

[Updated May 2022]

Curriculum vitae

PROFESSOR PETER CALOW

PERSONAL

NAME: PETER CALOW

DEGREES/HONOURS O.B.E. (2000)
F.L.S. (1987)
FRSB, CBiol. (1985)
D.Sc. (Leeds 1984)
Ph.D. (Leeds 1972)
B.Sc. (Leeds 1969)

CAREER

2015 - Professor, Humphrey School of Public Affairs, University of Minnesota, Minneapolis, USA.

2015 - Professor, Department of Geography, Environment and Society, University of Minnesota, Minneapolis, USA.

2011- 2015 Research Professor, University of Nebraska-Lincoln, USA

2012- 2015 Operations-Director of USDA funded UNL Policy Research Centre

2004 - 2006 Director, Danish Environmental Assessment Institute

2013 - 2019 Adjunct Professor, University of Roskilde, DK

2004 - 2011 Honorary Professor, University of Roskilde, DK.
(Personal adviser to Rector on Environment and China initiatives)

2004- Emeritus Professor, University of Sheffield

1989 - 2004 Professor of Zoology, University of Sheffield

1996 - 2003 Director Environmental Businesses Network - a regional project aimed at supporting EIS and funded by ERDF.

1991 - 1995 Director of Institute of Environmental Sciences and Technology

1984 - 1989 Professor of Zoology & Head of Department University of Sheffield

1981 - 1984 Reader in Zoology University of Glasgow

1972 - 1981 Lecturer in Zoology, University of Glasgow

OTHER POSITIONS

Advisory Committees

2022	Member of Minnesota State Governor's Clean Economy Workgroup in Climate Action Framework program.
2010	Member UK Chemicals Stakeholder Forum (organised by Department of Environment, Food and Rural Affairs (DEFRA), UK Government).
2009- 13	Chairman SCHER Working Group on possible improvements of risk Assessment approaches in view of risk management needs and effective Communication.
2009- 11	Member European Food Safety Authority (EFSA) Working Group of Scientific Experts appointed to assist the Authority assessing the quality of its scientific outputs.
2009- 11	Vice-Chairman EU Scientific Committee on Health and Environmental Risks (SCHER).
2009- 10	Chairman ECETOC task force on socio-economic assessment under EU REACH legislation.
2004-09	Member of EU Scientific Committee on Health and Environmental Risks
2002-04	Chairman of the External Science Advisory Board for the Long Range Research Initiative (LRI) of CEFIC.
2001	Member of Advisory Board to advise the UK Environment Agency and NSCA on environmental impact under IPPC.
2001- 11	Member of the Scientific Committee of the European Centre for the Ecotoxicology and Toxicology of Chemicals (ECETOC).
2000-03	Chairman of the UK Advisory Committee on Pesticides Environmental Panel.
2000-04	Member of the EC Scientific Committee on Toxicity, Ecotoxicity and Environment.
1999-04	Member of the scientific advisory group of the chemical industry's Long-Range Research Initiative (LRI).
1999-02	Member of ILSI (International Life Sciences Institute) HESI (Health & Environmental Sciences Institute) Executive Committee.
1999-2016	Member REXPAN, RIFM (Research Institute for Fragrance Materials Inc.) Panel of experts.
1997-2003	Member Client Board: UK Environment Agency's National Centre for Ecotoxicology and Hazardous Substances.
1997- 2000	Chairman of Direct Toxicity Assessment (DTA) Demonstration Programme Steering Group. [UK Environment Agencies and Industry Group]

1997-2003	Member of UK Advisory Committee on Pesticides (ACP) (MAFF, UK Government).
1996-2003	Member of Board of Trustees of Health and Environmental Sciences Institute (HESI), a branch of International Life Sciences Inst (ILSI).
1996-2000	Member of English/Welsh Environment Agency REPAC for North East (UK Statutory Committee).
1993-95	Chairman of Joint UK Government/Business Task Force on the application of risk/benefit analysis to chemical controls.
1991-92	Member of Working Group advising EU DGXI on development of Biosciences in EC.
1991-00	Chairman of UK Department of the Environment Advisory Committee on Hazardous Substances (UK Government).
1988-92	Member of Royal Society Working Group on scientific priorities for pollutant control criteria.
1988-89	Chairman of N.E.R.C. Expert Review Group on river ecosystem dynamics.

Other Academic Positions/Awards

2018 -	Faculty in Water Resources Ctr UMN.
2016-	Member of Water Council UMN.
2017-	Fellow Institute on the Environment, UMN.
2015 & 2018	Doctoral Committee, Department of Geography, Environment and Society, UMN.
2008	Research Evaluation Review (biosciences), University Joensuu, Finland.
2005	SETAC EUROPE Education Award
2004	Velux Foundation Guest Professor, Roskilde University, DK (6 months).
2002	Appointment by Australian Government to review panel on human impacts research and human biology and medicine in Australia's Antarctic Sciences Program.
2001	Special Advisor for Earth and Environmental Sciences for UK RAE.
2000-03	Honorary Professor in the City University of Hong Kong
1999-2003	Chairman Academic Advisory Council University of Buckingham.
1996-2003	Member of University Council, University of Buckingham.
1996 & 2003	Appointed by Minister of Sciences and Technology, Portugal, to take lead role in Life Sciences Research Units Evaluation.

1993-95	Member of Research Degrees Committee - University of Luton
1993-2003	Member of University of Buckingham Academic Advisory Council
1993	Member of appointment committee for Chair in Ecotoxicology at University of Stockholm.
1992-93	Member of External Peer Review of research group, Department of Biological Sciences, University of Keele.
1989-90	Secretary, Executive Committee Heads of University Biological Sciences.
1989	Visiting Professor, University of Rome.
1988	Member of Committee for appointment of Chair of Ecophysiology, University of Odense.
1987	Member of U.K. Zoology Liaison Group.
1987-88	Chairman Conference of U.K. Heads of Zoology Departments.
1986	Member of Advisory Committee of University Coimbra (Portugal) to establish Institute of Aquatic Biology.

International Societies

1999	Member of SECOTOX Board.
1997	Member of General Assembly of the European Environmental Research Organisation (EERO).
1995-99	Member Freshwater Biological Association Council
1991-94	Member of founding Committee for Society for the Promotion of Lifecycle Analysis Development (SPOLD).
1991-92	President SETAC Europe.
1990-91	President SETAC UK.
1989-92	ESF Ecotoxicology Committee (National and European).
1988-89	Vice-President of European Society of Evolutionary Biology.
1988-92	Council member of the Freshwater Biological Association.
1986-96	<u>Ex officio</u> member of Council of British Ecological Society.
1992- 04	Project Team Leader of Sheffield Green Business Club.

Editor

1991-95	Founding Editor of <i>Integrated Environmental Management</i> .
1988-92	Editor, <i>Current Advances in Biological Sciences</i> .

1986-98	Founding Editor of <i>Functional Ecology</i> .
2020	Name used in prestigious reviews in <i>Functional Ecology</i> – CALOW-GRACE REVIEWS first appeared in 2020

Editorial Boards

Australasian Journal of Ecotoxicology (Editorial Board)

Ecotoxicology and Environmental Safety (Editorial Board)

Ecosystem Health & Medicine (Associate Editor)

Invertebrate Reproduction and Development (Editorial Board)

Journal of Aquatic Ecosystem Health (Editorial Board)

Integrated Environmental Management - a Newsletter (past Editor - 1991 - 1995)

Current Awareness in Biological Sciences (past Editor; 1980s)

Functional Ecology (Founding Editor - 1986 - 1998)

International Journal of Invertebrate Reproduction and Development (Editorial Board)

American Malacological Bulletin (1980s)

Malacologia (1980s)

RESEARCH PERSONNEL, STUDENTS AND FUNDING

Postdoctoral

1993-95	Dr. A.W. Brooks	SERC Postdoctoral Research Assistant
1991-93	Dr. Q. Xu	SERC Postdoctoral Research Assistant
1991	Dr. A. Stuhlbacher	Austrian Government
1990	Dr. A. Basset	Royal Society
1989-90	Dr. E. Cox	Shell. Dietary requirements of <i>Daphnia magna</i> .
1989-90	Dr. N. Perrin	Lausanne, Switzerland (Supported by Royal Society)
1988-89	Dr. D. Glazier	Juniata College, U.S.A.
1988	Dr. N. El Halfway	Cairo, Egypt. (Supported by British Council)

1988-89	Dr. D. McKenzie	Sheffield University Research Grant - Development and testing of a non-mammalian model for the testing of the potency of anaesthetic drugs
1988-89	Dr. I. Milne	EC Project
1987-89	Dr. D. Baird	NERC Postdoctoral Research Assistant.
1987-91	Dr. M. Bradley	EC then Unilever project
1986	Professor J. Baguna	To collaborate on geographical variation in triclads. (Supported by NATO)
1986-96	Dr. C. Naylor	EC Project
1985-86	Dr. J. Steven	WRc Project
1985-87	Dr. D. Linton	NSERC Fellow
1984	Dr. D. Dudgeon	Sabbatical from Hong Kong. To collaborate on energetics of freshwater caddis.
1984-87	Dr. L. Maltby	Water Research Centre
1983	Professor L. Rossi (June for 6 mths) (Sept. for 1 mth)	Department of Genetics, University of Rome. (Supported by Royal Society) (Supported by EC)
1983	Dr. F. Wrona	Department of Biology, University of Calgary. (Supported by University of Calgary).
1979-80	Dr. G. Parry	Sabbatical from Monash University, Australia. Collaborated on energetics and life cycles of marine gastropods. (Supported by Monash University).

Total research students: 22 PhDs and 5 Masters.

Grants and contracts

<u>Date</u>	<u>Awarding Body</u>	<u>Project</u>	<u>Amount</u>
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2018 -	Min Dept Health	Future of Drinking Water (CoPI)	\$250k
2012 – 2014	NIFA/USDA	CAFIO-PRG	766k USD
2004 – 2006	Danish Govt.	IMV	30m DKK
1998-2001	ERDF	EBN Project	£1.5m
1996-98	ERDF	ENVIRONET Project	£300,000
1996	British Council UK/HK Joint Research Scheme	Mesocosm Approach in Ecotoxicological Research	£5,000
1995	DoE	Support for <i>Daphnia</i> Conference	£4,400
1994	EC	Assessing the toxicity and bio-availability of poorly water-soluble compounds in aquatic ecosystems	£79,294
1994	EC	<i>Daphnia</i> Reproduction Test	42,958 ECU
1992	EC	<i>Daphnia</i> Workshop	£24,279
1991	SERC	Physiological responses of freshwater invertebrates to pulsed doses of metals and their ecological implications	£71,018
1991	Shell	<i>Daphnia</i> programme continued	£30,000
1991	EC	<i>Daphnia</i> Workshop	£ 7,000
1991	DoE	<i>Daphnia</i> Workshop	£ 2,300
1990	EC	<i>Daphnia</i> programme	£ 5,000
1990	Castrol	Impact of oil from road run-off on freshwater ecosystems	£187,000
1990	Unilever	Algal toxicity test	£15,000
1989	WRc	Development of system for sediment toxicity tests	£ 6,000
1989	EC	Grant for EC Workshop	£10,000
1989	Shell	Optimal conditions for the	£30,000

			culture of <i>Daphnia magna</i> for use in toxicological assays	
1988	WRc		Contribution to lectureship in ecotoxicology	£ 6,000
1988	Sheffield Univ. Res. Fund		Development and testing of a non-mammalian model for the testing of the potency of anaesthetic drugs	£18,000
1988	Royal Society		Support of Conference on Stress	£ 1,000
1988	Unilever		Diet of <i>Daphnia magna</i> <u>ca</u>	£90,000
1988	WRc		Investigation of field deployment of the "Gammarus Scope for Growth Assay"	£26,000
1988	EC		Genetic differences in <i>Daphnia magna</i> and its consequences for toxicity testing	£35,000
1987-88	WRc		Review of methods for assessing episodic pollution	£12,000
1987-89	Shell		Optimal conditions for the culture of <i>Daphnia magna</i> for use in toxicological assays	£18,000
1987-90	NERC		Causes and costs of stress tolerance; relevance for a theory for ecotoxicology (+ linked studentship) <u>ca</u>	£60,000
1986-87	EC		Genetic composition of <i>Daphnia magna</i> used for ecotoxicological purposes	£14,000
1986-89	EC (stimulation action)		Acid-water effects on freshwater invertebrates. (Twinned with Department of Genetics, University of Rome) <u>ca.</u>	£100,000
1987-90	NATO		Geographical variation in reproductive strategies of one species of triclad. (Linked with Department of Genetics, University of Barcelona)	£ 3,000

1985-87	NATO	Geographical variation in reproductive strategies of one species of triclad. (Linked with Department of Genetics, University of Barcelona)	£ 4,000
1985-87	WRc	Physiological ecology of organisms used in ecotoxicology	£36,000
1983-84	M.S.C.	Effects of pollution on ecology and hypoxia tolerance of river invertebrates	£35,000
1981-83	M.S.C.	Trainee Technician <u>ca</u>	£ 3,000
1982-84	NERC	Effect of temperature on triclad energetics	£16,000
1979-82	SERC	Ageing in triclads	£20,000
1979	NERC	Respiratory rates of leeches	£ 6,670
1978	Royal Society	Leech/triclad projects	£ 2,500
1977-80	NERC	Investigation into the energetics of leeches with different life cycles	£14,000
1974-77	NERC	As above but on triclads	£10,500

REFERENCES

Google Scholar statistics: total citations = >21,000 (n = 381); h = 79; i10 = 212.

