

Dr ir. Miquel Lürling is associate professor at the Aquatic Ecology and Water Quality Management Group of Wageningen University (The Netherlands), guest researcher at the department Aquatic Ecology of the Netherlands Institute of Ecology and co-founder of the Aquatic Knowledge Centre Wageningen (https://nioo.knaw.nl/nl/Akwa). He holds a *cum laude* MSc degree in limnology (Wageningen University, 30-01-1994) and a *cum laude* PhD degree in plankton ecology (Wageningen University, 12-05-1999). His main research focuses on eutrophication control and mitigating cyanobacterial nuisance, which includes the

development of novel approaches, such as flock & lock techniques, testing products released on the market for water authorities, in-situ and whole lake experiments, cyanotoxin analyses and the mechanisms that promote cyanobacteria blooming and toxin production. Miquel has published 140 peer reviewed documents (h-factor 42). He was chairman of Plankton Ecology Group (PEG) of the Societas Internationalis Limnologiae (SIL) (www.SIL.org) for 12 years. In 2008 he became board member of the Dutch Platform Ecological Restoration of Lakes and in 2016 he launched the SIL Working Group on Lake Restoration. In 2018 he started the foundation International Water Quality Management to aid achieving improved surface water quality worldwide.

Abstract: Seminars in Edmonton, Alberta (30 January 2019)
Presenter: Dr Miquel Lurling, Associate Professor of Aquatic Ecology & Water Quality Management,
Wageningen University, The Netherlands

The Netherlands is one of the most densely populated countries in the world and the second largest exporter of agricultural products. The combination of these two factors has led to major eutrophication issues in most of the country's water bodies. Although efforts have been made to reduce eutrophication for many years and nutrient inputs from point sources are being adequately tackled, the legacy of nutrients in lake beds and ongoing diffuse loadings have led to severe cyanobacterial blooms in many of the country's lakes.

The urgent need to control cyanobacteria has spurred the development of many different methods that claim to be fast acting and effective. The Aquatic Ecology & Water Quality Management Group at Wageningen University is frequently tasked by the Dutch Government and other stakeholders to test, assess and evaluate the claims by promoters of many of these methods. Here, we provide a critical overview of many of the measures which are commonly promoted in the Netherlands and more widely across Europe for cyanobacterial control. We include in our analysis both measures which are heavily promoted, but whose underlying mechanisms and field results are highly dubious, as well as measures which have been rigorously tested and show substantially more promise as mitigation measures against harmful algal blooms.