

Curriculum vitae

Ulla Li Zweifel

October 2024

Personal information:

Born:	Januari 24, 1967, Skellefteå, Sweden
Civil status:	Married, two children born in 1998 and 2005
Nationality:	Swedish and Swiss citizenship
Language:	Swedish (native), English (fluent), French (elementary)

Academic achievements:

2002	Docent (Associate Professor) in Marine microbiology, University of Kalmar.
1995	Ph.D. Marine microbiology, Umeå University, Sweden.
1991	B.Sc. Chemistry, Umeå University, Sweden.

Professional positions:

2012-	Scientific coordinator, Swedish Institute for the Marine Environment, University of Gothenburg, Sweden
2014-2017*	Professional Secretary, Helsinki Commission (HELCOM)
2012-2012*	International coordinator for the Marine Strategy Framework Directive, Swedish Agency for Marine and Water Management
2010-2011	Researcher at the Department of Cell- and molecular biology, University of Gothenburg, Sweden
1998-2009	Assistant Professor, Department of Biology and Environmental Science, University of Kalmar, Sweden
	During 2002-2005, Scientific editor and scientific advisor, Global International Waters Assessment (GIWA), UNEP, University of Kalmar, Sweden
1996-1998	Researcher at the department for Marine ecology and Microbiology, National Environmental Research Institute, Denmark
1995-1996	Visiting Scholar, Marine Biology Research Division, Scripps Institution of Oceanography, La Jolla, USA

*on leave of absence from the Swedish Institute for the Marine Environment

REPORTS since 2010

Published by the Swedish Institute of the Marine Environment:

- 2024 **Zweifel, U.L. Hur styrs utvärdering av styrmedel?** I Sundblad, E.-L., Gilek, M., Gipperth, L., Ivarsson Westerberg, A., Langlet, D. (Red.). Fakta och tankar om nationell havsförvaltning. Rapport nr 2024:6, Havsmiljöinstitutet. [In English: Who is steering the evaluation of policy interventions?]
- 2024 **Zweifel, U.L., Gipperth, J., Bergström, L., Ivarsson Westerberg, A., Stage, J., Sundblad, E-L., Wennhage, H. och Westholm, A. Strengthened follow-up and evaluation of the Swedish Programme of Measures for the marine environment.** Report no. 2024:1, Swedish Institute for the Marine Environment.
- 2023 **Zweifel, U.L., Gipperth, J., Bergström, L., Ivarsson Westerberg, A., Stage, J., Sundblad, E-L., Wennhage, H. och Westholm, A. Stärkt uppföljning och utvärdering av åtgärdsprogrammet för havsmiljön.** Rapport nr. 2023:2, Havsmiljöinstitutet.
- 2022 **Zweifel, U.L., Grimvall, A. och Sundblad, E-L. Uppföljning av miljöåtgärders effekter på kust och hav.** Rapport nr 2022:8, Havsmiljöinstitutet
- 2022 **Zweifel, U.L, Sjöholm, J., Kumblad, L., Nilsson, J. och Grimvall, A. Utvärdering av LOVA 2017–2021. Kartläggning av lokala vattenvårdsprojekt och åtgärdernas potentiella miljöeffekter.** Rapport nr 2022:5, Havsmiljöinstitutet
- 2021 Sundblad, E.-L., Grimvall,A. and **Zweifel, U. L. Societal drivers behind pressures on the marine environment.** Report no. 2021:4, Swedish Institute for the Marine Environment.
- 2020 Sundblad, E-L., Grimvall, A. och **Zweifel, U.L. Drivkrafter i samhället bakom belastningar på havsmiljön,** Havsmiljöinstitutets rapport nr 2020:8

Published by the Helsinki Commission:

- 2021 Haldin, J. and **Zweifel U.L. (eds). HELCOM Science Agenda.** HELCOM
- 2019 Henriette Schack, Marta Ruiz, Mathias Andersson, **Ulla Li Zweifel, Noise sensitivity of animals in the Baltic Sea.** Baltic Sea Environment Proceedings No. 167.
- 2018 Samuli Korpinen, **Ulla Li Zweifel**, François Bastardie, Daniël van Denderen, Kai Hoppe, Patrik Jonsson, Pirkko Kauppila, Marco Milardi, Rasmus Nielsen, Hans Nilsson, Katja Norén, Henrik Nygård, Mattias Sköld, Sebastian Valanko, Michael Zettler. **Estimating physical disturbance on seabed.** Baltic Sea Environment Proceedings No. 164.
- 2018 Samuli Korpinen, Marco Nurmi, Juuso Haapaniemi, Leena Laamanen, Henrik Nygård, Joni Kaitaranta, Henna Rinne, Kai Hoppe, Emilie Kallenbach, Ciaran Murray, Jesper Andersen, **Ulla Li Zweifel**, Lena Bergström. **HELCOM Thematic assessment of cumulative impacts on the Baltic Sea 2011-2016.** Baltic Sea Environment Proceedings No. 159.

- 2018** Henrik Nygård, Jesper Andersen, Lena Avellan, Lena Bergström, Sara Estlander, Vivi Fleming-Lehtinen, Jannica Haldin, Laura Hoikkala, Joni Kaitaranta, Samuli Korpinen, Georg Martin, Ciarán Murray, Sanna Suikkanen, Kaire Torn, Jana Wolf, **Ulla Li Zweifel**, HELCOM **Thematic assessment of biodiversity 2011-2016**. Baltic Sea Environment Proceedings No. 158.
- 2018** Avellan, L., Bergström, L., Hoikkala, L., Linderoth, M., Murray, C., Andersen, J., Danielsson, S., Nyberg, E., Porsbring, T., Mannio, J., Zweifel, U.L. and Rowe, O. HELCOM **Thematic assessment of hazardous substances 2011-2016**. Baltic Sea Environment Proceedings No.157.
- 2018** Lena Bergström, Heini Ahtiainen, Lena Avellan, Sara Estlander, Juuso Haapaniemi, Jannica Haldin, Laura Hoikkala, Marta Ruiz, Owen Rowe, **Ulla Li Zweifel** (eds), **State of the Baltic Sea – Second HELCOM holistic assessment 2011-2016**. Baltic Sea Environment Proceedings No. 155.
- 2018** **Ulla Li Zweifel**, Marta Ruiz, Susanna Kaasinen, Hermanni Backer. **Implementation of the Baltic Sea Action Plan**, Baltic Sea Environment Proceedings No. 154.
- 2016** Borg, J., Kääriä, P., **Zweifel, U.L. Ecological coherence assessment of the Marine Protected Area network in the Baltic**. Baltic Sea Environment Proceedings. No. 148.
- 2012** Korpinen, S. and **Zweifel U.L.** (eds). **Development of a set of core indicators: Interim report of the HELCOM CORESET project PART A. Description of the selection process**. Balt. Sea Environ. Balt. Sea Environ. Proc. No. 129A.
- 2012** Korpinen, S. and **Zweifel U.L.** (eds). **Interim report of the HELCOM CORESET project. PART B. Descriptions of the indicators**. Balt. Sea Environ. Proc. No. 129B.
- 2010** Andersen, J., Korpinen, S., Laamanen, M., Wolpers, U., Claussen, U., Durkin, M., Hasselström, L., Ljungberg, R., Meski, L., Murray, C., Reker, J., Soutukorva, Å., Stankiewicz, M., **Zweifel, U L. Ecosystem health of the Baltic Sea – A Holistic Assessment of environmental status in the Baltic-Sea 2003-2007**. Helsinki Commission. Balt. Sea Environ. Proc. No. 122.

Published by the Swedish EPA and Swedish Agency of Marine and Water Management:

- 2013** **Zweifel, U.L et al. Evaluation of Swedish grant investments to improve the state of the Baltic Sea, 2007-2012**. Swedish Agency of Marine and Waters Management, Report 2013:17. (In Swedish: Utvärdering av projektverksamheten av havs- och vattenmiljöanslaget 2007-2012, Havs- och vattenmyndighetens rapport 2013:17).
- 2012** **Zweifel, U.L et al. Good environmental status 2020: Marine strategy for the North Sea and the Baltic Sea**. Swedish Agency of Marine and Waters Management, 2012:20. (In Swedish: God havsmiljö 2020. Marin strategi för Nordsjön och Östersjön. Del 2: God miljöstatus och miljökvalitetsnormer. Havs-och vattenmyndighetens rapport 2012:20) ISBN 91-620-5715-4).

