

Jo Gascoigne Curriculum Vitae

Position: Consultant in fisheries science and sustainability
Birth: 4 May 1971, Leamington Spa, UK. British citizen
Contact details: Gwernfor, Spring Hill, Dinas Cross, Wales, SA42 0XA
Home phone: +44 (0)1348 811748 or +33 (0)296 255108
Email: jo.gascoigne@cantab.net
Mobile : +44 (0)7496 468968
Key skills: PhD in marine conservation biology (population dynamics and stock assessment); expert in: fisheries evaluation and sustainability; fisheries stock assessment; marine ecology and conservation biology; shellfish culture and sustainability; fishing techniques and practices.
Languages: English (native), French (fluent spoken and written), Spanish (medium reading, low spoken)

Employment

2007 – date: Independent expert in fisheries evaluation, marine ecology and shellfish culture.

Marine Stewardship Council (MSC) fisheries assessments

Expert (Principles 1, 2 and 3) and team leader for Certification Body MacAlister Elliott Certification (MEC). Assessments conducted in English and French.

Fisheries certified subject to ongoing auditing:

- Euronor saithe (France, Principle 2 (P2) expert and team leader)
- Kerguelen and Crozet toothfish (Réunion, P1 expert and team leader)
- Scottish saithe and haddock (P2, team leader)
- Cie des Pêches St. Malo and Scapêche saithe (France, P2, team leader)
- UK Fisheries/DFFU/Doggerbank saithe (UK and Germany, P2 and team leader)
- Menai Strait mussels (UK, P1 and team leader)
- Basse Normandie and Jersey lobster (France / UK, P2 and team leader)
- Tristan da Cunha rock lobster (UK Overseas Territory / South Africa, P1 and team leader)
- Euronor and Cie des Pêches St.Malo Arctic cod and haddock (France, P1 and team leader)
- UK Fisheries/DFFU/Doggerbank Arctic cod and haddock (UK and Germany, P1 and team leader)
- Cook islands albacore longline (joint P1 and team leader)
- Boulogne herring (France, P3 and team leader)
- Atlanto-Scandian herring (various EU countries, P1)
- Walker Seafoods albacore, yellowfin, swordfish and mahi-mahi (Australia, joint P1 and team leader)

- French FROM Nord sole and herring (P3 and team leader)
- Vietnam Ben Tre clams (P1 and team leader)
- Dutch, Nieder-Sachsen and Schleswig-Holstein mussels (Netherlands and Germany, P1 and P2 and team leader)

Team leader 'on loan' to Certification Body Vottunastofan Tún ehf. (Iceland)

- Icelandic redfish (certified)
- Icelandic saithe (certified)
- Icelandic lumpfish (certified)

Fisheries under evaluation or re-evaluation:

- Normandy whelks (France, P1 and team leader)
- American Samoa albacore and yellowfin longline (P1)
- Cook Islands yellowfin (P1)
- Bahamas spiny lobster (P1)
- Dee estuary and Burry Inlet cockles (UK, P1)

Note: Details of all these assessments, including project reports where available, are available here: <http://www.msc.org/track-a-fishery>

MSC pre-assessments (2008-date)

MSC pre-assessment studies for numerous fisheries, including demersal fish, tunas, small pelagics, highly migratory species, molluscs, crustaceans, freshwater fish; locations including France (including DOMs), UK, Spain, Germany, Greece, Croatia, Mauritius, Southern Africa, West Africa, India, Japan, Pacific Ocean, Indian Ocean, Southern Ocean, South America, East Asia, transboundary (various clients – details and reports confidential to the clients). Include assessment of the fishery in relation to the MSC standard, stakeholder evaluation and review of the supply chain.

Fisheries improvement projects (FIPs)

- Consultant for Fisheries Improvement Programme (FIP) for Moroccan sardine (client: Aldi and others, 2014 ongoing). Activities to date – pre-assessment updated and improved, action plan prepared and agreed, including an overall project workplan and a more detailed workplan for Year 1; consultation with stakeholders ongoing. Project in implementation phase. FIP framework – SFP.
- Lead consultant for FIP for Kavala sardine and anchovy purse seine fishery, Greece (MEP, WWF Greece, 2013-14). Activities – pre-assessment and draft scoping document prepared, FIP workshop held, detailed action plan finalised. FIP framework – WWF.
- Consultant for FIP for tuna pole-and-line fishery in Lakshadweep islands, India (WWF, 2014-16). Activities – pre-assessment and draft scoping document prepared, FIP workshop held, detailed work plan finalised. FIP framework – WWF.
- Consultant for FIP for tuna handline fishery, Pakistan (WWF, 2017 ongoing). Scoping underway. FIP framework – WWF.