- 399 CALOW, P. (2022) The proper role of experts. *Star Tribune*, Letters to the Editor. April 16.
- 398 CALOW, P. (2022) Environmental inequality: the other Minnesota paradox. *MinnPost*, Jan 2022. <https://www.minnpost.com/community-voices/2022/01/environmental-inequality-the-other-minnesota-paradox/>
- 397 CALOW, P. (2021) Just how important is the appliance of science to decisions on public policy? *Guardian Letter*, Oct 2 <https://www.theguardian.com/world/2021/oct/01/just-how-important-is-the-appliance-of-science-to-decisions-on-public-policy>.
- 396 CALOW, P. (2021) A New Year's resolution for science. OP-ED in *MinnPost*, Jan 7 2021. <https://www.minnpost.com/opinion/2021/01/a-new-years-resolution-for-science/>
- 395 CALOW, P, Lewandowski, A & Levers, L (2020) Even in a pandemic, don't forget the importance of clean drinking water. OP-ED in *MinnPost*, Aug 4 2020. <https://www.minnpost.com/community-voices/2020/08/even-in-a-pandemic-dont-forget-the-importance-of-clean-drinking-water/>
- 394 Forbes, V.E. & CALOW, P. (2020) How contaminants affect population dynamics. In: M.C. Newman, *Fundamentals of Ecotoxicology*, Chapter 10. Taylor & Francis, London & Boca Raton, FL.
- 393 CALOW, P, Lewandowski, A, Levers, L., Kirby E. (2020) The future of Minnesota Drinking Water: a framework for managing risk. 46pp. Prepared for Minnesota Department of Health.
- 392 CALOW, P. (2020). Technocracy turns people off. *Integrated Environmental Assessment & Management*, **16**, 8. <https://doi.org/10.1002/ieam.4226>
- 391 CALOW, P. (2019). Toxic chemical governance needs to address trade-offs to make it work. *Bioscience*, **69**, 953 – 954. <https://doi.org/10.1093/biosci/biz130>
- 390 CALOW, P. (2019). Making out that science is political is mistaken. *Integrated Environmental Assessment & Management*, **15**, 674 – 675. doi.org/10.1002/ieam.4190
- 389 CALOW, P & Levers, L. (2019) Lead in Minnesota water. Assessment of eliminating lead in Minnesota drinking water. With Minnesota Department of Health. Online March 8 2019. www.health.state.mn.us/communities/environment/water/docs/leadreport.pdf
- 388 CALOW, P., Kelley, S., Levers, L, Lewandowski, A., Kirby, E., Loth Ntouko Siewe, M. (2019). Interim report on the future of Minnesota drinking water: a framework for managing risk. 26 pp. Prepared for Minnesota Department of Health.
- 387 CALOW, P. (2018) Co-producers: frame only the questions. *Nature*, **562**, 494. <https://rdcu.be/97Qf>
- 386 CALOW, P. & Forbes, V.E. (2018) Ecotoxicology: more than wildlife toxicology. pp. 209-219. In *Toxicology and Risk Assessment: A comprehensive Introduction* (2nd Edition), Greim, H. & Snyder, R. (Editors). Wiley, Hoboken USA and Chichester, UK.
- 385 CALOW, P. (2018) Laws of life. *The Biologist*, **65**, 36-.
- 384- A.M. Api, D. Belsito, S. Bhatia, M. Bruze, P. CALOW, M.L. Dagli, W. Dekant, A.D. Fryer, L. Kromidas, S. La Cava, A. Lapczynski, D.C. Liebler, D. O'Brien, R. Parakhia, T.M. Penning, V.T. Politano, G. Ritacco, D. Salvito, T.W. Schultz, J. Shen, I.G. Sipes, (2017). Twenty three separate papers (with Calow as co-author) on human health and environmental safety assessments of specific chemicals. *Food and Chemical Toxicology*, **110**, S1 –S734.

- 361- A.M. Api, D. Belsito, S. Bhatia, M. Bruze, P. CALOW, M.L. Dagli, W. Dekant, A.D. Fryer, L. Kromidas, S. La Cava, J.F. Lalko, A. Lapczynski, D.C. Liebler, Y. Miyachi, V.T. Politano, G. Ritacco, D. Salvito, T.W. Schultz, J. Shen, I.G. Sipes, B. Wall. (2016). Twenty four separate papers on human health and environmental safety assessments of specific chemicals. *Food and Chemical Toxicology*, **97**, S1 –S241.
- 337 CALOW, P. (2017) A caution on the call to action in the defense of science for environmental decision making. *Integrated Environmental assessment and Management*, **13** (6), 971.
- 336 CALOW, P. (2017) The EU’s ecological risk assessment. *Science*, **357**, 982.
- 335 CALOW, P. (2017) The importance of money as a common currency in ecosystem service valuation – a comment on the Roskilde Workshop recommendations for risk assessment. (Peer-reviewed letter). *Environmental Toxicology and Chemistry*, **36**, 866.
- 334 Forbes, V.E., Salice, C.J. Birnir, B., Bruins, R.J. F., CALOW, P., Ducrot, V., Galic, N., Garber, K., Harvey, B.C., Jager, H., Kanarek, A., Pastorok, R., Railsback, S.F. Rebarber, R. & Thorbek, P. (2017) A framework for predicting impacts on ecosystem services from (sub)organismal responses to chemicals. *Environmental Toxicology and Chemistry*, **36**, 845 – 859.
- 333 Van Wensem, J., Calow, P., Dollacker, A., Maltby, L., Olander, L., Tuvendal, M. & Van Houtven, G. (2017) Identifying and assessing the application of ecosystem services approaches in environmental policies and decision making. *Integrated Environmental assessment and Management*, **13**, 38-40. DOI: 10.1002/ieam. 1836.
- 332 CALOW, P. & Forbes, V. E. (2016). We are all biased, but the scientific process recognizes that and delivers despite it; still, it can do a better job. *Environmental Toxicology & Chemistry*, **35**, 1068 – 1069.
- 331 CALOW, P. (2015) Beyond Barcelona – making our science more valued. *SETAC GLOBE*, Special issue December 2015, 2 pages. <http://globe.setac.org/2015/setac-barcelona/keynote-speaker-peter-calow.html>
- 329- Api,A.M., Belsito,D., Bruze,M., Cadby, P. CALOW, P. Dagli,M.L., Dekant,W., Ellis, G., Fryer, A.D., Fukayama, M., Griem, P., Hickey, C., Kromidas,L. Lalko,J.F., Liebler, D.C., Miyachi, Y., Politano, V.T., Renskers, K., Ritacco, G., Salvito,, D.,Schultz, T.W., Sipes, I.G., Smith, B., Vitale, D., Wilcox, D.K. (2015) Twelve separate papers on human health and environmental safety assessments of specific chemicals. *Food and Chemical Toxicology*, **84**, S1 – S122.
- 317- Api,A.M., Belsito,D., Bruze,M., Cadby, P. CALOW, P. Dagli,M.L., Dekant,W., Ellis, G., Fryer, A.D., Fukayama, M., Griem, P., Hickey, C., Kromidas,L. Lalko,J.F., Liebler, D.C., Miyachi, Y., Politano, V.T., Renskers, K., Ritacco, G., Salvito,, D.,Schultz, T.W., Sipes, I.G., Smith, B., Vitale, D., Wilcox, D.K. (2015) Twelve separate papers on human health and environmental safety assessments of specific chemicals. *Food and Chemical Toxicology*, **82**, S1 – S121.
- 316 CALOW, P. (2015) Why money matters in ecological valuation. *Integrated Environmental Assessment and Management*. 11, 331- 332. DOI: 10.1002/ieam.1621
- 315 Forbes, V.E. & CALOW, P (2015) Effects of contaminants on population dynamics. In: *Fundamentals of Ecotoxicology. The Science of Pollution*. Ed. M.C. Newman. CRC Press, Boca Raton. Pp. 319-323.
- 314 Api,A.M., Belsito,D., Bruze,M., Cadby, P. CALOW, P. Dagli,M.L., Dekant,W., Ellis, G., Fryer, A.D., Fukayama, M., Griem, P., Hickey, C., Kromidas,L. Lalko,J.F., Liebler, D.C., Miyachi, Y., Politano, V.T., Renskers, K., Ritacco, G., Salvito,, D.,Schultz, T.W., Sipes, I.G., Smith, B., Vitale, D., Wilcox, D.K. (2015) Criteria for the Research Institute for Fragrance

- Materials, Inc. (RIFM) safety evaluation process for fragrance materials. *Food and Chemical Toxicology*, **82**, S1 –S19.
- 313 CALOW, P. (2014) Benefits and costs need to be considered in managing the waters of the Great Plains in a sustainable way. *Prairie Fire*, p. 16-17, September issue.
- 312 CALOW, P. & Forbes, V.E. (2014) Ecotoxicology. In els. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0003245.pub2.
- 311 CALOW, P. (2014) Integrated approach is best on Nebraska river pollution. *Lincoln Journal Star*, column on 3 July, page B5.
- 310 CALOW, P. (2014) Environmental risk assessors as honest brokers or stealth advocates. *Risk Analysis*, **34**, 1972 - 1977. DOI: 10.1111/risa.12225
- 309 Snow, D. & CALOW, P. (2014) The rising pressures on the water we drink. *Voices of the Governing Institute*, April 17. Online: <http://www.governing.com/gov-institute/voices/col-pressure-drinking-water-systems-land-use-agriculture-weather-infrastructure.html>
- 308 CALOW, P, Snow, D., Bartelt-Hunt, S., Forbes, V.E. (2014) Challenges for water quality policy in Nebraska. *Nebraska Legislative Planning Committee 2013 Report. Policy Briefs*. 8pp.
- 307 Snow, D., CALOW, P., Bartelt-Hunt, S., Forbes, V.E. (2014) Policy challenges for drinking water quality in Nebraska. *Nebraska Legislative Planning Committee 2013 Report. Policy Briefs*. 8pp.
- 306 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2013) A toxicological and dermatological assessment of alkyl cyclic ketones when used as fragrance ingredients. *Food and Chemical Toxicology*, **62**, S1 – S44.
- 305 CALOW, P. & Forbes, V.E. (2013) Making the relationship between risk assessment and risk management more intimate. *Environmental Science & Technology*, **47**, 8095-8096.
- 304 Forbes, V.E. & CALOW, P. (2013) Developing predictive systems models to address complexity and relevance for ecological risk assessment. *Integrated Environmental Assessment and Management*, **9**, e75 - e80.
- 303 Seiller, T-B., Hunka, A., Melli, M. & CALOW, P. (2013) Bridging the gap between risk perception and ecotoxicology research – how can we communicate to improve our outreach? *SETAC Globe*, **14** (6), 2pp.
- 302 CALOW, P. (Chairman of Working Group) and 18 others. (2013) Making Risk Assessment More Relevant for Risk Management. Opinion of the Scientific Committees on: Health and Environmental Risks, on Emerging, Newly Identified Health Risks and on Consumer Safety. European Commission. European Union.
- 301 Seiller, T-B., Hunka, A., Melli, M. & CALOW, P. (2013) How can we communicate to improve outreach? *SETAC Globe*, **14** (4), 2pp.
- 300 CALOW, P. (2013) The trouble with sustainability. *Integrated Environmental Assessment and Management*, **9**, 343-344.
- 299 Forbes, V.E. & CALOW, P. (2013) Use of the ecosystem services concept in ecological risk assessment of chemicals. *Integrated Environmental Assessment and Management*, **9**, 269-275. [associated podcast: [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1551-3793/homepage/ieam_podcasts.htm](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1551-3793/homepage/ieam_podcasts.htm)]
- 298 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2012) A toxicological and dermatological assessment of

