

**Hugh P. Possingham FAA**  
**FULL CURRICULUM VITAE**

Australian Research Council **Federation Fellow** 2006 – 2011  
Director of an [ARC Centre of Excellence](http://www.ceed.edu.au) for Environmental Decisions [www.ceed.edu.au](http://www.ceed.edu.au)  
Director of a [National Environment Research Program](#) hub  
Professor in the School of Biology, Professor in the School of Maths and Physics  
Director of The Ecology Centre [www.ecology.uq.edu.au](http://www.ecology.uq.edu.au)

#### CONTACT DETAILS

The University of Queensland, St Lucia, QLD 4072, Australia  
Phone: **61 7 3365 9766** Fax: **61 7 3365 1655**  
Email: [h.possingham@uq.edu.au](mailto:h.possingham@uq.edu.au)

#### PERSONAL DETAILS

Born July 21st 1962 in Adelaide, Australia: **Age 49**  
Married to Karen Anne Fiegert on July 1st 1985  
Son, Nicholas Lawrence, born July 27th 1989; Daughter, Alexandra Constance, born Dec 26th 1990

#### EDUCATION

1968 - 79 St. Peter's College, Adelaide, Australia.  
1980 - 83 University of Adelaide, Australia. Majors: Biochemistry and Applied Mathematics  
B.Sc. (Hons.) 1st class, Applied Mathematics (supervisor **Dr W. Henderson**)  
1984 - 87 D.Phil., Oxford University, UK (supervisor **Dr Michael Bulmer**). St Johns College

#### ACADEMIC EMPLOYMENT

1987 - 88 Post-doctoral Research Associate with **Prof Joan Roughgarden** in Biological Sciences, Stanford University, USA.  
1989 Post-doctoral Research Fellow with **Prof Ian Noble** in the Ecosystem Dynamics Group, Research School of Biological Sciences, Australian National University.  
1989 Visiting Fellow in Biological Sciences, University of New South Wales.  
1990 QEII Fellow in Ecosystem Dynamics Group, RSBS, Australian National University.  
1991 - 93 Lecturer in Applied Mathematics, The University of Adelaide.  
1994 - 95 Senior Lecturer in Applied Mathematics, The University of Adelaide.  
1995 - 98 Professor/Foundation Chair/Head, Environmental Science, The University of Adelaide.  
1999 - 00 Professor and Deputy Head, Applied and Molecular Ecology, The University of Adelaide.  
2000 - Professor of Mathematics and Professor of Zoology, The University of Queensland  
2001 - Director of The Ecology Centre  
2003 - 06 Australian Research Council Professorial Fellow  
2006 - 11 Australian Research Council [Federation Fellow](#)  
2006 - 10 Director of [Applied Environmental Decision Analysis Research Centre](#), a Commonwealth Environmental Research Facility  
2011 - Director of The Australian Research Council Centre of Excellence for Environmental Decisions – CEED (\$2.5M per annum)  
2011 - Director of a [National Environmental Research Program](#) hub (\$3.3M per annum)

#### MAJOR PRIZES AND SCHOLARSHIPS

1983 David Murray Scholarship (for top 3<sup>rd</sup> year student proceeding to honours at The University of Adelaide in any discipline)  
1984 Amir Hassan Abdi Prize (maths)  
(for **top Mathematics Honours (4<sup>th</sup> year) student** at The University of Adelaide)  
1984 **Rhodes Scholarship**, Australia-at-large  
1989 **QEII Fellowship** (awarded by the ARC)  
1999 **POL Eureka Prize for Environmental Research** (with David Lindenmayer)  
2000 Inaugural **Fenner Medal** for Plant and Animal Science (Aust Academy Science)  
<http://www.science.org.au/awards/fenmed.htm>  
2001 **Australian Mathematics Society Medal**  
<http://www.austms.org.au/AMSInfo/medal.html>  
2003 Australian Research Council (ARC) **Professorial Fellowship**  
2003 Modelling and Simulation Society of Australia, General Systems Medal  
2005 University of Queensland **Supervision Excellence** award (one of three)  
2005 **Elected Fellow of The Australian Academy of Science**  
<http://www.science.org.au/academy/fellows/2005.htm>  
2006 Awarded a **Federation Fellowship** by the ARC  
[http://www.arc.gov.au/media/fedfellows\\_factsheet\\_06.htm](http://www.arc.gov.au/media/fedfellows_factsheet_06.htm)  
2009 Sherman **Eureka Prize for Environmental Research** (with Ian Ball and Matt Watts)  
<http://www.uq.edu.au/news/index.html?article=19333>

## RESEARCH PROGRAM: **DECISION THEORY FOR CONSERVING BIODIVERSITY**

### 18 CO-AUTHORED PAPERS IN *SCIENCE*, *NATURE* AND *PNAS* 2005-2011

#### EXPANDED RESEARCH PROGRAMS:

- **Conservation Biology:** setting conservation priorities, reserve system design (especially marine), using decision theory ideas and economics to solve conservation problems, threatened species management, disturbance management, population viability analysis, biodiversity and climate change.
- **Other applied ecology:** fisheries management, vertebrate pest and weed management.
- **Basic ecological theory:** metapopulation dynamics, stochastic population modelling, population dynamics of marine organisms, avian community ecology, edge effects and fragmentation, landscape ecology.

#### EXAMPLES OF RESEARCH IMPACT

- Over the past decade we have developed a **systematic conservation planning tool – Marxan** – that is now used by over 2000 users in 105 countries worldwide changing the face of about 5% of planet's surface. This tool is used for fine-scaled spatial prioritisation of conservation actions, from the level of a regional body, to a state or an entire country. The software **underpinned the rezoning of the Great Barrier Reef Marine Park**, the biggest systematically design reserve network in the world. The Nature Conservancy, the world's biggest conservation NGO, use Marxan for most of their terrestrial and marine ecoregional planning. The software was developed with initial support from the Australian Federal Government and is now a *free* download from [www.ecology.uq.edu.au/marxan.htm](http://www.ecology.uq.edu.au/marxan.htm). It is being used to change the face of the planet and is under continuous development. In particular it is currently being transformed into Marxan for Zoning, partially funded by EcoTrust for use in the California marine planning process.
- Our most recent research on allocating funds between biodiversity hotspots (*Nature* 2006; *PLoS* 2007, *PNAS* 2008) is of global significance. Two of the biggest global conservation NGOs are partially funding our research in this area to deliver global prioritisation schemes that will **influence the allocation of hundreds of millions of dollars**.
- In the late 1980s, when I was a postdoc, there was considerable debate in Australia about the logging of native hardwood forests. During this time I held two press conferences in Parliament House that were reported by the four major television networks. Research with Dr Lindenmayer influenced the conservation of large areas of Mountain Ash *Eucalyptus regnans* forest in Victoria.
- Early this decade our research, media statements, and publications through the "Wentworth Group", plus a **statement I authored called "The Brigalow Declaration"** (which Mr Beattie waved in the air as he called an end to land clearing) helped bring about legislation to **halt land clearing** in NSW and Queensland. **This reduced Australia's greenhouse gas emissions by about 15% per year**.
- My group's and centre's research underpins the frequent advice that we give to federal and state governments on a variety of conservation and broader environmental issues.

#### SUMMARY of RECENT SERVICE to the WIDER COMMUNITY

*I average 30 talks/seminars per year on a wide diversity of topics above and beyond my formal teaching duties.*

#### National scale

- I recently chaired two federal government committees – the selection advisory panel for the market-based instruments committee <http://www.npswq.gov.au/mbi/panel.html> and the ministerial advisory committee on (Australia's) biodiversity hotspots <http://www.deh.gov.au/biodiversity/hotspots/index.html>.
- I was, until January 2006, the first chair of the statutory Biological Diversity Advisory Committee (BDAC) for over five years. This committee provides direct advice to the Federal Environment Ministers (Hill, Kemp and Campbell) on all biodiversity issue of national significance.
- Currently I am a member of "**The Wentworth Group**" which has played a national leadership role on environmental issues by through the publication of three documents – including "A blueprint for a living planet". The group continues to provide independent advice to government and the public about matters of national environmental interest including the needs for research and dissemination of knowledge <http://www.wentworthgroup.org/>.
- In 2002 we wrote two reports on biodiversity conservation that were presented to the Prime Minister's Science Engineering and Innovation Council. These have helped to stop land-clearing over a lot of Australia, focussed ongoing policy reform on invasive species and protecting wild rivers.

- I am the **Director of two Research Centres** – one is an Australian Research Council Centre of Excellence, one is a National Environment Research Program hub.
- Instrumental voice in the **rezoning of the Great Barrier Reef** (2004) and legislation that has led to **almost complete end to land clearing** in NSW and QLD.
- Numerous science review panels, e.g. CSIRO divisions, AIMS

### Regional scale

- I am currently on the smart state council in Queensland that provides direct advice to the premier of the state on innovation and technology. I am currently in charge of driving a program on “Making Maths Matter”.