ARTICLES IN PEER-REVIEWED JOURNALS

Nr of citations in total October 2024 (Google Scholar): 4124, h-index 25

- 2024** Hagström, Å., Haecky, P., **Zweifel, U.L.**, Blackburn, N. Simulated bacterial species succession. Ecological Modelling, 498:110905.

- 2021** Hagström, Å., **Zweifel, U.L.**, Sundh, J., Osbeck, C.M.G., Bunse, C., Sjöstedt, J., Müller-Karulis, B., Pinhassi, J. Composition and seasonality of membrane transporters in marine picoplankton. *Frontiers in microbiology*. doi: 10.3389/fmicb.2021.714732
- 2021** Palialexis, A., Kousteni, V., Boicenco, L., Enserink, L., Pagou, K., **Zweifel, U.L.**, Somma, F., Cheilaris, A., Connor, C. Monitoring biodiversity for the EU Marine Strategy Framework Directive: Lessons learnt from evaluating the official reports. *Marine Policy*, 128, 104473, doi.org/10.1016/j.marpol.2021.104473
- 2018** Hagström, Å., Azam, F., Berg, C. & **Zweifel, U. L. Isolates as models to study bacterial ecophysiology and biogeochemistry**. *Aquatic Microbial Ecology*, 80(1), 15-27. DOI:10.3354/ame01838.
- 2017** Hagström, Å., Azam, F., Berg, C., and **Zweifel U.L.** Culture the Marine Microbiome, In AME SPECIAL 6, Progress and perspectives in aquatic microbial ecology: Highlights of the SAME 14, Uppsala, Sweden, 2015. Editors: Paul A. del Giorgio, Fereidoun Rassoulzadegan, Eva Lindström. https://doi.org/10.3354/ame01838
- 2012** **Zweifel, U L.**, Hagström, Å., Holmfeldt, K., Thyrhaug, R. Geels, C., Frohn, L.M., Skjøth , C.A. and U. Gosewinkel Karlsson. **High bacterial 16S rRNA gene diversity above the atmospheric boundary layer**, 28: 481-498. https://doi.org/10.1007/s10453-012-9250-6
- 2012** Sjöstedt, J., Hagström, Å. and **UL. Zweifel. Variation in cell volume and community composition of bacteria in response to temperature**. *Applied Microbial Ecology*, 66:237-246. DOI:10.3354/ame01579
- 2011** Fahlgren, C. Bratbak, G., Sandaa, R-A, Thyrhaug, R, and **U L. Zweifel. Diversity of airborne bacteria in samples collected using different devices for aerosol collection**. *Aerobiologia*. 27:107–120. https://doi.org/10.1007/s10453-010-9181-z
- 2010** Fahlgren, C., Hagström, Å., Nilsson, D., and **U L. Zweifel. Annual variation of the diversity, viability and origin of airborne bacteria**. *Applied Environmental microbiology*, 76: 3015-3025. DOI: https://doi.org/10.1128/AEM.02092-09
- 2007** Thingstad, T.F., Havskum, H., **Zweifel, UL.** et al. **Ability of a “minimum” microbial food web model to reproduce response patterns observed in mesocosms manipulated with N and P, glucose, and Si**. *J. Marine Systems*. 64:15-34. https://doi.org/10.1016/j.jmarsys.2006.02.009
- 2007** Boström, K.H., Riemann, L., **Zweifel, UL.**, and Å. Hagström. ***Nodularia* sp. *nifH* gene transcripts in the Baltic Sea proper**. *J. Plankton Research*. 29:391-399. https://doi.org/10.1093/plankt/fbm019
- 2005** Simu, K., K. Holmfeldt, **U. L. Zweifel**, and Åke Hagström. **Culturability and coexistence of colony-forming and single-cell marine bacterioplankton**. *Appl. Environ. Microbiol.* 71:4793-4800. doi: 10.1128/AEM.71.8.4793-4800.2005
- 2003** Pinhassi, J., Winding, A., Binnerup, S.J., **Zweifel, U.L.**, et al. **Spatial variability in bacterioplankton community composition at the Skagerrak-Kattegat Front**. *Marine Ecology Progress Series*. 255:1-13. DOI:10.3354/meps255001
- 2003** Havskum, H., Thingstad, T.F., Scharek, R., Peters, F., Berdalet, E., Montserrat Sala, M., Alcaraz, M., Bangsholt, J.C., **Zweifel. UL.**, et al. **Silicate and labile**

