

## Curriculum Vitae

Jay Willis, email: [j.willis@soton.ac.uk](mailto:j.willis@soton.ac.uk)

web: [www.jkwillis.info](http://www.jkwillis.info)

## Qualifications

**Bsc - 1983** Physics with Geophysics Honours. Exeter University.

**MSc - 2005** Natural Resource Management. Cranfield University. Research project: Individual based computer model of beetles in arable fields. Won Keech Trophy.

**Graduate Certificate in Marine Science - 2008** University of Tasmania.

**PhD - 2008** Quantitative Marine Science. University of Tasmania, Australia.

Improving the representation of large pelagic predators in ecosystem models.

## Career Overview

9/11 – present **Southampton University**, Visiting research fellow. ICER  
Research into the modelling of fish in hydrodynamic models.

3/09 – 8/11 **HR Wallingford**. Principal Scientist – Ecological Modelling.  
Developing business and performing consultancy in ecology, ecological modelling,  
and environmental science. Key projects:

1. Severn Tidal Power SEA (DECC), modelling fish in hydrodynamic models.
2. FCS-2 (SEPA) Environmental Quality under WFD from fish catch data.
3. Benthic recovery after dredging using a Cellular Automaton.
4. Larvae modelling for management and Marine Protected Areas.

10/08 – 3/09 **3gm2m**. Consultancy. Embedded technology.

1/08 – 10/08 **Oxford University**. Research scientist. Department of  
Zoology and Department of Engineering Science. Lead team developing GPS tag.  
Manufacture and field testing of tags and analysis software of track results.  
Training materials and external presentations, software tools for track analysis and  
for presentation of tracks in Google Earth. Developed new Bayesian machine  
learning technique to classify behaviour of migrating shearwaters.

2.98 – 10.03 **Cisco Systems**. Regional Sales Manager (RSM). EMEA  
Channel manager of the year 1998. Managed direct and channel business up to 350  
million USD p.a., managed teams of up to 16 in sales and pre-sales support.

4.97 – 2.98 **Hydra Ltd**. Sales and Marketing Director.

4.96 – 4.97 **Grid Technologies Ltd**. Sales Director. Company founder.

4.95 – 4.96 **Network Peripherals Inc**. MD Europe.

5.91 – 4.95 **Xyplex Inc**. North European Sales Manager.

2.89 – 4.91 **Case Communications Ltd**. City LAN Consultant.

3.87 – 2.89 **Spider Systems Ltd**. National Accounts Manager.

8.83 – 3.87 Various business sales roles.

## References

Willis, J. 2011 Modelling swimming aquatic animals in hydrodynamic models.  
**Ecological Modelling** 222 3869-3887 doi:10.1016/j.ecolmodel.2011.10.004

Herbert, R. J.H., Willis, J., Jones, E., Ross, K., Hübner, R., Humphreys, J., Jensen, A.  
and Baugh, J., 2011. Invasion in Tidal Zones On Complex Coastlines: Modelling  
Larvae of the Non-Native Manila Clam *Ruditapes Philippinarum* in the UK. **Journal  
of Biogeography**. (In Press)

Blight, L., et al. 2010 Fishing for Data in the Ross Sea. **Science**: 330 (6009) 1316.  
DOI:10.1126/science.330.6009.1316

West A.D., Stillman R.D., Drewitt A., Frost N.J., Mander M., Miles C., Langston R., Sanderson W.G. and Willis J. 2010 WaderMORPH – a user-friendly individual-based model to advise shorebird policy and management. **Methods in Ecology**. Early view. DOI: 10.1111/j.2041-210X.2010.00049.x

Willis, J., Phillips, J. B., Muheim, R., Diego-Rasilla, F. J. & Hobday, A. J. 2009 Spike dives of juvenile southern bluefin tuna (*Thunnus maccoyii*): a navigational role? **Behavioral Ecology and Sociobiology**. DOI 10.1007/s00265-009-0818-2

Guilford T, Meade J, Willis J, Phillips R.A, Boyle D, Roberts S, Collett M, Freeman R and Perrins C.M., 2009. Migration and stopover in a small pelagic seabird, the Manx shearwater *Puffinus puffinus*: insights from machine learning. **Proc Roy Soc B-Biological Sciences** 276 1660 1215-1223

Willis, J., Hobday, A.J., 2008. Application of bioelectrical impedance analysis as a method for estimating composition and metabolic condition of southern bluefin tuna (*Thunnus maccoyii*) during conventional tagging, **Fisheries Research**, doi:10.1016/j.fishres.2008.02.010

Willis J., 2008. Simulation model of universal law of school size distribution applied to southern bluefin tuna (*Thunnus maccoyii*) in the Great Australian Bight. **Ecological Modelling** 213 33–44

Willis J., Hobday A., 2007. Influence of upwelling on movement of southern bluefin tuna (*Thunnus maccoyii*) in the Great Australian Bight. **Mar Freshwater Res.** 58:699-708

Willis J., 2007. Could whales have maintained a high abundance of krill? **Evol Ecol Res.** 9:651-662

## Conferences

Willis J., 2011 "Contrasting methods for modelling fish behaviour." International fish screening techniques conference. Institute of Fisheries Management. Southampton UK

Willis J., 2011 "Use of agent modelling for conservation and management in coastal environments." CIWEM - Habitat change and management. Oxford.

Willis J., 2010 "Clam connectivity, supply and invasion" European marine biology symposium EMBS2010. Edinburgh

Willis J. 2010 "Modelling salmon in hydrodynamic models" 41st Annual IFM Conference. Institute of Fisheries Managers. Portsmouth.

Willis, J., Hobday, A. J., and Farley, J. H. (2006). Movement rules for large pelagic fishes derived from acoustic monitoring. Hobart, Tas. Australian Society for Fish Biology.

Willis, J. (2006). For an enlightened tuna, the greatest journey begins with a single step. In: Proceedings of the Annual Tuna Conference: Proceedings of the 57th Annual Tuna Conference : What do large pelagics want? The motivations for migration : 22-25 May 2006, La Jolla, Calif.: NOAA, National Marine Fisheries Service, Southwest Fisheries Center. 67 p.

## Popular publications related to my research

<http://news.bbc.co.uk/1/hi/sci/tech/7826639.stm> - Tags reveal birds' ocean odyssey  
<http://www.newscientist.com/article/mg20327223.000-dawn-and-dusk-dives-help-tuna-find-their-way.html>