Curriculum vitae

Timothy J. Alexander

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Australian citizen (birth)
Swiss citizen

INTERESTS

Integrated socio-ecological approach to natural resource management and conservation.

Understanding human impacts on ecosystem functioning and biodiversity.

Monitoring and evaluation for adaptive management.

SKILLS SUMMARY

Project design and management, data wrangling and statistical analysis.

Synthesis and presentation of data and information to support evidence-based management.

Communication with scientific community, government representatives, non-governmental organisations, interest groups and general public.

Working independently, and as part of a team in supervisory and subordinate roles.

Research experience in aquatic (lakes, rivers, estuarine, intertidal and marine), terrestrial and social systems.

EDUCATION

Mar 2005 - May 2010	**Doctor of Philosophy** (quantitative marine science and zoology), University of Tasmania, Australia. *Reef structure and fishing influences the spatial and temporal dynamics of macroinvertebrate assemblages.*
Mar 2005 - Feb 2007	**Graduate Certificate** in marine science, University of Tasmania, Australia.
Feb 2000 - Mar 2001	**Bachelor of Science Honours** - First Class, University of Newcastle, Australia. *Systematic conservation planning on rocky intertidal shores.*
Mar 1997 - Nov 1999	**Bachelor of Science** (sustainable resource management), University of Newcastle, Australia.

CAREER

Feb 2023 – present	**Ecological consultant**, Aquatic Consulting (own company), Switzerland. *Fieldwork, data management, evaluation, information synthesis, reporting and communication for applied aquatic ecology projects.*
Apr 2019 – Aug 2024	**Environmental consultant**, Marine Solutions, Tasmania. *Fieldwork, data analysis & reporting on environmental impact assessments.*
June 2013 – Mar 2019	**Fish and fisheries ecologist**, Eawag: Swiss Federal Institute of Aquatic Science and Technology / University of Bern, Switzerland. *Ecology and management of fish diversity in central European lakes.*
Nov 2015 – Dec 2018	**Lecturer**, University of Bern, Switzerland. *Ecology, evolution and conservation.*
Mar 2012 – May 2013	**Quantitative fisheries scientist**, WorldFish Center, Ghana. *Gillnet selectivity and catch efficiency.*
May 2012 – Feb 2013	**Fisheries socio-ecologist**, James Cook University. *Periodically-harvested marine areas for food security.*
Jun 2012, Feb 2013	**Quantitative ecologist**, Caring for our Country; Tassal aquaculture. *Variation in bio-fouling assemblages with net material for salmon aquaculture.*
Feb 2012 – May 2012	**Benthic ecologist**, Institute of Marine and Antarctic Studies. *Human impacts on cryptic invertebrates of subtidal rocky reefs.*
Aug 2010 – Dec 2011	**Fisheries socio-ecologist**, WorldFish Center, Solomon Islands. *Development and training of methods for monitoring and evaluation to inform community-based marine resource management.* *Facilitating the spread of community-based resource management in Solomon Islands.*
May 2010 – Jul 2010	**Scientific leader**, Reef Life Survey, University of Tasmania. *Expedition surveying marine biodiversity across tropical Australia*.
Feb 2004 – Jul 2009	**Technical/research officer**, Tasmanian Aquaculture and Fisheries Institute, CSIRO, Australian Maritime College. Over 20 projects, primarily: *Landscape logic: establishing relationships between catchment interventions and environmental change.* *Environmental flows in a Tasmanian estuary*.
Feb 2002 – Oct 2002	**Aquaculture teacher**, College of Technical and Further Education, Newcastle. *Certificate III in Seafood Industry.*
Apr 2001 – Dec 2001	**Research assistant**, Central Coast Campus, University of Newcastle. *Testing the use of lower taxonomic resolution as surrogates for species in the selection of marine reserves.*
Jan 2000 – Sep 2001	**Technical officer**, Central Coast Campus, University of Newcastle. *Investigating phytoplankton growth and zooplankton grazing rates in Tuggerah Lakes, NSW + Central Coast rocky reef monitoring project.*

TEACHING

2018	Lecturer, Conservation of Indigenous Vertebrates, 3rd year Biology, University of Bern.
2015 - 2018	Lecturer, Evolutionary Biodiversity Dynamics, 2nd year Biology, University of Bern.
2012 - 2013	Science teaching (casual) at the International School of Bern. Tutor in mathematics, physics and English at the International School of Bern.
2006 - 2008	Field and laboratory demonstrator, 2nd year zoology: animal evolution and ecology, University of Tasmania.
2002	Teacher, Aquaculture Certificate III, College of Technical and Further Education, Ourimbah, Australia.
2001	Field demonstrator, 3rd year marine science / sustainable resource management: conservation biology, University of Newcastle.