- DOC interfere in structuring the microbial food web via algal-bacterial competition for mineral nutrients: Results of a mesocosm experiment.** Limnology and Oceanography. 48:129-140.
<https://doi.org/10.4319/lo.2003.48.1.0129>
- 2002** Hagström, Å., Pommier, T., Dembinska, D., Rohwer, F., Simu, K. and **Zweifel, U L.** **Use of 16S rDNA for species delineation of marine bacterioplankton.** Applied Environmental Microbiology. 28:229-237. doi: 10.1128/AEM.68.7.3628-3633.2002
- 2002** Johansen, J. F., Blackburn, N., Pinhassi, J., **Zweifel, U L.**, and Hagström, Å. **Variability in Motility Characteristics among Marine Bacteria.** Aquatic Microbial Ecology. 28:229-237. DOI:10.3354/ame028229
- 2000** Hagström, Å., **U. L. Zweifel** and J. Pinhassi. **Marine bacterioplankton show bursts of rapid growth induced by substrate shifts.** Aquatic Microbial Ecology, 24:109-115. DOI:10.3354/ame024109
- 2000** Hagström, Å., Pinhassi, J. and **Zweifel, U.L.**, **Biogeographical diversity among marine bacterioplankton.** Aquatic Microbial Ecology, 21:231-244. DOI:10.3354/ame021231
- 1999** **Zweifel, U. L.** **Factors controlling accumulation of labile dissolved organic carbon in the Gulf of Riga.** Estuarine costal and Shelf Science. 48:357-370.
<https://doi.org/10.1006/ecss.1998.0428>
- 1999** Pinhassi, J., F. Azam, J. Hemphälä, R. A. Long, J. Martinez, U. L. **Zweifel** and Å. Hagström. **Coupling between bacterioplankton species composition, population dynamics, and organic matter degradation.** Aquatic Microbial Ecology. 17:13-26. DOI:10.3354/ame017013
- 1999** Gasol, J. M., **U. L. Zweifel**, et al. **Significance of Size and Nucleic Acid Content Heterogeneity as Measured by Flow Cytometry in Natural Planktonic Bacteria.** Applied and Environmental Microbiology, 65:4475-4483. DOI:10.1128/AEM.65.10.4475-4483.1999
- 1998** Thingstad, T. F., **Zweifel, U L.** and Rassoulzadegan, F. **P-limitation of heterotrophic bacteria and phytoplankton in the northwest Mediterranean.** Limnology and Oceanography. 43:88-94.
<https://doi.org/10.4319/lo.1998.43.1.0088>
- 1997** Pinhassi, J., **Zweifel, U L.** and Hagström, Å. **Dominant marine bacterioplankton found among colony-forming bacteria.** Applied Environmental Microbiology. 63:3359-3366. doi: 10.1128/aem.63.9.3359-3366.1997
- 1996** Peltzer, E. T., Fry, B., Doering, P. H., McKenna, J. H., Norrman, B. and **Zweifel, U L.** **A Comparison of Methods for the Measurement of Dissolved Organic Carbon in Natural Waters.** Marine Chemistry. 54:85-96.
[https://doi.org/10.1016/0304-4203\(96\)00023-0](https://doi.org/10.1016/0304-4203(96)00023-0)
- 1996** **Zweifel, U L.**, et al. **Cycling of Marine Dissolved Organic Matter: I. An Experimental System.** Aquatic Microbial Ecology. 11:65-77.
DOI:10.3354/ame011065
- 1996** Blackburn, N., **U L. Zweifel** and Å. Hagström. **Cycling of Marine Dissolved Organic Matter: II. A model analysis.** Aquatic Microbial Ecology. 11:79-90.
DOI:10.3354/ame011079
- 1996** Fry, B., Hopkinson, C. S. J., Nolin, A., Norrman, B. and **Zweifel, U L.** **Long-term decomposition of DOC from experimental diatom blooms.** Limnology and Oceanography. 41: 1344-1347. <https://doi.org/10.4319/lo.1996.41.6.1344>

