

CURRICULUM VITAE
DR HEATHER JANE KOLDEWEY*

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| London, UK | Email: | heather.koldewey@zsl.org |
| Date of birth 18 January 1967 | Nationality | British |

WORK EXPERIENCE AND EDUCATION

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| 2009 – present | Acting Marine and Freshwater Conservation Programme Manager, Zoological Society of London |
| 2007 – present | Curator, Aquarium Projects, Zoological Society of London |
| 1996 – present | Associate Director, Project Seahorse |
| 2004 – present | Research Associate, Institute of Zoology, London |
| 2003 – 2007 | Senior Curator, Aquarium, Zoological Society of London |
| 1995 – 2003 | Curator of Lower Vertebrates, Zoological Society of London |
| 1994 – 1995 | Postdoctoral Research Fellow, Institute of Zoology, London |
| 1993 – 1994 | Postdoctoral Research Fellow, University of Stockholm, Sweden |
| 1989 – 1993 | PhD University College Swansea/University College London <i>A genetic study of brown trout (<i>Salmo trutta</i>) populations in Welsh rivers</i> |
| 1986 – 1989 | BSc (Hons) Biological Sciences (Marine and Fish Biology), University of Plymouth (First Class Honours) |
| Other | Good computer skills (Word, Excel, Powerpoint, Project, Outlook etc) PADI Advanced diver Full clean driving license Firearms license and training (for Zoo-based emergency procedures) Electrofishing license |

APPOINTMENTS

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| January 2010 | <i>Chair:</i> World Association of Zoos and Aquariums Aquarium Committee |
| 2007 - present | HM Government Zoo Inspector |
| 2006 - present | <i>Board Member:</i> The Shark Trust |
| 2005 - present | <i>Fellow:</i> Linnean Society of London |
| 2009 – present | <i>Chair:</i> Board of Trustees, Project Seahorse Foundation for Marine Conservation Inc., Philippines. |
| 2004 - present | <i>Board Member:</i> Project Seahorse Foundation for Marine Conservation Inc., Philippines. |
| 2004 - present | <i>Member:</i> Marine Aquarium Council Standards and Certification Committee |
| 2004 - present | <i>Member:</i> International Aquarium Congress Conservation Committee |
| 2003 - present | <i>Member:</i> European Association of Zoos and Aquaria EEP Committee |
| 2002 - present | <i>Member:</i> European Union of Aquarium Curators Executive Committee |
| 2001 - present | <i>Chair:</i> IUCN Re-introduction Specialist Group Fish Section |
| 1999 - present | <i>Special advisor:</i> American Association of Zoos and Aquariums Marine Fish and Freshwater Fish TAG |
| 1998 - present | <i>Chair:</i> European (EUAC/EAZA) Fish and Aquatic Invertebrate TAG |
| 1997 - present | <i>Member:</i> Reef Conservation UK committee |
| 1995 - present | <i>Associate Director:</i> Project Seahorse |
| 1990 - present | <i>Member:</i> Institute of Fisheries Management (London Branch) committee |
| 1998 - 2007 | <i>Chair:</i> BIAZA Fish and Aquatic Invertebrate Group |
| 2005 - 2007 | <i>Member:</i> British and Irish Association of Zoos and Aquariums (BIAZA) Conservation and Animal Management Committee |
| 1999 - 2006 | <i>Member:</i> Zoos Forum, UK government advisory committee |

*Please note that my surname changed from HALL to KOLDEWEY in 2004.

MANAGEMENT EXPERIENCE

- Daily management of a team of 8 staff at London Zoo Aquarium and the extensive aquatic animal collection.
- Remote supervision of field staff in Philippines, Sri Lanka, Portugal and USA.
- Student (undergraduate to PhD) and volunteer management.
- Operational management of London Zoo site as duty manager.
- Project management for new Aquarium exhibits and new builds on the London Zoo site.
- Project management to detailed design stage for a £100M aquarium for London, now on hold due to the current financial climate.
- Extensive experience of writing grants and managing successful conservation and research projects (largest successful grant £550,000) from research councils, trusts and foundations.
- Budget preparation and management.
- Strategic planning at an institutional and regional level.
- Communication experience, including a wide variety of media.