### Involvement with Non-government organisations

Throughout my career I have worked in and with conservation non-government organisations - originally at a local and state level (e.g. as President of the Nature Conservation Society of South Australia for four years). Now more so at a federal and international level, although I remain involved in local issues where possible. Distinguishing my role between being a professional scientific advisor and an advocate for nature conservation is always interesting. **Currently I sit on over ten advisory committees.**

### NOTES on RECENT SERVICE ROLES in UNIVERSITY

- My primary service role at The University of Queensland is as a Centre Director. As Director of The Ecology Centre I try to coordinate ecology across the University. In the past five years the University of Queensland has published more papers in the 21 highest impact factor Ecology journals than any other Australian University (behind four English Universities, Cambridge, Oxford, Imperial College and Sheffield and two Canadian Universities).
- Other recent **UQ service** roles include:
  - chair of School of Integrative Biology research committee,
  - member of the management committee of the School of Physical Sciences,
  - member of the management committee of the School of Integrative Biology,
  - co-chair of a the “Student Experience” sub-committee that is working on a review of the BSc.
  - chair of the BACS IT advisory committee
  - chair of BACS research strength in ecology and “The ecology major”
  - various reviews and appointments committees
  - training for research scientists
  - initiated and initially lead UQs position in the TERN/AEON part of NCRIS

### SOME INTERESTING WEB MEDIA (random small subset) – one interview per week on average

Nature News Feature covering some of our work

<http://www.nature.com/news/2007/071107/full/450152a.html>

Youtube

[http://www.youtube.com/results?search\\_query=possingham&search\\_type=&aq=f](http://www.youtube.com/results?search_query=possingham&search_type=&aq=f)

Dynamic conservation planning and Marxan

[http://www.nytimes.com/2004/09/21/science/earth/21reef.html?\\_r=1&th&oref=slogin](http://www.nytimes.com/2004/09/21/science/earth/21reef.html?_r=1&th&oref=slogin)

Marine Reserves

<http://bayjournal.com.au/joomla/bayjournal/environment/2037-scientist-corrects-springborg.html>

<http://www.abc.net.au/rn/saturdayextra/stories/2011/3198314.htm>

Plain Marxan

[http://discovermagazine.com/2008/may/12-wildlife-conservation-2-0/article\\_view?searchterm=marxan&b\\_start:int=1](http://discovermagazine.com/2008/may/12-wildlife-conservation-2-0/article_view?searchterm=marxan&b_start:int=1)

Cuddly little koalas on kangaroo island

<http://www.abc.net.au/news/australia/sa/200403/s1056170.htm>

<http://www.godlikeproductions.com/forum1/message127174/pg1>

<http://www.abc.net.au/rn/science/earth/stories/s1643.htm>

Oscar Venter, Carbon, Borneo, REDD and orangutans (two of over 70 stories)

<http://dotearth.blogs.nytimes.com/2009/06/05/how-carbon-markets-can-make-both-economic-and-ecological-sense/>  
<http://news.bbc.co.uk/1/hi/sci/tech/8083706.stm>

**SERVICE TO THE WIDER COMMUNITY – 1995-present**

	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
<b>National Committees</b>																
<b>The Wentworth Group</b>																
<b>Australian Academy of Science – Council</b>																
<b>FASTS – ecology and plant science rep</b>																
<b>Myer Foundation Env Grants Coimmitte</b>																
<b>WWF Scientific Advisory Committee</b>																
<b>TWS Wildcountry Science Council</b>																
<b>Chair, Market Based Instruments for NRM</b>																
<b>Chair, Australian Biological Resources Study</b>																
<b>Chair, Biological Diversity Advisory Comm.</b>																
<b>Chair, Ministerial Advisory Committee on Biodiversity Hotspots</b>																
<b>ARC College of Experts (Eng and Env)</b>																
<b>National Heritage Trust Advisory Committee</b>																
<b>INTECOL 2009 scientific committee</b>																
Aust Acad Science, Boden conf selection panel																
Aust Acad Science, Maths selection panel																
Vice-President, Ecological Society of Australia																
AMS medal selection committee																
ANZIAM 2009 invited speakers chair																
ESA 2005 Conference, Organising Comm.																
Birds Australia Statistical Advisory Committee																
Chair, Birds Australia Conservation Committee																
Birds Australia Research and Cons Committee																
Board of Australian Science Olympiads																
NCRIS capability science committee - AEON																
<b>State Committees</b>																
<b>Queensland Smart State Council</b>																
Healthy waterways partnership, QLD																
Moreton Bay rezoning expert panel																
QLD reserve system expansion expert panel																
President of Nature Conservation Soc of SA																
Committee of NCSSA, pre 1995																
Ministerial Adv Com on Veg Manag – QLD																
Scientific Advisory Panel – QLD EPA																
SA National Parks Council																
SA Wildlife Advisory Council																
Secretary, SA Rhodes Scholars Association																
Rhodes Scholarships, SA selection panel																
Selection Panel – SA Great Award for Science																
Selection Panel – SA Great Award for Env																
GBMPRA – Expert panel on marine reserves																
Biodiversity Planning Committee, SA																
Board of Greening Australia, QLD																
<b>Editorial Boards</b>																
<b>Chief Editor (1 of 4) of Conservation Letters</b>																
<b>Editorial Board of Ecology Letters</b>																
<b>Editorial Board of The American Naturalist</b>																
<b>Editorial Board of Conservation Biology</b>																
Editorial Board of Animal Conservation																
Editorial Board of Oryx																
Editorial Board of Ecol Restoration (Aust)																
Int. Board of Govs, Resource Modelling Ass.																
<b>Major Review Committees</b>																
Review of NSW Biobanking legislation																
EPBC Act review																
Chair – Western Shield Review																
Review Panel – CSIRO Sust Ecosystems																
ARC Reader – Maths and Computing																
Review Panel – Biol Sciences, Sydney																
Chair – UWA cons biol program																
UTas/CSIRO math-marine postgrad																
<b>Chair of Koala Management Taskforce, SA</b>																

## SUPERVISION

### Postdoctoral (5 current)

	Name	Years	From
1.	Brigitte Tenhumberg	1996 - 2002	University of Nebraska (Assoc Prof)
2.	Shane Richards	1997 - 1998	Calgary University: Durham UK
3.	Luo, Jia	1997 - 1998	Unknown
4.	Mick McCarthy	1998 - 1999	University of Melbourne
5.	Jemery Day	1998 - 1999	CSIRO, Marine, Hobart
6.	Ian Ball	1999 - 2000	Australian Antarctic Division
7.	Scott Field	1999 - 2004	Berkeley, Politics
8.	Drew Tyre	1999 - 2001	University of Nebraska (Assoc Prof)
9.	Tony Pople	2000 – 2005	QLD state govt.
10.	Steve Ball	2000 – 2001	Landcare New Zealand
11.	Chris Wilcox	2002 – 2005	CSIRO, Marine, Hobart
12.	Petra Kuhnert	2002 – 2004	Queensland EPA then CSIRO
13.	Niclas Jonzen	2002 – 2003	Lund University, Sweden
14.	Peter Baxter	2003 – 2010	University of Queensland (B)
15.	Kerrie Wilson	2004 – 2007	TNC Australia, then ARC PDF
16.	Tracey Regan	2004 – 2006	Scripps, San Diego; Uni Melb
17.	Severine Vuilleumier	2004 – 2005	University of Lausanne, Switz.
18.	Iadine Chades	2005 – 2006	INRA, Toulouse; now UQ
19.	Che Elkin	2005 – 2009	University Researcher, Germany
20.	Hiroyuki Yokomizo	2006 – 2007	CSIRO Entomology
21.	Simon Linke	2006 – 2010	Griffith University (B)
22.	Romola Stewart	2006 – 2009	family duties at present
23.	Judit Szabo	2007 – 2009	Charles Darwin University
24.	Melinda Buchanan	2007 – 2007	Mathematics tutoring
25.	Maria Beger	2007 -	ARC fellow
26.	James Watson	2008 – 2010	Wildlife Conservation Society (USA)
27.	Richard Fuller	2008 – 2009	University of Queensland (B)
28.	Howard Wilson	2008 – 2011	
29.	Liana Joseph	2008 – 2010	Wildlife Conservation Society postdoc
30.	Hedley Grantham	2008 – 2011	Conservation International (USA)
31.	Eve McDonald-Madden (ARC PDF)	2008 -	CSIRO, then ARC PDF
32.	Karin Perhans	2009 – 2010	
33.	Carissa Klein (ARC PDF)	2010 -	
34.	Josie Carwardine	2010 -	
35.	Oscar Venter (ARC PDF)	2011 -	ARC PDF at JCU