- 1995** Zweifel, U L., et al. **Dynamics of dissolved organic carbon in a coastal ecosystem.** Limnology and Oceanography. 40:299-305.
<https://doi.org/10.4319/lo.1995.40.2.0299>
- 1995** Zweifel, U L. and Å. Hagström. **Total counts of marine bacteria include a large fraction of non-nucleoid containing bacteria (ghosts).** Applied Environmental Microbiology. 61:2180-2185. DOI:10.1128/AEM.61.6.2180-2185.1995
- 1995** Norrman, B., U L. Zweifel, C. S. J. Hopkinson and B. Fry. **Production and utilization of dissolved organic carbon during an experimental diatom bloom.** Limnology and Oceanography. 40:898-907.
<https://doi.org/10.4319/lo.1995.40.5.0898>
- 1993** Zweifel, U L., et al. **Consumption of dissolved organic carbon by marine bacteria and demand for inorganic nutrients.** Marine Ecology Progress Series. 101:23-32. DOI:10.3354/meps101023

BOOKS, BOOK CHAPTERS since 2010:

- 2018** Laamanen, M., Korpinen, S., Zweifel U.L. and J.H. Andersen. Ecosystem health. In: Biological Oceanography of the Baltic Sea, Springer. pp 589–608.
https://doi.org/10.1007/978-94-007-0668-2_17
- 2011** Zweifel, U.L.. **The Baltic Sea – an unwell Sea and roads towards recovery.** (published in Swedish: Östersjön – ett krassligt hav och vägar mot tillfrisknande). Gotlandsboken AB.

Scientific and Series editor, UNEP Global International Waters Assessment

Published by University of Kalmar on behalf of United Nations Environment Programme:

2005:

- Aral Sea, GIWA Regional assessment 24.
Russian Arctic, GIWA Regional assessment 1a.
Yellow Sea, GIWA Regional assessment 34.
East China Sea, GIWA Regional assessment 36.
Canary Current, GIWA Regional assessment 41.
Benguela Current, GIWA Regional assessment 44.
South China Sea, GIWA Regional assessment 54.
Sulu-Celebes (Sulawesi) Sea, GIWA Regional assessment 56.
Indonesian Seas, GIWA Regional assessment 57.
Humboldt Current, GIWA Regional assessment 64.

2004:

- Lake Chad, GIWA Regional assessment 43.
Patagonian Shelf, GIWA Regional assessment 38.
Brazil Current, GIWA Regional assessment 39.
Barents Sea, GIWA Regional assessment 11.
Caribbean Sea/Small Islands, GIWA Regional assessment 3a.
Caribbean Islands – Region 4.
Arctic Greenland, East Greenland Shelf, West Greenland Shelf , GIWA Regional assessment 1b, 15, 16.

CV Zweifel, U L.

Faroe Plateau, GIWA Regional assessment 13
Pacific Islands, GIWA Regional assessment 62.
Gulf of California/Colorado River Basin, GIWA Regional assessment 27.

2003:

Caspian Sea, GIWA Regional assessment 23.
Amazon Basin, GIWA Regional assessment 40b.
Indian Ocean Islands, GIWA Regional assessment 45b.
East African Rift Valley Lakes, GIWA Regional assessment 47.
Guinea Current, GIWA Regional assessment 42.

EXTENDED EMPLOYMENT HISTORY

Visiting Scholar 1995-1996

Scripps Institution of Oceanography, San Diego, 9500 Gilman Drive, 92093 La Jolla, California, USA.

Duties and achievements: Research in marine microbiology resulting in the publication of peer-reviewed articles.

Researcher NERI 1996-1998

National Environmental Research Institute, Frederiksborgvej 399, 4000 Roskilde, Denmark.

Duties and achievements: Basic research in marine microbiology, publication of scientific articles . Note that National Environmental Research Institute is part of Århus University since 2011 under the name DCE - Danish Centre for Environment and Energy.