- cyclopentanones and cyclopentenones when used as fragrance ingredients. *Food and Chemical Toxicology*, **50**, S517 – S556.
- 297 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2012) A toxicological and dermatological assessment of aryl alkyl alcohol simple acid ester derivatives when used as fragrance ingredients. *Food and Chemical Toxicology*, **50**, S269 – S313.
- 296 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2012) A toxicological and dermatological assessment of aryl alkyl alcohols when used as fragrance ingredients. *Food and Chemical Toxicology*, **50**, S52 – S99.
- 295 Richard M. Sibly, Volker Grimm, Benjamin T. Martin, Alice S. A. Johnston, Katarzyna Kułakowska, Christopher J. Topping, Peter CALOW, Jacob Nabe-Nielsen, Pernille Thorbek and Donald L. DeAngelis (2012) Representing the acquisition and use of energy by individuals in agent-based models of animal populations. *Methods in Ecology and Evolution*, **4**, 151 – 161.
- 294 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2011) A toxicological and dermatological assessment of cinnamyl phenylpropyl materials when used as fragrance materials. *Food and Chemical Toxicology*, **49**, S256 – S267.
- 293 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2011) A toxicological and dermatological assessment of macrocyclic lactone and lactide derivatives when used as fragrance materials. *Food and Chemical Toxicology*, **49**, S219 – S241.
- 292 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Dagli, M.L., Fryer, A.D., Greim, H., Miyachi, Y., Suarat, J.H., Sipes, I.G. (2011) A toxicological and dermatological assessment of macrocyclic ketones when used as fragrance materials. *Food and Chemical Toxicology*, **49**, S126 - S141.
- 291 Forbes, V. & CALOW, P. (2012) Problems and promises for the new paradigm of risk assessment and an alternative approach involving predictive systems models. *Environmental Toxicology & Chemistry*. **31**, 2663 – 2671.
- 290 Forbes, V. & CALOW, P. (2012) Ecotoxicology. In *Encyclopedia of Theoretical Ecology*. Eds. A. Hastings & L.J. Gross. University of California Press, Berkeley, Los Angeles and London, pp. 247-249.
- 289 CALOW, P. (Chairman) and 10 others on a Task Force (2011) *Environmental impact assessment for socio-economic analysis of chemicals: principles and practice*. ECETOC Technical Report No. **113**, ISSN-0773-113, Brussels.
- 288 CALOW, P. (2011) We need cost effective achievement of REACH goals. *CHEMICALWATCH*, September 2011, p.27.
- 287 CALOW, P. (2011). Avoiding bias in safety testing design. *Toxicology Letters*, **205S**, S19.
- 286 Salvito, D., Lapczynski, A., Sachse-Vasquez, C., McIntosh, C., CALOW, P., Greim, H., & Escher, B. (2011). Macrocyclic fragrance materials – a screening level environmental assessment using chemical categorization. *Ecotoxicology and Environmental Safety*, **74**, 1619 – 1629.
- 285 Forbes, V.E., CALOW, P., Grimm, V., Hayashi, T.I., Jager, T., Katholm, A., Palmqvist, A., Pastorok, R., Salvito, D., Sibly, R., Stark, J. & Stillman, R. (2011). Adding value to ecological risk assessment with population modelling. *Human and Ecological Risk Assessment* **17**, 287 – 299.

- 284 CALOW, P. & Forbes, V.E. (2010). Ecological risk assessment should be value-relevant but not value-biased. *Integrated Environmental Assessment and Management* **6**, 784-785.
- 283 Api, A.M., Belsito, D., Bickers, D., Bruze, M., CALOW, P., Greim, H., Hanifin, J.M., McNamee, P.M., Rogers, A.E., Saurat, J.H., Sipes, I.G. & Tagami, H. (2010) Quantitative risk assessment of contact sensitization: clinical data to assess utility of the model. *Dermatitis*, **21**, 207-213.
- 282 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Greim, H., Hanifin, J.M., Rogers, A.E., Saurat, J.H., Sipes, I.G. & Tagami, H. (2010) A safety assessment of branched chain saturated alcohols when used as fragrance ingredients. *Food and Chemical Toxicology*, **48**, Supplement 4, S1- S46.
- 281 Forbes, V.E., Olsen, M., Palmqvist, A., & CALOW, P. (2010). Environmentally sensitive life-cycle traits have low elasticity: implications for theory and practice. *Ecological Applications*, **20** (5), 1449-1455.
- 280 Forbes VE, & CALOW, P. (2010). Contaminant effects on populations. In: Newman MC. *Fundamentals of Ecotoxicology*, 3rd edn. CRC Press, Boca Raton, FL, USA, pp. 293-297.
- 279 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Greim, H., Hanifin, J.M., Rogers, A.E., Saurat, J.H., Sipes, I.G. & Tagami, H. (2010) A safety assessment of non-cyclic alcohols with unsaturated branched chain when used as fragrance ingredients. *Food and Chemical Toxicology*, **48**, Supplement 3, S12-S42.
- 278 Forbes, V.E., CALOW, P., Grimm, V., Hayashi, T., Jager T., Palmqvist, A., Pastorok, R., Salvito, D., Sibly, R., Spromberg, J., Stark, J. & Stillman, R.A. (2010) Integrating population modelling into ecological risk assessment. *Integrated Environmental Assessment and Management*, **6**, 191-193.
- 277 CALOW, P. (2009) Pharmaceuticals in the environment: issues in balancing human health benefits with ecological risks. *Toxicology Letters* **189S**, S33.
- 276 Barnes, R.S.K., CALOW, P., Olive, P.J.W., Golding, D.W. & Spicer, J.I. (2009) *The Invertebrates: a Synthesis* [third edition; 2001]. Published in Japanese by Asakura Publishing Co.
- 275 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Greim, H., Hanifin, J.M., Rogers, A.E., Saurat, J.H., Sipes, I.G. & Tagami, H. (2008) A toxicologic and dermatologic assessment of cyclic acetates when used as fragrance ingredients. *Food and Chemical Toxicology*, **46**, Supplement 12S, S1-S71.
- 274 Calow, P. (editor) (2008) *Evolutionary Physiological Ecology*. Cambridge University Press, Cambridge. Digitally reprinted soft back version.
- 273 Belsito, D., Bickers, D., Bruze, M., CALOW, P., Greim, H., Hanifin, J.M., Rogers, A.E., Saurat, J.H., Sipes, I.G. & Tagami, H. (2008) A toxicologic and dermatologic assessment of cyclic and non-cyclic terpene alcohols when used as fragrance ingredients. *Food and Chemical Toxicology*, **46**, Supplement 11S, S1-S71.
- 272 CALOW, P. (2008) Counting the costs and benefits of chemical controls – some principles. Background Paper in. *Counting the Costs and benefits of Chemical Controls: Role of Environmental Risk assessment in Socio-Economic Analysis*. Workshop Report No.13. p.4-7. ECETOC AISBL, Brussels, Belgium.
- 271 Forbes, V.E., CALOW, P. & Sibly, R.M. (2008) The extrapolation problem and how population models can help. *Environmental Toxicology & Chemistry*, **27**, 1987-1994.

- 270 CALOW, P. (2008) Notes from a skeptical eco-toxico-genomic-ologist. In ECETOC Workshop Report No.11. *Workshop on the Application of 'Omic Technologies in Toxicology and Ecotoxicology: case studies and risk assessment*. p27 – 28. ECETOC AISBL. Brussels, Belgium.
- 269 CALOW, P. (2008) Who should value nature? *Integrated Environmental Assessment and Management*, **4**, 369 – 370.
- 268 CALOW, P. & Forbes, V.E. (2008) Ecotoxicology: not just wildlife toxicology. In *Toxicology and Risk Assessment: A Comprehensive Introduction*. H. Greim & R. Snyder Eds. pp.194 – 203. John Wiley and Sons, Ltd. Chichester, U.K.
- 267 Forbes, V.E., CALOW, P. & Selck, H. (2007) Kemikalierregulering og miljørisikovurdering under REACH. In *Planlægning i teori og praksis – et tværfagligt perspektiv*. A Jensen, J Andersen, O.E. Hansen & K. A. Nielsen. Eds. pp. 349 – 363. RUC Press, Roskilde, Denmark.
- 266 Belsito D. Bickers, D., CALOW, P., Bruze, M., Greim. H., Hanifin, J M., Rogers, A. E., Saurat, J.H., Sipes, I. G., and Tagami H. (2007) A toxicologic and dermatologic assessment of salicylates when used as fragrance ingredients. *Food and Chemical toxicology*, **45**, 318 - 361.
- 265 Belsito D. Bickers, D., CALOW, P., Bruze, M., Greim. H., Hanifin, J M., Rogers, A. E., Saurat, JH., Sipes, I. G., and Tagami H. (2007) A toxicologic and dermatologic assessment of ionones when used as fragrance ingredients. *Food and Chemical toxicology*, **45**, 130 - 167.
- 264 Belsito D. Bickers, D., CALOW, P., Bruze, M., Greim. H., Hanifin, J M., Rogers, A. E., Saurat, JH., Sipes, I. G., and Tagami H. (2007) A toxicologic and dermatologic assessment of related esters and alcohols of cinnamic acid and cinnamyl alcohol when used as fragrance ingredients. *Food and Chemical toxicology*, **45**, 1 – 23.
- 263 Biddinger, G.R. & CALOW, P. PLUS 6 others (2007). Managing risk to ecological populations. In: *Population-level Ecological Risk Assessment*. Eds. L.W. Barnthouse, W. R. Munns & M.T. Sorensen. pp. 7 – 40. SETAC BOOKS, Taylor & Francis, London and NY.
- 262 CALOW, P. & Forbes, V.E. (2006) Ecotoxicology. In *Encyclopedia of Life Sciences*. John Wiley & Sons Ltd., Chichester. www.els.net
- 261 Forbes V.E. & CALOW, P. (2006) Ecology in a cost-benefit society: the issues. *Integrated Environmental Assessment and Management*. **2**, pp 154 – 155
- 260 Bickers, D., CALOW, P., Greim. H., Hanifin, J M., Rogers, A. E., Saurat, JH., Sipes, I. G., Smith, L. and Tagami H. (2005) A toxicologic and dermatologic assessment of cinnamyl alcohol, cinnamaldehyde and cinnamic acid when used as fragrance ingredients. In *Food and Chemical Toxicology*. **41** pp 919-942.
- 259 CALOW, P. (2004) Foreword. *Ecotoxicology*, **13**, Special Issue. UK DTA Demonstration Programme. p 375.
- 258 CALOW, P & Forbes, V.E. (2004) Valuing ecology in ecological valuation. *SETAC GLOBE*, **5**, 26-28.
- 257 Forbes, V.E. & CALOW, P. (2004) Systematic approach to weight of evidence in sediment quality assessment: challenges and opportunities. *Aquatic Ecosystem Health & Management*, **7**, pp. 339-350.
- 256 CALOW, P. (2004) General Introduction. *Environmental Monitoring and Assessment*, **97**, Special Issue. EuroChlor Risk Assessment for the marine Environment OSPARCOM Region: North Sea, pp 1-2.