Completed projects:

- Evaluation of 'choose wisely' seafood consumer education project with recommendations for the next phase (Emirates Wildlife Society, UAE, 2015)
- Auditor for ISSF Proactive Vessel Register (for responsible tuna fisheries) (MRAG Americas, 2015-16)
- Study for WWF on traceability issues in tuna FIPs and how traceability can be successfully incorporated into these projects (WWF, 2015)
- Peer reviewer for ISSF six-monthly evaluation of tuna stocks against the MSC standard (2016)
- Consultant for development of improvement fisheries assessment methodology for the FishSource online assessment system (SFP, 2014 www.fishsource.org)
- Evaluation of turtle bycatch in fisheries around Masirah Island, Oman, by use of fishermen questionnaires (Five Oceans LLC, Environment Society of Oman, 2013-15).
- Review of UK nephrops, scallop, crab and whelk fisheries (MEP, 2014)
- Review of options for MSC certification / FIPs in the Mauritian tuna sector (MEP / WWF 2013).
- Preparation of management plans for all the main marine fisheries in Guyana, following a participatory methodology – including review of available data, consultations with stakeholders, facilitation of community workshops and validation workshop for all stakeholders. Training also provided to the Fisheries Department on fisheries management strategies, the content and role of fisheries management plans and the ecosystem approach to fisheries management (Sofreco / EU, 2013).
- Drafting of 25-year Policy and 5-year Action Plan for fisheries sector in Dominica, as part of EU ACP Fish II programme. Includes stakeholder and fisher consultations and harmonisation with similar work in St. Vincent and Grenada, as well as with regional Caribbean initiatives (Sofreco / EU, 2012).
- Review of issues around management of scallop fisheries as part of revision of scallop regulations in Scotland (Poseidon Ltd, 2013).
- Assessments of sustainability and management of various fisheries for fisheries improvement programmes and 'good fish guide' for WWF Hong Kong (MEP 2012-13).
- Review of UK scallop fisheries; current situation and future prospects (MEP, 2012)
- Evaluation of fisheries losses (oyster and shellfish growers and shellfish fishermen) following wrecking of TK Bremen at Erdeven, South Brittany (Homarus, 2012-14).
- Review of impact of a shipping accident on the Tristan da Cunha lobster fishery – panel chair (Govt. of Tristan da Cunha, 2011, 2012)
- MSC assessment of Scottish North Sea *Nephrops* (Ps 2 and 3) – subsequently withdrawn from the assessment process (MEP, 2011).
- Evaluation of Scottish nephrops, crab and scallop industries and fisheries: current situation and future prospects under various political scenarios (MacAlister Elliott and Partners, 2011);

- Review of environmental benefits of the MSC programme (part of consortium led by MRAG, 2011)
- Review of application procedures and requirements for aggregate dredging in France (Homarus, 2011).
- Review of sustainability issues in European eel fisheries and production, including drafting of sustainability standard and evaluation of eel fisheries and farms under the standard (see www.sustainableeelgroup.org, 2010-2014).
- Report on policy hurdles and tools to support EU fisheries in moving towards low-carbon, low-impact practices – part of CFP reform consultation process (Seas at Risk, 2010).
- Review of the Omani lobster fisheries with a view to improving management practices and economic output per lobster (MacAlister Elliott and Partners, Five Oceans LLC, 2009-10).
- Review of fisheries impacts of oil spill, Côte d'Ivoire (Homarus Ltd., 2008-9)
- Rapid fisheries assessments for various fish and shellfish species in Asia, Europe and North and South America (WWF Japan, Singapore, UK);
- Quantitative survey of fisheries in the Thames estuary (MacAlister Elliott and Partners, 2008-9)
- Literature review of marine ecology at proposed breakwater sites, Yemen (Five Oceans LLC, 2009)
- Review of techniques for assessing catch weight on board EU fishing boats (interviews with French, Belgian and Dutch vessel owners, producer organisations and fisheries managers) (EU, Marine Resources Assessment Group, 2008)
- Review of oceanographic and marine data availability in France, with analysis of data policies of main data holders (EU, Marine Resources Assessment Group, 2008)
- Marine benthic component of the Best Practical Environmental Option report for disposal of the wreck of the Napoli (Homarus Ltd, 2008)
- Evaluation of yellow mullet fishery in the Parc National Banc d'Arguin, Mauritania (one of Africa's largest marine protected areas); a case study for the MSC risk-based framework methodology for data-deficient fisheries (MacAlister Elliott and Partners, 2007-8)
- Review of best practice for ecotourism development in sensitive coral reef environments (Five Oceans LLC, Oman, 2007)
- Developing a management and monitoring programme for a marine protected area, Oman (Environment Society of Oman, 2007)
- Sustainability and carrying capacity of bottom mussel culture, Ireland (Bord Iascaigh Mhara, Poseidon Aquatic Resources, 2007)
- Incorporating aquaculture into the framework of ecosystem fisheries management (EU, Poseidon Aquatic Resources, 2007)
- Conflicts between dredging and shellfish culture in Poole Harbour (Homarus Ltd, 2007).
- EU fisheries policy and recruitment (Homarus Ltd, 2007).
- Review of fisheries activity in the Bay of Cadiz, Morocco and the Canary Islands (MacAlister Elliott and Partners, 2007)

