

CURRICULUM VITAE
Juliane Struve

PRESENT ADDRESS

Department of Fisheries
School of Forest Resources and Conservation
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EDUCATION

- 2001 PhD, Environmental Engineering, University of Wales, Cardiff, UK
Dissertation: Hydrodynamics and water quality in mangrove estuaries
- 1996 MSc., Environmental Engineering, Imperial College
London, UK
Dissertation: Water quality problems in intensive shrimp farming
- 1994 Diplom (Ms)., University of Kiel, Germany.
Subjects: Zoology, Biological Oceanography, Biochemistry
Mark: "Very Good"
Dissertation: Untersuchung zur Lebensweise von *Saduria entomon* (Isopoda).

COMPUTER SKILLS

ArcGIS, Programming in R, Programming in Fortran 77
Microsoft Office

LANGUAGE SKILLS

English (fluent), German (native), French (moderate)

PROFESSIONAL MEMBERSHIPS

- 2001 Chartered Institution of Water and Environmental Management
2003-2007 British Hydrological Society
2010 Ecological Society of America

EMPLOYMENT

- 2011-present Research Assistant Professor in School of Forest Resources and
Conservation, University of Florida
- 2008-2010 Daphne Jackson Fellow, Department of Life Sciences, Imperial College
London
- 2007 - present Adjunct Scientist with Mote Marine Laboratory, Florida
- 2006 – 2007 Contracted ecological specialist with Segen Ltd., UK
- 2006 - 2007 Science tutor with Fleet tutors
- 2006: Science teacher at Langley Grammar School
- 2002 – 2004 Contracted diffuse pollution specialist with HR Wallingford Ltd, UK
- 2001 – 2002 Senior Environmental Scientist with HR Wallingford Ltd.,UK
- 1999 – 2001 Senior Water Quality Planner with the Environment Agency
- 1997 – 2001 Research assistant at the University of Wales, Cardiff, UK
- 1992 Student volunteer at Everglades National Park Research Centre, Florida
- 1990-1991 Student research assistant at the University of Kiel, Germany

VOLUNTARY APPOINTMENTS

2003-2005: Governor at Grove Park Primary School in London

CAREER BREAKS

2002-2008 Working part-time, home responsibilities

PROFESSIONAL EXPERIENCE

- Development of linked water quality-biological flux models in estuaries, rivers and ponds
- Design of experiments to study hydrodynamic flow processes
- Development and application of 1-D and 2-D hydraulic pollutant transport models
- Programming model components in F77
- Application of mathematical and statistical tools to assess compliance with environmental standards
- Management and documentation of models and modelling studies
- Development of research strategies and priorities in the water sector
- Maintenance and management of water quality monitoring data
- Communication of environmental monitoring results to stakeholders through GIS maps
- Organisation of professional training events
- Liaison with water companies, consultants and research institutes
- Development of protocols to link environmental computer models at different time and spatial scales
- Interpretation and communication of ecological modelling results
- Preparation of proposals and budgets
- Observation of quality assurance protocols
- Development of a GIS-based nationwide agricultural and urban diffuse pollutant load model
- Observation of UK and EU legislation for environmental impact assessments
- Development of guidelines for small hydropower environmental impact assessments
- Small hydropower environmental impact assessments
- Identification of aquatic invertebrates and vertebrates

- Database management of passive acoustic telemetry data
- Interpretation of passive acoustic telemetry data
- GIS-based aquatic habitat analysis and modelling
- Evaluation of animal movement models for spatial population management
- Statistical approaches to model calibration and evaluation
- Liaison with students
- Ecological modelling in R

PROFESSIONAL WORKSHOPS

- 2008 *Spatial analysis and modeling in support of ecosystem-based fisheries management*. Current research at FWIR and Mote Marine Laboratory, Sarasota, 18/5/2008.
- 2009 *Spatial modelling in ecology, evolution and conservation*. A postgraduate and professional workshop at Imperial College, Silwood Park, London, 29/4/2009.
- 2010 *Spatial models in ecological management and conservation*. An international research workshop at Imperial College, Silwood Park, London, 9-11/3/2010.

CONSULTING PROJECTS

- Development of Good Practice Guidelines for the environmental assessment of small hydropower schemes. A project funded by the British Hydropower Association, carried out in collaboration with Hydropower Ltd. and Imperial College, London (2006).
- Development of a GIS – based screening tool for Diffuse Pollution Phases I and II (2002-2005), supported by the Scotland and Northern Ireland Forum for Research (SNIFFER).
- Modelling the effect of discharges on SPAs in the Medway and Swale estuary (2002), supported by the Environment Agency.
- Effects of organic loadings on estuarine bird populations (2002) with the British Trust for Ornithology, supported by English Nature.
- IT Frameworks - HarmonIT (2002): Development and implementation of a European Open Modelling Interface and Environment (OMI), supported by the European Commission.