**PhD (36 complete, 14 current – includes current destination)**  
**\*UQ Deans commendation (top 10% of PhD students)**

	Name	Years	Topic	Now ...
1.	Geoffrey Tuck	1991 – 1994	Bioeconomics	Res. scientist, CSIRO,
2.	Jemery Day	1991 – 1995	Metapopulation theory	Res. scientist, CSIRO
3.	Shane Richards	1992 – 1996	Larval distribution models	Academic, Durham
4.	Ian Lundy	1992 – 1997	Population genetics	Financial consultant
5.	Asep Supriatna	1994 – 1998	Predator/prey harvesting	Prof, Indonesia
6.	Louise Emmerson	1994 – 1999	Ecology of Koonamore daisy	Antarctic Div.
7.	Ian Ball	1994 – 1999	Natural resource modelling	Antarctic Div. Hobart
8.	Stephen Ball	1995 – 2001	Metapopulation dynamics	GIS consultant
9.	Drew Tyre	1996 – 1999	Population dynamics, scaling	Univ Nebraska, AssPro
10.	Brett Bryan	1996 – 2000	Biodiversity planning for revegetation	Res. scientist, CSIRO
11.	Michael Westphal	1999 – 2003	Optimal restoration – UC Berkeley	World Bank, Washington
12.	Romola Stewart	1999 – 2004	PT, marine reserves – CALM, WA	Postdoc
13.	Francis Pantus	2000 – 2007	PT complex ecological models, CSIRO	Res. scientist, CSIRO
14.	Jonathon Rhodes	2001 – 2005*	Population modelling of koalas	CSIRO, now UQ Ivl B
15.	Norbert Menke	2001 -	Kangaroo spatial ecology	NRM&W – state govt
16.	Jessie Wells	2001 -	Rainforest ecology	
17.	Tara Martin	2001 – 2005*	Avian landscape ecology	UBC pdf, now CSIRO
18.	Kerrie Wilson	2001 – 2004	Reserve system design	TNC (Aust) Science Director, now UQ Ivl C
19.	Andres Etter	2002 – 2005*	Landscape dynamics in Columbia	Prof, Academic, Columbia
20.	Liana Joseph	2002 – 2007	Monitoring and prioritisation	Postdoc, now WCS
21.	Cindy Hauser	2002 – 2006*	Optimal harvesting	Uni Melb postdoc
22.	Emily Nicholson	2002 – 2006	Optimal reserve design	Princeton, Imperial postdoc
23.	Nadiah Kristensen	2003 – 2005	Resilience of ecological systems	CSIRO, Sust Ecosyst
24.	Michael Bode	2004 – 2007	Marine population modelling	Uni Melb postdoc
25.	Jenni Garden	2003 – 2006	Urban Landscape ecology	NSW state govt, Griffith
26.	Stuart Kininmonth	2003 – 2010	PT, spatial marine ecology	AIMS
27.	Maria Beger	2004 – 2007	Marine conservation, Pacific	Postdoc
28.	Reinaldo Lourival	2004 – 2008	Conservation planning	TNC, Brazil
29.	Gunnar Keppel	2004 – 2008	Pacific tropical forest ecology	Univ South Pacific, Curtin
30.	Eddie Game	2005 – 2008	Marine conservation planning	TNC
31.	Eve McDonald-Madden	2005 – 2008	Optimal monitoring	ARC PDF and CSIRO
32.	Hedley Grantham	2005 – 2008	Conservation planning	Postdoc
33.	Neil Huth	2005 – 2010	PT, Agricultural lanscape ecology	CSIRO, Sust Ecosyst
34.	Josie Carwardine	2006 – 2009	Economics and conservation priorities	CSIRO, Sust Ecosyst
35.	Danielle Shanahan	2006 – 2010	Bird habitat modelling	QLD State Govt, DERM
36.	Oscar Venter	2007 – 2010	IUCN lists and threat	ARC PDF
37.	Sam Nicol	2007 – 2010	Metapopulation management	Alaska, USGS
38.	William Probert	2007 -	Optimal monitoring	
39.	Takuya Iwamura	2007 – 2011	Climate change and prioritisation	Stanford postdoc
40.	Carissa Klein	2007 – 2010	Conservation Planning	ARC PDF
41.	Ishbel Kerkhez	2008 -		
42.	Madeleine Bottrill	2008 – 2011	Conservation evaluation	Conservation International
43.	Lissa Barr	2008 – 2012	Marine conservation	QLD State Govt, DERM
44.	Lucy Robinson	2008 -	Modelling marine species distributions	
45.	Chris Brown	2008 – 2011	ECOSIM and climate	UQ PDF
46.	Patricia Sutcliffe	2009 -	Marine biodiversity patterns	
47.	Ayesha Tulloch	2009 -	Prioritisation and monitoring	
48.	Fei Ng	2009 -	Population management modelling	
49.	Tessa Rawson	2010 -	Mediterranean conservation planing	
50.	Tim Holmes	2010 -	Bird recovery planning	

**Masters by research (2 complete)**

	<b>Name</b>	<b>Years</b>	<b>Topic</b>	<b>Now ...</b>
1.	Batbold Dorjughem	1996 – 1999	BIOCLIM/PVA	Govt. Mongolia
2.	Linda Cobiac	2001 – 2006	Catchment modelling	Medical modelling
3.	Jess Sushinsky	2010 – 2011	Urban birds (with Fuller)	
4.	Azusa Makino	2010 – 2012	Land-sea cons planning	

**Honours (50 complete)**

<b>Year</b>	<b>Students</b>
1991	Anna Ting, Richard Webster, Louise Emmerson
1992	Catherine Thomas, Janet Collier, Joseph Askew
1993	Maureen Goldfinch, Sandra Jackson, John Priest
1994	Joslin Moore, Joanna Chessel, Wendy Stubbs
1995	Juliette Woods, Natasha Garrett, Janet Matthews, David Gobbett
1996	Gary Luck, Jason White, Paul Thomas
1997	Daniel Stokes, Catherine Corrie, David Matthews, John Lorke
1998	Matt Turner, Bianca Leibich, Anne Koerber
1999	Jerry Smith, Richard Day, Travis Gotch, Sharn Lucas
2000	Amanda Lane
2001	Cass Hunter, Lauren Keim
2002	Michelle Ensbey, Sharon Forbes, Kate Bauer
2003	Anna Greig, Emily Saeck, Samantha Ryan
2004	Austin O'Malley
2005	Tracy Rout, Marissa McBride, Paul Smith, Chad Buxton
2006	
2007	Alienor Chauvenet
2008	Lucinda Douglass, Carmen Haines, Leigh Bennett
2009	Jess Walsh, Megan Evans
2010	Andrea Fullagar
2011	Dane Hill, Viv Tulloch

**TEACHING\***

1986 – 87	Tutor in Finals <b>Probability</b> and <b>Random Processes</b> , Demonstrator in <b>Preliminary Statistics</b> , and Teaching Assistant in <b>Non-parametric Statistics</b> at Oxford University.
1988	Teaching Assistant for <b>Principles of Ecology</b> at Stanford University.
1989	Lecturer for the third year course <b>Population and Community Ecology</b> at UNSW, Sydney campus.
1990	Six lectures on <b>Community Ecology</b> for the Zoology Department, ANU; two lectures on <b>Biomathematics</b> in the School of Mathematical Sciences, ANU.
1991	Lecturer for <b>Optimisation III</b> , <b>Mathematics I</b> , <b>Mathematical Biology III</b> and <b>Linear Programming II</b> at The University of Adelaide.
1992 – 95	Lecturer for <b>Mathematics I</b> , <b>Scientific Computing I</b> , <b>Mathematical Biology III</b> , <b>Biomathematics I</b> (for Agricultural Science students) and <b>Conservation Biology</b> (Graduate Diploma in Ecology and Management).
1996	<b>Conservation Biology III (12)</b> , <b>Community Ecology II (6)</b> , <b>Population Ecology II (9)</b> , <b>Mathematical Biology III (12)</b> , and <b>Agriculture, Environment and Society I (3)</b> .
1997 – 2000	<b>Conservation Biology III (12)</b> , <b>Environmental Biology I (9)</b> , <b>Mathematical Biology III (3-12)</b> , <b>Environment and Society I (6)</b> , <b>Population Ecology (camp)</b> plus seven one-off lectures.
2001 – 2002	<b>Biomathematics (33) MATHS3104*</b> ; <b>Rainforest Ecology (1 week field camp)</b> , <b>Conservation Biology (2-15)</b> ; plus 7 one-off lectures
2003 – 2005	<b>Biomathematics (15-18) MATHS3104</b> ; <b>Rainforest Ecology (1 week field camp)</b> , <b>Conservation Biology (11-19)</b> ; plus 4 one-off lectures
2006 – 2007	<b>Conservation Biology (18)</b> ; plus 4 one-off lectures
2008 – 2009	<b>Conservation Biology (12)</b> ; plus 3 one-off lectures
2010 – 2011	<b>Conservation Biology (18)</b> , plus 2 one-off, plus <b>Maths Hons reading class (10)</b>