POST-GRADUATE RESEARCH COURSES

2015	Introduction to ArcGIS. Advanced analysis with ModelBuilder.
2008	Management strategy evaluation. Techniques in remote sensing.
2007	Processing animal tracking data using ArcView Animal Movement extension.
2006	Physical oceanography. Marine biogeochemistry.
2005	Fisheries science. Structure and function of marine ecosystems.
2005	Introduction to quantitative marine science: R and Matlab.

FIELDWORK QUALIFICATIONS

2008	Dive controller (SSI): dive leader, assistant instructor, snorkeling instructor (over 350 hours scientific diving experience).
2006	Trailer towing safety (Driver Safety Services, Tasmania).
2005	Master diver (SSI): rescue diver, nitrox, deep diver, equipment, drysuit diver, surface supply.
2004	Coxswain boat license (coxswain deck, elements of shipboard safety).
2004	Advanced resuscitation (oxygen provider).
2003	First aid certificate (workplace level 2).
1997	Open water diver (PADI).
1996	Australian driver's license. Class C (car).

JOURNAL PUBLICATIONS

Seehausen, O., **Alexander, T.J.**, Egloff, N., Vonlanthen, P. 2022. Unerwartete Artenvielfalt in Seen des Alpenraums. Aqua & Gas No 7 + 8. [Not peer reviewed]

Seehausen, O., **Alexander, T.J.**, Egloff, N., Vonlanthen, P. 2022. Einfluss von Umweltfaktoren auf Fischartengemeinschaften. Aqua & Gas No 7 + 8. [Not peer reviewed]

Hudson, C.M., Lucek, K., Marques, D.A., **Alexander, T.J.,** Moosmann, M., Spaak, P., Seehausen, O. Matthews, B. 2021. Threespine stickleback in Lake Constance: the ecology and genomic substrate of a recent invasion. *Frontiers in Ecology and Evolution* 8: 611672.

Maag, S., **Alexander, T.J.**, Kase, R., Hoffmann, S. 2018. Indicators for measuring the contributions of individual Knowledge Brokers. *Environmental Science & Policy* 89: 1-9.

Gaudard, A., Weber, C., **Alexander, T.J.**, Hunziker, S., Schmid, M. 2018. Impacts of using lakes and rivers for extraction and disposal of heat. *WIREs Water* e1295.

Fowles, A.E., Stuart-Smith, R.D., Hill, N.A., Thomson, R.J., Strain, E.M.A., **Alexander, T.J.**, Kirkpatrick, J., Edgar, G.J. 2018. Interactive responses of primary producers and grazers to pollution on temperate rocky reefs. *Environmental Pollution* 237: 388-395.

Edgar, G.J., **Alexander, T.J.**, Lefcheck, J.S., Bates, A.E., Kininmonth, S.J., Thomson, R.J., Duffy, E., Costello, M.J., Stuart-Smith, R.D. 2017. Abundance and local-scale processes contribute to multi-phyla gradients in global marine diversity. *Science Advances* 3: e1700419.

Schwarz, A-M., Cohen, P.J., Boso, D., Ramofafia, C., **Alexander, T.J.**, Bennett, G., Andrew, N. 2017. Critical reflections from fostering adaptive community-based, co-management in Solomon Islands' small-scale fisheries. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin* 38: 14-25.

Zupo, V., **Alexander, T.J.**, Edgar, G.J. 2017. Relating trophic resources to community structure: a predictive index of food availability. *Royal Society Open Science* 4: 160515.

Alexander, T.J., Vonlanthen, P., Seehausen, O. 2016. Does eutrophication-driven evolution change aquatic ecosystems? *Philosophical Transactions of the Royal Society B* 372: 20160041.

Alexander, T.J., Vonlanthen, P., Périat, G., Degiorgi, F., Raymond, J.C., Seehausen, O. 2015. Estimating whole-lake catch per unit effort. *Fisheries Research* 172: 287-302.

Alexander, T.J., Vonlanthen, P., Périat, G., Degiorgi, F., Raymond, J.C., Seehausen, O. 2015. Evaluating gillnetting protocols to characterize lacustrine fish communities. *Fisheries Research* 161: 320-329.

Soler, G.A., Edgar, G.J., Thomson, R.J., Kininmonth, S., Campbell, S.J., Dawson, T.P., Barrett, N.S., Bernard, A.T.F., Galván, D.E., Willis, T.J., **Alexander, T.J.**, Stuart-Smith, R.D. 2015. Reef fishes at all trophic levels respond positively to effective marine protected areas. *PLoS ONE* 10(10): e0140270.

