integr. Zool.* **11**, 162-172, doi:10.1111/1749-4877.12186 (2016).

- 79 Seljestad, G. W. *et al.* "A cleaner break": Genetic divergence between geographic groups and sympatric phenotypes revealed in ballan wrasse (*Labrus bergylta*). *Ecol. Evol.* **10**, 6120-6135, doi:10.1002/ece3.6404 (2020).
- 80 Jansson, E. *et al.* Development of SNP and microsatellite markers for goldsinny wrasse (*Ctenolabrus rupestris*) from ddRAD sequencing data. *Conserv. Genet. Resour.* **8**, 201-206, doi:10.1007/s12686-016-0532-0 (2016).
- 81 Jansson, E. *et al.* Genetic analysis of goldsinny wrasse reveals evolutionary insights into population connectivity and potential evidence of inadvertent translocation via aquaculture. *Ices Journal of Marine Science* <https://doi.org/10.1093/icesjms/fsx046> (2017).
- 82 Gonzalez, E. B., Knutsen, H. & Jorde, P. E. Habitat Discontinuities Separate Genetically Divergent Populations of a Rocky Shore Marine Fish. *Plos One* **11**, 17, doi:10.1371/journal.pone.0163052 (2016).
- 83 Faust, E. *et al.* Not that clean: Aquaculture-mediated translocation of cleaner fish has led to hybridization on the northern edge of the species' range. *Evolutionary Applications* **14**, 1572-1587, doi:10.1111/eva.13220 (2021).
- 84 Mattingsdal, M. *et al.* Demographic history has shaped the strongly differentiated corkwing wrasse populations in Northern Europe. *Molecular Ecology* **29**, 160-171, doi:10.1111/mec.15310 (2020).
- 85 Jorde, P. E. *et al.* Genetically distinct populations of northern shrimp, *Pandalus borealis*, in the North Atlantic: adaptation to different temperatures as an isolation factor. *Molecular Ecology* **24**, 1742-1757, doi:10.1111/mec.13158 (2015).
- 86 Knutsen, H. *et al.* Does population genetic structure support present management regulations of the northern shrimp (*Pandalus borealis*) in Skagerrak and the North Sea? *Ices Journal of Marine Science* **72**, 863-871, doi:10.1093/icesjms/fsu204 (2015).
- 87 Hansen, A. *et al.* Genetic differentiation between inshore and offshore populations of northern shrimp (*Pandalus borealis*). *Ices Journal of Marine Science* **78**, 3135-3146, doi:10.1093/icesjms/fsab181 (2021).
- 88 Glover, K. A. *et al.* Population genetic structure of the parasitic copepod *Lepeophtheirus salmonis* throughout the Atlantic. *Marine Ecology Progress Series* **427**, 161-172, doi:10.3354/meps09045 (2011).
- 89 Besnier, F. *et al.* Human-induced evolution caught in action: SNP-array reveals rapid amphiatlantic spread of pesticide resistance in the salmon ectoparasite *Lepeophtheirus salmonis*. *Bmc Genomics* **15**, 937, doi:10.1186/1471-2164-15-937 (2014).
- 90 Fjortoft, H. B. *et al.* Salmon lice sampled from wild Atlantic salmon and sea trout throughout Norway display high frequencies of the genotype associated with pyrethroid resistance. *Aquaculture Environment Interactions* **11**, 459-468, doi:10.3354/aei00322 (2019).
- 91 Fjortoft, H. B. *et al.* Aquaculture-driven evolution: distribution of pyrethroid resistance in the salmon louse throughout the North Atlantic in the years 2000–2017. *ICES Journal of Marine Science* **77**, 1806-1815, doi:10.1093/icesjms/fsaa062 (2020).
- 92 Fjortoft, H. B. *et al.* Losing the 'arms race': multiresistant salmon lice are dispersed throughout the North Atlantic Ocean. *Royal Society Open Science* **8**, 10, doi:10.1098/rsos.210265 (2021).
- 93 Tjensvoll, K., Glover, K. A. & Nylund, A. Sequence variation in four mitochondrial genes of the salmon louse *Lepeophtheirus salmonis*. *Diseases of Aquatic Organisms* **68**, 251-259, doi:10.3354/dao068251 (2006).