*\* most recent formal undergraduate student evaluations 4.9/5.0, 4.9/5.0*

**RESEARCH GRANTS AND MAJOR CONSULTANCIES (Almost all as principal)  
(ignores many small grants and consultancies)**

1997-

Year	Description	Amount
1997	Koala management model - (DENR, SA)	\$12 000
1997 - 98	Advice on fauna and flora conservation - Environment Australia	\$20 000
1997 - 99	<b>Large ARC</b> (with Ian Noble, IAS – ANU)	\$115 000
1997 - 99	<b>Large ARC</b> (with Mike Bull, Flinders)	\$235 000
1997 - 99	<b>Large SPIRT</b> (Industry partner – EA, with Lindenmayer, IAS - ANU)	\$180 000
1997 - 99	APA-I - Koala Management (with David Paton)	\$60 000
1998	Small ARC	\$10 000
1998	Small ARC (with Mike Keller)	\$10 000
1998	Reserve design research consultancy - Environment Australia	\$40 000
1998 - 00	APA-I - Lobster Fisheries (with Greg van Gaans)	\$60 000
1998 - 00	FRDC - Octopus Predation on Lobsters (with Greg van Gaans)	\$160,000
1999 - 01	FRDC – Prawn fisheries management (with Greg van Gaans)	\$200,000
1999 - 01	<b>Large ARC</b>	\$125,000
1999 - 01	<b>Large SPIRT</b> (Industry partner – WMC Limited)	\$200,000
2000 - 01	National Marine Fisheries Service – consultancy – (USA)	\$45,000
2001 - 03	<b>Large SPIRT</b> (Industry partner – kangaroo industry, state govts)	\$350,000
2001 - 03	<b>Large SPIRT</b> (Industry partner – AKF)	\$225,000
2001	QLD EPA – Conservation Classification Peer Review	\$10,000
2001 - 02	NSW Agriculture – Kangaroo genetics	\$55,000
2001 - 03	UQ cross campus grant, Fraser Island fire (CI – Greg Baxter)	\$300,000
2002	QLD EPA – MARXAN, CCCS, C-Plan comparison	\$40,000
2002 - 04	<b>ARC Linkage</b> (Industry partner – WMC Limited)	\$250,000
2002 - 04	<b>ARC Linkage</b> (Industry partner – DEH SA)	\$260,000
2002 - 04	<b>GRDC</b> – weed risk assessment (Weeds CRC)	\$300,000
2003 - 07	<b>ARC Discovery</b> – with Dr McCarthy, Decision theory for conservation	\$640,000
2004 - 06	<b>ARC Linkage</b> – with Pressey, conservation planning (NSW NPWS)	\$200,000
2005 - 08	<b>ARC Linkage</b> (Industry partner – WMC Limited)	\$320 000
2005 - 07	Mediterranean conservation priority setting, The Nature Conservancy (USA)	\$240,000
2006	Development of MARXAN to include zoning, EcoTrust (USA)	\$60,000
2006	Global conservation priorities, Conservation International	\$30,000
2006 – 08	Regional conservation priority setting, DEH	\$200,000
2006 – 08	<b>ARC Discovery</b> – with Bob Pressey	\$510,000
2006 – 11	<b>ARC Federation Fellowship</b>	\$1,550,000
2006 – 10	CERF - first-named PI and Centre Director	\$7,900,000
2007 – 10	Prioritising threatened species in new Zealand, DOC	\$110,000
2007 – 08	<b>ARC Linkage International</b> – Dr Salit Kark	\$123,000
2007 – 09	<b>ARC Linkage</b> Industry partner – TNC (Asia-Pacific) - Beger	\$200 000
2007 – 08	Marxan development, TNC Indonesia	\$20,000
2008 – 10	<b>ARC Discovery</b> – with Cynthia Riginos	\$460,000
2008 – 12	<b>ARC Linkage</b> with Kerrie Wilson Industry partner - TNC (Aust)	\$760,000
2008 – 11	<b>ARC Linkage</b> Anthony Richardson first-named CI -	\$250,000
2008 – 09	Optimal restoration with regional bodies in NSW (James Watson)	\$140,000
2008 – 09	PEW foundation – Stewart and Ward	\$220,000
2008 – 09	DEWHA marine zoning	\$100,000
2009 – 12	<b>ARC Linkage</b> Stephen Garnett first-named CI -	\$350,000
2009 – 10	Marine Mammal hub - monitoring	\$80,000
2009 – 10	Extra research allocation through AEDA	\$650,000
2010 – 12	<b>ARC Discovery</b> – with Eve McDonald-Madden	\$420,000
2011 – 15	<b>ARC Super-Science Fellowships</b>	\$835,200
2011 – 17	<b>ARC Centre of Excellence (Director)</b>	\$11,900,000
2011 – 14	<b>National Environmental Research Program</b>	\$11,500,000

## CONFERENCE PAPERS, WORKSHOPS 1998 ONWARDS

\* indicates invited speaker and all costs covered, boldface - overseas

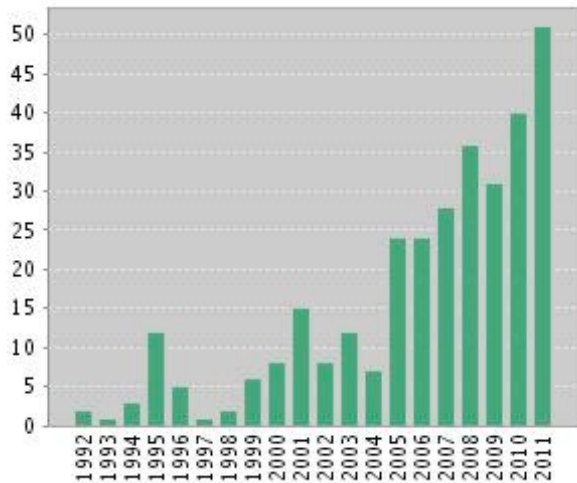
Year	Month	Location	Event
1998*	Feb	Gold Coast	Applied Maths Conference
<b>1998*</b>	<b>May</b>	<b>California</b>	<b>Theory of Marine Conservation</b>
1998	Jul	Sydney	Conservation Biology
1998*	Jul	Canberra	CSIRO conservation ecology
<b>1998*</b>	<b>Oct</b>	<b>California</b>	<b>Biodiversity working group</b>
<b>1999*</b>	<b>Jan-Apr</b>	<b>California</b>	<b>Study leave - talks at UCSB, UC Davis, UC Santa Cruz, NCEAS</b>
<b>1999*</b>	<b>Mar</b>	<b>San Diego</b>	<b>Population Viability Analysis</b>
1999	Jul	Colorado	Landscape Ecology conference, IALE
<b>1999*</b>	<b>Aug</b>	<b>California</b>	<b>Working groups at NCEAS</b>
1999*	Dec	Perth	Dampier 300, Systematics conference
<b>2000*</b>	<b>Jan</b>	<b>Sweden</b>	<b>IUCN workshop</b>
<b>2000*</b>	<b>Apr</b>	<b>Dunedin</b>	<b>University of Otago quantitative ecology workshop</b>
<b>2000*</b>	<b>Apr</b>	<b>Florida</b>	<b>Conservation Biology research priorities</b>
2000*	Oct	Gatton,	Biodiversity Planning
2000*	Nov	Brisbane	Landscape Health in Queensland
2000*	Nov	Brisbane	Fire management
<b>2000*</b>	<b>Nov</b>	<b>Washington</b>	<b>NMFS workshop on salomn reserve design</b>
<b>2000*</b>	<b>Nov</b>	<b>California</b>	<b>NCEAS working group on extinction risk</b>
<b>2001*</b>	<b>May</b>	<b>Finland, Sweden</b>	<b>Talks at University of Helsinki and SLU, Grimso</b>
2001*	Jul	Brisbane,	Computational Technique and Applied Computing
2001	Jul	Hawaii	Society for Conservation Biology, symposium presenter
2001	Aug	Wisconsin	Ecological Society of America
2001*	Sept	Adelaide	Minerals Foundation Environment Workshop
2001*	Oct	Brisbane	Geocomputation
2001*	Nov	Cairns	Rainforest CRC
2001*	Nov	Brisbane	Greening Australia – opening of building
2001*	Dec	Canberra	MODSIM 2001
<b>2002*</b>	<b>Feb</b>	<b>California</b>	<b>NCEAS working group</b>
2002*	Mar	Adelaide	"Getting it right" conference
2002	Aug	Beijing, China	International ornithological congress
<b>2002*</b>	<b>Nov</b>	<b>California</b>	<b>NCEAS working group on conservation decisions</b>
2002*	Nov	Brisbane	Australian Coral Reef Society
2002	Dec	Cairns	Ecological Society of Australia
2002*	Dec	Canberra	Adapting to climate change, AAS
<b>2003*</b>	<b>Apr</b>	<b>Pennsylvania</b>	<b>Penn State University,</b>
<b>2003*</b>	<b>Apr</b>	<b>Patuxent, MD</b>	<b>USGS adaptive management</b>
<b>2003*</b>	<b>May</b>	<b>New York</b>	<b>Cary conference, Institute of Ecosystem Studies</b>
<b>2003*</b>	<b>Oct</b>	<b>California</b>	<b>Biodiversity policy working group, Stanford</b>
<b>2003*</b>	<b>Nov</b>	<b>Christchurch</b>	<b>International Wildlife Congress</b>
<b>2003*</b>	<b>Dec</b>	<b>Panama</b>	<b>Smithsonian workshop on coral reefs</b>
2003*	Dec	Armidale	Ecological Society of Australia
<b>2004*</b>	<b>Mar</b>	<b>Wisconsin</b>	<b>Named lecture</b>
<b>2004*</b>	<b>Mar</b>	<b>Idaho/Montana</b>	<b>Named lectures</b>
<b>2004*</b>	<b>Apr</b>	<b>Trieste, Italy</b>	<b>Two workshops</b>
2004	Jul	New York	SCB meeting
<b>2004*</b>	<b>Sept</b>	<b>Leipzig</b>	<b>Ecological Economics</b>
<b>2004*</b>	<b>Sept</b>	<b>UK</b>	<b>Talks at cambridge, imperial, thesis examination</b>
<b>2005*</b>	<b>May</b>	<b>California</b>	<b>Research Dynamics working group</b>
<b>2005*</b>	<b>Jun</b>	<b>France</b>	<b>Resilience alliance workshop, Avignon</b>