- Various due diligence studies for investments in the fisheries and seafood sectors
- Various short studies on the environmental impacts of cable and pipeline laying, shipping accidents and dumping at sea

2003 – 2007: Postdoctoral Research Fellow / Research Lecturer, School of Ocean Sciences, University of Wales Bangor.

Research projects:

- Carrying capacity of the Menai Strait for mussel culture (includes informal co-supervision of a PhD student). Combining the study of physical processes (net flow, turbulent mixing and sediment transport) and biological processes (chlorophyll concentration and depletion, mussel feeding behaviour, density dependence and self-organised patterning, interspecific competition between suspension feeders) to assess the carrying capacity of the system for shellfish culture in the Menai Strait. Collaborations developed with Johan van de Koppel (Netherlands Institute for Ecology), John Widdows (Plymouth Marine Lab), Andrew Folkard (Lancaster Univ.), Rom Lipcius (Virginia Institute of Marine Science) and the Countryside Council for Wales.
- The ecology of seed mussel beds: assessing the importance of ephemeral seed mussel settlement for vertebrate and invertebrate predator populations and the ecological consequences of partial harvesting of these beds by the mussel industry. Collaboration with the NW and N Wales Sea Fisheries Committee.
- Recovery of populations of scallops, sea fan and other benthic species in fisheries closed areas, Lyme Bay (NERC grant with two collaborators).

Teaching:

- M.Sc. Physical Oceanography, Marine Biology and Shellfish Biology: Module on the interaction of physical oceanography and biology (lectures, field trip and data analysis)
- M.Sc. Conservation and Resource Management: Population consequences of rarity, extinction risk (lectures)
- Undergraduate Marine Biology: Allee effects in fisheries (2nd year lectures), Invertebrate fisheries and management of artisanal fisheries (3rd year lectures).

2002 – 2003: Teaching assistant, Virginia Institute of Marine Science, USA

Teaching assistant to post-graduate core courses in statistics and experimental design, marine ecology and oceanography. Gave lectures and ran practicals and Q&A sessions, gave tutorials, set and marked assignments and exams and helped students plan project field work.

1995 – 1999: Marine biologist, MacAlister Elliott and Partners Ltd. UK

Biologist in the environment department of a marine consultancy, involved in the following projects:

- Stock assessment and management of the Bahamian spiny lobster, queen conch and Nassau grouper fisheries (lead consultant). Bahamian Department of Fisheries and the Bahamas Reef Environment Education Foundation (BREEF).
- Community-driven design of a marine reserve network for central Andros Island, Bahamas (lead consultant). BREEF and a central Andros community group.

- Design of a fisheries development project, Eritrea (environmental specialist). Funded by FAO.
- Preliminary environmental impact assessment for container port development, Aden, Yemen (team leader). Funded by private sector.
- Planning and environmental impact assessment for harbour improvements, Cornwall (lead consultant). Collaboration with fishermen's group.
- Fisheries development, management and infrastructure provision, Yemen (UK project manager). Funded by World Bank and EU.

1994 – 1995: Intern, European Commission, Brussels and Tanzania

Unit for natural resources development projects for Eastern and Southern Africa. Bilingual working environment (English and French).

Education**Ph.D. 1999 – 2003**

A theoretical and experiment study of Allee effects. A study on population dynamics, reproductive biology, sustainability of fisheries and extinction risk in marine populations, with specific focus on the queen conch *Strombus gigas*.

Marine Conservation Biology Group, Virginia Institute of Marine Science (VIMS), College of William and Mary, USA. Field work at the Caribbean Marine Research Centre, Bahamas, with extensive scientific diving. Also field assistant on project on physical-biological interactions in coral metabolism, involving saturation diving.

M.Phil. 1994

Ecological and economic impacts of forestry in the Flow Country, Scotland. Department of Geography, University of Cambridge, UK.

M.A. 1990 – 1993

Natural Sciences (Zoology), Corpus Christi College, University of Cambridge, UK.