- 94 Kaur, K. *et al.* The mechanism (Phe362Tyr mutation) behind resistance in *Lepeophtheirus salmonis* pre-dates organophosphate use in salmon farming. *Sci Rep* **7**, 9, doi:10.1038/s41598-017-12384-6 (2017).
- 95 Fjortoft, H. B. *et al.* The Phe362Tyr mutation conveying resistance to organophosphates occurs in high frequencies in salmon lice collected from wild salmon and trout. *Sci Rep* **7**, 10, doi:10.1038/s41598-017-14681-6 (2017).

- 96 Wennevik, V., Skaala, O., Titov, S. F., Studyonov, I. & Naevdal, G. Microsatellite variation in populations of Atlantic salmon from North Europe. *Environmental Biology of Fishes* **69**, 143-152 (2004).
- 97 Wennevik, V. *et al.* Population genetic analysis reveals a geographically limited transition zone between two genetically distinct Atlantic salmon lineages in Norway. *Ecol. Evol.* **9**, 6901-6921, doi:10.1002/ece3.5258 (2019).
- 98 Skaala, O. GENETIC POPULATION-STRUCTURE OF NORWEGIAN BROWN TROUT. *Journal of Fish Biology* **41**, 631-646, doi:10.1111/j.1095-8649.1992.tb02690.x (1992).
- 99 Hovgaard, K., Skaala, O. & Naevdal, G. Genetic differentiation among sea trout, *Salmo trutta* L., populations from western Norway. *Journal of Applied Ichthyology* **22**, 57-61, doi:10.1111/j.1439-0426.2006.00713.x (2006).
- 100 Hansen, M. M., Skaala, O., Jensen, L. F., Bekkevold, D. & Mensberg, K. L. D. Gene flow, effective population size and selection at major histocompatibility complex genes: brown trout in the Hardanger Fjord, Norway. *Molecular Ecology* **16**, 1413-1425, doi:10.1111/j.1365-294X.2007.03255.x (2007).
- 101 Knutsen, H., Knutsen, J. A. & Jorde, P. E. Genetic evidence for mixed origin of recolonized sea trout populations. *Heredity* **87**, 207-214, doi:10.1046/j.1365-2540.2001.00907.x (2001).
- 102 Quintela, M. *et al.* Investigating Population Genetic Structure in a Highly Mobile Marine Organism: The Minke Whale *Balaenoptera acutorostrata acutorostrata* in the North East Atlantic. *Plos One* **9**, doi:10.1371/journal.pone.0108640 (2014).
- 103 Catarino, D. *et al.* The Pillars of Hercules as a bathymetric barrier to gene flow promoting isolation in a global deep-sea shark (*Centroscymnus coelolepis*). *Molecular Ecology* **24**, 6061-6079, doi:10.1111/mec.13453 (2015).
- 104 Quintela, M. *et al.* Genetic analysis redraws the management boundaries for the European sprat. *Evolutionary Applications* **13**, 1906-1922, doi:10.1111/eva.12942 (2020).
- 105 Quintela, M. *et al.* Genetic response to human-induced habitat changes in the marine environment: A century of evolution of European sprat in Landvikvannet, Norway. *Ecol. Evol.* **In press**, doi:10.1002/ece3.7160 (2021).
- 106 Glover, K. A., Skaala, O., Limborg, M., Kvamme, C. & Torstensen, E. Microsatellite DNA reveals population genetic differentiation among sprat (*Sprattus sprattus*) sampled throughout the Northeast Atlantic, including Norwegian fjords. *Ices Journal of Marine Science* **68**, 2145-2151, doi:10.1093/icesjms/fsr153 (2011).
- 107 Berg, P. R. *et al.* Genetic structuring in Atlantic haddock contrasts with current management regimes. *Ices Journal of Marine Science* **78**, 1-13, doi:10.1093/icesjms/fsaa204 (2021).
- 108 Huserbraten, M. B. O. *et al.* Conservation, Spillover and Gene Flow within a Network of Northern European Marine Protected Areas. *Plos One* **8**, 10, doi:10.1371/journal.pone.0073388 (2013).