Year	Month	Location	Event
2005	Jul	Brazil	Society for Conservation Biology Meeting
2006*	Mar	California	Plenary: US-IALE conference
2006*	Apr	Canada	Schafer lecture, UBC
2006*	Jun	Brisbane	Plenary: Philosophy of Ecology meeting
2006*	Jul	Adelaide	Plenary: National Science teachers conference
2006*	Jul	Townsville	Plenary: Computational Maths conference
2006*	Jul	Melbourne	Plenary: Australian Risk Analysis conference
2006*	Sept	Italy	Workshop on conservation of SE Asian mammals
2006*	Oct	Sth Africa	Workshop on reserve dynamics, Cape Town
2007*	Mar	Cambridge	Plenary: Student Conservation Biology Forum
2007*	Mar	California	Workshop on Mediterranean conservation
2007*	Apr	Vancouver	Plenary: inaugural MARXAN conference
2007*	Jul	Sth Africa	Workshop on reserve dynamics, Cape St Francis
2007*	Jul	Sth Africa	Plenary: Society for Conservation Biology
2007*	Jul	Sydney	Keynote: Pacific biodiversity conference
2007*	Sept	Perth	Plenary: MEDICOS XI
2007*	Nov	Sydney	Plenary: "Threatened species meeting", NSW NPWS
2007*	Dec	Cairns	Resilience workshop
2008	Grounded with respect to overseas travel by beloved wife		
2008*	Dec	Christchurch	Keynote speaker: Aust and NZ maths conference
2009	Feb	Sunshine Coast	ANZIAM – winner of best <i>non-student</i> speaker prize
2009*	April-July	Europe	Talks in: Roma, Sevilla, Royal Society London, Bern, Lausanne, Leipzig
2009*	Sept	Gold coast	Plenary – Australian Society of Operations Research
2009*	Dec	Santa Barbara	NCEAS working groups
2010*	Mar	Israel	Working group on science-policy nexus
2010*	Mar	Norway	Plenary: Ecology conference
2010*	Mar	Imperial College	Workshop on global indicators
2010	July	Bali	Two symposia at Association for Tropical Biology and Conservation
2010*	Aug	Canberra	Plenary: International Crawford Conference
2010*	Oct	Sydney	NRM monitoring conference
2010*	Nov	Perth	Assisted colonisation working group
2011*	April	Malaysia	Plenary: Mathematical Biology Conference
2011*	May	USA/Canada	NCEAS working group and IMCC2
2011*	June	South Africa	Antarctic conservation workshop
2011*	Aug	China/Japan/Singapore/Indonesia	Australian Academy of Science talking tour of Asia
2011*	Sep	Germany/Poland	Plenary: 8th International Conference on Behaviour, Physiology and Genetics of Wildlife, plus Poland talk – mammal institute
2011	Dec	New Zealand	ICCB – four symposia talks
2012*	May	South Korea	Plenary: Marine conference
2012*	September	Glasgow, UK	Plenary: 3 <sup>rd</sup> European Congress of Conservation Biology

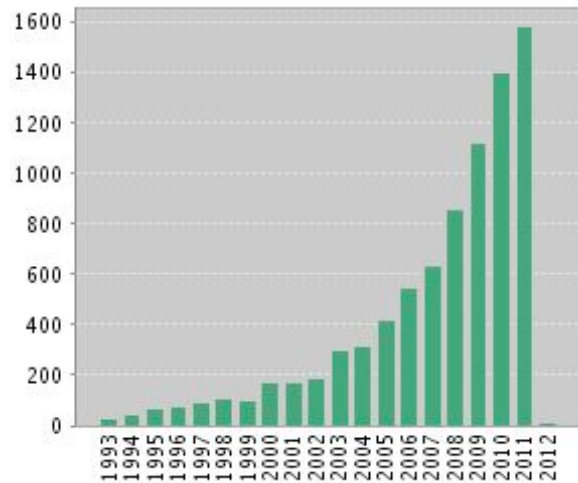
## PUBLICATION LIST and SUMMARY DATA

Number of publications and total number of citations – direct from **Web of Science** 11 Jan 2010

Publications each year since 1992, inclusive  
I arrived at UQ in 2000, my first fellowship 2003,  
Federation Fellowship started 2006



Web of Science Citations



**H-index (WoS):** 50 [Google Scholar H-index = 63]  
**M-index (WoS):** : 50/24 = 2.1  
**Total citations (WoS):** 8365

### Refereed journal articles from Web of Science – 322 published

#### 2011 (51 WoS papers to end of 2012)

1. Barr LM, Pressey RL, Fuller RA, Segan DB, McDonald-Madden E, **Possingham HP**. 2011. A New Way to Measure the World's Protected Area Coverage. *Plos One* 6(9). doi: 10.1371/journal.pone.0024707
2. Baxter PWJ, **Possingham HP**. 2011. Optimizing search strategies for invasive pests: learn before you leap. *Journal of Applied Ecology* 48(1): 86-95. doi: 10.1111/j.1365-2664.2010.01893.x
3. Bottrill MC, Hockings M, **Possingham HP**. 2011. In Pursuit of Knowledge: Addressing Barriers to Effective Conservation Evaluation. *Ecology and Society* 16(2). doi:
4. Bottrill MC, Walsh JC, Watson JEM, Joseph LN, Ortega-Argueta A, **Possingham HP**. 2011. Does recovery planning improve the status of threatened species? *Biological Conservation* 144(5): 1595-1601. doi: 10.1016/j.biocon.2011.02.008
5. Brady MJ, McAlpine CA, Miller CJ, **Possingham HP**, Baxter GS. 2011. Mammal responses to matrix development intensity. *Austral Ecology* 36(1): 35-45. doi: 10.1111/j.1442-9993.2010.02110.x
6. Brady MJ, McAlpine CA, **Possingham HP**, Miller CJ, Baxter GS. 2011. Matrix is important for mammals in landscapes with small amounts of native forest habitat. *Landscape Ecology* 26(5): 617-628. doi: 10.1007/s10980-011-9602-6
7. Carvalho SB, Brito JC, Crespo EG, Watts ME, **Possingham HP**. 2011. Conservation planning under climate change: Toward accounting for uncertainty in predicted species distributions to increase confidence in conservation investments in space and time. *Biological Conservation* 144(7): 2020-2030. doi: 10.1016/j.biocon.2011.04.024
8. Carvalho SB, Brito JC, Crespo EJ, **Possingham HP**. 2011. Incorporating evolutionary processes into conservation planning using species distribution data: a case study with the western Mediterranean herpetofauna. *Diversity and Distributions* 17(3): 408-421. doi: 10.1111/j.1472-4642.2011.00752.x
9. Chades I, Martin TG, Nicol S, Burgman MA, **Possingham HP**, Buckley YM. 2011. General rules for managing and surveying networks of pests, diseases, and endangered species. *Proceedings of the National Academy of Sciences of the United States of America* 108(20): 8323-8328. doi: 10.1073/pnas.1016846108

10. Cowling R, Mascia M, **Possingham H**, Sutherland W. 2011. Untitled. *Conservation Letters* 4(4): 253-254. doi:
11. Douglass LL, **Possingham HP**, Carwardine J, Klein CJ, Roxburgh SH, Russell-Smith J, et al. 2011. The Effect of Carbon Credits on Savanna Land Management and Priorities for Biodiversity Conservation. *Plos One* 6(9). doi: e23843
12. Evans M, **Possingham H**, Wilson K. 2011. Extinctions: conserve not collate. *Nature* 474(7351): 284-284. doi:
13. Evans MC, **Possingham HP**, Wilson KA. 2011. What to do in the face of multiple threats? Incorporating dependencies within a return on investment framework for conservation. *Diversity and Distributions* 17(3): 437-450. doi: 10.1111/j.1472-4642.2011.00747.x
14. Evans MC, Watson JEM, Fuller RA, Venter O, Bennett SC, Marsack PR, et al. 2011. The Spatial Distribution of Threats to Species in Australia. *BioScience* 61(4): 281-289. doi: 10.1525/bio.2011.61.4.8
15. Game ET, Lipsett-Moore G, Hamilton R, Peterson N, Kereseke J, Atu W, et al. 2011. Informed opportunism for conservation planning in the Solomon Islands. *Conservation Letters* 4(1): 38-46. doi: 10.1111/j.1755-263X.2010.00140.x
16. Giakoumi S, Grantham HS, Kokkoris GD, **Possingham HP**. 2011. Designing a network of marine reserves in the Mediterranean Sea with limited socio-economic data. *Biological Conservation* 144(2): 753-763. doi: 10.1016/j.biocon.2010.11.006
17. Grantham HS, Game ET, Lombard AT, Hobday AJ, Richardson AJ, Beckley LE, et al. 2011. Accommodating Dynamic Oceanographic Processes and Pelagic Biodiversity in Marine Conservation Planning. *Plos One* 6(2). doi: 10.1371/journal.pone.0016552
18. Hermoso V, Januchowski-Hartley S, Linke S, **Possingham HP**. 2011. Reference vs. present-day condition: early planning decisions influence the achievement of conservation objectives. *Aquatic Conservation-Marine and Freshwater Ecosystems* 21(6): 500-509. doi: 10.1002/aqc.1211
19. Hermoso V, Linke S, Prenda J, **Possingham HP**. 2011. Addressing longitudinal connectivity in the systematic conservation planning of fresh waters. *Freshwater Biology* 56(1): 57-70. doi: 10.1111/j.1365-2427.2009.02390.x
20. Huth N, **Possingham HP**. 2011. Basic ecological theory can inform habitat restoration for woodland birds. *Journal of Applied Ecology* 48(2): 293-300. doi: 10.1111/j.1365-2664.2010.01936.x
21. Jones JPG, Collen B, Atkinson G, Baxter PWJ, Bubb P, Illian JB, et al. 2011. The Why, What, and How of Global Biodiversity Indicators Beyond the 2010 Target. *Conservation Biology* 25(3): 450-457. doi: 10.1111/j.1523-1739.2010.01605.x
22. Joseph LN, Maloney RF, Watson JEM, **Possingham HP**. 2011. Securing nonflagship species from extinction. *Conservation Letters* 4(4): 324-325. doi: 10.1111/j.1755-263X.2011.00174.x
23. Kininmonth S, Beger M, Bode M, Peterson E, Adams VM, Dorfman D, et al. 2011. Dispersal connectivity and reserve selection for marine conservation. *Ecological Modelling* 222(7): 1272-1282. doi: 10.1016/j.ecolmodel.2011.01.012
24. Knight AT, Grantham HS, Smith RJ, McGregor GK, **Possingham HP**, Cowling RM. 2011. Land managers' willingness-to-sell defines conservation opportunity for protected area expansion. *Biological Conservation* 144(11): 2623-2630. doi: 10.1016/j.biocon.2011.07.013
25. Linke S, Watts M, Stewart R, **Possingham HP**. 2011. Using multivariate analysis to deliver conservation planning products that align with practitioner needs. *Ecography* 34(2): 203-207. doi: 10.1111/j.1600-0587.2010.06351.x
26. Lourival R, Drechsler M, Watts ME, Game ET, **Possingham HP**. 2011. Planning for reserve adequacy in dynamic landscapes; maximizing future representation of vegetation communities under flood disturbance in the Pantanal wetland. *Diversity and Distributions* 17(2): 297-310. doi: 10.1111/j.1472-4642.2010.00722.x
27. Mansson J, Hauser CE, Andren H, **Possingham HP**. 2011. Survey method choice for wildlife management: the case of moose *Alces alces* in Sweden. *Wildlife Biology* 17(2): 176-190. doi: 10.2981/10-052
28. McCarthy MA, Thompson CJ, Moore AL, **Possingham HP**. 2011. Designing nature reserves in the face of uncertainty. *Ecology Letters* 14(5): 470-475. doi: 10.1111/j.1461-0248.2011.01608.x
29. McDonald-Madden E, Baxter PWJ, Fuller RA, Martin TG, Game ET, Montambault J, et al. 2011. Should we implement monitoring or research for conservation? *Trends in Ecology & Evolution* 26(3): 108-109. doi: 10.1016/j.tree.2010.12.005

