

# Odette Paramor

Associate Professor of Marine Biology  
Acting Head of Department

## Qualifications

PhD Applied Marine Ecology (Queen Mary, University of London)  
BSc (Hons) Marine and Freshwater Biology (Queen Mary, University of London)

## Contact

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## Expertise Summary

I am a marine biologist with expertise in measuring and managing the impact of human activities on aquatic systems using ecological and functional approaches. My scientific expertise lies in benthic ecology and marine habitats, but I have a much broader interest in environmental management particularly ecosystem approaches to management.

Most of my work has involved using interdisciplinary approaches to tackle complex environmental issues. I have worked extensively alongside environmental economists, political scientists, sociologists, sedimentologists, modellers and fisheries scientists on projects ranging from the development of ecosystem approaches to the management of temperate and tropical marine fisheries and wetlands, to soft engineering approaches to coastal defence and economic evaluations of marine systems under different management scenarios.

I joined UNNC in September 2010 after a research career at the Universities of Liverpool, Newcastle upon Tyne and London (Royal Holloway College and Queen Mary and Westfield College) and following a secondment to Xi'an Jiaotong-Liverpool University (XJTLU) in Suzhou, China.

I am a member of the International Council for the Exploration of the Seas Working Group for the Ecosystem Effects of Fishing and an evaluator for the European Commission Framework 6 & 7 programmes.

I am also an honorary Research Fellow at the University of Liverpool in the School of Environmental Science.

## Teaching

### Module Convener:

EJ1POE *Principles of Ecology*

EJ1ESD *Environmental Science Dissertation*

EJ1ESS *Environmental Science and Society*

### Contributes to teaching for:

EJ0ENV *Introduction to the Environment*

EJ1TUT *Environmental Science Tutorial*

EJ1GEP *Global Environmental Processes*

D223E2 MY *Environmental Science Field Course* (School of Biosciences, UNMC)

H24A04 *Investigative Project* (Department of Civil Engineering, UNUK)

## Administration

### University of Nottingham Ningbo China:

Research Committee (Member)

Working Group on European Grants (Chair)

Ethics Committee (Member)

### University of Nottingham Ningbo China, Faculty of Science and Engineering:

Learning Community Forum (Chair)

Research Committee (Member)

### University of Nottingham:

PGCHE Feedback Committee (Member)

PGCHE Management Board (Member)

### University of Nottingham, School of Geography:

Research Committee (Member)

## Major research interests

I have a broad range of research interests related to the assessment and management of human activities affecting marine systems.

I am particularly interested in investigating how human activities impact ecological functioning and the delivery of ecosystem services.

I welcome applications for independent studies that complement my research interests. If you are interested in applying for a studentship or fellowship in any of the areas covered by my research profile (or even from outside of it...I'm keen to learn about new areas!), I would be very pleased to hear from you and provide assistance with your application.

Areas of interest include:

- Ecosystem approaches to management
- Saltmarsh and estuarine ecology
- The impacts of the fishing on the ecosystem
- Benthic functioning
- Economic evaluations of ecosystem functioning
- Urban ecology

## Research Grants

Project	Duration	Funding Body	Amount
DragonSTAR	11/2012 – 10/2015	European Commission	€62,000
Developing a knowledge-based marine economy	04/2012 – 03/2014	UK Foreign and Commonwealth Office	£20,000
Developing a knowledge-based marine economy	05/2012 – 11/2012	China Association for Science and Technology (Ningbo Office)	130,000 RMB

Between 2007-2009, I led or assisted with the preparation of >€14.5 million worth of successful grant applications (and >€12 million of unsuccessful applications) from funders including the European Commission, the Department for Environment, Food and Rural Affairs and the Countryside Council for Wales.

## Publications

### • Journal Articles:

Eno, N.C., Frid, C.L.J., Hall, K., Ramsay, K., Sharp, R.A.M, Brazier, D.P., Hearn, S., Dernie, K.M., Robinson, K.M., **Paramor, O.A.L.** and Robinson, L.A. (accepted) Assessing the sensitivity of habitats to fishing: From seabed maps to sensitivity maps. *Fish and Fisheries*.

