



## Dr Hilke Giles

Independent Commissioner – Environmental Science Specialist  
(Coastal, marine, and systems science)

Hilke Giles is an experienced environmental scientist with specialist expertise in coastal, marine, and systems science, and a strong focus on assessing, monitoring, and (adaptively) managing environmental effects of anthropogenic activities.

Hilke has gained her experience through roles in research (NIWA, University of Waikato), regional council (Waikato Regional Council), and consulting, and through education in New Zealand and Germany. To complement her scientific expertise and improve her effectiveness in working across the science-legal-planning interface, Hilke has also completed a Diploma in Law.

Her diverse background provides Hilke with a robust, broad, and practical understanding of New Zealand's coastal environment, national and regional environmental issues, policies, plans, and regulations, RMA processes, and industry, community, local and central government perspectives.

Hilke works for commercial clients, regional and central government, in scientific research projects, and is available as an independent hearing commissioner.

### **Examples of experience in RMA hearings**

Hilke has participated in RMA resource consent and private plan change hearings as expert witness for regional councils, including:

#### ***Resource consent application by Horowhenua District Council for the discharges of the Levin Wastewater to land (2019)***

Provided coastal science expertise to support Horizons Regional Council, specifically, conducted site visit, prepared a s42A report, attended hearing, and attended expert conferencing.

#### ***Section 127 application by The New Zealand King Salmon Co Limited to change consent conditions at two salmon farm sites (2020)***

Provided expertise on seabed and water quality effects to support Marlborough District Council, specifically prepared a s42A report and presented at hearing.

#### ***Resource consent application by The New Zealand King Salmon Co Limited for new salmon farms located north of Cape Lambert, North Marlborough (Blue Endeavour)***

Provided expertise on benthic effects monitoring and management and proposed consent conditions to support Marlborough District Council, specifically prepared a s42A report and addendums, presented at hearing, and, upon direction by the hearing panel, facilitated expert caucusing (benthic experts and modelling experts).

### **Education**

PhD (Marine Biology), University of Waikato, 2006

Diploma in Law, University of Waikato, 2020

Postgraduate Diploma in Management Studies, University of Waikato, 2010

MSc (Marine Biology), First Class Honours, University of Waikato, 2002

MSc (Applied Systems Science), Environmental Systems Research Institute, University of Osnabrück, Germany, 2001

Making Good Decisions Foundation Programme, 2022

### **Experience and expertise highlights**

Over 15 years professional experience in research, regional council, and consulting. Since 2018 independent consultant and Director of Pisces Consulting Limited.

Extensive scientific knowledge in coastal and marine science, including aquaculture environmental interactions, sediment and water quality, ecology, contaminants, land-sea interactions, climate change, and cumulative effects.

Scientific expertise in field and laboratory research, numerical modelling, data analysis, environmental monitoring, science communication, and applied science.

Experience in researching, assessing, monitoring, and managing effects of activities on the coastal environment.

## Relevant work history

- Managing Director – Pisces Consulting Ltd, Hamilton: Mar 2018 – Present
- Team Leader – Coastal Science, Waikato Regional Council: Sep 2015 – Mar 2018
- Team Leader – Coast, Land and Wetlands (secondment), Waikato Regional Council: Apr 2014 – Sep 2015
- Coastal Scientist, Waikato Regional Council: Feb 2010 – Apr 2015
- Scientist (Sediment Biogeochemist), National Institute of Water and Atmospheric Research (NIWA): Apr 2008 – Feb 2010
- Post-doctoral fellow (Development of numerical model of organic matter decomposition in coastal sediments to assess the environmental impacts of finfish aquaculture), National Institute of Water and Atmospheric Research (NIWA): Aug 2006 – Apr 2008
- Research fellow, National Institute of Water and Atmospheric Research (NIWA): 2006

## Relevant achievements

- Elected as President of the New Zealand Marine Sciences Society (2016-2018; Council member since 2010)
- Elected co-chair of the technical sub-group of the Coastal Special Interest Group (CSIG, 2015-2017)
- Senior Science Advisor for Ministry for the Environment Our Marine Environment 2019 report
- Member of the MfE Natural and Rural Reference Group and Environmental Limits Working Group supporting the Resource Management Review Panel (2019/2020)

## Selected peer reviewed publications

- Giles H, Barton B (2020). Adaptive management under the RMA: the tension between finality and flexibility. *New Zealand Journal of Environmental Law* 24:1-33.
- Jones HFE, Özkundakci D, Hunt S, Giles H, Jenkins B (2020) Bridging the gap: A strategic framework for implementing best practice guidelines in environmental modelling. *Environmental Science & Policy* 114, 533–541.
- Giles H (2019) Adaptive management under the RMA: seeking guidance for practitioners. *Resource Management Journal* April: 19-25.
- Özkundakci D, Wallace P, Jones H, Hunt S, Giles H (2018) Building a reliable evidence base: Legal challenges in environmental decision-making call for a more rigorous adoption of best practices in environmental modelling. *Environmental Science and Policy* 88: 52-62.
- Hawes I, Giles H, Doran P (2014) Estimating photosynthetic activity in microbial mats in an ice-covered Antarctic lake using automated oxygen microelectrode profiling and variable chlorophyll fluorescence. *Limnology and Oceanography* 59(3):674-688.
- Giles H, Broekhuizen N, Bryan K, Pilditch CA (2009) Modelling the dispersal of biodeposits from mussel farms: the importance of simulating biodeposit erosion and decay. *Aquaculture* 291: 168-178
- Giles H (2008) Benthic impacts of fish farming: Using Bayesian networks to identify reliable monitoring parameters. *Aquaculture* 274:181-195.
- Giles H, Pilditch CA, Nodder SD, Zeldis J, Currie K (2007) Benthic oxygen fluxes and sediment properties on the northeastern New Zealand continental shelf. *Continental Shelf Research* 27(18): 2373-2388.
- Giles H, Pilditch CA, Bell DG (2006) Sedimentation from mussel (*Perna canaliculus*) culture in the Firth of Thames, New Zealand: Impacts on sediment oxygen and nutrient fluxes. *Aquaculture* 261(1): 125-140.

## Selected reports

- Giles H (2022) Ecology and coastal water quality assessment of the proposed Te Ariki Tahī Sugarloaf Wharf upgrade. Prepared for Ariki Tahī Sugarloaf Wharf Limited.
- Giles H (2019) Environmental management of New Zealand aquaculture: the science perspective. Pisces Consulting. Accessible at <http://www.piscesconsulting.co.nz/publications.html>.
- Giles H (2021) Technical review of previous assessments of a proposed AMA in Onapua Bay, Tory Channel, Marlborough Sounds. Prepared for Marlborough District Council.
- Giles H, Baxter A, Taylor D, Elvines D, Neale D, Jorgensen E, James M, Bunce M, Broekhuizen N, Wade O, Ford R, Cumming S, O'Connell-Milne S, Hart S-R, Hampton B (2021) Best practice guidelines for benthic and water quality monitoring of open ocean finfish culture in New Zealand. *New Zealand Aquatic Environment and Biodiversity Report No. 278*. Fisheries New Zealand.