- 255 CALOW, P. & Forbes, V. (2004) Science takes a back seat in chemicals policy. *CEFIC Research and Science Progress Newsletter*, February 26 (<http://www.cefic-rns-progress-news.org>), 2 pps.
- 254 CALOW, P. & Forbes, V. (2003) The UK Royal Commission on Environmental Pollution gives risk assessment a vote of no confidence. *SETAC Globe*, November – December 2003, 30 – 32.
- 253 Forbes, V. E. & CALOW, P. (2003) Population growth rate as a basis for ecological risk assessment of toxic chemicals. Chapter 14, pp 269-283. In R. M. Sibly, J Hone and T. H. Clutton-Brock. *Wildlife Population growth rates*. Cambridge University Press, Cambridge.
- 252 Bickers, D., CALOW, P., Greim. H., Hanifin, J M., Rogers, A. E., Saurat, JH., Sipes, I. G., Smith, L. and Tagami H. (2003) A toxicologic and dermatologic assessment of linalool and related esters when used as fragrance ingredients. In *Food and Chemical Toxicology*. **41** pp 919-942.
- 251 Bickers, David. R., CALOW, P., Greim. Helmut A., Hanifin, Jon M., Rogers, Adranne E., Saurat, Jean-Hilaire, Sipes, I. Glenn, Smith, Robert L. and Tagami Hachiro (2003). The safety assessment of fragrance materials. In *Regulatory Toxicology and Pharmacology*. **37** pp 218 – 273.
- 250 CALOW, P. & Forbes, V.E. (2003) Does ecotoxicology inform ecological risk assessment? In *Environ. Sci. Technol.* pp 146A – 151A.
- 249 Forbes, V.E. & Calow, P. (2003) Contaminant effects on population demographics. In Newman, M. C. and Unger, M. A. *Fundamentals of Ecotoxicology* pp 221 – 224. Lewis Publishers, Boca Raton.
- 248 Forbes, V. E., CALOW, P. (2002) Applying weight of evidence in retrospective ecological risk assessment when quantitative data are limited. *Human and Ecological risk Assessment: vol. 8, No. 7* pp 1625-1639.
- 247 Forbes, V. E., CALOW, P. (2002) Population growth rate as a basis for ecological risk assessment of toxic chemicals. *Ecological risk assessment and populations growth rate*. The Royal Society. pp 1299 - 1306.
- 246 CALOW, P. (2002) Preface in Pesticide Poisoning of Animals 2001: Investigation of Suspected Incidents in the United Kingdom. A Report of the Environmental Panel of the Advisory Committee on Pesticides. DEFRA Publications.
- 245 Forbes, V. E., CALOW, P. (2002) Sensitivity distributions – Why species selection matters. *SETAC Globe*, September – October 2002, pp. 22.
- 244 Forbes, V. E., CALOW, P. (2002) Species sensitivity distributions revisited: a critical appraisal. *Human and Ecological Risk Assessment*, Vol. 8 No. 3, pp. 473-492.
- 243 Forbes, V. E., CALOW, P. (2002) Extrapolation in ecological risk assessment: balancing pragmatism and precaution in chemical controls legislation. *Bioscience*, 52 No. 3, pp. 249-257.

- 242 Solbé, J., Holt, M. & CALOW, P. (2001) ILSI Europe Workshop on Assessing and Controlling Industrial Impacts on the Aquatic Environment: With Reference to Food Processing. *Ecotoxicology and Environmental Safety* **50**, 89 - 101.
- 241 CALOW, P. (2001) Preface in Pesticide Poisoning of Animals 2000: Investigation of Suspected Incidents in the United Kingdom. A Report of the Environmental Panel of the Advisory Committee on Pesticides. DEFRA Publications.
- 240 CALOW, P., Holloway L. & Owen, A. (2001) Ecodesign from the ground up. A step by step guide to green product development. *Shot in the Dark Publications*. ISBN 0-9541154-0-6.
- 239 CALOW, P. (2001) Scientific issues associated with implementing the proposed water framework directive – and challenges for the food industry. In: Assessing and Controlling Industrial Impacts on the Aquatic Environment with reference to food processing. *ILSI Europe Report Series, ILSI Press*. ISBN 1-57881-121-X.
- 238 Barnes, R. S. K., CALOW, P., Olive, P. J. W., Golding, D. W. & Spicer, J. I. (2001) *The Invertebrates: a synthesis*. Third edition. Blackwell Science, Oxford.
- 237 Forbes, V. E., CALOW, P. & Sibly, Richard, M. (2001) Toxicant impacts on density-limited populations: a critical review of theory, practice and results. *Ecological Applications*, 11 (4), pp. 1249 -57.
- 236 Forbes, V. E., CALOW, P. & Sibly, Richard, M. (2001) Are current species extrapolation models a good basis for ecological risk assessment? *Environmental Toxicology and Chemistry*, Vol. 20, No. 2, pp. 442-447.
- 235 CALOW, P. (2000) Preface in Pesticide Poisoning of Animals 1999: Investigation of Suspected Incidents in the United Kingdom. A Report of the Environmental Panel of the Advisory Committee on Pesticides. MAFF Publications.
- 234 Forbes, V. E. & CALOW, P. (2000) Role of risk assessment in pollution management; examples from the Malacca Straits. In Towards Sustainable Management of the Straits of Malacca. M. Shariff, F. M. Yusoff, N. Gopinath, H. M Ibrahim & R. A. Nik Mustapha (eds), p . 779-788. Malacca Straits Research and Development Centre (MASDEC), University Putra Malaysia, Serdang, Malaysia.
- 233 CALOW, P. (2000) Foreword in Recommendations from the Direct Toxicity Assessment (DTA) Demonstration Programme Steering Group to the Regulators.
- 232 CALOW, P. (2000) Critics of ecosystem health misrepresented. *Ecosystem Health*. Blackwell Science, Oxford. **6:1** Letter to the Editor.
- 231 Forbes, V. E., CALOW, P. (1999) *Environmental Risk Assessment Manual. A Practical Guide for Tropical Ecosystems*. MPP-EAS Technical Report 21. GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas. Quezon City, Philippines. 88pp.
-

- 230 CALOW, P. Nash, G (1999) Chairman's Report: OECD Workshop on the integration of socio-economic analysis in chemical risk management decision making. Environment Directorate. Organisation for Economic Co-operation and Development, Paris 1999.
- 229 Parker, E.D. et al. (inc. Calow, P) (1999) Stress in ecological systems. *Oikos*. **86:1** pp 179-184.
- 228 CALOW, P. (Ed) (1999) *The Concise Encyclopedia of Ecology*. Blackwell Science, Oxford.
- 227 CALOW, P. (Ed) (1999) *The Concise Encyclopedia of Environmental Management*. Blackwell Science, Oxford.
- 226 CALOW, P., Forbes, V.E. (1999). Is the per capita rate of increase a good measure of population-level effects in ecotoxicology? *Environmental Toxicology and Chemistry* Vol 18, No. 7, pp 1544-1556.
- 225 CALOW, P., Forbes, V.E. (1998). Costs of living with contaminants: implications for assessing low-level exposures. *Comments Toxicology* Vol 6, No. 4, pp 255-270.
- 224 CALOW, P. (1998) Introduction: The Chemical Challenge. *Environmental Monitoring and Assessment* **53**, pp 391-394.
- 223 CALOW, P. (1998). Foreword. In: *Genetics and Ecotoxicology*. First in the Series *Current Topics in Ecotoxicology and Environmental Chemistry* (Ed.V. E. Forbes) Taylor & Francis, Philadelphia. p.ix .
- 222 CALOW, P., Forbes, V.E. (1998). How do physiological responses to stress translate into ecological and evolutionary processes? *Comparative Biochemistry and Physiology Part A* **120**, pp 11-16.
- 221 CALOW, P. (Ed) (1998) *The Encyclopedia of Ecology & Environmental Management*. Blackwell Science, Oxford.
- 220 CALOW, P. (1998). Standards, science and the politics of chemical risk. In. *The Politics of Chemical Risk: Scenarios for a Regulatory Future*. Eds. Roland Bal and Willem Halfman. Kluwer Academic Publishers.
- 219 CALOW, P. (1998). Ecological risk assessment: risk for what? How do we decide? *Ecotoxicology and Environmental Safety* **40**, pp 15-18.
- 218 CALOW, P. & Forbes, V.E. (1997). Science and subjectivity in the practice of ecological risk assessment. *Environmental Management*, 21 (6), 805-808.
- 217 CALOW, P. (Ed) (1997) *The Handbook of Environmental Risk Assessment and Management: the Whats, Whys and Hows?* In *Handbook of Environmental Risk Assessment and Management*. Blackwell Science, Oxford.
- 216 CALOW, P. (Ed) (1997) *The Handbook of Environmental Risk Assessment and Management*. Blackwell Science, Oxford.
- 215 CALOW, P. (Ed) (1997) *Handbook of Ecotoxicology*. Blackwell Science, Oxford.
- 214 Forbes, V.E., Davis Parker Jr, E. & CALOW, P (1997). Are there advantages of having sex in novel environments? *Oikos* **80**, pp 411-416.
-

- 213 Forbes, V.E. & CALOW, P (1997). Responses of aquatic organisms to pollutant stress: Theoretical and practical implications. *Environmental Stress, Adaptation and Evolution*. Eds. R Bijlsma and V Loeschcke. Birkhäuser Verlag Basel/Switzerland
- 212 CALOW, P., Sibly, R. M. & Forbes, V. (1997) Risk assessment on the basis of simplified life-history scenarios. *Environmental Toxicology and Chemistry* **16**, pp 1983-1989.
- 211 CALOW, P & Forbes, V.E. (1997). *Malacca Straits: Initial Risk Assessment*. Report for GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas. MPP-EAS/Info/97/117.
- 210 CALOW, P (1997). Foreword by the Chairman. In: *ACHS: Fifth Annual Report*. HMSO. pp. 2-3.
- 209 CALOW, P (1997). *Controlling Environmental Risks from Chemicals. Principles and Practice*. John Wiley & Sons Ltd, Chichester, UK.
- 208 CALOW, P (1996). Long-term environmental concerns and their implications for the oil industry. In *Environmental Technology in the Oil Industry*. (Ed. Dr Stefan Orszulik) Blackie Academic & Professional. pp. 383-392.
- 207 CALOW, P (1996). Variability: noise or information in ecotoxicology? In *Environmental Toxicology and Pharmacology 2 (1996)*. Elsevier .
- 206 CALOW, P (1996). Ecology in ecotoxicology: some possible rules of thumb. In *Ecotoxicology: Ecological Dimensions*. Authors Baird, D.J., Maltby, L. L., Greig-Smith, P.W., & Douben, P.E.T. Chapman & Hall pp. 5-12.
- 205 Forbes, V.E. & CALOW, P (1996). Costs of living with contaminants: implications for assessing low-level exposures. In: *BELLE Newsletter*. A publication of the Northeast Regional Environmental Public Health Center, University of Massachusetts.
- 204 CALOW, P. (1996). Chairman's conclusions. In: *Environmental Risk Assessment of Detergent Chemicals*. Proceedings of the A.I.S.E./CESIO Limelette III Workshop. p. 2. ISBN No.: 90-803038-1-X. A.I.S.E./CESIO, Brussels.
- 203 Petts, G. E. & CALOW, P. (1996). Fluvial hydrosystems: the physical basis. In: *River Flows and Channel Forms*. Selected extracts from the Rivers Handbook (Ed. G Petts & P Calow). Blackwell Science, Oxford. pp. 1-5.
- 202 Petts, G. E. & CALOW, P. (Eds) (1996) *River Flows and Channel Forms*. Blackwell Science, Oxford.
- 201 Petts G E & CALOW P (1996). The nature of rivers. In: *River Restoration*. Selected extracts from the Rivers Handbook (Ed. G Petts & P Calow). Blackwell Science, Oxford. pp. 1-6.
- 200 Petts, G. E. & CALOW, P. (Eds) (1996) *River Restoration*. Blackwell Science, Oxford.
- 199 CALOW P & Petts G (1996). Introduction. In: *River Biota. Diversity and dynamics*. Selected extracts from the Rivers Handbook (Ed. G Petts & P Calow). Blackwell Science, Oxford. pp. 1-5.
- 198 Petts, G. E. & CALOW, P. (Eds) (1996) *River Biota. Diversity and dynamics*. Blackwell Science, Oxford.
- 197 Brooks A W, Maltby L, Saul A J & CALOW P (1996). A simple indoor artificial stream system designed to study the effects of toxicant pulses on aquatic organisms. *Wat. Res.*, **30**, 285-290.

