

**HELEN LOWE**  
**The Crows Nest, 28 Frome Valley Road,**  
**Crossways, Dorchester, Dorset DT2 8XU**  
**Tel: 01305 851778**  
**Email: hj.lowe@btinternet.com**

I am an enthusiastic and passionate and well qualified applied marine scientist. I am innovative and logical with an outgoing personality and a can-do attitude. I am comfortable applying myself in the field and office environment, and can also drive to meetings, site visits and public engagement. I am highly numerate and literate with great communication skills. My background in science and engineering means that I can also do data collection, research, analysis, reporting as well as presentations, administration and meetings.

I am looking for employment after having a family and would welcome the opportunity to have a new challenge and use my skills and enthusiasm in any science based environmental role.

#### **KEY SKILLS**

**Communication:** Outgoing and confident. Author of scientific papers and presentations, co-author of a book and numerous technical reports. Liaison with customers, stakeholders and researchers. Proficient in WORD and Excel. Cub Leader and Dorset Wildlife Trust Volunteer Marine Warden.

**Research:** Literature research, fieldwork and laboratory including methodology development, data collection and analysis.

**Organisation:** Logistics (people, meetings, travel, equipment, transportation and environmental factors), data collation, laboratory manager .

**Innovation:** Developed instrumentation, techniques and methodologies. Creation of new business areas and ideas.

**Consultancy:** Evaluation and advice including : environmental impact assessments, ecological risk assessments, flood risk assessments, contaminated land risk assessments and development of mitigation advice. Expert in water quality and sediment behaviour assessments. Health and Safety including risk assessments and COSHH documentation. Ran my own coastal science consultancy business

**Practical:** Hands-on approach in the laboratory and field (mostly muddy!) whatever the weather covering a wide range of outdoor environments.

#### **CAREER HISTORY AND ACHIEVEMENTS**

##### **Nov 2019 - present      ENVIROMUD, Expert Muddy Sediment Measurement and Consultancy**

I have set up a unique measurement and consultancy business to provide services to better understand the characteristics and behaviour of muddy based and mixed sediments. I have undertaken small project data processing data records of discharges within the River Parrett for sediment flux calculations. I am currently contracted to monitor and evaluate sediment fluxes within the Medina Estuary, Cowes to aid dredging decisions. This has included turbidity sensor maintenance as well as managing and undertaking calibrations. I am actively tendering for projects that include grab sampling, particle size analysis and benthic fauna, sediment erodibility measurements.

##### **May 2009 – November 2019**

Whilst raising a young family I have been employed in various part-time and temporary positions including: Independent Scientific Consultant, Shellfish Hygiene Temporary Scientist at CEFAS, Nuclear Waste Consultant (Inutec Ltd), Hydrophone Calibration Scientist (Precision Acoustics), Technical Writer (Honeywell), Waste Water Management Consultant (Wat-er-Save), studied FDS Sc Marine Ecology and Conservation at Kingston Maurward College, Seasonal Ecological Surveyor plus a self employed gardening business. Also a Marine Warden for Dorset Wildlife Trust

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**April 2004 - May 2009 Specialist Water Scientist; Such Salinger Peters Ltd, Winfrith, Dorset**

I was a scientific expert within a small consulting engineering firm dealing with drainage and design. I provided environmental impact and contamination assessments for design projects. My work regularly included analysis of data, reporting and liaison with customers and stakeholders. I developed a new business area in ecological assessment and mitigation. I also headed and ran a new business sector, AQUAMUD, providing consultancy in muddy sediment transport and environmental impacts. My work also included waste water and SuDS evaluations, sediment transport studies and site investigations.

**Nov 1999 - April 2004 Marine Scientist; QinetiQ, Winfrith, Dorset**

I carried out MOD and commercial research in coastal oceanography including data searches, environmental impact assessments, field data collection, data analysis and technical reporting. I was a Laboratory Manager with health and safety responsibilities including risk assessments, COSHH records and VDU assessments. variety of projects including investigative oceanographic measurements on beaches for MOD applications, nanochemistry, development of a sonochemical reactor for water purification, fibre optics and evaluation of sensors. My work also included business support including market research, proposal writing and business development.