- 109 Jorstad, K. E. *et al.* Sub-arctic populations of European lobster, *Homarus gammarus*, in northern Norway. *Environmental Biology of Fishes* **69**, 223-231, doi:10.1023/b:ebfi.0000022899.52578.37 (2004).
- 110 Jorstad, K. E. *et al.* Comparison of genetic and morphological methods to detect the presence of American lobsters, *Homarus americanus* H. Milne Edwards, 1837 (Astacidea : Nephropidae) in Norwegian waters. *Hydrobiologia* **590**, 103-114, doi:10.1007/s10750-007-0762-y (2007).
- 111 Malde, K. *et al.* Whole genome resequencing reveals diagnostic markers for investigating global migration and hybridization between minke whale species. *Bmc Genomics* **18**, 11, doi:10.1186/s12864-016-3416-5 (2017).
- 112 Moland, E. *et al.* Lobster and cod benefit from small-scale northern marine protected areas: inference from an empirical before - after control-impact study. *Proceedings of the Royal Society B-Biological Sciences* **280**, 9, doi:10.1098/rspb.2012.2679 (2013).

- 113 Moland, E., Ulmestrand, M., Olsen, E. M. & Stenseth, N. C. Long-term decrease in sex-specific natural mortality of European lobster within a marine protected area. *Marine Ecology Progress Series* **491**, 153+, doi:10.3354/meps10459 (2013).
- 114 Fernandez-Chacon, A., Moland, E., Espeland, S. H. & Olsen, E. M. Demographic effects of full vs. partial protection from harvesting: inference from an empirical before-after control-impact study on Atlantic cod. *Journal of Applied Ecology* **52**, 1206-1215, doi:10.1111/1365-2664.12477 (2015).
- 115 Moland, E. *et al.* Activity patterns of wild European lobster *Homarus gammarus* in coastal marine reserves: implications for future reserve design. *Marine Ecology Progress Series* **429**, 197-207, doi:10.3354/meps09102 (2011).
- 116 Villegas-Rios, D., Moland, E. & Olsen, E. M. Potential of contemporary evolution to erode fishery benefits from marine reserves. *Fish. Fish.* **18**, 571-577, doi:10.1111/faf.12188 (2017).
- 117 Villegas-Rios, D. *et al.* Time at risk: Individual spatial behaviour drives effectiveness of marine protected areas and fitness. *Biological Conservation* **263**, 11, doi:10.1016/j.biocon.2021.109333 (2021).
- 118 Fernandez-Chacon, A., Buttay, L., Moland, E., Knutsen, H. & Olsen, E. M. Demographic responses to protection from harvesting in a long-lived marine species. *Biological Conservation* **257**, 10, doi:10.1016/j.biocon.2021.109094 (2021).
- 119 Glover, K. A., Nilsen, F., Skaala, O., Taggart, J. B. & Teale, A. J. Differences in susceptibility to sea lice infection between a sea run and a freshwater resident population of brown trout. *Journal of Fish Biology* **59**, 1512-1519 (2001).
- 120 Glover, K. A. *et al.* Differing susceptibility of anadromous brown trout (*Salmo trutta* L.) populations to salmon louse (*Lepeophtheirus salmonis* (Kroyer, 1837)) infection. *Ices Journal of Marine Science* **60**, 1139-1148, doi:10.1016/S1054-3139(03)00088-2 (2003).
- 121 Glover, K. A., Aasmundstad, T., Nilsen, F., Storset, A. & Skaala, O. Variation of Atlantic salmon families (*Salmo salar* L.) in susceptibility to the sea lice *Lepeophtheirus salmonis* and *Caligus elongatus*. *Aquaculture* **245**, 19-30, doi:10.1016/j.aquaculture.2004.11.047 (2005).
- 122 Glover, K. A. *et al.* The frequency of spontaneous triploidy in farmed Atlantic salmon produced in Norway during the period 2007-2014. *BMC Genet.* **16:37**, doi:10.1186/s12863-015-0193-0 (2015).
- 123 Glover, K. A. *et al.* Genetic screening of farmed Atlantic salmon escapees demonstrates that triploid fish display reduced migration to freshwater. *Biol. Invasions* **18**, 1287-1294 (2016).