FIELD CONSERVATION PROGRAMMES

I co-founded and am Associate Director of an international marine conservation organisation called Project Seahorse. This team of biologists, development specialists and communicators focuses on seahorses as flagship animals to address a wide array of challenges in marine management. Project Seahorse works with partners to undertake biological and social research, empower local communities, establish marine protected areas, manage subsistence fisheries, redress habitat loss, restructure international trade, promote integrated policy, and advance environmental education.

Project Seahorse currently comprises about 30 professional team members (and village staff) operating in Australia, Canada, Hong Kong, Philippines, Portugal, Sri Lanka, UK, and the USA. Project Seahorse is a partnership among The University of British Columbia (Vancouver, Canada), Zoological Society of London (UK) and John G. Shedd Aquarium (Chicago, USA).

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| Mozambique | First ever reef surveys and marine conservation action plan for a remote archipelago in northern Mozambique. In collaboration with the Cabo Delgado Biodiversity and Tourism Project. |
| Nepal | Environmental impact assessment on freshwater fish stocks following a dam construction. In collaboration with the Natural History Museum, Kathmandu, Department of National Parks and Nepal Insight. |
| Mexico | Field surveys for endangered freshwater fish and establishment of <i>ex situ</i> breeding facilities. |

All field conservation programmes are funded through grants and donations.

Conservation awards

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| 2008 | BIAZA Field Conservation Award for Project Seahorse |
| 2005 | Chevron Conservation Award for Project Seahorse |
| 2003 | British and Irish Federation of Zoos & Aquariums Conservation Award for Project Seahorse |
| 2001 | Significant Achievement Award for International Conservation, American Association of Zoos and Aquariums, for the <i>John G. Shedd Aquarium /Project Seahorse partnership for Marine Conservation</i> |
| 1997 | Grand Prix International pour l'Environnement Marin from the Confédération Mondiale des Activités Subaquatiques (CMAS) (joint winner of FF50,000) |

CONFERENCE AND WORKSHOP ORGANISATION

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| 2008 | <i>Programme Committee.</i> International Aquarium Congress, Shanghai, China, October 2008 |
| 2007 - present | <i>Programme Committee.</i> European Union of Aquarium Curators annual conference |
| 1998 – present | <i>Co-organiser.</i> Annual Reef Conservation UK conference. |
| 1998 - present | <i>Co-organiser.</i> Annual National Aquarium conference in the UK. |
| 2004 | <i>Co-organiser.</i> (with Shark Trust) European Elasmobranch Association annual conference, UK. |
| 2004, 2005 | <i>Co-organiser.</i> Regional collection planning for lower vertebrates and invertebrates, Latvia and Denmark |
| 1998 - 2000 | <i>Co-organiser.</i> (with Prof G.Reid, Chester Zoo) three two day workshops involving European Aquarium Curators to initiate and develop conservation breeding programmes for fish and aquatic invertebrates throughout European aquariums, UK and Belgium. |
| 1998 | <i>Co-organiser.</i> International Workshop on the use and management of marine species in traditional medicine. This involved 35 people from 17 countries representing government, conservation, aquaculture and traditional medicine, Philippines. |
| 1998 | <i>Co-organiser.</i> Training workshop on aquarium management of endangered fish species, Mexico. |
| 1998 | <i>Co-organiser.</i> International Workshop on Population Group Management, UK. |
| 1998 | <i>Co-organiser.</i> International Aquarium Workshop on Seahorse Conservation and Management, involving 35 participants from nine countries, USA. |
| 1996 | <i>Co-organiser.</i> Aquatic Animal Management conference, UK |

PRESENTATIONS

I have given many presentations at international zoo conferences, international aquarium conferences, international scientific meetings and conferences, conservation meetings and conferences, as well as to zoos and aquariums, schools, universities, specialist groups and the general public.