- 196 CALOW P (1995). Foreword by the Chairman. In: *Risk-Benefit Analysis of Existing Substances*. Department of the Environment on behalf of the UK Government/Industry Working Group.
- 195 CALOW, P. (1995). *The Invertebrates: A new synthesis*. Portuguese edition. (with R.S.K. Barnes and P.J.W. Olive)
- 194 CALOW P (1995). Foreword by the Chairman. In: *ACHS: Fourth Annual Report*. HMSO. pp. iv-vi
- 193 CALOW P (1995). Risk assessment: principles and practice in Europe. *Australasian Journal of Ecotoxicology*, **1**, 11-14.
- 192 CALOW P (1995). Methods to assess the effects of chemicals on fresh waters. In: *Methods to assess the effects of chemicals on ecosystems*. (Ed. R A Linthurst, P Bourdeau & R G Tardiff). John Wiley & Sons Ltd. pp. 113-124.
- 191 Maltby, L., Boxall, A.B.A., Forrow, D.M., CALOW, P. & Betton, C.I. (1995). The effects of motorway runoff on freshwater ecosystems: 2. Identifying major toxicants. In *Environmental Toxicology and Chemistry*, **14**, 6, 1093-1101.
- 190 Maltby, L., Forrow, D.M., Boxall, A.B.A., CALOW, P. & Betton, C.I. (1995). The effects of motorway runoff on freshwater ecosystems: 1. Field Study. In *Environmental Toxicology and Chemistry*, **14**, 6, 1079-1092.
- 189 Allen Y, CALOW P & Baird D J (1995). A mechanistic model of contaminant-induced feeding inhibition in *Daphnia magna*. *Environmental Toxicology and Chemistry*, **14**, 1625-1630.
- 188 CALOW P (1995). Ecosystem health - a critical analysis of concepts. In: *Evaluating and monitoring the health of large-scale ecosystems*. (Eds. D J Rapport, C L Gaudet, P Calow). Springer-Verlag, Berlin. pp. 33-41.
- 187 Dearden J C, CALOW P & Watts C (1994). A predictable response? *Chemistry in Britain*, October, 823-826.
- 186 CALOW P (1994) From physiological ecology to population and evolutionary ecology with speculation on the importance of storage processes. In: *Individuals, Populations and Patterns in Ecology*, (Ed. S R Leather, A D Watt, N J Mills & K F A Walters). pp. 349 - 358. Intercept, Andover, Hampshire.
- 185 Barber, I, Baird D J & CALOW P (1994). Effect of cadmium and ration level on oxygen consumption, RNA concentration and RNA-DNA ratio in two clones of *Daphnia magna* Straus. *Aquatic Toxicology*, **30**, 249-258.
- 184 CALOW P (1994). Ecotoxicology: What are we trying to protect? *Environmental Toxicology and Chemistry*, **13**, 1549.
- 183 BroRasmussen, F, CALOW, P. and 10 other members of the Ecotoxicity Section of CSTE/EEC. EEC water quality objectives for chemicals dangerous to aquatic environments (List 1). *Reviews of Environmental Contamination and Toxicology*, **137**, 83-110.
- 182 CALOW, P (1994). Overview with Observations on Risk Assessment and Management. In: *Handbook of Ecotoxicology*, Vol. II (Ed. P. Calow). Blackwell Scientific, Oxford. pp. 1-4.
- 181 CALOW, P (1994). Ed. *Handbook of Ecotoxicology*. Vol. II. Blackwell Scientific Publications, Oxford.
- 180 Graca M A S, Maltby L & CALOW P (1994). Comparative ecology of *Gammarus pulex* (L) and *Asellus aquaticus* (L). II: Fungal preferences. *Hydrobiologia*, **281**, 163-170.

- 179 Graca, M A S, Maltby, L & CALOW, P (1994). Comparative ecology of *Gammarus pulex* (L) and *Asellus aquaticus* (L). I: population dynamics and microdistribution. *Hydrobiologia*, **281**, 155-162.
- 178 CALOW, P & Petts, G E (1994) Eds. *The Rivers Handbook*. Vol. II. Blackwell Scientific Publications, Oxford.
- 177 Suckling, C W & CALOW P (+ 14 other members of Study Group) (1994). *Pollutant Control Priorities in the aquatic environment. Scientific Guidelines for Management*. Report of a Royal Society Study Group. Royal Society, London. 139pp.
- 176 Graca, M A S, Maltby, L & CALOW, P (1993). Importance of fungi in the diet of *Gammarus pulex* and *Asellus aquaticus*. II. Effects on growth, reproduction and physiology. *Oecologia*, **96**, 304-309.
- 175 Graca, M.A.S., Maltby, L. & CALOW, P. (1993). Importance of fungi in the diet of *Gammarus pulex* and *Asellus aquaticus*. I: feeding strategies. *Oecologia*, **93**, 139-144.
- 174 CALOW, P. (1993). Hazards and risks in Europe: Challenges for ecotoxicology. *Environmental Toxicology and Chemistry*, **12**, 1519-1520.
- 173 CALOW, P. (1993). Ecosystems not optimized. *Journal of Aquatic Ecosystem Health*, **2**, 55.
- 172 Naylor, C., Badley, M.C. & CALOW, P. (1993). Freeze-dried *Chlorella vulgaris* as food for *Daphnia magna* Straus in toxicity testing. *Ecotoxicology and Environmental Safety*, **25**, 166-172.
- 171 CALOW, P. (1993). General Principles and Overview. In: *Handbook of Ecotoxicology*. Vol. I. (Ed. P. Calow). pp. 1-5.
- 170 CALOW, P (1993) Ed. *The Handbook of Ecotoxicology*, Vol. 1. Blackwell Scientific Publications, Oxford.
- 169 Bradley, M.C., Naylor, C., CALOW, P., Baird, D.J., Barber, I. & Soares, A.M.V.M. (1993). Reducing variability in *Daphnia* Toxicity Tests - A case for further standardization. In: *Progress in Standardization of Aquatic Toxicity Tests*. (Ed. A.M.V.M. Soares & P. Calow). Lewis Publishers. pp. 57 -50.
- 168 Soares, A.M.V.M. & CALOW, P. (1993). Seeking standardization in ecotoxicology. In: *Progress in Standardization of Aquatic Toxicity Tests*. (Ed. A.M.V.M. Soares & P. Calow). Lewis Publishers. pp. 1-6.
- 167 Soares, A.M.V.M. & CALOW, P. (1993) Ed. *Progress in Standardisation of Aquatic Toxicity Tests*. Lewis Publishers, Boca Raton. 208pp.
- 166 Barnes, R.S.K., CALOW, P. & Olive, P.J.W. (1993). *The Invertebrates: A new synthesis*. 2nd Edition. Blackwell Scientific Pubs, Oxford.
- 165 Stuhlbacher, A., Bradley, M.C., Naylor, C. & CALOW, P. (1993). Variation in the development of cadmium resistance in *Daphnia magna* Straus; effect of temperature, nutrition, age and genotype. *Environmental Pollution*, **80**, 153-158.
- 164 CALOW, P. (1993) Foreword by Chairman. In *ACHS Third Annual Report*. HMSO, pp v-vii.
- 163 CALOW, P. (1992) Lifecycle Assessment (LCA). In *The Directory of Environmental Technology Environment Solutions*. The Industrial Development Office, University of York, York, UK. pp 110-113. ISBN 0 9520031 0 4

- 162 Barnes, R.S.K., CALOW, P. & Olive, P.J.W. (1992). *The Invertebrates. A New Synthesis*. Mir, Moscow [Russian Translation].
- 161 Barlow, S.M., Bridges, J.W., CALOW, P. *et al.* (1992). Toxicity, Toxicology and Nutrition. In: *Risk: Analysis, Perception and Management*. Report of a Royal Society Study Group. The Royal Society, London. pp. 35-65.
- 160 CALOW, P. & Riley, H. (1992). Leeches: an adaptational approach to their ecology and physiology. In: *Ecology Projects*. (Ed. D. Harding). Institute of Biology. pp. 68-78.
- 159 CALOW, P. (1992). Energy Budgets. In: *The Rivers Handbook Vol. 1*. (Eds. P. Calow & G. Petts). Blackwell Scientific Publications, Oxford. pp. 370-378.
- 158 CALOW, P & Petts, G (1992) Eds. *The Rivers Handbook*, Vol. 1. Blackwell Scientific Publications.
- 157 Naylor, C., Cox, E.J., Bradley, M.C., & CALOW, P. (1992). Effect of differing maternal food ration on susceptibility of *Daphnia magna* Straus neonates to toxic substances. *Aquatic Toxicology*, **24**, 75-82.
- 156 Cox, E.J., Naylor, C. & CALOW, P. (1992). Frozen algae as food for *Daphnia magna* Straus in toxicity testing. *Env. Ecotox. & Safety*, **24**, 58-62.
- 155 Stuhlbacher, A., Bradley, M.C., Naylor, C. & CALOW, P. (1992). Induction of cadmium tolerance in two clones of *Daphnia magna* Straus. *Comp. Biochem. Physiol.*, **101**, 571-577.
- 154 Perrin, N., Baird, D.J. & CALOW, P. (1992). Resource allocation, population dynamics and fitness: some experiments with *Daphnia magna* Straus. *Arch. Hydrobiol.*, **123**, 431-449.
- 153 Glazier, D.S. & CALOW, P. (1992). Energy allocation rules in *Daphnia magna*: Clonal and age differences in the effects of food limitation. *Oecologia*, **90**, 540-549.
- 152 McKenzie, J.D., CALOW, P. *et al.*, (1992). Effects of temperature on the anaesthetic potency of halothane, enflurane and ethanol in *Daphnia magna* (Cladocera: Crustacea). *Comp. Biochem. Physiol.*, **1**, 15-19.
- 151 McKenzie, J.D., CALOW, P. & Nimmo, W.S. (1992). Effects of inhalational general anaesthetics on intact *Daphnia magna* (Cladocera: Crustacea). *Comp. Biochem. Physiol.*, **1**, 9-13.
- 150 Soares, A.M.V.M., Baird, D.J. & CALOW, P. (1992). Interclonal variation in the performance of *Daphnia magna* Straus in chronic bioassays. *Environmental Toxicology and Chemistry*, **11**, 1477-1483.
- 149 Naylor, C., Bradley, M.C. & CALOW, P. (1992). Effect of algal ration - quality and method of quantification - on growth and reproduction of *Daphnia magna*. *Arch. Hydrobiol.*, **125**, 311-321.
- 148 CALOW, P.(1992). The three Rs of ecotoxicology. *Functional Ecology*, **6**, 617-619.
- 147 CALOW, P. (1992). Can ecosystems be healthy? Critical consideration of concepts. *Journal of Aquatic Ecosystem Health*, **1**, 1-5.
- 146 CALOW, P. (1992). Foreword by Chairman. In *ACHS, Second Annual Report*, HMSO. pp. v-vii.
- 145 Sibly, R.M., Linton, L. & CALOW, P. (1991). Testing life-cycle theory by computer simulation. II. Bet-hedging revisited. *Comput. Biol. Med.*, **5**, 357-367.