Alexander, T.J., Johnson, C.R., Haddon, M., Barrett, N.S., Edgar, G.J. 2014. Long-term trends in invertebrate-habitat relationships under protected and fished conditions. *Marine Biology* 161(8): 1799-1808.

Cohen, P., Tapala, S., Rikio, A., Kukiti, E., Sori, F., Hilly, Z., **Alexander, T.J**., Foale, S. 2014. Developing a common understanding of taxonomy for fisheries management in north Vella Lavella, Solomon Islands. *SPC Traditional Marine Resource Management and Knowledge information bulletin* 33: 3-12.

Alexander, T.J. 2013. Cryptic invertebrates on subtidal rocky reefs vary with microhabitat structure and protection from fishing. *Marine Ecology Progress Series* 481: 93–104.

Alexander, T.J., Gladstone, W. 2013. Assessing the effectiveness of a long-standing rocky intertidal protected area and its contribution to the regional conservation of species, habitats and assemblages. *Aquatic conservation: marine and freshwater ecosystems* 23: 111-123.

Cohen, P.J., **Alexander, T.J.** 2013. Catch rates, composition and fish size from reefs managed with periodically-harvested closures. *PLoS ONE* 8(9): e73383.

Alexander, T.J., Barrett, N.S., Haddon, M., Johnson, C.R., Edgar, G.J. 2009. Responses of mobile macroinvertebrates to reef structure and fishing in a temperate marine protected area. *Marine Ecology Progress Series* 389: 31-44.

Gladstone, W., **Alexander, T.J.** 2005. A test of the higher-taxon approach in the identification of candidate sites for marine reserves. *Biodiversity and Conservation* 14: 3151-3168.

REPORTS (selected)

Alexander, T.J. 2024. Collaborative learning in restoration of fish migration around hydropower plants. Fact sheets. Commissioned by the Swiss Federal Office of the Environment, section Sanierung Wasserkraft.

Alexander, T.J. 2024. Cross-project data analysis to inform restoration of fish migration around hydropower plants. Report. Commissioned by the Swiss Federal Office of the Environment, section Sanierung Wasserkraft.

Alexander, T.J. 2023. Collection and use of Catch Per Unit Effort for management of professional fisheries in Swiss lakes. Commissioned by the Swiss Federal Office of the Environment, section Revitalisierung und Fischerei.

Vonlanthen, P., Achermann, N., Rossbacher, S., Dönni, W., Guthruf, J., Gouskov, A., Zaugg, C., **Alexander, T.J**. 2024. NAWA TREND biologie - 4 Kampagne (2023). Fachbericht Fische. Commissioned by the Federal Office of the Environment, section Wasserqualität.

Vonlanthen, P., Kreienbühl, T., Ninck, L., Achermann, N., **Alexander, T.J.**, Dönni, W., Guthruf, J. 2024. Erfolgskontrolle Bewirtschaftung der Forellen im Kanton Aargau. Schlussbericht 2024. Departement Bau, Verkehr und Umwelt. Abteilung Wald, Sektion Jagd und Fischerei.

Alexander, T.J., Vonlanthen, P. 2024. Sustainability assessment of selected Swiss lake fisheries. Whitepaper commissioned by Sustainable Fisheries Partnership.

Kreienbühl, T., Müller, J., **Alexander, T.** und Zogg, N. 2024. Auswirkung der Biber auf die Habitat- und Fischvielfalt. Ecqua GmbH. Auftraggeber: info fauna, Biberfachstelle, Neuenburg.

Alexander, T.J., Seehausen, O. 2021. Diversity, distribution and community composition of fish in perialpine lakes. “Projet Lac” synthesis report. Eawag: Swiss Federal Institute of Aquatic Science and Technology.

Alexander, T.J. 2021. New Bridgewater Bridge - Aquatic Impact Assessment. Marine Solutions report to Department of State Growth.

Alexander, T.J. 2020. Devonport East Reconfiguration (QuayLink) - Aquatic Impact Assessment. Marine Solutions report to TasPorts.

Alexander, T.J., Smart, J., Smith, L., Ford, A., Cullen-Knox, C., Thomas, I. 2019. Port of Burnie - Marine Environmental Assessment. Marine Solutions report to TasPorts.

Alexander, T.J., Vonlanthen, P., Périat, G., Selz, O.M., Feulner, P.G.D., Seehausen, O. 2017. Artenvielfalt und Zusammensetzung der Fischgemeinschaft im Zürichsee [*Diversity and composition of the fish community in Lake Zurich*]. Eawag Publications.