TEACHING AND SUPERVISION

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| 2007 - present | Nishan Perera, University of Kalmar, Sweden. Environmental and Socioeconomic Sustainability of the Marine Ornamental Trade for Seahorses (Syngnathidae) in Sri Lanka. |
| 2006 - present | Nicholas Hill, Imperial College London/Institute of Zoology. The effect of alternative livelihoods on fishing behaviour. |
| 2004 - 2009 | Lucy Woodall, Royal Holloway, University of London/Zoological Society of London. Population genetics of European seahorses, <i>Hippocampus guttulatus</i> and <i>Hippocampus hippocampus</i> . |
| 1995 – 1999 | Stephen Casey, Institute of Zoology/Queen Mary and Westfield's College. Phylogeny and population structure of seahorses, <i>Hippocampus</i> spp. |

Regular supervision of undergraduate student projects and have supervised eight MSc students from Bournemouth University; Stockholm University (Sweden); University of the Western Cape (South Africa); King's College, London; Royal Veterinary College, London; Imperial College London. I have also taught on conservation biology courses (Masters and undergraduate).

PUBLICATIONS

Book

Lourie, S.A., Vincent, A.C.J., Hall, H.J. (1999). Seahorses: an identification guide to the world's species and their conservation. Project Seahorse. London UK.

Refereed papers

- Magera, A.M., Morgan, S.K., Koldewey, H.J., Vincent, A.C.J. (submitted). Immediate market impacts of CITES: five key conditions promoting market change in the conservation listing of marine fishes (*Hippocampus* spp.). *Frontiers in Ecology and the Environment*.
- Lam, J.T.L., Koldewey, H.J., Yasué, M., Vincent, A.C.J. (submitted). An assessment of the possible effects of CITES on the dried seahorse trade in Hong Kong. *Oryx*.
- Woodall LC, Shaw, PW, Koldewey, H.J. (accepted). First occurrence of the lined seahorse *Hippocampus erectus* (Perry 1810) in the Eastern Atlantic. *Journal of Fish Biology*.
- Koldewey, H., Martin-Smith, K. (accepted). A global review of seahorse aquaculture. *Aquaculture* (ms ref no. AQUA-D-07-01331)
- Philip J. Seddon, Doug P. Armstrong, Pritpal Soorae, Frederic Launay, Sally Walker, Carlos R. Ruiz-Miranda, Sanjay Molur, Heather Koldewey, Devra G. Kleiman. 2009. The Risks of Assisted Colonization. *Conservation Biology*. 23: 4: 788-789.
- Koldewey, H., Atkinson, J., Shaw, A. (2009). Threatened Species on the Menu? Towards sustainable seafood use in zoos and aquariums. *International Zoo Yearbook* 43: 71-81.
- van Look, K.J.W., B. Dzyuba, A. Cliffe, H. J. Koldewey & W. V. Holt (2007) Dimorphic sperm and the unlikely route to fertilisation in the yellow seahorse. *The Journal of Experimental Biology*. 210: 432-437.
- Boris Dzyuba, Katrien J.W. Van Look, Alex Cliffe and Heather J. Koldewey and William V. Holt (2006). Effect of parental age and associated size on juvenile growth and survival in the Yellow seahorse, *Hippocampus kuda*. *Journal of Experimental Biology* 209, 3055-3061.
- Koldewey, H. (2005). "Seahorses take to the world stage." *Live reef fish information bulletin* (13): 33-34.
- Stephen P. Casey, Heather J. Hall, Helen F. Stanley and Amanda C.J. Vincent (2004). The origin and evolution of seahorses (genus *Hippocampus*): a phylogenetic study using the cytochrome *b* gene of mitochondrial DNA. *Molecular Phylogenetics and Evolution*. Volume 30, Issue 2, pp 261-272
- Hall, H. (2003) The release of sharks from public and private aquariums. *Re-introduction News*. 23 p.10.
- S.D.Job, H.H.Do, J.J.Meeuwig, H.J.Hall (2002) Culturing the oceanic seahorse, *Hippocampus kuda*. *Aquaculture* 214: 333-341.
- Lourie, S.A., Pritchard, J.C., Casey, S.P., Truong, S.K., Hall, H.J., Vincent, A.C.J. (1999). The taxonomy of Vietnam's exploited seahorses (family Syngnathidae). *Biological Journal of the Linnean Society*. 66(2):231-256.
- Vincent, A.C.J. & Hall, H.J. (1996). The threatened status of marine fishes. *Trends Ecol. Evol.* 11:360-361.
- Hall, H.J. & Nawrocki, L.W. (1995). A rapid method for detecting mitochondrial DNA variation in brown trout, *Salmo trutta* L. *Journal of Fish Biology*. p.360-364.