Frid, C.L.J. and **Paramor, O.A.L.** (2012) Feed the World: What role for fisheries? *ICES Journal of Marine Science* **69** (2) 145-150 doi:10.1093/icesjms/fsr207

Green, J.A., **Paramor, O.A.L.**, Robinson, L.A., Spencer, M., Watts, P.C. and Frid, C.L.J. (2011) Marine biology in time and space. *Marine Ecology* **32** (SUPP/1), v-vii doi:10.1111/j.1439-0485.2011.00444.x

Hussain, S., Fofana, A., **Paramor, O.A.L.**, Robinson, L.A., Frid, C.L.J. and Moran, D. (2010) An *ex ante* ecological economic assessment of the benefits arising from marine protected areas designation in the UK. *Ecological Economics* **69** 828-838 doi:10.1016/j.ecolecon.2009.10.007

Frid, C.L.J., **Paramor, O.A.L.**, Brockington S. and Bremner, J. (2008) Incorporating ecological functioning into the designation and management of marine protected areas. *Hydrobiologica* **606** 69-79 doi: 10.1007/s10750-008-9343-y

**Paramor, O.A.L.** and Hughes, R.G. (2007) Restriction of lateral development of *Spartina anglica* marsh by the infaunal polychaete *Nereis diversicolor*. *Estuarine and Coastal Shelf Science* **71** 202-209 doi:10.1016/j.ecss.2006.07.012

Frid, C.L.J., **Paramor, O.A.L.**, Scott, C.L. (2006) Ecosystem-based management of fisheries: is science limiting? *ICES Journal of Marine Science* **63** 1567-1572 doi:10.1016/j.icesjms.2006.03.028

Frid, C.L.J., **Paramor, O.A.L.**, Scott, C.L. (2005). Ecosystem-based fisheries management: Progress in the NE Atlantic. *Marine Policy* **29** 461-469 doi:10.1016/j.marpol.2004.07.004

**Paramor, O.A.L.** and Hughes, R.G. (2005). The effects of the invertebrate infauna on the early colonisation of managed realignment areas by saltmarsh plants in SE England. *Marine Ecology Progress Series* **303** 61-71

Hughes, R.G. and **Paramor, O.A.L.** (2004). On the loss of saltmarshes in south-east England and methods for their restoration. *Journal of Applied Ecology* **41** (3) 440–448. DOI: 10.1111/j.0021-8901.2004.00915.x

**Paramor, O.A.L.** and Hughes, R.G. (2004). The effects of bioturbation and herbivory by the polychaete *Nereis diversicolor* on saltmarsh erosion in SE England. *Journal of Applied Ecology* **41** (3) 449–463. DOI: 10.1111/j.0021-8901.2004.00916.x

#### ● Books

Nolan, C., Connolly, P.L., Kelly, E., Dransfeld, L., Slattery, N. and **Paramor, O.A.L.** and Frid, C.L.J. (2011) MEFEO North Western Waters Atlas (2nd ed). Irish Marine Institute. ISBN 978-1902895499

Le Quesne, W.J.F., Frid, C.L.J., **Paramor, O.A.L.**, Piet, G.J., Rogers, S.I. & Velasco, F. (2010) Assessing the impact of fishing on the Marine Strategy Framework Directive objectives for Good Environmental Status. Developing and testing the process across selected RAC regions: The North Sea. University of Liverpool. 58pp.