- 144 Linton, L., Sibly, R.M. & CALOW, P. (1991). Testing life-cycle theory by computer simulation. I. Introduction of genetical structure. *Comput. Biol. Med.*, **5**, 345-355.
- 143 Romero, R., Baguna, J. & CALOW, P. (1991). Intraspecific variation in somatic cell turnover and regenerative rate in the freshwater planarian *Dendrocoelum lacteum*. *Invertebrate Reproduction and Development*, **20**, 107-113.
- 142 Bradley, M.C., Baird, D.J. & CALOW, P. (1991). Mechanisms of energy allocation to reproduction in the cladoceran *Daphnia magna* Straus. *Biol. Journal of the Linnean Society*, **44**, 325-333.
- 141 Baird, D.J., Barber, I. Bradley, M., Soares, A.M.V.M. & CALOW, P. (1991). A comparative study of genotype sensitivity to acute toxic stress using clones of *Daphnia magna* Straus. *Ecotoxicology and Environmental Safety*, **21**, 257-265.
- 140 Baird, D.J., Barber, I., Soares, A.M.V.M. & CALOW, P. (1991) An early life-stage test with *Daphnia magna* Straus: An alternative to the 21-Day chronic test? *Ecotoxicology and Environmental Safety*, **22**, 1-7.
- 139 Bradley, M.C., Perrin, N. & CALOW, P. (1991). Energy allocation in the cladoceran *Daphnia magna* Straus, under starvation and refeeding. *Oecologia*, **86**, 414-418.
- 138 Boon, P.J., CALOW, P. & Petts, G.E. (1991). Eds. *River Conservation and Management*. John Wiley & Sons, Chichester. 470pp.
- 137 CALOW, P. (1991). Physiological costs of combating chemical toxicants: Ecological implications. *Comp. Biochem. Physiol.*, **100**, 3-6.
- 136 CALOW, P. (1991). Foreword by the Chairman. In *ACHS First Annual Report*. HMSO. pp iv-vii.
- 135 CALOW, P. *et al.*, (1990). River Water Quality. *BES Ecological Issues*, **1**, FSC, Shrewsbury.
- 134 Perrin, N., Bradley, M.C. & CALOW, P. (1990). Plasticity of storage allocation in *Daphnia magna*. *Oikos*, **59**, 70-74.
- 133 Barnes, R.S.K., CALOW, P. & Olive, P.J.W. (1990). *The Invertebrates: a new synthesis*. Italian edition.
- 132 CALOW, P. (1990). Whole organisms. *Journal of Marine Biology*, **70**, 660.
- 131 Barber, I., Baird, D.J. & CALOW, P. (1990). Clonal variation in general responses of *Daphnia magna* Straus to toxic stress. II. Physiological effects. *Functional Ecology*, **4**, 409-414.
- 130 Baird, D.J., Barber, I. & CALOW, P. (1990). Clonal variation in general responses of *Daphnia magna* Straus to toxic stress. I. Chronic life-history effects. *Functional Ecology*, **4**, 399-407.
- 129 CALOW, P. & Sibly, R.M. (1990). A physiological basis of population processes: ecotoxicological implications. *Functional Ecology*, **4**, 283-288.
- 128 Jepson, P.C., Walker, C. & CALOW, P. (1990). Eds. *New Horizons in Ecotoxicology*. British Ecological Society/Blackwell Scientific Publications, Oxford.
- 127 CALOW, P. (1990). Preface to *Current Advances in Ecological and Environmental Sciences*. Vol. 16, No. 1. Pergamon Press, Oxford and New York.

- 126 Naylor, C., Pindar, L. & CALOW, P. (1990). Inter- and intraspecific variation in sensitivity to toxins; the effect of acidity and zinc on the freshwater crustaceans *Asellus aquaticus* (L.) and *Gammarus pulex* (L). *Water Research*, **24**, 757-762.
- 125 CALOW, P. (1990). Field deployment of a scope for growth assay involving *Gammarus pulex*, a freshwater benthic invertebrate. *Ecotoxicology and Environmental Safety*, **19**, 292-300.
- 124 Maltby, L., Naylor, C. & CALOW, P. (1990). Effect of stress on a freshwater benthic detritivore: scope for growth in *Gammarus pulex*. *Ecotoxicology and Environmental Safety*, **19**, 285-291.
- 123 Lam, P.K.S. & CALOW, P. (1990). Interpopulation variation in juvenile survival and growth rates of *Lymnaea peregra* (Gastropoda: Pulmonata); temperature at recruitment as a selection pressure? *J. Moll. Stud.*, **56**, 17-23.
- 122 Milne, I.S. & CALOW, P. (1990). Costs and benefits of brooding in glossiphoniid leeches with special reference to hypoxia as a selection pressure. *Journal of Animal Ecology*, **59**, 41-46.
- 121 Maltby, L. & CALOW P (1989) The application of bioassays in the resolution of environmental problems; past, present, future. *Hydrobiologia*, **186/189**, 65-76.
- 120 Naylor, C., Maltby, L. & CALOW, P. (1989). Scope for growth in *Gammarus pulex*, a freshwater benthic detritivore. *Hydrobiologia*, **188/189**, 517-523.
- 119 McKenzie, J.D., CALOW, P. & Nimmo, W.S. (1989). A model to test the potency of inhalation anaesthetics. *British Journal of Anaesthesia*, **63**, 489-491.
- 118 Baird, D.J., Barber, I., Bradley, M., CALOW, P. & Soares, A.M.V.M. (1989). The *Daphnia* bioassay: a critique. *Hydrobiologia*, **188/189**, 403-406.
- 117 CALOW, P. (1989). The choice and implementation of environmental bioassays. *Hydrobiologia*, **188/189**, 61-64.
- 116 CALOW, P. (1989). Intraspecific life-history variation in *Lymnaea peregra* (Gastropoda: Pulmonata). II. Environmental or genetic variance? *J. Anim. Ecol.*, **58**, 589-602.
- 115 Lam, P.K.S. & CALOW, P. (1989). Intraspecific life-history variation in *Lymnaea peregra* (Gastropoda: Pulmonata). I. Field study. *J. Anim. Ecol.*, **58**, 571-588.
- 114 CALOW, P. (1989). River quality. *Biologist*, **36**, 169-170.
- 113 CALOW, P. (1989). Proximate and ultimate responses to stress in biological systems. *Biol. J. Linnean Soc.*, **37**, 173-181.
- 112 Sibly, R.M. & CALOW, P. (1989). A life-cycle theory of responses to stress. *Biol. J. Linnean Soc.*, **37**, 101-116.
- 111 CALOW, P. & Berry, R.J. (1989). (Eds) *Evolution, Ecology and Environmental Stress*. Academic press, London. pp.187.
- 110 CALOW, P. (1989). Are individual production rates optimized by natural selection? In: *Energy Transformations in Cells and Organisms*. (Ed. W. Wieser & E. Gnaiger). Verlag, Stuttgart, New York. 264-269.
- 109 CALOW, P. (1989). Strains of stress. *Evolutionary Trends in Plants*, **3**, 13-15.
- 108 CALOW, P. (1989). Ecotoxicology? *J. Zool. Lond.*, **218**, 701-704.

- 107 CALOW, P. & Lehtinen, K.J. (1988). Are ecotoxicological tests ecologically relevant? In: *Proc. First European Conference on Ecotoxicology, Copenhagen*. (Eds. H. Lokke, H. Tyle & F. BroRasmussen). Polytenish Forlag, Odense. pp. 257-258.
- 106 Baird, D.J., Soares, A.M.V.M., Girling, A., Barber, I., Bradley, M.C. & CALOW, P. (1988). The long-term maintenance of *Daphnia magna* Straus for use in ecotoxicity tests: problems and prospects. In: *Proc. First European Conference on ecotoxicology, Copenhagen*. (Eds. H. Lokke, H. Tyle & F. BroRasmussen). Polytenish Forlag, Odense. pp. 144-148.
- 105 CALOW, P. (1988). Physiological ecotoxicology; theory, practice and application. In: *Proc. First European Conference on Ecotoxicology, Copenhagen*. (Eds. H. Lokke, H. Tyle & F. BroRasmussen). Polytenish Forlag, Odense. pp. 23-35.
- 104 Pethen, R.W. & CALOW, P. (1988). Zoology graduates of 1980 - where are they now? *Biologist*, **35**, 126-128.
- 103 Lam, P.K.S. & CALOW, P. (1988). Some observations on the number and packaging of eggs of *Lymnaea peregra* (Muller) (Gastropoda: Pulmonata). *J. Moll. Stud.*, **54**, 357-359.
- 102 Lam, P.K.S. & CALOW, P. (1988). Differences in the shell shape of *Lymnaea peregra* (Muller) (Gastropoda: Pulmonata) from lotic and lentic habitats; environmental or genetic variance? *J. Moll. Stud.*, **54**, 197-207.
- 101 CALOW, P. (1988). Towards a definition of functional ecology. (Japanese translation). *Communications from the Institute of Genetic Ecology, Tohoku University*, **7**, No. 2 & 3, 4-8.
- 100 CALOW, P. (1988). Towards a definition of functional ecology. (Japanese translation). *Communications from the Institute of Genetic Ecology, Tohoku University*, **7**, No. 2, 1-8.
- 99 Sibly, R., CALOW, P. & Smith, R.H. (1988). Optimal size of seasonal breeders. *J. theor. Biol.*, **133**, 13-21.
- 98 Barnes, R.S.K., CALOW, P. & Olive, P.J.W. (1988). *The Invertebrates: A New Synthesis*. Blackwell Scientific Publications.
- 97 Wrona, F.J. & CALOW, P. (1988). Optimal feeding in a freshwater sit-and-wait predator, *Alboglossiphonia heteroclita* (L.) (Hirudinoidea : Glossiphoniidae). *Functional Ecology*, **2**, 171-175.
- 96 CALOW, P. (1988). *Quo vadis?* *Functional Ecology*, **1**, 113-114.
- 95 CALOW, P. (1987). Zoology adapts to meet the market. *New Scientist*, **116**, 39-40.
- 94 CALOW, P. (1987). Energetics of Platyhelminthes and Rhynchocoela. In: *Animal Energetics*. (Ed. Pandian and Vernberg). Academic Press.
- 93 CALOW, P. & Sibly, R.M. (1987). Conflicting predictions concerning clonal reproduction? *Functional Ecology*, **2**, 161-163.
- 92 Sibly, R.M. & CALOW, P. (1987). Growth and resource allocation. In: *Evolutionary Physiological Ecology*. (Ed. P. Calow). Cambridge University Press. 37-52.
- 91 CALOW, P. (1987). Evolutionary physiological ecology? In: *Evolutionary Physiological Ecology*. (Ed. P. Calow). Cambridge University Press. 1-5.
- 90 CALOW, P. (1987). Ed. *Evolutionary Physiological Ecology*. Cambridge University Press.
- 89 CALOW, P. (1987). Fact and theory - an overview. In: *Cephalopod Life Cycles* vol. II. (Ed. P. Boyle). Academic Press, London. 351-365.