TEACHING EXPERIENCE

Professional

- Modelling hydrodynamics and water quality in estuaries: One-day workshop at the Environment Agency in Reading (March, 2001)
- Time-series analysis: One-day workshop at the Environment Agency in Reading (July, 2000)

- Consents modelling for water quality planners: One-day workshop at the Environment Agency in Reading (April and June, 2000)
- Hydraulic and Water quality modelling with DIVAST: Two-day workshop at the Department of Irrigation and Drainage in Kuala Lumpur, Malaysia (November, 1998)
- Modelling hydraulics and water quality in mangrove areas: One-day workshop at the Asian Wetlands Bureau, Institute of Advanced Studies, University of Malaya (November, 1998)

Postgraduate

- Demonstrator in postgraduate MSc courses including ArcGIS, and Modelling in Excel (2009-2010, Imperial College).

Undergraduate

- Vertebrate Biology (2009, Imperial College)

Secondary

- Science at GCSE level (2006, Langley Grammar school)
- Private tuition in Science and Maths at GCSE and A-level (2006-2007,2009)

Primary

- Weekly Science Club (2005-2006, Holy Trinity School in Ascot)

RECENT PROFESSIONAL TRAINING

- Advanced Fisheries Stock Assessment at ICES (February 2010)
- Advanced Fisheries Stock Assessment for the Mediterranean Sea at IAMZ (March 2009)
- Introduction to Bayesian & Hierarchical Bayesian Modelling (August 2009)
- Ecological models and data in R (2007-2008)
- Geographical Information Sciences for Expeditions and Fieldwork (March 2007)
- Interactive Learning in Higher Education (June 2010)
- Student Assessment in Higher Education (May 2010)
- Teaching Research Development Skills in Higher Education (October 2009)

PUBLICATIONS

Work in progress

Struve, J., Hillary, R. and Lorenzen, K.: Inferring fish movement behaviour from sparse telemetry data. To be submitted to: Fisheries Research

Peer reviewed

Struve J, Lorenzen K, Blanchard J, Börger L, Bunnefeld N, Edwards C, Hortal J, MacCall A, Matthiopoulos JF, Moorter BV, Ozgul A, Royer F, Singh N, Yesson C, Bernard R (in press). Lost in space? Searching for directions in the spatial modelling of individuals, populations and species ranges. *Biol. Lett.* published online before print May 19, 2010, doi:10.1098/rsbl.2010.0338

Struve, J., Falconer, R.A. and Wu, Y.(2003): Experimental studies and modelling of the effect of mangrove vegetation on hydrodynamic processes. *Estuarine and Coastal Shelf Science* 58 163-171.

Struve, J. and Falconer, RA. (2001): A review of Hydrodynamic and Water Quality Processes in Mangrove Regions. *Journal of Coastal Research*. Special Issue No. 27: Restoration of Wetlands. Edited by A. Mehta. University of Florida, USA.

Wu, Y., Falconer, RA. and **Struve, J.** (2001): Mathematical modelling of tidal currents in mangrove forests, pp. 19-29. *Environmental Modelling and Software Vol. 16(1)*.

Lorenzen, K., **Struve, J.** and Cowan, V. (1997): Impact of stocking density and water management on nitrogen dynamics in intensive pond culture: A mathematical model applied to Thai commercial shrimp farms. *Aquaculture Research Vol. 28*, pp. 493-507.

Theses

Struve, J. (2001): Hydrodynamics and water quality in mangroves estuaries. PhD thesis. University of Wales, Cardiff.

Struve, J. (1995): Water quality problems in intensive shrimp farming. MSc thesis. University of London.

Struve, J. (1994): Untersuchungen zu Lebensweise von *Saduria entomon*. Diplom-Arbeit. University of Kiel, Germany.

Conference contributions and presentations

Struve, J., Hillary, R. and Lorenzen, K. (2010): How many tags and how many receivers? A Bayesian framework to evaluate the parameters of a movement model for coastal fish, estimated from sparse acoustic telemetry data. Models in population Dynamics and Ecology 2010. Animal movement, dispersal and spatial ecology. International conference and workshop 1-3. September 2010, University of Leicester.

Struve, J., Hillary, R. and Lorenzen, K. (2009): Estimating fish movement behaviour from sparse telemetry data. Annual meeting of the Ecological Society of America in Albuquerque, New Mexico.