Alexander, T.J., Vonlanthen, P., Périat, G., Seehausen, O. 2017. Artenvielfalt und Zusammensetzung der Fischgemeinschaft im Vierwaldstättersee [*Diversity and composition of the fish community in Lake Lucerne*]. Eawag Publications.

Alexander, TJ., Vonlanthen, P., Périat, G., Raymond, JC., Degiorgi, F., Seehausen, O. 2016. Artenvielfalt und Zusammensetzung der Fischpopulation im Bodensee [*Diversity and composition of the fish population in Lake Constance*]. Eawag Publications.

Weber, C., Schneider, M., Junker, J., Kopecki, I., **Alexander, T.J.** 2015. Modelling fish habitat dynamics in hydropeaking rivers considering different morphology and habitat requirements: current state, needs for improvement, and guidelines for application. Swiss Federal Office of Energy.

Vonlanthen, P., Périat, G., Guillard, J., Colon, M., **Alexander, T.J.**, Seehausen, O. 2015. Artenvielfalt und Zusammensetzung der Fischpopulation im Zugersee [*Diversity and composition of the fish population in Lake Zug*]. Eawag Publications.

Vonlanthen, P., Périat, G., Doenz, C., Hellmann, J., **Alexander, T.J.**, Seehausen, O. 2015. Artenvielfalt und Zusammensetzung der Fischpopulation im Thunersee [*Diversity and composition of the fish population in Lake Thun*]. Eawag Publications.

Vonlanthen, P., Périat, G., Seehausen, O., **Alexander, T.J.**, Guillard, J., Colon, M. 2014. Artenvielfalt und Zusammensetzung der Fischpopulation im Hallwilersee [*Diversity and composition of the fish population in Lake Hallwil*]. Eawag Publications.

WorldFish 2013. Community-based marine resource management in Solomon Islands: A facilitators guide. CGIAR Research Program on Aquatic Agricultural Systems, Manual: AAS-2013-17.

Alexander, T.J., Schwarz, A-M. 2011. Designing an institutional support strategy for community-based resource management. Coral Triangle Support Program Workshop Report, Solomon Islands.

Alexander, T.J., Manele, B., Schwarz, A-M, Topo, S., Liliqeto, W. 2011. Principles for best practice of community-based resource management in Solomon Islands. Coral Triangle Support Program, Solomon Islands.

Schwarz, A.M., Boso, D., Pita, J., **Alexander, T.J.** 2011. Improving resilience and adaptive capacity of fisheries-dependent communities in Solomon Islands. ACIAR Final Report. Project FIS/2007/116.

TECHNICAL MANUALS

Alexander, T.J., Schwarz, A.M. 2011 Using catch per unit effort for community-based adaptive management: a manual for monitoring teams and team-trainers in Solomon Islands communities undertaking management of their marine resources. WorldFish, Solomon Islands.

Hilly, Z., **Alexander, T.J.** 2011. Fish handbook with local language names for reference in community-based marine resource management on Vella La Vella, Western Province Solomon Islands.

THESES

Alexander, T.J. 2010. Responses of temperate mobile macroinvertebrates to reef habitat structure and protection from fishing. PhD thesis (Zoology / Quantitative Marine Science). University of Tasmania and CSIRO, Australia.

Alexander, T.J. 2002. Assessing the effectiveness of a long-standing rocky intertidal protected area and its contribution to the regional conservation of species, habitats and assemblages. B.Sc Hons. Thesis (Sustainable Resource Management). University of Newcastle, Australia.

PRESENTATIONS (selected)

Alexander, T.J. 2023. Fang pro Aufwandseinheit oder Catch Per Unit Effort (CPUE). Plenarversammlung JFK. Jagd- und Fischereiverwalterkonferenz. Bern Nov 2023. [German]

Alexander, T.J. 2023. Bedeutung der biologischen Vielfalt und fischereiinduzierten Evolution fürs Fischereimanagement. Eidgenössischer Fischereiaufseherkurs 2023. Nachhaltige Nutzung der Fischerei. Zug Aug 2023. [German]

Alexander, T.J., Vonlanthen, P., Périat, G., Seehausen, O. 2017. Projet Lac: Systematische Erhebung der Fischgesellschaften der voralpinen Seen [*Systematic survey of the fish communities of pre-alpine lakes*]. Verband Schweizer Abwasser- und Gewässerschutzfachleute: Fachfenster und 73. Mitgliederversammlung [*Association of managers of wastewater and aquatic ecosystems: window into research and AGM*]. Solothurn, Switzerland. [German]