Refereed book chapters

- Hall, H.J. and Warmolts, D. (2003). The Role of Public Aquaria in the Conservation and Sustainability of the Marine Ornamentals Trade. In: *Marine Ornamentals: Collection, Culture and Conservation* Iowa State University Press. Cato, J. and Brown C.L. (eds). pp 307-327.
- Reid, G. and H.J. Hall (2003). Reproduction in fishes in relation to conservation. In: *Reproduction and Intergrated Conservation Science*. Cambridge University Press. Holt, W.V., Pickard, A.R., Rodger, J.C., Wildt, D.E. (eds) pp. 375-395.
- J. Meeuwig, M.A. Samoilys, J. Erediano and H. Hall (2003). Fishers' Perceptions on the Seahorse Fishery in Central Philippines: Interactive approaches and an evaluation of results. In: *Putting Fishers' Knowledge to Work*. Haggan, N., Brignall, C. and Wood, L. (eds). FCRR Vol. 11(1): 228-204.

Conference proceedings

- Zimmerman, B., Koldewey, H. (2009). Sustainable acquisition in aquariums. Proceedings of the International Aquarium Congress, Shanghai, October 2008.
- Boehm, J. Koldewey, H. (2009). The power of international partnerships for marine conservation. Proceedings of the International Aquarium Congress, Shanghai, October 2008.
- Vincent, A.C.J. and H.J. Koldewey. (2006). An uncertain future for seahorse aquaculture in conservation and economic contexts. Proceedings of the Regional Technical Consultation on Stock Enhancement of Species Under International Concern pp 71-85. Southeast Asian Fisheries Development Center. 13-15 July 2005. Iloilo City, Philippines ISBN 978-971-8511-79-4
- Koldewey, H., Jones, R., Shaw, A., Zimmerman, B. 2005. A New Approach to a New Conservation-led Aquarium. Proceedings of the International Aquarium Congress, USA.
- Koldewey, H., Wetzell, J. 2004. Conservation, science, education – and a new aquarium. Proceedings of the European Union of Aquarium Curators conference, Vienna, Austria.
- Hall, H., Vincent, A., Stanley, H. 1997. Project Seahorse. A global integrated programme of seahorse conservation and management. Proceedings of the 25th anniversary meeting of European Union of Aquarium Curators (EUAC) in Basel, Switzerland, 18th-22nd Oct. 1997.
- Reid, G. and Hall, H. 1997. The UK Fish and Aquatic Invertebrate Taxon Advisory Group (FAITAG) and the challenges for public aquaria beyond the year 2000. Proceedings of the 25th anniversary meeting of Members of the European Union of Aquarium Curators (EUAC), Basel, Switzerland, 18th - 22nd October 1997.
- Hall, H.J., Beardmore, J., Skibinski, D. 1994. A study of mitochondrial DNA variation in brown trout in Wales. In: Proc. World Fisheries Congress (Theme 5).
- Hall, H.J. (1994). The role of genetic techniques in fisheries management. Proc. 25th IFM Study Course, Lancaster.