**June 1990 – April 1999 Marine Research Scientist; H R Wallingford Ltd, Wallingford, Oxon**

I carried out high level commercial and academic research into muddy marine sediments. This involved planning, supervising and executing field data collection campaigns to research muddy sediment erosion, consolidation, engineering properties and morphology. I developed and used a new and novel field instrument (SedErode) and deployed it on muddy substrates in the field including estuaries, ports and shelf seas. In addition I carried out laboratory based sedimentological investigations. My work involved writing a wide range of technical reports and scientific papers and delivering scientific presentations in UK and internationally. In addition I was co-author of a book 'Dynamics of Estuarine Muds – A Manual for Practical Applications'. I also provided business support including writing proposals and project management.

**Oct 1988 - June 1990 Oceanographer; Sir William Halcrow and Partners Ltd (now Jacobs) Swindon**

I provided oceanographic expertise into a wide variety of engineering consultancy projects including water quality assessments and numerical modelling. I was also a site engineer on dredging and reclamation project including witnessing, hydrographic measurements, progress assessment and reporting.

**EDUCATION AND PROFESSIONAL STATUS**

- |      |  |
|------|--|
| 2017 | Kingston Maurward College/ Bournemouth University<br><b>BSc Marine Ecology and Conservation</b> (3 units - Marine Ecology, Marine Environmental Science, Conservation – with distinctions). Also statistics SPSS package and analysis. |
| 2006 | <b>Chartered Marine Scientist, MIMarEST</b> (Member of the Institute of Marine Engineering, Science and Technology)  |
| 1988 | University of Southampton: <b>M.Sc. Oceanography</b>   |
| 1987 | University of Southampton: <b>B.Sc. Hons. Chemistry with Oceanography</b>  |

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1984	<b>A-Levels:</b> Nuffield <b>Chemistry</b> (grade A), S.M.P. <b>Mathematics</b> (grade B), <b>Biology</b> (grade B)
1995	<b>A-level:</b> <b>Physics</b> (grade B, Evening Class)
1982	<b>O-levels:</b> English Literature, English Language, French, History, Geography, Physics with Chemistry, Biology, Additional Mathematics
1981	<b>O-level:</b> S.M.P. Mathematics

#### **RELEVANT COURSES AND CPD**

Report Writing, Presentation Skills, Technical Report Writing , Health and Safety Trained - Risk Assessment, Display Screen Assessors, Manual Handling, Hazards at Work, Intellectual Property Rights. Cetacean and Seabird Identification, Sea Shore Surveys. Numerous technical and business training courses.

#### **INTERESTS**

Enjoy most sports, outdoor life, walking, camping, exploring, Dorset Wildlife Trust Marine Warden, Assistant Cub Leader. BSAC Diver, former County Hockey player, Regional Ladies Rugby player. Historical Cookery, Gardening.

#### **REFERENCES**

Dr Rob Nunny, Sedimentation Consultant Ambios Ltd,  
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## **SELECTED PAPERS AND REPORTS**

Please note that I have published papers under MITCHENER (maiden name to 1989 and again 1996 to 1999), WILLIAMSON (1989 -1996) and LOWE (from October 1999)

### **Text Book:**

R J S Whitehouse, R L Soulsby, W Roberts H J Mitchener - 'Dynamics of Estuarine Muds - A Manual for Practical Applications'. HR Wallingford Ltd. and Thomas Telford, 2000, London, UK. ISBN 0-7277-2864-4.

### **Key Papers and Reports:**

Mitchener H.J., Gallaher A., 'Development of a novel approach of a sonochemical reactor for the breakdown of contaminants in water', QinetiQ technical report, March 2003.

Mitchener H.J, Scott J., "Regional Oceanography of Freshwater Influence – for Commercial and Naval Applications". QinetiQ report.