Alexander, T.J., Vonlanthen, P., Périat, G., Seehausen, O. 2016. Projet Lac: Den Fischen im Bodensee auf der Spur [*On the trail of the fish of Lake Constance*]. Thurgauische Naturforschende Gesellschaft [*Naturalist Association of Canton Thurgau*]. Frauenfeld, Switzerland. [German]

Alexander, T.J., Vonlanthen, P., Périat, G., Seehausen, O. 2016. Projet Lac: Artenvielfalt und Zusammensetzung der Fischpopulation im Bodensee [*Species diversity and composition of the fish community in Lake Constance*]. Internationale Bevollmächtigtenkonferenz für die Bodenseefischerei Tagung [*Annual meeting of the international association of fishing authorities in Lake Constance*]. Bregenz, Austria. [German]

Alexander, T.J., Seehausen, O. 2016. Fish communities of large peri-alpine lakes: relationships with lake morphometry, past and present trophic state. Eawag seminar series. Lucerne, Switzerland. [English]

Alexander, T.J., Vonlanthen, P., Périat, G., Degiorgi, F., Raymond, J.C., Seehausen, O. 2015. Projet Lac: Systematische Erhebung der Fischgesellschaften in grossen mitteleuropäischen Seen [*Systematic survey of the fish communities of central European Lakes*]. Cercl'eau Tagung 2015 [*Annual meeting of the association of cantonal experts on aquatic ecosystem management*]. Murten, Switzerland. [German]

Alexander, T.J., Vonlanthen, P., Périat, G., Degiorgi, F., Raymond, J.C., Seehausen, O. 2015. Lake trophic state and morphometry influence whole lake fish communities. Oral presentation. Plant and Animal Conservation (PACE15). Zurich, Switzerland. [English]

Alexander, T.J. 2013. Application of resilience-thinking to co-management of small-scale fisheries in Solomon Islands. Eawag Aquatic Ecology and Macroevolution seminar series. Lucerne, Switzerland. [English]

Alexander, T.J., Edgar, G.E., Barrett, N.S., Haddon, M. 2009. Testing the spatial generality of invertebrate – habitat relationships in temperate Australia. Oral presentation. *International Temperate Reef Symposium*, Adelaide, Australia. [English]

Alexander, T.J., Edgar, G.E., Barrett, N.S., Johnson, C.R., Haddon, M., Babcock, R.C. 2008. Responses of mobile macroinvertebrates to reef habitat structure and MPAs in temperate waters. Oral presentation. *Conference of the Australian Marine Science Academy and New Zealand Marine Science Society*, Christchurch, New Zealand. [English]

WORKSHOPS (selected)

Klausur des International Gewässerschutzkommission für den Bodensee Fachbereichs See zum Ökosystem und der Resilienz des Bodensees [*Meeting of the international water protection commission for Lake Constance: towards a resilient lake ecosystem*]. February 2016. Bregenz, Austria. 15 min presentation on results of Projet Lac, loss of whitefish diversity associated with eutrophication, evolutionary adaptations of stickleback within its invasive range. [German]

Forecasting the outcome of hydropeaking mitigation measures. November 2013. Swiss Federal Institute for Aquatic Science and Technology. Lucerne, Switzerland. [English]

Conservation Biology in the 21st Century. September 2013. University of Fribourg, Fribourg, Switzerland. [English]

Global human impacts on inshore reef ecosystems. November 2012. Reef Life Survey and Institute of Marine and Antarctic Studies. Maria Island, Tasmania, Australia. [English]

Community-based resource management facilitators' workshop. Honiara, Solomon Islands. August 2011. Organized, co-presented and facilitated four day workshop to members of national government ministries, provincial officers and non-government organizations on facilitating the implementation of community-based resource management in Solomon Islands [Solomon Islands Pijin].

Basic needs for effective management of coastal fisheries and resources for Pacific Island Countries and Territories. Secretariat of the Pacific Community. April 2011. Nadi, Fiji. Shared 10 min presentation on the status of marine resource management and monitoring in Solomon Islands. [English]

Coral Triangle Support Program workshop: designing an institutional support strategy for community-based resource management. Solomon Islands Ministry of Fisheries and Marine Resources. April 2011. Honiara, Solomon Islands. 15 min presentation on a trial of a rapid implementation approach to community-based resource management. [English]

Nationally Relevant Environmental Monitoring: Existing Approaches and Future Opportunities. Canberra, October 2009. Commonwealth Environment Research Facilities (CERF) program, CSIRO. [English]