30. McDonald-Madden E, Chades I, McCarthy MA, Linkie M, **Possingham HP**. 2011. Allocating conservation resources between areas where persistence of a species is uncertain. *Ecological Applications* 21(3): 844-858. doi:
31. McDonald-Madden E, Runge MC, **Possingham HP**, Martin TG. 2011. Optimal timing for managed relocation of species faced with climate change. *Nature Climate Change* 1(5): 261-265. doi: 10.1038/nclimate1170
32. Murray JV, Choy SL, McAlpine CA, **Possingham HP**, Goldizen AW. 2011. Evaluating model transferability for a threatened species to adjacent areas: Implications for rock-wallaby conservation. *Austral Ecology* 36(1): 76-89. doi: 10.1111/j.1442-9993.2010.02122.x
33. Probert WJM, Drechsler M, Baxter PWJ, **Possingham HP**. 2011. Resource allocation in two species systems: Is it worth acknowledging species interactions? *Ecological Modelling* 222(10): 1781-1789. doi: 10.1016/j.ecolmodel.2011.02.026
34. Probert WJM, Hauser CE, McDonald-Madden E, Runge MC, Baxter PWJ, **Possingham HP**. 2011. Managing and learning with multiple models: Objectives and optimization algorithms. *Biological Conservation* 144(4): 1237-1245. doi: 10.1016/j.biocon.2010.07.031
35. Regan TJ, Chades I, **Possingham HP**. 2011. Optimally managing under imperfect detection: a method for plant invasions. *Journal of Applied Ecology* 48(1): 76-85. doi: 10.1111/j.1365-2664.2010.01915.x
36. Rhodes JR, Ng CF, de Villiers DL, Preece HJ, McAlpine CA, **Possingham HP**. 2011. Using integrated population modelling to quantify the implications of multiple threatening processes for a rapidly declining population. *Biological Conservation* 144(3): 1081-1088. doi: 10.1016/j.biocon.2010.12.027
37. Segan DB, Bottrill MC, Baxter PWJ, **Possingham HP**. 2011. Using Conservation Evidence to Guide Management. *Conservation Biology* 25(1): 200-202. doi: 10.1111/j.1523-1739.2010.01582.x
38. Shanahan DF, Miller C, **Possingham HP**, Fuller RA. 2011. The influence of patch area and connectivity on avian communities in urban revegetation. *Biological Conservation* 144(2): 722-729. doi: 10.1016/j.biocon.2010.10.014
39. Shanahan DF, **Possingham HP**, Riginos C. 2011. Models based on individual level movement predict spatial patterns of genetic relatedness for two Australian forest birds. *Landscape Ecology* 26(1): 137-148. doi: 10.1007/s10980-010-9542-6
40. Szabo JK, Vesk PA, Baxter PWJ, **Possingham HP**. 2011. Paying the extinction debt: woodland birds in the Mount Lofty Ranges, South Australia. *Emu* 111(1): 59-70. doi: 10.1071/mu09114
41. Taylor MFJ, Sattler PS, Evans M, Fuller RA, Watson JEM, **Possingham HP**. 2011. What works for threatened species recovery? An empirical evaluation for Australia. *Biodiversity and Conservation* 20(4): 767-777. doi: 10.1007/s10531-010-9977-8
42. Tulloch A, **Possingham HP**, Wilson K. 2011. Wise selection of an indicator for monitoring the success of management actions. *Biological Conservation* 144(1): 141-154. doi: 10.1016/j.biocon.2010.08.009
43. Watson JEM, Evans MC, Carwardine J, Fuller RA, Joseph LN, Segan DB, et al. 2011. The Capacity of Australia's Protected-Area System to Represent Threatened Species. *Conservation Biology* 25(2): 324-332. doi: 10.1111/j.1523-1739.2010.01587.x
44. Wilson HB, Joseph LN, Moore AL, **Possingham HP**. 2011. When should we save the most endangered species? *Ecology Letters* 14(9): 886-890. doi: 10.1111/j.1461-0248.2011.01652.x
45. Wilson HB, Kendall BE, Fuller RA, Milton DA, **Possingham HP**. 2011. Analyzing Variability and the Rate of Decline of Migratory Shorebirds in Moreton Bay, Australia. *Conservation Biology* 25(4): 758-766. doi: 10.1111/j.1523-1739.2011.01670.x
46. Wilson HB, Kendall BE, **Possingham HP**. 2011. Variability in Population Abundance and the Classification of Extinction Risk. *Conservation Biology* 25(4): 747-757. doi: 10.1111/j.1523-1739.2011.01671.x
47. Wilson KA, Evans MC, Di Marco M, Green DC, Boitani L, **Possingham HP**, et al. 2011. Prioritizing conservation investments for mammal species globally. *Philos T Roy Soc B* 366(1578): 2670-2680. doi: 10.1098/rstb.2011.0108

#### 2010 (39 WoS papers)

1. Beger, M., H. S. Grantham, R. L. Pressey, K. A. Wilson, E. L. Peterson, D. Dorfman, P. J. Mumby, R. Lourival, D. R. Brumbaugh, and H. P. Possingham. 2010. Conservation planning for connectivity across marine, freshwater, and terrestrial realms. *Biological Conservation* **143**:565-575.
2. Beger, M., S. Linke, M. Watts, E. Game, E. Treml, I. Ball, and H. P. Possingham. 2010. Incorporating asymmetric connectivity into spatial decision making for conservation. *Conservation Letters* **3**:359-368.