- 88 Maltby, L., CALOW, P., Cosgrove, M. & Pindar, L. (1987). Adaptation to acidification in aquatic invertebrates; speculation and preliminary observations. *Annl. Soc. r. Zool. Belg.*, **117**, 105-115.
- 87 Maltby, L., Snart, J.O.H. & CALOW, P. (1987). Acute toxicity tests on the freshwater isopod, *Asellus aquaticus* using FeSO₄.7H₂O, with special reference to techniques and the possibility of intraspecific variation. *Environmental Pollution*, **43**, 271-279.
- 86 Sibly, R. & CALOW, P. (1987). Ecological compensation - a complication for testing life-history theory. *J. Theor. Biol.*, **125**, 177-186.
- 85 Bladon, T. & CALOW, P. (1987). Effects of ration and temperature on reproduction of a semelparous and an iteroparous triclad. *Int. J. Invert. Rep. & Dev.*, **11**, 323-333.
- 84 CALOW, P. (1987). Physiological ecotoxicology. *B.E.S. Bulletin*, **2**, 71-73.
- 83 CALOW, P. (1987). Complex life cycles made simple? *Trends in Ecology and Evolution*, **3**, 60-61.
- 82 Sibly, R. & CALOW, P. (1986). Why breeding earlier is always worthwhile. *Journal of Theoretical Biology*, **123**, 311-319.
- 81 CALOW, P. (1986). Towards a definition of functional ecology. *Functional Ecology*, **1**, 57-61.
- 80 Sibly, R. & CALOW, P. (1986). *Physiological Ecology of Animals: An Evolutionary Approach*. Blackwell Scientific Pubs. Oxford.
- 79 CALOW, P. (1986). Biochemical and physiological homologies. In: *Collins Encyclopedia of Animal Evolution*. (Ed. R. Peberdy & P. Gardner). Equinox, Oxford.
- 78 Maltby, L. & CALOW, P. (1986). Intraspecific life-history variation in *Erpobdella octoculata* (Hirudinea: Erpobdellidae). II. Testing theory on the evolution of semelparity and iteroparity. *Journal of Animal Ecology*, **55**, 739-750.
- 77 Maltby, L. & CALOW, P. (1986). Intraspecific life-history variation in *Erpobdella octoculata* (Hirudinea: Erpobdellidae). I. Field study. *Journal of Animal Ecology*, **55**, 721-738
- 76 CALOW, P. (1986). *Evolutionary Principles*. Russian Edition. Transl. to Russian by T. Dneprovsky, with Foreword by B.M. Mednikov. Mir, Moscow.
- 75 Wrona, F.J., CALOW, P., Ford, I., Baird, D.J. & Maltby, L. (1986). Estimating the abundance of stone-dwelling organisms: a new method. *Canadian Journal of Fisheries and Aquatic Sciences*, **43**, 2025-2035.
- 74 CALOW, P. & Read, D.A. (1986). Ontogenetic patterns and phylogenetic trends in freshwater flatworms (Tricladida); constraint or selection? *Hydrobiologia*, **132**, 263-272.
- 73 CALOW, P. & Calow, L.J. (1985). Ecology, ontogeny and reproductive biology of *Sinotaia quadrata*, a viviparity prosobranch, with special reference to the costs of brooding. In: *Proc. Second Int. Workshop on Malacofauna of Hong Kong* (1983). (Eds. B. Morton & D. Dudgeon). pp. 479-489. Hong Kong University Press.
- 72 Rossi, L. & CALOW, P. (1985). Role of macroinvertebrates and microfungi in the transfer of 32p along detritus food chains in rivers. *Proc. Acad. Nazionale Dei Lincei*, **77**, 53-57.
- 71 CALOW, P. (1985). Causes de la mort i costos d'autoproteccio. In: *Biologia Avui*. (Ed. R. Gonzales). pp. 63-81. Fundacio Caiza De Pensions.

- 70 CALOW, P. (1985). Adaptive aspects of energy allocation. In: *Fish Energetics*. (Eds. P. Tytler & P. CALOW). 13-31. Croom Helm, London.
- 69 Tytler, P. & CALOW, P. (1985). Eds. *Fish Energetics: New Perspectives*. pp. 349. Croom Helm, London.
- 68 Sibly, R., CALOW, P. & Nichols, N. (1985). Are patterns of growth adaptive? *J. Theor. Biol.*, **112**, 553-574.
- 67 CALOW, P. (1984). Direct and absorption costing in the evolution of life cycles. *J. Theor. Biol.*, **111**, 463-473.
- 66 Sibly, R. & CALOW, P. (1984). Classification of habitats by selection pressures; a synthesis of life-cycle and r/K theory. In: *Behavioural Ecology*. (Eds. R.M. Sibly & R.H. Smith). 25th Symp. B.E.S. pp. 75-89. Blackwell Scientific Publications.
- 65 CALOW, P. (1984). Factors affecting the diversity of littoral invertebrates: a hypothesis. In: *Proc. Congress Eutrophication of Small Lakes*. University of Rome. *Ing. Sanitaria*, **30**, 41-46.
- 64 CALOW, P. (1984). Economics of ontogeny - adaptational aspects. In: *BES Symposium No. 23*. (Ed. B. Shorrocks). pp. 81-104. Blackwell Scientific Publications.
- 63 CALOW, P. (1984). Exploring the adaptive landscapes of invertebrate life cycles. *Adv. Invert. Repro.*, **3**, 329-342.
- 62 Read, D.A. & CALOW, P. (1984). Uptake and distribution of the amino acid leucine by freshwater triclads in different reproductive states. *Comp. Biochem. Physiol.*, **77A**, 221-224.
- 61 CALOW, P. (1983). Life-cycle patterns and evolution. In: *The Mollusca*. (Ed. W.D. Russell-Hunter). pp. 647-678. Academic Press Inc. New York.
- 60 CALOW, P. (1983). Pattern and paradox in parasite reproduction. *Parasitology*, **86**, 197-207.
- 59 CALOW, P. (1983). *Evolutionary Principles*. Blackie & Son Ltd.
- 58 CALOW, P. (1983). Energetics of reproduction and its evolutionary implications. *Biological Journal of the Linnean Society*. **20**, 153-165.
- 57 Sibly, R., & CALOW, P. (1983). An integrated approach to life-cycle evolution using selective landscapes. *J. Theoret. Biol.*, **102**, 527-547.
- 56 CALOW, P. (1982). *Life-cycles* - Japanese edition. Dobutsusha, Tokyo.
- 55 CALOW, P. & Sibly, R. (1982). Physiological trade-offs and the evolution of life cycles. *Sci. Progress*, **68**, 177-188.
- 54 CALOW, P. & Riley, H. (1982). Observations on reproductive effort in British erpobdellid and glossiphoniid leeches with different life cycles. *J. Anim. Ecol.*, **51**, 697-717.
- 53 Sibly, R. & CALOW, P. (1982). Asexual reproduction in protozoa and invertebrates. *J. Theoret. Biol.*, **96**, 401-424.
- 52 CALOW, P. (1982). Homeostasis and fitness. *American Naturalist*, **120**, 416-419.
- 51 CALOW, P. (1981). *Invertebrate Biology*. Croom Helm, London.
- 50 CALOW, P. (1981). Resource utilization and reproduction. In: *Physiological Ecology*. (as below), 245-270.

- 49 CALOW, P. & Townsend, C.R. (1981). Resource utilization in growth. In: *Physiological Ecology*. (as below), 220-224.
- 48 CALOW, P. & Townsend, C.R. (1981). Energetics, Ecology and Evolution. In: *Physiological Ecology*. (Eds. C.R. Townsend & P. CALOW). 3-19. Blackwell Scientific Publications.
- 47 CALOW, P. (1981). Growth in lower invertebrates. *Comp. Anim. Nutr.*, **4**, 53-76.
- 46 CALOW, P. (1981). Adaptational aspects of growth and reproduction in *Lymnaea peregra* (Gastropods: Pulmonata) from exposed and sheltered aquatic habitats. *Malacologia*, **21**, 5-13.
- 45 CALOW, P. & Read, D. (1981). Transepidermal uptake of the aminoacid leucine by freshwater triclads. *Comp. Biochem. Physiol.*, **69A**, 443-448.
- 44 CALOW, P., Davidson, A.R. & Woollhead, A.S. (1981). Life-cycle and feeding strategies of freshwater triclads: a synthesis. *J. Zool. Lond.*, **193**, 214-237.
- 43 CALOW, P. & Riley, H. (1980). Leeches: an adaptational approach to their ecology and physiology. *J. Biol. Educ.*, **14**, 279-289.
- 42 CALOW, P. (1980). Life-cycle differences in *Lymnaea peregra*. *Haliotis*, **10**, 34.
- 41 CALOW, P. (1980). Feeding in flatworms: adaptational aspects. In: *Nutrition in the Lower Metazoa*. (Eds. D.C. Smith and Y. Tiffon). Pergamon.
- 40 CALOW, P. Woollhead, A.S. & CALOW, P. (1979). Energy partitioning strategies in egg-producing triclads. *J. Anim. Ecol.*, **48**, 491-499.
- 39 CALOW, P., Beveridge, M. & Sibly, R. (1979). Heads and tails - adaptational aspects of asexual reproduction in triclads. *Am. Zoologist*, **19**, 715-727.
- 38 CALOW, P. (1979). Why some metazoan mucous secretions are more susceptible to microbial attack than others. *Amer. Natur.*, **114**, 149-151.
- 37 CALOW, P. (1979). Life-story. In: *Mysteries of Life and Death*. (Ed. K. Simpson). Salamander.
- 36 CALOW, P. (1979). On growing up and growing old - a general approach to ageing. *Age and Ageing Research*, **8**, 122.
- 35 CALOW, P. (1979). The cost of reproduction: a physiological approach. *Biol. Rev.*, **54**, 32-40.
- 34 CALOW, P. (1979). *Life Cycles: an evolutionary approach to the physiology of growth, reproduction and ageing*. Chapman and Hall.
- 33 CALOW, P. (1978). Bidder's hypothesis revisited: A solution to some key problems associated with the general molecular theory of ageing. *Gerontology*, **24**, 448-458.
- 32 CALOW, P. (1978). The evolution of life-cycle strategies in freshwater gastropods. *Malacologia*, **13**, 351-364.
- 31 CALOW, P. (1978). Irradiation studies on rejuvenation in triclads. *Expt. Gerontol.*, **12**, 173-179.
- 30 CALOW, P. (1977). Evolution, ecology and energetics: a study in metabolic adaptation. *Adv. Ecol. Res.*, **10**, 1-62.

- 29 CALOW, P. (1977). Conversion efficiencies in heterotrophic organisms. *Biol. Rev.*, **52**, 385-409.
- 28 CALOW, P. (1977). The joint effect of temperature and starvation on the metabolism of triclads. *Oikos*, **29**, 87-97.
- 27 CALOW, P. & Woollhead, A.S. (1977). The relationship between ration, reproductive effort and the evolution of life-history strategies - some observations on freshwater triclads. *J. Anim. Ecol.*, **46**, 765-781.
- 26 CALOW, P. & Jennings, J.B. (1977). Optimal strategies for the storage of reserve materials in microbes and metazoa. *J. Theoret. Biol.*, **65**, 601-603.
- 25 CALOW, P. & Woollhead, A.S. (1977). Locomotory strategies in freshwater triclads and their effects on the energetics of degrowth. *Oecologia*, **27**, 353-362.
- 24 CALOW, P. (1976). *Biological Machines: A cybernetic approach to life*. Arnold, London. (Special Studies in Biology Series).
- 23 CALOW, P. & Jennings, J.B. (1975). The relationship between high fecundity and the evolution of entoparasitism. *Oecologia*, **21**, 109-115.
- 22 CALOW, P. (1975). The respiratory strategies of two species of freshwater gastropods (*Ancylus fluviatilis* Mull. and *Planorbis contortus* Linn.) in relation to temperature, oxygen concentration, body size and season. *Physiol. Zool.*, **48**, 114-129.
- 21 CALOW, P. & Calow, L.J. (1975). Cellulase activity and niche separation in freshwater gastropods. *Nature*, **255**, 478-480.
- 20 CALOW, P. (1975). Defaecation strategies of two freshwater gastropods, *Ancylus fluviatilis* Mull. and *Planorbis contortus* Linn. (Pulmonata) with a comparison of field and laboratory estimates of food absorption rates. *Oecologia*, **20**, 51-63.
- 19 CALOW, P. (1975). The feeding strategies of two freshwater gastropods, *Ancylus fluviatilis* Mull. and *Planorbis contortus* Linn. (Pulmonata) in terms of ingestion rates and absorption efficiencies. *Oecologia (Berl.)*, **20**, 33-49.
- 18 CALOW, P. (1975). Survey of littoral fauna of Loch Lomond. *B.E.S. Bulletin*, **VI**, 8.
- 17 CALOW, P. (1975). Length-dry weight relationships in snails: some explanatory models. *Proc. Malac. Soc. London.*, **41**, 357-375.
- 16 CALOW, P. (1975). On the nature and possible utility of epilithic detritus. *Hydrobiologia*, **46**, 181-189.
- 15 CALOW, P. (1974). Some observations on the dispersion patterns of two species-populations of littoral, stone-dwelling gastropods (Pulmonata). *Freshwater Biology*, **4**, 557-576.
- 14 CALOW, P. (1974). Ecological notes on Mayfly larvae (*Ephemeroptera*) in Loch Lomond. *Glasg. Nat.*, **19**, 123-130.
- 13 CALOW, P. & Jennings, J.B. (1974). Calorific values in the phylum Platyhelminthes: The relationship between potential energy, mode of life and the evolution of entoparasitism. *Biol. Bull.*, **147**, 81-94.
- 12 CALOW, P. (1974). Evidence for bacterial feeding in *Planorbis contortus* Linn. (Gastropods: Pulmonata). *Proc. Malac. Soc. Lond.*, **41**, 145-156.