Mitchener H. J. and O'Brien D J. "Seasonal Erodibility and Properties of Mudflat Sediments in a Macrotidal Estuary, Peterstone Wentlooge, Cardiff, UK."(2001).

Whitehouse, R.J.S., Bassoullet, P., Dyer, K.R., Mitchener, H.J., Roberts, W. (2000) "The influence of bedforms on flow and sediment transport over mudflats." Continental Shelf Research 20 (2000) pp 1099-1124.

Christie, M.C., Dyer, K.R., Blanchard, G., Cramp, A., Mitchener, H.J., Paterson, D.M. (2000) "Temporal and spatial distribution of moisture and organic contents across a macro-tidal mudflat." Continental Shelf Research 20 (2000) pp 1219-1241.

Tolhurst, T.J., Black, K.S., Paterson, D.M., Mitchener, H.J., Termat, R., Shayler, S.A. (2000) "A comparison and measurement standardisation of four in situ devices for determining the erosion shear stress of intertidal sediments." Continental Shelf Research 20 (2000).

Mitchener H.J, Whitehouse R.J.S, Soulsby R.L. and Lawford V.A. (1996). Estuarine Morphodynamics. Development of SedErode – Instrument for In-Situ Mud Erosion Measurements. HR Wallingford Report TR 17, October 1996.

Mitchener H.J. (1996). SedErode – Manual for Operation, Calibration and Data Analysis', HR Wallingford Report TR13, May 1996.

Damgaard J.S. and Mitchener H.J. (1997). River Bank Recession: Experiments on Non-Cohesive and Cohesive Banks. Paper being presented at the 3<sup>rd</sup> International Conference on River Flood Hydraulics, Stellenbosch, South Africa, 5-7 November, 1997.

Whitehouse R.J.S. and Mitchener H.J (1997). Observations of the Morphodynamic Behaviour of an Intertidal Mudflat at Different Timescales. Sedimentary Processes in the Intertidal Zone. Presented at a joint meeting of the Challenger Society for Marine Science and LISP, held at The Geological Society, Burlington House, London, 27-28 February 1997.

Mitchener H.J., Torfs H. and Whitehouse R.J.S. (1996). Erosion of Mud/Sand Mixtures. Journal of Coastal Engineering, Vol. 29, pp1-25.

Torfs H., Mitchener H.J., Huysentruyt H. and Toorman E. (1996). Settling and Consolidation of Mud/Sand Mixtures. Journal of Coastal Engineering, Vol. 29, pp27-45.

Williamson, H.J. and Ockenden M.C. (1996). ISIS: An Instrument for Measuring Erosion Shear Stress In-Situ. Journal of Estuarine, Coastal and Shelf Science, Vol. 42, pp1-18.

Torfs H., Williamson H.J., Huysentruyt H., (1995). Settling and Erosion Characteristics of Mud/Sand Mixtures. Coastal Dynamics '95. International Conference on Coastal Research in terms of Large Scale Experiments. September 4-8, 1995, Gdansk, Poland.

Williamson, H.J. and Ockenden, M.C. (1993). Laboratory and field investigations of mud and sand mixtures. Advances in Hydro-Science and Engineering, Vol. 1, Sam S.Y. Wang (ed.), pp.622-629.

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Williamson H.J. (1992). Estuarine Sediments - Near Bed Processes. New Modelling Techniques for Cohesive Sediments. HR Wallingford Report SR 299, March 1992.

Williamson H.J. (1991). Tidal Transport of Mud/Sand Mixtures - Sediment Distributions -A Literature Review. HR Wallingford, Report SR 372.

Burdall A.C. and Williamson H.J. (1990). A Green Port - An Engineer's View. Paper in 'Ports into the Next Century', ed. C.R. Ford, Thomas Telford. Proc. of the ICE Conference on 'Ports 2000', Hull, October 1990. Produced at Sir William Halcrow and Sons Ltd.

Williamson H.J. (1990). Some Data Sources for Marine Environmental Modelling. Proceedings of Oceanology '90, Civil Applications Volume 2. Brighton, March 1990. Produced at Sir William Halcrow and Sons Ltd.