Grants, fellowships and awards

- British Ecological Society Small Grant for study of self-organisation in seagrass beds, 2006
- Double Allee effects in the endangered island fox – successful postdoc application to French govt. with Franck Courchamp, 2003 (accepted post in Bangor instead)
- Zeigler Student Achievement Award, VIMS, 2003
- Winner, New Scientist / Wellcome Trust Millennium Essay Competition, 2002
- International Women's Fishing Association Ryan Kelley Memorial Scholarship, 2001
- International Society for Reef Studies PhD Fellowship, 2000
- Hargis Fellowship, VIMS, 2000
- Corpus Christi College Scholarship 1992-3

Field skills

- Chief scientist on five research cruises on the *RV Prince Madog*.

- Experienced scientific diver (more than 300 dives including fish, benthos and habitat surveys). Training in saturation diving and two 7-day stays in the Aquarius underwater habitat. Nitrox certified.
- Experienced small boat operator.
- Experience of multiple marine field instruments and sampling techniques including towed and fixed camera gear, various fishing gears, coring, sidescan sonar, *in vivo* and *in vitro* fluorometry, ADCPs and CTDs.

Peer reviewed publications

Note: Non-peer reviewed publications such as project reports are not included here. More information about any of the projects listed above is available on request.

Gascoigne J., Berec L., Gregory S. and Courchamp F. 2009. Dangerously few liaisons: a review of mate-finding Allee effects. *Population Ecology* 51(3), 355-365.

Folkard A.M. and Gascoigne J.C. 2009. Hydrodynamics of discontinuous mussel beds: laboratory flume simulations. *Journal of Sea Research* 62, 250-257.

Van de Koppel J., Gascoigne J., Theraulaz G., Rietkerk M., Mooij W.M. and Herman P.M.J. 2008. Experimental evidence for spatial self-organisation and its emergent effects in mussel bed ecosystems. *Science*, 322, 739-742.

Courchamp F., Berec L. and Gascoigne J. 2008. Allee effects in ecology and conservation. Oxford University Press. Favourably reviewed in *TREE* and *PLoS Biology*. See <http://www.oup.com/uk/catalogue/?ci=9780198570301>.

Gascoigne J., Beadman H.A., Saurel C. and Kaiser M.J. 2005. Density dependence, spatial scale and patterning in sessile biota. *Oecologia* 145, 371-381.

Gascoigne J. and Lipcius R.N. 2005. Periodic dynamics in a two-stage Allee effect model are driven by tension between stage equilibria. *Theoretical Population Biology* 68, 237-241.

Gascoigne J. and Lipcius R.N. 2004. Conserving populations at low abundance: delayed functional maturity and the Allee effect in reproductive behaviour of the queen conch *Strombus gigas*. *Marine Ecology Progress Series*, 284, 185-194.

Gascoigne J. and Lipcius R.N. 2004. Allee effects driven by predation. *Journal of Applied Ecology*, 41, 801-810.

Gascoigne J. and Lipcius R.N. 2004. Allee effects in marine systems. *Marine Ecology Progress Series* 269, 49-59.

Widdows J., Pope N. D., Brinsley M. D., Gascoigne J. and Kaiser M. J. 2009. Influence of self-organised structures on near-bed hydrodynamics and sediment dynamics within a mussel (*Mytilus edulis*) bed in the Menai Straits. *Journal of Experimental Marine Biology and Ecology* 379, 92-100.

Krivtsov V., Gascoigne J. and Jones S.E. 2008. Harmonic analysis of suspended particulate matter in the Menai Strait (UK). *Ecological Modelling* 212, 53-67.

Rippeth T.P., Gascoigne J., Green J.A.M., Inall M.E., Palmer M.R., Simpson J.H. and Wiles P.J. 2007. Turbulent dissipation of coastal seas. *Science*, e-Letter 7 June 2007, see www.sciencemag.org/cgi/eletters/313/5794/1768.

Angulo E., Roemer G.W., Berec L., Gascoigne J. and Courchamp F. 2007. Double Allee effects and extinction in the island fox. *Conservation Biology* 21, 1082-1091.

Saurel C., Gascoigne J., Palmer M.R. and Kaiser M.J. 2007. In situ mussel feeding behaviour in relation to multiple environmental factors: Regulation through food concentration and tidal conditions. *Limnology and Oceanography* 52, 1919-1929.

Simpson J.H., Berx B., Gascoigne J. and Saurel C. 2007. The interaction of tidal advection and diffusion and mussel filtration in a tidal channel. *Journal of Marine Systems* 68, 556-568.

Medio D., Shepperd C.R.C. and Gascoigne J. 2000. The Red Sea. In *Coral Reefs of the Indian Ocean*. T.R. McClanahan, C.R.C. Shepherd and D.O. Obura (eds.), OUP: 231-255

Popular science writing

Gascoigne J. Sex and the Single Snail. *New Scientist*, 2002.

Gascoigne J. and van de Koppel J. Patterning in Attached Organisms: from Tiger Bush to Mussel Beds? *Ocean Challenge* 14, 2005.