- 11 CALOW, P. (1974). Some observations on locomotory strategies and their metabolic effects in two species of freshwater gastropods, *Ancylus fluviatilis* Mull. and *Planorbis contortus* Linn. *Oecologia*, **16**, 149-161.
- 10 CALOW, P. (1973). Field observations and laboratory experiments on the general food requirements of two species of freshwater snails, *Planorbis contortus* Linn. and *Ancylus fluviatilis* Mull. *Proc. Malac. Soc. Lond.*, **40**, 483-489.
- 9 CALOW, P. (1973). Gastropod associations within Malham Tarn, Yorkshire. *Freshwater Biol.*, **3**, 521-524.
- 8 CALOW, P. (1973). The food of *Ancylus fluviatilis* (Mull.), a littoral, stone-dwelling, herbivore. *Oecologia*, **13**, 113-133.
- 7 CALOW, P. (1973). On the regulatory nature of individual growth; some observations from freshwater snails. *J. Zool. Lond.*, **170**, 415-428.
- 6 CALOW, P. (1973). The relationship between fecundity, phenology and longevity; a systems approach. *Amer. Natur.*, **107**, 559-574.
- 5 CALOW, P. (1972). A method for determining the surface area of stones to enable density estimates of littoral, stone-dwelling organisms to be made. *Hydrobiologia*, **40**, 37-50.
- 4 CALOW, P. (1972). *Potamopyrgus jenkinsi* (Smith) at Malham with particular reference to its invasion ecology. *Naturalist*, Jan/April, 29-32.
- 3 CALOW, P. & Fletcher, C.R. (1972). A new radiotracer technique involving ¹⁴C and ⁵¹Cr for estimating the assimilation efficiencies of aquatic, primary consumers. *Oecologia* (Berl.), **9**, 155-170.
- 2 CALOW, P. (1972). Structural and functional dynamics of selected species-populations of freshwater gastropods: towards a systems approach. Ph.D., University of Leeds.
- 1 CALOW, P. (1970). Studies on the natural diet of *Lymnaea pereger obtusa* (Kobelt) and its possible ecological implications. *Proc. Malac. Soc. Lond.* **39**, 203.

BOOKS (last 13 of 30)

- 1998 Ed. *The Encyclopedia of Ecology & Environmental Management*. Blackwell Science, Oxford, UK.
- 1997 Ed. *Handbook of Ecotoxicology*. Blackwell Science, Oxford, UK.
- 1997 Ed. *Handbook of Environmental Risk Assessment and Management*. Blackwell Science, Oxford, UK.
- 1997 *Controlling Environmental Risks from Chemicals. Principles and Practice*. John Wiley & Sons Ltd, Chichester, UK.
- 1996 Ed. *River Restoration*. Selected extracts from the *Rivers Handbook*. Blackwell Science (with G Petts)
- 1996 Ed. *River Flows and Channel Forms*. Selected extracts from the *Rivers Handbook*. Blackwell Science (with G Petts)
- 1996 Ed. *River Biota. Diversity and dynamics*. Selected extracts from the *Rivers Handbook*. Blackwell Science

- (with G Petts)
- 1995 *The Invertebrates: A new synthesis.*
Portuguese edition.
(with R.S.K. Barnes and P.J.W. Olive)
- 1995 Ed. *Evaluating and monitoring the health of large-scale ecosystems.*
Springer-Verlag, Berlin
(with D J Rapport, C L Gaudet)
- 1994 Ed. *Handbook of Ecotoxicology.* Vol. II
Blackwell Scientific Publications, Oxford
- 1994 Ed. *The Rivers Handbook.* Vol. II
Blackwell Scientific Publications, Oxford
(with G E Petts)
- 1993 Ed. *Handbook of Ecotoxicology.* Vol. I.
Blackwell Scientific Publications, Oxford.
- 1993 Ed. *Progress in Standardization of Aquatic Toxicity Tests*
Lewis Publishers.
(with A.M.V.M. Soares)

OTHER

More than 10 op/eds (2004-06) covering all major Danish dailies on topics including: valuing nature; the green revolution; environmental technology; markets need a helping hand; the right and left of environmental politics.

Reports from the Danish Environmental Assessment Institute (under my Directorship): Green Roads to Growth (Conference Proceedings); Road pricing in Copenhagen – a socio-economic assessment (in Danish); Getting proportions right – how far should EU impact assessment go?; Motorways versus nature – a welfare economic valuation of impacts; Environmental harmful subsidies – linkages between subsidies, the environment and the economy; Looking beyond Kyoto – trade-offs and disagreements in climate policy; Rethinking the waste hierarchy.

PRESENTATIONS & CHAIRMANSHIPS (2003-2022)

	<u>Date</u>	<u>Meeting/Institution/Title</u>	<u>Role</u>
308	Mar 4 2022	Environmental inequalities. To hearing of State Legislative Coordinating Commission Water Subcommittee. Virtual meeting.	Invited presenter
307	Oct 21 2020	The future of Minnesota drinking Water. To Minnesota Water Resources Conference 2020	Co-presenter with Lucy Levers

306	July 15 2020	The future of Minnesota drinking water; a framework for managing risk. To State Legislative Coordinating Commission Water Subcommittee Virtual meeting.	Invited presenter
305	Feb 24 2020	The future of Minnesota drinking water: a framework for managing risk. To State Clean Water Council	Invited participant
304	Nov 26 2019	Science policy opportunities BIOL 1020 UMN	Presenter
303	Nov 22 2019	Resilience panel. Resilient Communities Project Center for Urban and Regional Affairs.	Invited participant
302	Nov 15 2019	Science policy opportunities. Neuroscience graduate program UMN	Presenter
301	Oct 8 2019	Comparative risk assessment; Putting principles into practice. For Minn Dept Health	Presenter
300	Feb 13 2019	Framework for managing risk in drinking water for Minn Dept Health	Invited keynote
299	Oct 29 2018	Prioritizing contaminants in drinking water by comparing risks for a state (MN) stakeholder group supported by Minn Dept Hlth	Presenter
297	Jan 31 2018	Why Silent Spring sets a bad example for science advice in public policy. UMN HSEM 2516 class.	Guest lecturer
296	Dec 8 2017	Making risk assessment work for water protection policy. Water resources science seminar UMN	Guest lecturer
295	Nov 15 2017	SETAC NA Colgate-Palmolive Sponsored Student Luncheon Seminar; Advice versus advocacy in using the science we do to inform environmental policy	Invited speaker
294	Nov 13 2017	SETAC NA Don't copy Rachel; that is no way to give science advice for environmental policy	presenter

293	Oct 3 2017	Living with innovation Learning life UMN CCE	Invited speaker
292	Dec 2016	Advice v advocacy at the science/public policy interface Freeman Seminar	Invited participant
291	Oct 2016	UMN Geog coffee hour Risk assessors as stealth advocates or honest brokers	Invited participant
290	Feb 2016	STEP FAR Panel Translating science into policy	Invited participant
289	Nov 2015	UMN Env Engineers Risk assessors as honest brokers or stealth advocates	Invited speaker
288	Nov 2015	SETAC NA We are all biased – that is why we need science in risk assessment – but it can do a better job	presenter
287	Nov 2015	SETAC NA How to identify and assess ecosystem services approaches in decision making	presenter
286	Sept 2015	STEP FAR at Humphrey School. Happiness is a good risk assessment.	Invited speaker
285	May 2015	SETAC EUROPE Personal thoughts on the science and SETAC over 25 years	Invited opening Keynote at annual meeting in Barcelona
284	Oct 2014	SETAC Pellston wkshp on ecosystem services.	Invited participant and wg cochair
283	Sept 2014	EXXON seminar and site visit: Science doing a better job in informing policy.	presenter
282	Aug 2014	IUPAC San Francisco: Making risk assessment more relevant requires mechanistic models.	presenter
281	Apr 2014	Fragrance industry Workshop on ecological risk assessment of personal care products	Keynote
280	Jan 2014	Presentation to	Invited

		all Ne State Legislature on water quality policy	
279	Dec 2013	USEPA CRA Webinar: Challenges in making risk assessment more relevant for risk management: a view from the EU.	Invited
278	Nov 2013	SETAC NA Paper: Getting at what really matters in managing ecological risk through mechanistic effect models.	Invited
277	Oct 2013	Safety of scents. Seminar to Food Tech UNL.	Invited
276	Sep 2013	Presentation to Ne State Legislature Planning Ctte on Water quality.	Invited
275	Feb 2012	Public hearing on improvements in risk assessment in the EU. Organized by the EU Commission Brussels.	Chairman
274	Aug 2011	Avoiding bias in risk Assessment. EUROTOX 2011, Paris.	Invited speaker
273	July 2011	Written and oral presentation for environmental scientists. Marie Curie Initial Training Network, EU. Dinard,France.	Co-leader
272	May 2011	Energy and climate change policy; hot air from Europe or common sense? UNL/ NCEsr anniversary event.	Invited speaker
271	Feb 2011	REACH, risk assessment and socio-economic analysis. UK Chemicals Stakeholder Forum.	Invited speaker
270	Jan 2011	Improving the risk assessment process – meeting the needs of risk managers. International Conference on Risk Assessment organised by European Commission	Invited speaker

(Brussels)

- 269 June 2010 Socio-economic analyses in REACH authorisations: case studies. CEFIC Workshop for Chemicals Industry. Brussels. Invited speaker.
- 268 May 2010 Review of environmental risk assessment in EU. Env Canada, Ottawa. Three-way meeting also with EU and USEPA. Invited Speaker
- 267 Dec 2009 Assessing risks so that they can be managed; challenges in measuring the benefits of environmental protection. EAWAG; Zurich. Invited speaker
- 266 Sept 2009 Pharmaceuticals in the environment: issues in balancing human health benefits with ecological risks. EUROTOX 09; Dresden. Invited speaker
- 265 Aug 2009 Socio-economic analyses need population models as a basis for risk assessment. RIFM Intl. Workshop: Integrating Population Modelling Into Ecological Risk Assessment. RUC 09. Invited Keynote
- 264 Oct 2008 Sustainable Development: Industry Challenges. Fragrance Manufacturers Association Annual Meeting NJ. Invited keynote
- 263 June 2008 Counting the costs and benefits of chemical controls: Role of environmental risk assessment in socio-economic analysis. ECETOC ATM. Chairman
- 262 May 2008 The European Dream; Environmental Policy Implications. Bard College NY, USA. Invited
- 261 May 2008 Sustainable Development Challenges for the Fragrance Industry. JEFRA. Tokyo. Keynote
- 260 April 2008 Presentation on Climate Change Response. Invited speaker

		Shanghai Jiao Tong University.	
259	Sept 2007	Pharmaceuticals in the environment – a problem invented by rich societies? ERAPHARM , York	Keynote
258	May 2007	Whither science in EU Chemicals policy? SETA Europe annual Meeting, Porto.	Invited speaker
257	March 2006	Green Roads to Growth 2 day policy forum with economists and EU policymakers exploring linkages between environmental policy and GDP. Copenhagen	Chairman
256	June 2004	Roskilde University Conference. Ecology in a cost-benefit Society.	Organiser/ <i>Summing up</i>
255	May 2004	RIFM Meeting for members.	Keynote speaker <i>Global regulatory requirements for the fragrance industry</i>
254	April 2004	SETAC Europe annual meeting (Prague).	Keynote speaker <i>Ecological Realism: A personal view.</i>
253	August 2003	SETAC Pellston Workshop. Population-Level. Ecological Risk Assessment	Participant.
252	June 2003	First Workshop at the NordTox/NordEMS 2003. Bornholm, Denmark.	<i>Hormone Disrupters and Reproductive Toxicology.</i>
251	May 2003	Sixth Finnish Conference of Environmental Sciences. Joensuu, Finland.	<i>Ecotoxicology and society: a basis for the risk management of chemicals.</i>
250	April 2003	SETAC Europe 13 th Annual Meeting, Hamburg, German.	<i>SSDs – help or hindrance in ecological risk assessment?</i>