- 124 Skilbrei, O. T. *et al.* Impact of early salmon louse, *Lepeophtheirus salmonis*, infestation and differences in survival and marine growth of sea-ranched Atlantic salmon, *Salmo salar* L., smolts 1997-2009. *Journal of Fish Diseases* **36**, 249-260, doi:10.1111/jfd.12052 (2013).
- 125 Vollset, K. W., Barlaup, B. T., Skoglund, H., Normann, E. S. & Skilbrei, O. T. Salmon lice increase the age of returning Atlantic salmon (vol 10, 20130896, 2014). *Biol. Lett.* **10**, doi:10.1098/rsbl.2014.0085 (2014).
- 126 Skaala, O., Kalas, S. & Borgstrom, R. Evidence of salmon lice-induced mortality of anadromous brown trout (*Salmo trutta*) in the Hardangerfjord, Norway. *Marine Biology Research* **10**, 279-288, doi:10.1080/17451000.2013.810756 (2014).
- 127 Harvey, A. C. *et al.* Inferring Atlantic salmon post-smolt migration patterns using genetic assignment. *Royal Society Open Science* **6**, 10, doi:10.1098/rsos.190426 (2019).
- 128 Johnsen, I. A. *et al.* Salmon lice-induced mortality of Atlantic salmon during post-smolt migration in Norway. *Ices Journal of Marine Science* **78**, 142-154, doi:10.1093/icesjms/fsaa202 (2021).
- 129 Harvey, A. C., Tang, Y. K., Wennevik, V., Skaala, O. & Glover, K. A. Timing is everything: Fishing-season placement may represent the most important angling-induced evolutionary pressure on Atlantic salmon populations. *Ecol. Evol.* **7**, 7490-7502, doi:10.1002/ece3.3304 (2017).



- 130 Ljungfeldt, L. E. R., Espedal, P. G., Nilsen, F., Skern-Mauritzen, M. & Glover, K. A. A common-garden experiment to quantify evolutionary processes in copepods: the case of emamectin benzoate resistance in the parasitic sea louse *Lepeophtheirus salmonis*. *Bmc Evolutionary Biology* **14**, doi:10.1186/1471-2148-14-108 (2014).
- 131 Olsen, E. M., Heupel, M. R., Simpfendorfer, C. A. & Moland, E. Harvest selection on Atlantic cod behavioral traits: implications for spatial management. *Ecol. Evol.* **2**, 1549-1562, doi:10.1002/ece3.244 (2012).
- 132 Freitas, C., Olsen, E. M., Moland, E., Ciannelli, L. & Knutsen, H. Behavioral responses of Atlantic cod to sea temperature changes. *Ecol. Evol.* **5**, 2070-2083, doi:10.1002/ece3.1496 (2015).
- 133 Freitas, C., Olsen, E. M., Knutsen, H., Albretsen, J. & Moland, E. Temperature-associated habitat selection in a cold-water marine fish. *Journal of Animal Ecology* **85**, 628-637, doi:10.1111/1365-2656.12458 (2016).
- 134 Fjelldal, P. G. *et al.* Salmonid fish: model organisms to study cardiovascular morphogenesis in conjoined twins? *BMC Dev. Biol.* **16**, 10, doi:10.1186/s12861-016-0125-x (2016).
- 135 Martin, A. H., Pearson, H. C., Saba, G. K. & Olsen, E. M. Integral functions of marine vertebrates in the ocean carbon cycle and climate change mitigation. *One Earth* **4**, 680-693, doi:10.1016/j.oneear.2021.04.019 (2021).
- 136 Freitas, C., Villegas-Rios, D., Moland, E. & Olsen, E. M. Sea temperature effects on depth use and habitat selection in a marine fish community. *Journal of Animal Ecology* **90**, 1787-1800, doi:10.1111/1365-2656.13497 (2021).
- 137 Dahle, G., Johansen, T., Westgaard, J. I., Aglen, A. & Glover, K. A. Genetic management of mixed-stock fisheries "real-time": The case of the largest remaining cod fishery operating in the Atlantic in 2007-2017. *Fish Res.* **205**, 77-85, doi:10.1016/j.fishres.2018.04.006 (2018).