**Paramor, O.A.L.**, Allen, K.A., Aanesen, M., Armstrong, C., Hegland, T., Le Quesne, W., Piet, G.J., Raakær, J., Rogers, S., van Hal, R., van Hoof, L.J.W., van Overzee, H.M.J., and Frid C.L.J. (2009) *MEFEO North Sea Atlas*. University of Liverpool. 80pp ISBN 0 906370604

Scott, C.L., **Paramor, O.A.L.**, Frid, C.L.J., Borges, M.F., Hill, L., Vale, C., Ragnarsson, S.A., Óskarsson, G., Sólmundsson, J., Piet, G., Van Hal, R., de Metrio, G., Deflorio, M. Hansson, S, Hjerne, O., Dolmer, P., Köster, F.W., MacKenzie, B.R., Möllmann, C., Jensen, H., Gustavson, K., Munk, P., Jonasdottir, S. and Munch-Petersen, S. (2006) The role of anthropogenic and non-anthropogenic forcing factors on the biology of exploited species. Incorporating extrinsic drivers into fisheries management (EC FP6- 022710)

**Paramor, O.A.L.**, Scott, C.L., Frid, C.L.J., Borges, M.F., Gray, T.S., Hatchard, J.L, Hill, L., Jarowski, A., Miklasen, K., Piet, G.J., Ragnaarson, S.A., Silvert, W., Star, B. and Taylor, L. (2004). *European Fisheries Ecosystem Plan: Drafting the Fisheries Ecosystem Plan*. University of Newcastle upon Tyne. ISBN 0701701765

Ragnarsson, S.Á., Jarowski, A., **Paramor, O.A.L.**, Scott, C.L., Piet, G. and Hill L. (2003). *European Fisheries Ecosystem Plan: The North Sea significant web*. University of Newcastle upon Tyne. ISBN 0701701692

Piet, G.J., Daan, N., Jarowski, A., **Paramor, O.A.L.**, Ragnarsson, S. A., Scott, C. L. and Star, B. (2003). *European Fisheries Ecosystem Plan: Fisheries and the removal of ecosystem components*. University of Newcastle upon Tyne. ISBN 070101706

**Paramor, O.A.L.**, Scott, C.L., Frid, C.L.J., Daan, N., Gray, T.S., Hatchard, J.L, Hill, L., Jarowski, A., Miklasen, K., Piet, G.J., Ragnaarson, S.A., Silvert, W. and Taylor, L. (2002). *European Fisheries Ecosystem Plan: The North Sea*. University of Newcastle upon Tyne. ISBN 0701701528

#### ● Book Chapters:

**Paramor, O.A.L.** and Frid, C.L.J (in prep.). Fisheries and Aquaculture In: Crowe, T.P., Frid, C.L.J. and Austen, M.C. (eds) *Marine ecosystems: human impacts on biodiversity, functioning and services*. Cambridge University Press

Jones, K.E. and **Paramor, O.A.L.** (2010) Inter-disciplinary in Ecosystems Research: Developing Social Robustness in Environmental Science. In: Frid, C.L.J. and Raffaelli, D.J. (eds) *Ecosystem Ecology: A new synthesis*. BES Ecological Review Series.

## ● Conference Proceedings:

**Paramor, O.A.L.** (2011) Is it delicious? A comparison of teaching marine biology in the UK and China. *International Conference on Marine Education*. Qingdao, China.

**Paramor, O.A.L.** (2011) The effect of fishing on ecosystem functioning. *International Symposium of Mariculture and Disaster Response*. Ningbo, China. [Keynote]

**Paramor, O.A.L.** and Frid C.L.J. (2008) The effect of fishing on habitat functioning: Implications for management. *International Council for the Exploration of the Seas: Annual Science Conference CM 2008/M*

Scott, C.L., **Paramor, O.A.L.** and Frid, C.L.J. (2005). Ecosystem-based fisheries management: A new way of delivering sustainability. *Royal Institution of Naval Architects International Conference: Fishing Vessels, Fishing Technology and Fisheries* p.129-135

Frid, C.L.J., **Paramor, O.A.L.** and Scott, C.L. (2005). A North Sea Fisheries Ecosystem Plan: delivering an ecosystem-approach? *International Council for the Exploration of the Seas: Annual Science Conference CM 2005/BB06*

**Paramor, O.A.L.**, Hatchard, J.L., Mikalsen, K.H., Gray, T.S., Scott, C.L. and Frid, C.L.J. (2005). Involving fishers in the development a fisheries ecosystem plan. *International Council for the Exploration of the Seas: Annual Science Conference CM 2005/V32*.