Struve, J., Lorenzen, K., Marcinkiewicz, L., Gannon, J., Brennan, N., Pine, W., and Bennett, J. (2008): Analyzing movement behavior and habitat use of common snook in Sarasota Bay, Florida. Poster presented at the 8th William and Leonore Mote International Symposium in Fisheries Ecology.

Struve, J., Tagg, A. and Panzeri, M. (2006): Screening approaches to characterize and quantify urban diffuse pollution. 7th National Meeting of the British Hydrological Society in Durham, UK, 10-13 September 2006.

Struve, J., Tagg, A. and Panzeri, M. (2005): A screening tool to characterize and quantify urban diffuse pollution in Scotland and Northern Ireland. The Chartered Institute of Water and Environmental Management (CIWEM) Third National Conference in Leeds, UK, 6-8 September 2005.

Betson, M., Anthony, S., Lord, Dunn, S., Lilly, A., DeGroot, J., Towers, E., **Struve, J.**, Tagg, A., Abbott, C W., Lewis, D., MacDonald, R Badger, N Ferris and B Ward (2004): A GIS Decision Support Screening Tool for Diffuse Pollution in Scotland and Northern Ireland. In Lewis, D. and Gairns, L.: Proceedings of the SAC and SEPA biennial conference Edinburgh, 24-26 May 2004.

MacDonald, J., Lord, E., Betson, M., **Struve, J.**, Anthony, S., and Abbott, C. (2003): A screening tool to identify and characterise diffuse pollution pressures. 7th International Conference on Diffuse Pollution. IWA, 18-22 August 2003, Dublin, Ireland.

Struve, J. and Hutchings (2003): Hydro-ecological modelling under the HarmonIT Open Modelling Interface. Proceedings of the Euroconference "Science for Water Policy: The implications of the Water Framework Directive".

Wu Y., Falconer R A and **Struve J**, Modelling of Flows in Mangrove Forests with Particular Application to the Merbok Estuary, *Proc. Int. Conf. on Hydrology & Water Resources of Humid Tropics*, Ipoh Universiti Sains Malaysia Paper 1 (1998) 1-11

Project reports

Anthony, S., Betson, M., Lord, E., Tagg, A., Panzeri, M., Abbott, C., **Struve, J.**, Lilly, A., Dunn, S., DeGroot, J., Towers, W. and Lewis, D. (2006) Provision of a screening tool to identify and characterise diffuse pollution pressures: Phase II. Final Report WFD19 (230/8050), 273 pages.

Lord, E., Betson, M., Anthony, S., **Struve, J.** and Abbott, C. (2003): Assessment for the Development of a Screening Tool to Identify and Characterise Diffuse Pollution Pressures.

Lord, E., Anthony, S., Betson, M., Abbot, C., Struve, J., 2003. Assessment for the Development of a Screening Tool to Identify and Characterise Diffuse Pollution Pressures, SNIFFER Research Report WFD10.

Hutchings, Ch., **Struve, J.**, Westen, S., Millard, K., and Fortune, D.: State of the Art Review, Work Package 1, IT Frameworks (HarmonIT) Contract EVK1-CT-2001-00090, http://www.harmonit.org/docs/repu_01_09_soa_review_approved.pdf, 2002.

Struve, J., Westen, S. and Fortune, D. (2002): HarmonIT – State of the art review. HR Wallingford Report SR 598.

Burton, N.H.K., Paipai, E., Armitage, M.J.S., Maskell, J.M., Jones, E.T., **Struve, J.**, Hutchings, C.J. & Rehfisch, M.M. (2002a). Effects of reductions in organic and nutrient loading on bird populations in estuaries and coastal waters of England and Wales. Phase 1 Report. BTO Research Report No. 267 to English Nature, the Countryside Council for Wales and the Environment Agency. BTO, Thetford.

Struve, J., Wu, Y. and Falconer, R.A (1999): Modelling for the integrated management of mangroves. Final report to the ODA Water and Sanitation Research Programme. 143 pp.

Struve, J., Wu, Y. and Falconer, R.A (1998): Modelling for the integrated management of mangroves. Annual report to the ODA Water and Sanitation Research Programme. 10 pp.

Struve, J., Wu, Y. and Falconer, R.A (1997): Modelling for the integrated management of mangroves. Annual report to the ODA Water and Sanitation Research Programme. 10 pp.

Cowan, V.J., **Struve, J.** & Lorenzen, K. (1996): A brief review of water quality modelling in aquaculture. Report to the ODA Aquaculture Research Programme. 12pp.

Others

Falconer, R.A., **Struve, J.** and Wu, Y. (1998): DIVAST manual. Cardiff University.