- 138 Gilbey, J. *et al.* Genetic stock identification of Atlantic salmon caught in the Faroese fishery. *Fish Res.* **187**, 110-119, doi:10.1016/j.fishres.2016.11.020 (2017).
- 139 Gilbey, J. *et al.* The early marine distribution of Atlantic salmon in the North-east Atlantic: A genetically informed stock-specific synthesis. *Fish. Fish.* **22**, 1274-1306, doi:10.1111/faf.12587 (2021).
- 140 Ozerov, M. *et al.* Comprehensive microsatellite baseline for genetic stock identification of Atlantic salmon (*Salmo salar* L.) in northernmost Europe. *Ices Journal of Marine Science* **74**, 2159-2169, doi:10.1093/icesjms/fsx041 (2017).
- 141 Glover, K. A. *et al.* The Norwegian minke whale DNA register: a database monitoring commercial harvest and trade of whale products. *Fish. Fish.* **13**, 313-332 (2012).
- 142 Glover, K. A. *et al.* Migration of Antarctic Minke Whales to the Arctic. *Plos One* **5**, doi:e15197 10.1371/journal.pone.0015197 (2010).
- 143 Glover, K. A. *et al.* Hybrids between common and Antarctic minke whales are fertile and can back-cross. *BMC Genet.* **14**, doi:10.1186/1471-2156-14-25 (2013).
- 144 Leclerc, L. M. *et al.* Greenland sharks (*Somniosus microcephalus*) scavenge offal from minke (*Balaenoptera acutorostrata*) whaling operations in Svalbard (Norway). *Polar Research* **In press** (2011).
- 145 Jorstad, K. E. *et al.* Communal larval rearing of European lobster (*Homarus gammarus*): Family identification by microsatellite DNA profiling and offspring fitness comparisons. *Aquaculture* **247**, 275-285, doi:10.1016/j.aquaculture.2005.02.025 (2005).
- 146 Andre, C. & Knutsen, H. Development of twelve novel microsatellite loci in the European lobster (*Homarus gammarus*). *Conserv. Genet. Resour.* **2**, 233-236, doi:10.1007/s12686-009-9151-3 (2010).
- 147 Glover, K. A., Skilbrei, O. T. & Skaala, O. Genetic assignment identifies farm of origin for Atlantic salmon *Salmo salar* escapees in a Norwegian fjord. *Ices Journal of Marine Science* **65**, 912-920, doi:10.1093/icesjms/fsn056 (2008).

- 148 Glover, K. A. Forensic identification of fish farm escapees: the Norwegian experience. *Aquaculture Environment Interactions* **1**, 1-10 (2010).
- 149 Glover, K. A. Genetic characterisation of farmed rainbow trout in Norway: intra- and inter-strain variation reveals potential for identification of escapees. *BMC Genet.* **9 (87)**, doi:8710.1186/1471-2156-9-87 (2008).
- 150 Glover, K. A. *et al.* Genetic diversity within and among Atlantic cod (*Gadus morhua*) farmed in marine cages: a proof-of-concept study for the identification of escapees. *Animal Genetics* **41**, 515-522, doi:10.1111/j.1365-2052.2010.02025.x (2010).
- 151 Glover, K. A., Sørvik, A. G. E., Karlsbakk, E., Zhang, Z. & Skaala, Ø. Molecular Genetic Analysis of Stomach Contents Reveals Wild Atlantic Cod Feeding on Piscine Reovirus (PRV) Infected Atlantic Salmon Originating from a Commercial Fish Farm. *Plos One* **8**, e60924, doi:10.1371/journal.pone.0060924 (2013).
- 152 Madhun, A. S. *et al.* Potential disease interaction reinforced: double-virus infected escaped farmed Atlantic salmon, *Salmo salar* L., recaptured in a nearby river. *Journal of Fish Diseases* **38**, 209-219 (2015).
- 153 Mahlum, S. *et al.* Swimming with the fishes: validating drift diving to identify farmed Atlantic salmon escapees in the wild. *Aquaculture Environment Interactions* **11**, 417-427 (2019).
- 154 Taranger, G. L. *et al.* Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. *Ices Journal of Marine Science* **72**, 997-1021, doi:10.1093/icesjms/fsu132 (2015).