**Paramor, O.A.L.**, Hatchard, J.L., Mikalsen, K.H., Gray, T.S., Scott, C.L. and Frid, C.L.J. (2003). The integration of stakeholder opinion into the management of marine habitats. *International Council for the Exploration of the Seas: Annual Science Conference CM 2003/Y:16*.

**Paramor, O.A.L.**, Frid, C.L.J., Borges, M.F., Daan, N., Gray, T.S., Hatchard, J.L., Hill, L., Jaworski, A., Mikalsen, K., Piet, G.J., Ragnarsson, S.A., Scott, C.L., Silvert, W. and Taylor, L. (2002). Developing a Fisheries Ecosystem Plan for the North Sea. *International Council for the Exploration of the Seas: Annual Science Conference CM 2002/W:05*.

Hughes, R.G. and **Paramor, O.A.L.** (2001). The effects of biological and physical processes on saltmarsh erosion and restoration in SE England. In: Gill, J., O'Riordan, T. and Watkinson, A. (eds). *Redesigning the Coast*. Tyndall Centre for Climate Change Research and the Centre for Social and Economic Research on the Global Environment, October 2001.

## ● Consultancy Reports:

Abram L.C., Frid C.L.J., **Paramor O.A.L.**, Robinson L.A. and Spencer M. (2008). *Assessment of Combined Gear Effects in Welsh Waters – development of a protocol*. CCW Report Series, 27pp.

Hall, K., **Paramor, O.A.L.**, Robinson, L.A. and Frid, C.L.J. (2007) *Mapping the sensitivity of benthic habitats to fishing in Welsh waters: towards the development of a protocol*. CCW Policy Research Report No. 7/15.

Moran, D., Hussain, S., Fofana, A. Frid, C., **Paramor, O.**, Robinson, L., and Winrow-Giffin, A. (2007) *The Marine Bill – Marine Nature Conservation Proposals: Valuing the Benefits*. Defra: Bristol.

Scott, C.L., **Paramor, O.A.L.**, Frid, C.L.J. et al. (2007) *Incorporating extrinsic drivers into fisheries management: The role of anthropogenic and non-anthropogenic forcing factors on the biology of exploited species*. EC Proposal/Contract no.: FP6- 022710

Bremner, J., **Paramor, O.A.L.**, Brockington, S. and Frid, C.L.J. (2006). *Development of methodology for incorporating ecological structure and function into designation of Special Areas of Conservation in the 0-12 nautical mile zone*. English Nature: Peterborough.

Frid, C.L.J. and **Paramor, O.A.L.** (2006). *Marine Biodiversity: the rationale for intervention*. Defra: Bristol.

**Paramor, O.A.L.** and Frid, C.L.J. (2006). *The further development of objectives for marine habitats*. Defra: Bristol.

Frid, C.L.J., Banks, R.M., Lietz, G., **Paramor, O.A.L.**, Scott, C.L., Seal, C., and Zaharia, M. (2003). *The fish meal and fish oil industry: its role in the common fisheries policy*. A report to the European Parliament (Contract no. IV2003/11/01) from the University of Newcastle-upon-Tyne and Poseidon Aquatic Resource Management. 148pp.

Huntington, T., Frid, C., Banks, R., Scott, C., and **Paramor, O.** (2003). *Assessment of the Sustainability of Industrial Fisheries Producing Fish Meal and Fish Oil*. Report to the Royal Society for the Protection of Birds from Poseidon Aquatic Resource Management and the University of Newcastle upon Tyne.

Huntington, T., Frid, C.L.J., Boyd, I., Goulding, I., Macfadyen, G., **Paramor, O.A.L.** and Scott, C.L. (2003). *Determination of Environmental Variables of Interest for the Common Fisheries Policy Capable of Regular Monitoring*. Report to the European Commission (Contract SI2.348197 of Fish/2002/13) from Poseidon Aquatic Resource Management and the University of Newcastle upon Tyne. 266pp.