Researcher LNU: 1998-2009

University of Kalmar, Landgången 4, 391 21 Kalmar, Sweden

At Kalmar University I was working independently as a researcher with personal science grants, as assistant professor and researcher. In 2002 I was awarded the title "Docent" (Associate Professor).

My work and publications centered on marine microbiology with particular focus on biogeochemical alteration of organic and inorganic compounds. During this period I was also teaching, mainly in the field of marine biology and ecology.

In the period 2002-08-01 until 2005-01-29 I was assigned by the University the position as scientific advisor and editor for Global International Waters Assessment (GIWA). GIWA was a UNEP project hosted by Kalmar University. In this task I was part of the local staff that contributed to the implementation of the project. I acted for example as scientific editor for 25 publications on the status of aquatic environments around the world.

Note that the University of Kalmar was in 2010 merged with University of Växjö under the name Linnaeus University.

Researcher Gothenburg University, Microbiology, 2010-2011

University of Gothenburg, Department of microbiology and immunology, Medicinaregatan 7 A, 413 90 Gothenburg, Sweden.

Basic research in the field of marine microbiology and aerobiology, resulting in publications related to the spread of microorganisms via sea spray and aerosols.

Program secretary SIME, 2011-2012

Gothenburg University, Swedish Institute for the Marine Environment, Seminariegatan 1F, 413 13 Gothenburg, Sweden.

CV Zweifel, U L.

At the Swedish Institute for the Marine Environment I was in this period working as program secretary for the scientific project "WATERS". The project was funded by the Swedish EPA to develop indicators and assessment tools for the implementation of the EU Water Framework Directive. My role was to coordinate project activities and support and edit the project deliverables. During this period, I was also working part-time as researcher at Gothenburg University and for half a year I was on leave of absence, working at the Swedish Agency for Marine and Water Management (see below). Since 2012 my position at SIME has been as Scientific coordinator (see below).

International Coordinator, Swedish Agency for Marine and Water Management, 2012

Swedish Agency for Marine and Water Management (SwAM), Gullbergs strandgata 15, 411 04 Gothenburg, Sweden.

Note: on leave of absence from the Swedish Institute of the Marine Environment

At SwAM I was managing the first cycle implementation of the EU Marine Strategy Framework Directive (MSFD) in Sweden. The work resulted in the first Swedish report on Environmental Targets for the implementation of the MSFD.

Professional secretary HELCOM, 2014-2017

Helsinki Commission, Katajanokanlaituri 6B, 00160 Helsinki, Finland.

Note: on leave of absence from the Swedish Institute of the Marine Environment

Helsinki Commission is the governing body of the Convention on the Protection of the Marine Environment of the Baltic Sea Area. At the HELCOM Secretariat I was employed as one of three Professional Secretaries. In this role I was principally responsible for the management of two Working Groups with representatives of the ten Contracting Parties and associated expert groups; the GEAR Group that coordinated the implementation of the Baltic Sea Action Plan and the State & Conservation Group that steers HELCOM work on monitoring and assessment and nature conservation. More than ten expert groups were linked to these two Working Groups. I also coordinated several research projects and supervised the work of project staff. Achievements included the finalization of the HELCOM monitoring manual (web-based product), the organization of an update of the HELCOM monitoring programs, managing the production of the State of the Baltic Sea report 2018, writing and coordinating several EU-financed projects, and setting up a reporting system for the implementation of the Baltic Sea Action Plan, to mention a few. I also co-authored a number of HELCOM publications (see publications lists).

Scientific coordinator, SIME, 2012-current

Swedish Institute for the Marine Environment, Seminariegatan 1F, 413 13 Gothenburg, Sweden.

The Swedish Institute for Marine Environment is linked to Gothenburg University and has the function to provide science based advice and consolidated information to support the work of authorities and ministries that are linked to management of the marine environment. At the institute I am employed as Scientific coordinator. In this role I coordinate, organize and lead projects. I also conduct assignments for national authorities, for example by preparing synthesis of existing research results. Examples of assignments include to develop a framework for the evaluation of the national programme of measures to improve the Swedish marine environment, and to review different approaches to identify driving forces for the purpose of optimizing policy instruments.