- 155 Besnier, F. & Glover, K. A. ParallelStructure: A R package to distribute parallel runs of the population genetics program Strucure on multi-core computers. *Plos One* **8(7): e70651** (2013).
- 156 Duval, E. *et al.* Long-term monitoring of a brown trout (*Salmo trutta*) population reveals kin-associated migration patterns and contributions by resident trout to the anadromous run. *BMC Ecol. Evol.* **21**, 14, doi:10.1186/s12862-021-01876-9 (2021).
- 157 Harvey, A. C., Glover, K. A., Wennevik, V. & Skaala, O. Atlantic salmon and sea trout display synchronised smolt migration relative to linked environmental cues. *Sci Rep* **10**, 13, doi:10.1038/s41598-020-60588-0 (2020).
- 158 Solberg, M. F., Kvamme, B. O., Nilsen, F. & Glover, K. A. Effects of environmental stress on mRNA expression levels of seven genes related to oxidative stress and growth in Atlantic salmon *Salmo salar* L. of farmed, hybrid and wild origin *Bmc Research Notes* **5:672** (2012).
- 159 Fjellidal, P. G., Wennevik, V., Fleming, I. A., Hansen, T. & Glover, K. A. Triploid (sterile) farmed Atlantic salmon males attempt to spawn with wild females. *Aquaculture Environment Interactions* **5**, 155-162, doi:10.3354/aei00102 (2014).
- 160 Harvey, A., Glover, K. A., Taylor, M. I., Creer, S. & Carvalho, G. R. A common garden design reveals population-specific variability in potential impacts of hybridization between populations of farmed and wild Atlantic salmon, *Salmo salar* L. *Evolutionary Applications* **9**, 435-449 (2016).
- 161 Harvey, A. *et al.* Does density influence relative growth performance of farmed, wild, and F1 hybrid Atlantic salmon in semi-natural and hatchery common garden conditions? *Royal Society Open Science* **3: 160152** (2016).
- 162 Harvey, A. *et al.* Plasticity in response to feed availability - does feeding regime influence the relative growth performance of domesticated, wild and hybrid Atlantic salmon *Salmo salar* parr? *Journal of Fish Biology* **89**, 1754-1768 (2016).
- 163 Bicskei, B., Taggart, J. B., Bron, J. E. & Glover, K. A. Transcriptomic comparison of communally reared wild, domesticated and hybrid Atlantic salmon fry under stress and control conditions. *BMC Genet.* **21**, 20, doi:10.1186/s12863-020-00858-y (2020).
- 164 Perry, W. B. *et al.* Domestication-induced reduction in eye size revealed in multiple common garden experiments: The case of Atlantic salmon (*Salmo salar* L.). *Evolutionary Applications* **14**, 2319-2332, doi:10.1111/eva.13297 (2021).

- 165 Debes, P. V., Solberg, M. F., Matre, I. H., Dyrhovden, L. & Glover, K. A. Genetic variation for upper thermal tolerance diminishes within and between populations with increasing acclimation temperature in Atlantic salmon. *Heredity* **127**, 455-466, doi:10.1038/s41437-021-00469-y (2021).
- 166 Ayllon, F. *et al.* The *vgl3* Locus Controls Age at Maturity in Wild and Domesticated Atlantic Salmon (*Salmo salar* L.) Males. *Plos Genetics* **11(11)**: e1005628, doi:10.1371/journal.pgen.1005628 (2015).
- 167 Ayllon, F. *et al.* The influence of *vgl3* genotypes on sea age at maturity is altered in farmed mowi strain Atlantic salmon. *BMC Genet.* **20**, 8, doi:10.1186/s12863-019-0745-9 (2019).
- 168 Ayllon, F. *et al.* Autosomal sdY Pseudogenes Explain Discordances Between Phenotypic Sex and DNA Marker for Sex Identification in Atlantic Salmon. *Frontiers in Genetics* **11**, 10, doi:10.3389/fgene.2020.544207 (2020).
- 169 Glover, K. A. *et al.* Chromosome aberrations in pressure-induced triploid Atlantic salmon. *BMC Genet.* **21**, 11, doi:10.1186/s12863-020-00864-0 (2020).