Reading, C.J., Gray, A.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Semmence, J., Wolters, M. (2002). *Managed realignment at Tollesbury and Saltram*. Report 1995-2002. Centre for Ecology and Hydrology (NERC) Monks Wood.

Reading, C.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Longstaff, D.J and Gray, A.J. (2001) *Managed realignment at Tollesbury and Saltram*. Centre for Ecology And Hydrology. DEFRA project CSA 2313.

Reading, C.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Longstaff, D.J and Gray, A.J. (2000) *Managed realignment at Tollesbury and Saltram*. Centre for Ecology and Hydrology. DEFRA Project CSA 2313.

Reading, C.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Longstaff, D.J and Gray, A.J. (1999) *Managed realignment at Tollesbury and Saltram*. Centre for Ecology and Hydrology. MAFF Project CSA 2313.

Reading, C.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Longstaff, D.J and Gray, A.J. (1998) *Managed realignment at Tollesbury and Saltram*. Institute of Terrestrial Ecology. MAFF Project CSA 2313.

Reading, C.J., **Paramor, O.A.L.**, Garbutt, R.A., Watts, C.W., Spearman, J.R., Barratt, D.R., Cheshier, T., Cox, R., Hughes, R.G., Mann, J.L., Myhill, D.G., Rothery, P., Longstaff, D.J and Gray, A.J. (1997) *Managed realignment at Tollesbury*. Institute of Terrestrial Ecology. MAFF Project CSA 2313.

#### ● Other Science Publications:

**Paramor, O.A.L.** (2009) How much for a pound of nature? *British Ecological Society Bulletin*. March 2009 pp.19-20

**Paramor, O.A.L.** and Frid, C.L.J. (2010) What is the seafloor worth? *Public Service Review: Central Government* **20**

## ● **Contributing Author To:**

ICES (2009). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2009/ACOM:20

ICES (2008). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2008/ACE:04

ICES (2007). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2007/ACE:04

ICES (2005). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2005/ACE:04

ICES (2004). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2004/ACE:03.

ICES (2003). Report of the Working Group on Ecosystem Effects of Fishing Activities. ICES CM 2003/ACE:05.

## **Esteem Indicators**

### **Membership**

- 2010 – 2013 Honorary Research Fellow, University of Liverpool, School of Environmental Sciences
- 2003 – present Expert evaluator, European Commission
- 2002 – present UK Delegate on the Working Group on the Ecosystem Effects of Fishing, International Council for the Exploration of the Seas

### **Invited Lectures**

- 2/2012 Measuring ecosystem functions using biological traits analysis. School of Environmental Science Seminar, Beijing Normal University, P.R. China.
- 10/2011 Is it delicious? Experiences of teaching marine biology to Chinese students. International Conference on Marine Education. Qingdao, P.R. China.
- 9/2011 The Zhejiang marine fisheries. University of Plymouth.
- 3/2011 The effects of fishing on ecological functioning. International Symposium of Mariculture and Disaster Response. Ningbo, P.R. China. [Key note]
- 5/2010 School of Biological Sciences Seminar at Queen's University, Belfast, UK.
- 4/2009 ESRC - NERC Transdisciplinary Seminar on New Approaches to Management of Ecosystem Services in the Marine Environment. Liverpool, UK.
- 4/2007 Coastal Futures 2007: Implementing the Ecosystem Approach. London, UK.
- 1/2006 British Council conference on developing ecosystem-based management in West African coastal waters. Accra, Ghana. Presentation to the Ghanaian Fisheries Minister.
- 9/2005 ICES Annual Science Meeting. Aberdeen, UK. Presentation to the Scottish Fisheries Minister.
- 5/2004 European Commission: Introducing Ecosystem Approach to Fisheries. Brussels, Belgium. Presentation to the Head of DG Maritime Affairs