Conference proceedings edited

- Moreau, M.A., H.J. Hall and A.C.J. Vincent (eds.). 2000. Proceedings of the First International Workshop on the Management and Culture of Marine Species Used in Traditional Medicines. Project Seahorse, Montréal, Canada. 240pp [Also in Chinese]
- Lunn, K.E., J.R. Boehm, H.J. Hall, and A.C.J. Vincent (eds.) 1999. Proceedings of the First International Aquarium Workshop on Seahorse Husbandry, Management, and Conservation. John G. Shedd Aquarium: Chicago, USA. 166 pp ISBN 0-9701035-3-0
- Mace, G.M, Hall, H.J., Vedmar, A. (eds) 1998. Population Group Management Workshop. Zoological Society of London.

Technical reports and articles

- Koldewey, H., Martin-Smith, K. (submitted). Seahorse Aquaculture. Capture based aquaculture – Global overview. FAO Fisheries Technical Paper.
- Penning, M., Reid, G. McG., Koldewey, H., Dick, G., Andrews, B., Arai, K., Garratt, P., Gendron, S., Lange, J., Tanner, K., Tonge, S., Warmolts, D., Van den Sande, P., and Gibson, C. (Eds.) 2009. *Turning the Tide: A Global Aquarium Strategy for Conservation and Sustainability*. World Association of Zoos and Aquariums, Bern, Switzerland.
- Koldewey, H. (2008). Guest Editor of EAZA News 64 special issue on Collection Planning, European Association of Zoos and Aquariums, Netherlands.
- Koldewey, H., Spencer, W., Gibson, R. (2008). Developing Regional Collection Plans for Speciose Taxa. EAZA News 64.
- Koldewey, H., Jones, R. (2008). The Impact of CITES on the Management of Species in Aquariums. EAZA News 61.
- Koldewey, H. (2007). Guest Editor of EAZA News 60, special issue on Aquariums. European Association of Zoos and Aquariums, Netherlands.
- Koldewey, H. (2007). Project Seahorse; saving seahorses means saving the seas. EAZA News 60: 12-13

- Koldewey, H. (2007). Aquarium collection management. *EAZA News* 60: 16-17.
- Koldewey, H., Zimmerman, B. (2007). Sustainable acquisition in aquariums. *EAZA News* 60: 30-32.
- Falcato, J., Koldewey, H., Janse, M. (2007). Public aquariums and their contribution to European maritime policy. Report in response to EU Green Paper on the European Maritime Policy.
- Koldewey, H.J. (2006). Seahorse aquaculture. In: *Aquaculture Compendium*. Wallingford, UK: CAB International.
- Cliffe, A. and Koldewey, H. (2006). Diving in Zoos and Aquariums. In *Zoos Forum Handbook*, DEFRA, UK.
- Koldewey, H. ed. (2005) *Seahorse Husbandry in Public Aquariums: 2005 Manual*, with chapters contributed by members of the Syngnathid Discussion Group. Zoological Society of London.
- Hall, H. and Zimmerman, B. 2004. Fish survey. In Oliver, S (Ed.) *Babai River Valley Fish and Biodiversity Survey*, Royal Bardia National Park, Nepal (March 2003). ZSL Conservation Report No. 3. London: The Zoological Society of London. V+199pp.
- Hall, H., Reid, G. 2001. Procedures for Fish and Aquatic Invertebrate Taxon Advisory Group Programmes. European Union of Aquarium Curators.
- Stevenson, M., Hall, H. Talbot-Rosevear, M. 2003. Conservation, Education, Research. In *Zoos Forum Handbook*, DEFRA, UK.
- Hall, H.J. 1993. The genetic aspects of restocking. In *Welsh rivers - stocking and taking stock*. Welsh NRA Technical Fisheries Report No. 4.