3. Bekessy, S. A., B. A. Wintle, D. B. Lindenmayer, M. A. McCarthy, M. Colyvan, M. A. Burgman, and H. P. Possingham. 2010. The biodiversity bank cannot be a lending bank. *Conservation Letters* **3**:151-158.
4. Bianchi, F., N. A. Schellhorn, Y. M. Buckley, and H. P. Possingham. 2010. Spatial variability in ecosystem services: simple rules for predator-mediated pest suppression. *Ecological Applications* **20**:2322-2333.
5. Brown, C. J., E. A. Fulton, A. J. Hobday, R. J. Matear, H. P. Possingham, C. Bulman, V. Christensen, R. E. Forrest, P. C. Gehrke, N. A. Gribble, S. P. Griffiths, H. Lozano-Montes, J. M. Martin, S. Metcalf, T. A. Okey, R. Watson, and A. J. Richardson. 2010. Effects of climate-driven primary production change on marine food webs: implications for fisheries and conservation. *Global Change Biology* **16**:1194-1212.
6. Carvalho, S. B., J. C. Brito, E. J. Crespo, and H. P. Possingham. 2010. From climate change predictions to actions - conserving vulnerable animal groups in hotspots at a regional scale. *Global Change Biology* **16**:3257-3270.
7. Carvalho, S. B., J. C. Brito, R. L. Pressey, E. Crespo, and H. P. Possingham. 2010. Simulating the effects of using different types of species distribution data in reserve selection. *Biological Conservation* **143**:426-438.
8. Carwardine, J., K. A. Wilson, S. A. Hajkovicz, R. J. Smith, C. J. Klein, M. Watts, and H. P. Possingham. 2010. Conservation Planning when Costs Are Uncertain. *Conservation Biology* **24**:1529-1537.
9. Chauvenet, A. L. M., P. W. J. Baxter, E. McDonald-Madden, and H. P. Possingham. 2010. Optimal allocation of conservation effort among subpopulations of a threatened species: How important is patch quality? *Ecological Applications* **20**:789-797.
10. Driscoll, D. A., D. B. Lindenmayer, A. F. Bennett, M. Bode, R. A. Bradstock, G. J. Cary, M. F. Clarke, N. Dexter, R. Fensham, G. Friend, M. Gill, S. James, G. Kay, D. A. Keith, C. MacGregor, H. P. Possingham, J. Russell-Smith, D. Salt, J. E. M. Watson, D. Williams, and A. York. 2010. Resolving conflicts in fire management using decision theory: asset-protection versus biodiversity conservation. *Conservation Letters* **3**:215-223.
11. Drummond, S. P., K. A. Wilson, E. Meijaard, M. Watts, R. Dennis, L. Christy, and H. P. Possingham. 2010. Influence of a Threatened-Species Focus on Conservation Planning. *Conservation Biology* **24**:441-449.
12. Egoh, B. N., B. Reyers, J. Carwardine, M. Bode, P. J. O'Farrell, K. A. Wilson, H. P. Possingham, M. Rouget, W. de Lange, D. M. Richardson, and R. M. Cowling. 2010. Safeguarding Biodiversity and Ecosystem Services in the Little Karoo, South Africa. *Conservation Biology* **24**:1021-1030.
13. Emmerson, L., J. M. Facelli, P. Chesson, and H. Possingham. 2010. Secondary seed dispersal of *Erodiochloa eldersonii*, a patchily distributed short-lived perennial in the arid lands of Australia. *Austral Ecology* **35**:906-918.
14. Fuller, R. A., E. McDonald-Madden, K. A. Wilson, J. Carwardine, H. S. Grantham, J. E. M. Watson, C. J. Klein, D. C. Green, and H. P. Possingham. 2010. Replacing underperforming protected areas achieves better conservation outcomes. *Nature* **466**:365-367.
15. Game, E. T., H. S. Grantham, A. J. Hobday, R. L. Pressey, A. T. Lombard, L. E. Beckley, K. Gjerde, R. Bustamante, H. P. Possingham, and A. J. Richardson. 2010. Pelagic MPAs: The devil you know Response. *Trends in Ecology & Evolution* **25**:63-64.
16. Garden, J. G., C. A. McAlpine, and H. P. Possingham. 2010. Multi-scaled habitat considerations for conserving urban biodiversity: native reptiles and small mammals in Brisbane, Australia. *Landscape Ecology* **25**:1013-1028.
17. Grantham, H. S., M. Bode, E. McDonald-Madden, E. T. Game, A. T. Knight, and H. P. Possingham. 2010. Effective conservation planning requires learning and adaptation. *Frontiers in Ecology and the Environment* **8**:431-437.
18. Iwamura, T., K. A. Wilson, O. Venter, and H. P. Possingham. 2010. A Climatic Stability Approach to Prioritizing Global Conservation Investments. *Plos One* **5**.
19. Keppel, G., Y. M. Buckley, and H. P. Possingham. 2010. Drivers of lowland rain forest community assembly, species diversity and forest structure on islands in the tropical South Pacific. *Journal of Ecology* **98**:87-95.
20. Kininmonth, S., M. Drechsler, K. Johst, and H. P. Possingham. 2010. Metapopulation mean life time within complex networks. *Marine Ecology-Progress Series* **417**:139-149.
21. Kininmonth, S., M. J. H. van Oppen, and H. P. Possingham. 2010. Determining the community structure of the coral *Seriatopora hystrix* from hydrodynamic and genetic networks. *Ecological Modelling* **221**:2870-2880.
22. Kininmonth, S. J., G. De'ath, and H. P. Possingham. 2010. Graph theoretic topology of the Great but small Barrier Reef world. *Theoretical Ecology* **3**:75-88.
23. Klein, C. J., N. C. Ban, B. S. Halpern, M. Beger, E. T. Game, H. S. Grantham, A. Green, T. J. Klein, S. Kininmonth, E. Treml, K. Wilson, and H. P. Possingham. 2010. Prioritizing Land and Sea Conservation Investments to Protect Coral Reefs. *Plos One* **5**.
24. Klein, C. J., C. Steinback, M. Watts, A. J. Scholz, and H. P. Possingham. 2010. Spatial marine zoning for fisheries and conservation. *Frontiers in Ecology and the Environment* **8**:349-353.
25. Knight, A. T., M. Bode, R. A. Fuller, H. S. Grantham, H. P. Possingham, J. E. M. Watson, and K. A. Wilson. 2010. Barometer of Life: More Action, Not More Data. *Science* **329**:141-141.
26. Lethbridge, M. R., M. I. Westphal, H. P. Possingham, M. L. Harper, N. J. Souter, and N. Anderson. 2010. Optimal restoration of altered habitats. *Environmental Modelling & Software* **25**:737-746.
27. McBride, M. F., K. A. Wilson, J. Burger, Y. C. Fang, M. Lulow, D. Olson, M. O'Connell, and H. P. Possingham. 2010. Mathematical problem definition for ecological restoration planning. *Ecological Modelling* **221**:2243-2250.
28. McCarthy, M. A., C. J. Thompson, C. Hauser, M. A. Burgman, H. P. Possingham, M. L. Moir, T. Tiensin, and M. Gilbert. 2010. Resource allocation for efficient environmental management. *Ecology Letters* **13**:1280-1289.

29. McDonald-Madden, E., P. W. J. Baxter, R. A. Fuller, T. G. Martin, E. T. Game, J. Montambault, and H. P. Possingham. 2010. Monitoring does not always count. *Trends in Ecology & Evolution* **25**:547-550.
30. McDonald-Madden, E., W. J. M. Probert, C. E. Hauser, M. C. Runge, H. P. Possingham, M. E. Jones, J. L. Moore, T. M. Rout, P. A. Vesk, and B. A. Wintle. 2010. Active adaptive conservation of threatened species in the face of uncertainty. *Ecological Applications* **20**:1476-1489.
31. Moore, J. L., T. M. Rout, C. E. Hauser, D. Moro, M. Jones, C. Wilcox, and H. P. Possingham. 2010. Protecting islands from pest invasion: optimal allocation of biosecurity resources between quarantine and surveillance. *Biological Conservation* **143**:1068-1078.
32. Nicol, S. C., L. Chades, S. Linke, and H. P. Possingham. 2010. Conservation decision-making in large state spaces. *Ecological Modelling* **221**:2531-2536.
33. Nicol, S. C. and H. P. Possingham. 2010. Should metapopulation restoration strategies increase patch area or number of patches? *Ecological Applications* **20**:566-581.
34. Roberge, J. M., G. Mikusinski, and H. P. Possingham. 2010. Has the term "conservation biology" had its day? *Frontiers in Ecology and the Environment* **8**:121-121.
35. Smith, R. J., E. Di Minin, S. Linke, D. B. Segan, and H. P. Possingham. 2010. An approach for ensuring minimum protected area size in systematic conservation planning. *Biological Conservation* **143**:2525-2531.
36. Szabo, J. K., P. A. Vesk, P. W. J. Baxter, and H. P. Possingham. 2010. Regional avian species declines estimated from volunteer-collected long-term data using List Length Analysis. *Ecological Applications* **20**:2157-2169.
37. Venter, O., W. F. Laurance, T. Iwamura, K. A. Wilson, R. A. Fuller, and H. P. Possingham. 2010. Planning for Biodiversity in Future Climates Response. *Science* **327**:1453-1453.
38. Venter, O., J. E. M. Watson, E. Meijaard, W. F. Laurance, and H. P. Possingham. 2010. Avoiding Unintended Outcomes from REDD. *Conservation Biology* **24**:5-6.
39. Wilson, K. A., E. Meijaard, S. Drummond, H. S. Grantham, L. Boitani, G. Catullo, L. Christie, R. Dennis, I. Dutton, A. Falcucci, L. Maiorano, H. P. Possingham, C. Rondinini, W. R. Turner, O. Venter, and M. Watts. 2010. Conserving biodiversity in production landscapes. *Ecological Applications* **20**:1721-1732.

