

# Dr Melissa Robson

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## Profile

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Environmental scientist experienced in strategic and practical management of soil, nutrients and water quality at a local and catchment scale.

## Career and Work Experience

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### **February 2008 -Present – Senior Environmental Scientist** **GHD Ltd**

I am currently working as a senior environmental scientist for GHD Ltd in Auckland. This role has included:

- Technical co-ordinator role for a large cumulative effects study investigating the catchment wide impact of increased irrigation on water quality in surface and ground water receiving environments
- Project lead for on-farm mitigation strategies to reduce soil and nutrient loss and preparation of a nutrient mitigation tool kit.
- Deriving catchment assimilative capacities and development of farm management planning tools to achieve environmental targets

### **2005-2008– Agricultural and environmental adviser** **Department for Environment, Food and Rural Affairs**

Lead Officer in the England Catchment Sensitive Farming Delivery Initiative, a programme to reduce diffuse water pollution from agriculture I worked at the local, regional and national scale of this programme.

At a national and regional scale, the job included:

- Engagement and partnership at a regional level with stakeholders e.g. National Farmers' Union, water companies, sector groups, government departments and research organisations
- Providing technical inputs into the national programme:
  - Leading soil and sediment research for national project innovation workstream
  - Leading on national response to new nitrates regulations
  - River basin and catchment management plans
- Leading on operational development of tools for cross sector approach to point and diffuse pollution at a catchment level (sediments and nutrients)
- Functional management of other officers, budget and contract management

At a local scale, the primary aim was to reduce water pollution, namely sediments and nutrients, from agriculture and non-agricultural sources in the surface and ground waters of my catchment. The job included:

- Giving practical advice to improve soil management and reduce nutrient loss
- Raising awareness of point and diffuse water pollution through presentations, farm visits, sector group talks and publications
- Designing and implementing a locally appropriate extension and training package for farmers or sector groups to encourage change in behaviour and land use where appropriate
- Developing monitoring programmes, data analysis, interpretation and communication

### **2004-2005 – Environment Protection Officer (agriculture)** **Environment Agency**

- Farm visits to ensure compliance with environmental and agricultural regulations
- Dairy farm based pollution prevention campaign to reduce point and diffuse pollution
- Landcare program for 2 local catchments, aimed at improving soil management
- Extensive technical support and input to development of the national Catchment Sensitive Farming project (successor to Landcare)

### **2004-2004– Irrigation adviser** **Crop production Consultancy**

- Irrigation scheduling, monitoring and giving of irrigation recommendations for high value salad crops. Management of the pest monitoring program.
- Program of sampling, analysis, interpretation and recommendations to improve poor crop performance.

### **2003-2004 – Independent agricultural consultant** **Main client - GAIA Pro**

- Farm visits and evaluation
- Preparation of current and future option budgets
- Identification of business strengths and weaknesses

- Preparation of farm business development plans.

**2003-2003 - Irrigation adviser** **Tanganika Planting Company, Tanzania**

- Designed and conducted experiments to evaluate present performance of surface irrigation system
- Assessed suitability of soil for surface irrigation.
- Reported of recommendations for development of surface irrigation system and submitted revised irrigation strategy and scheduling
- Part of the work conducted was submitted for completion of a MSc in Advanced Irrigation.

**1998-2002 - Researcher – Agronomy** (AUCOA) **Aberdeen University Centre for Organic Agriculture**

- Designed and co-managed a 4-year, multi-site field trial to fulfil requirements of a DEFRA contract. Contract delivered on time and to budget.
- Researched and wrote 50,000 word literature review on agronomy of 16 arable, horticultural and novel crops in order to chose most suitable for inclusion in field trial.
- Directly managed the 2 Scottish field sites, involving co-ordinating all field operations
- Processed, analysed and interpreted data generated from field trials
- Wrote annual reports, papers for conferences and journals (5 publications to date)

**Qualifications**

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**2009 – Advanced Certificate of Sustainable Nutrient Management (A-)** **Massey University**

**2008 – Certificate of Sustainable Nutrient Management Stage 1 (A+)** **Massey University**

**2006 – FACTS (Fertiliser Advisers Certification Training Scheme)** **Askham Bryan**

**2002-2003 - MSc Advanced Irrigation** **Cranfield University**

Subjects included: Soil and water engineering, irrigation engineering, hydraulics, surface and groundwater hydrology, water quality and treatment and financing water

Thesis: “An evaluation of the suitability of soils for surface irrigated sugar cane and irrigation performance at TPC sugar cane estate, Tanzania”

**1998-2002 – PhD in Soil and Plant Science** **Aberdeen University**

Thesis: “The potential of break crops in organic arable ley rotations”. Examining the soil and system sustainability of organic rotations using novel and traditional crops in a cereal rotation

**1994-1998 – BSc Hons Tropical Environmental Science (2i)** **Aberdeen University**

Topics included: Soil science, tropical agriculture and forestry, rural development, crop protection, tropical and temperate soil biology and fertility, economics and farm management

Thesis: “Investigation of causes of spatial distribution of tree species in Miombo woodland, Malawi”. In conjunction with the Forestry Research Institute to assist reforestation of locally important tree species