

## Jo Gascoigne

### Curriculum Vitae

#### SUMMARY:

Jo Gascoigne has a degree in Zoology from Cambridge University in the UK, and a PhD in marine conservation biology from the Virginia Institute of Marine Science (VIMS) in the US, based around modelling and experimental studies on the population dynamics of exploited marine populations, particularly shellfish. She worked as a postdoctoral researcher and Research Lecturer at Bangor University in the UK for four years, before becoming an independent consultant. Jo Gascoigne has conducted dozens of research projects, reviews and policy reports dealing with issues of sustainability, environmental impact and management practices of numerous fisheries, for private consultancies, government bodies and the EU. She has co-authored over 15 peer reviewed articles on the population dynamics, biology and ecology of marine organisms. In the last 8 years Jo has served as independent expert in dozens of fisheries evaluation, marine ecology and aquaculture projects. She has participated as Team Leader in over 13 MSC full assessments, including three Icelandic fisheries certified in 2014 (Icelandic gillnet lumpfish, ISF Iceland saithe and ISF golden redfish). Furthermore, she has conducted numerous MSC pre-assessment studies. Her assessment experience ranges from crustaceans and molluscs to small pelagics, tuna and demersal fish species.

#### DETAILS:

- Position:** Expert in fisheries science and sustainability
- Birth:** 4 May 1971, Leamington Spa, UK. British citizen
- Contact details:** Gwernfor, Spring Hill, Dinas Cross, Newport, Wales, SA42 0XA  
Home phone: +44 (0)1348 811748 or +33 (0)296 255108  
Email: j.gascoigne@orange.fr  
Mobile : +44 (0)7780 730425 or +44 7454 512478
- 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 and Partners (MEP). Assessments conducted in English and French. Assessments also include a detailed review of traceability.

## Fisheries certified subject to ongoing auditing:

- Euronor saithe (France, Principle 2 (P2) expert and team leader)
- Kerguelen toothfish (Réunion, P1 expert and team leader)
- Scottish saithe (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)
- Cornish sardines (UK, audits only)
- 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)
- Exmouth mussels (UK, P3 and team leader)

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

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

## Fisheries subject to re-assessment:

- Vietnam Ben Tre clams (P1 and team leader)
- North Sea herring (various EU countries, joint P1)
- Scottish North Sea haddock (P2 and team leader)

## Fisheries under evaluation:

- Cook islands albacore longline (joint P1 and team leader)
- Normandy whelks (France, 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).
- FROM Nord sole (France, joint P1 and team leader)
- Scapêche black scabbardfish, blue ling and roundnose grenadier (France)
- Crozet toothfish (France, P2)

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, Pacific Ocean, Indian Ocean, Southern

Ocean, South America, East Asia, transboundary (various clients – details and reports confidential to the clients) (MEP). 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.

#### Other ongoing projects

- Auditor for ISSF Proactive Vessel Register (for responsible tuna fisheries) (MRAG Americas, 2015 ongoing)
- Study for WWF on traceability issues in tuna FIPs and how traceability can be successfully incorporated into these projects (WWF, 2015 ongoing)

#### **Completed projects:**

- Scoping study for possible WWF support of improvements to tuna pole-and-line fishery in Lakshadweep islands, India (WWF, 2014-15)
- Consultant for development of improvement fisheries assessment methodology for the FishSource online assessment system (SFP, 2014 [www.fishsource.org](http://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](http://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 (2<sup>nd</sup> year lectures), Invertebrate fisheries and management of artisanal fisheries (3<sup>rd</sup> 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](http://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.