#### **2009 (29 WoS papers)**

1. Yokomizo, H., H. P. Possingham, M. B. Thomas, and Y. M. Buckley. 2009. Managing the impact of invasive species: the value of knowing the density-impact curve. *Ecological Applications* **19**:376-386.
2. Wilson, K. A., J. Carwardine, and H. P. Possingham. 2009. Setting Conservation Priorities. Pages 237-264 *Year in Ecology and Conservation Biology 2009*.
3. Watts, M. E., I. R. Ball, R. S. Stewart, C. J. Klein, K. Wilson, C. Steinback, R. Lourival, L. Kircher, and H. P. Possingham. 2009. Marxan with Zones: Software for optimal conservation based land- and sea-use zoning. *Environmental Modelling & Software* **24**:1513-1521.
4. Watson, J. E. M., R. A. Fuller, A. W. T. Watson, B. G. Mackey, K. A. Wilson, H. S. Grantham, M. Turner, C. J. Klein, J. Carwardine, L. N. Joseph, and H. P. Possingham. 2009. Wilderness and future conservation priorities in Australia. *Diversity and Distributions* **15**:1028-1036.
5. Venter, O., E. Meijaard, H. Possingham, R. Dennis, D. Sheil, S. Wich, L. Hovani, and K. Wilson. 2009. Carbon payments as a safeguard for threatened tropical mammals. *Conservation Letters* **2**:123-129.
6. Venter, O., W. F. Laurance, T. Iwamura, K. A. Wilson, R. A. Fuller, and H. P. Possingham. 2009. Harnessing Carbon Payments to Protect Biodiversity. *Science* **326**:1368-1368.
7. Sutherland, W. J., W. M. Adams, R. B. Aronson, R. Aveling, T. M. Blackburn, S. Broad, G. Ceballos, I. M. Cote, R. M. Cowling, G. A. B. Da Fonseca, E. Dinerstein, P. J. Ferraro, E. Fleishman, C. Gascon, M. Hunter, J. Hutton, P. Kareiva, A. Kuria, D. W. MacDonald, K. MacKinnon, F. J. Madgwick, M. B. Mascia, J. McNeely, E. J. Milner-Gulland, S. Moon, C. G. Morley, S. Nelson, D. Osborn, M. Pai, E. C. M. Parsons, L. S. Peck, H. Possingham, S. V. Prior, A. S. Pullin, M. R. W. Rands, J. Ranganathan, K. H. Redford, J. P. Rodriguez, F. Seymour, J. Sobel, N. S. Sodhi, A. Stott, K. Vance-Borland, and A. R. Watkinson. 2009. One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Conservation Biology* **23**:557-567.
8. Shanahan, D. F. and H. P. Possingham. 2009. Predicting avian patch occupancy in a fragmented landscape: do we know more than we think? *Journal of Applied Ecology* **46**:1026-1035.
9. Rout, T. M., C. E. Hauser, and H. P. Possingham. 2009. Optimal adaptive management for the translocation of a threatened species. *Ecological Applications* **19**:515-526.
10. Murray, J. V., A. W. Goldizen, R. A. O'Leary, C. A. McAlpine, H. P. Possingham, and S. L. Choy. 2009. How useful is expert opinion for predicting the distribution of a species within and beyond the region of expertise? A case study using brush-tailed rock-wallabies *Petrogale penicillata*. *Journal of Applied Ecology* **46**:842-851.
11. Moore, S., T. Wallington, R. Hobbs, P. Ehrlich, C. Holling, S. Levin, D. Lindenmayer, C. Pahl-Wostl, H. Possingham, M. Turner, and M. Westoby. 2009. Diversity in Current Ecological Thinking: Implications for Environmental Management. *Environmental Management* **43**:17-27.
12. McDonald-Madden, E., A. Gordon, B. A. Wintle, S. Walker, H. Grantham, S. Carvalho, M. Bottrill, L. Joseph, R. Ponce, R. Stewart, and H. P. Possingham. 2009. ENVIRONMENT "True" Conservation Progress. *Science* **323**:43-44.
13. Lourival, R., H. McCallum, G. Grigg, C. Arcangelo, R. Machado, and H. Possingham. 2009. A SYSTEMATIC EVALUATION OF THE CONSERVATION PLANS FOR THE PANTANAL WETLAND IN BRAZIL. *Wetlands*

29:1189-1201.

14. Klein, C. J., K. A. Wilson, M. Watts, J. Stein, J. Carwardine, B. Mackey, and H. P. Possingham. 2009. Spatial conservation prioritization inclusive of wilderness quality: A case study of Australia's biodiversity. *Biological Conservation* **142**:1282-1290.
15. Klein, C., K. Wilson, M. Watts, J. Stein, S. Berry, J. Carwardine, M. S. Smith, B. Mackey, and H. Possingham. 2009. Incorporating ecological and evolutionary processes into continental-scale conservation planning. *Ecological Applications* **19**:206-217.
16. Kingsford, R. T., J. E. M. Watson, C. J. Lundquist, O. Venter, L. Hughes, E. L. Johnston, J. Atherton, M. Gawel, D. A. Keith, B. G. Mackey, C. Morley, H. P. Possingham, B. Raynor, H. F. Recher, and K. A. Wilson. 2009. Major Conservation Policy Issues for Biodiversity in Oceania. *Conservation Biology* **23**:834-840.
17. Keppel, G., A. J. Lowe, and H. P. Possingham. 2009. Changing perspectives on the biogeography of the tropical South Pacific: influences of dispersal, vicariance and extinction. *Journal of Biogeography* **36**:1035-1054.
18. Kark, S., N. Levin, H. S. Grantham, and H. P. Possingham. 2009. Between-country collaboration and consideration of costs increase conservation planning efficiency in the Mediterranean Basin. *Proceedings of the National Academy of Sciences of the United States of America* **106**:15368-15373.
19. Joseph, L. N., R. F. Maloney, and H. P. Possingham. 2009. Optimal Allocation of Resources among Threatened Species: a Project Prioritization Protocol. *Conservation Biology* **23**:328-338.
20. Joseph, L. N., C. Elkin, T. G. Martin, and H. P. Possingham. 2009. Modeling abundance using N-mixture models: the importance of considering ecological mechanisms. *Ecological Applications* **19**:631-642.
21. Grantham, H. S., K. A. Wilson, A. Moilanen, T. Rebelo, and H. P. Possingham. 2009. Delaying conservation actions for improved knowledge: how long should we wait? *Ecology Letters* **12**:293-301.
22. Game, E. T., H. S. Grantham, A. J. Hobday, R. L. Pressey, A. T. Lombard, L. E. Beckley, K. Gjerde, R. Bustamante, H. P. Possingham, and A. J. Richardson. 2009. Pelagic protected areas: the missing dimension in ocean conservation. *Trends in Ecology & Evolution* **24**:360-369.
23. Game, E. T., M. Bode, E. McDonald-Madden, H. S. Grantham, and H. P. Possingham. 2009. Dynamic marine protected areas can improve the resilience of coral reef systems. *Ecology Letters* **12**:1336-1346.
24. Duca, C., H. Yokomizo, M. A. Marini, and H. P. Possingham. 2009. Cost-efficient conservation for the white-banded tanager (*Neothraupis fasciata*) in the Cerrado, central Brazil. *Biological Conservation* **142**:563-574.
25. Drechsler, M., R. Lourival, and H. P. Possingham. 2009. Conservation planning for successional landscapes. *Ecological Modelling* **220**:438-450.
26. Colyvan, M., S. Linqvist, W. Grey, P. E. Griffiths, J. Odenbaugh, and H. P. Possingham. 2009. Philosophical Issues in Ecology: Recent Trends and Future Directions. *Ecology and Society* **14**.
27. Carwardine, J., C. J. Klein, K. A. Wilson, R. L. Pressey, and H. P. Possingham. 2009. Hitting the target and missing the point: target-based conservation planning in context. *Conservation Letters* **2**:3-10.
28. Brady, M. J., C. A. McAlpine, C. J. Miller, H. P. Possingham, and G. S. Baxter. 2009. Habitat attributes of landscape mosaics along a gradient of matrix development intensity: matrix management matters. *Landscape Ecology* **24**:879-891.
29. Bottrill, M. C., L. N. Joseph, J. Carwardine, M. Bode, C. N. Cook, E. T. Game, H. Grantham, S. Kark, S. Linke, E. McDonald-Madden, R. L. Pressey, S. Walker, K. A. Wilson, and H. P. Possingham. 2009. Finite conservation funds mean triage is unavoidable. *Trends in Ecology & Evolution* **24**:183-184.

### 2008 (35 WoS papers)

1. Beger M. & Possingham H.P. (2008). Environmental factors that influence the distribution of coral reef fishes: modeling occurrence data for broad-scale conservation and management. *Marine Ecology-Progress Series*, 361, 1-13.
2. Bode M., Burrage K. & Possingham H.P. (2008). Using complex network metrics to predict the persistence of metapopulations with asymmetric connectivity patterns. *Ecological Modelling*, 214, 201-209.
3. Bode M., Watson J., Iwamura T. & Possingham H.P. (2008). The cost of conservation. *Science*, 321, 340-340.
4. Bode M., Wilson K., McBride M. & Possingham H. (2008). Optimal dynamic allocation of conservation funding among priority regions. *Bulletin of Mathematical Biology*, 70, 2039-2054.
5. Bode M., Wilson K.A., Brooks T.M., Turner W.R., Mittermeier R.A., McBride M.F., Underwood E.C. & Possingham H.P. (2008). Cost-effective global conservation spending is robust to taxonomic group. *Proceedings of the National Academy of Sciences of the United States of America*, 105, 6498-6501.
6. Boitani L., Cowling R.M., Dublin H.T., Mace G.M., Parrish J., Possingham H.P., Pressey R.L., Rondinini C. & Wilson K.A. (2008). Change the IUCN protected area categories to reflect biodiversity outcomes. *Plos Biology*, 6, 436-438.
7. Bottrill M.C., Joseph L.N., Carwardine J., Bode M., Cook C., Game E.T., Grantham H., Kark S., Linke S., McDonald-Madden E., Pressey R.L., Walker S., Wilson K.A. & Possingham H.P. (2009). Finite conservation funds mean triage is unavoidable. *Trends in Ecology & Evolution*, 24, 183-184.
8. Carwardine J., Wilson K.A., Ceballos G., Ehrlich P.R., Naidoo R., Iwamura T., Hajkovicz S.A. & Possingham H.P. (2008). Cost-effective priorities for global mammal conservation. *Proceedings of the National Academy of Sciences of the United States of America*, 105, 11446-11450.
9. Chades I., McDonald-Madden E., McCarthy M.A., Wintle B., Linkie M. & Possingham H.P. (2008). When to

stop managing or surveying cryptic threatened species. *Proceedings of the National Academy of Sciences of the United States of America*, 105, 13936-13940.

10. Donato D., Ricci P.F., Noller B., Moore M., Possingham H. & Nichols O. (2008). The protection of wildlife from mortality: Hypothesis and results for risk assessment. *Environment International*, 34, 727-736.
11. Elkin C.M. & Possingham H. (2008). The role of landscape-dependent disturbance and dispersal in metapopulation persistence. *American Naturalist*, 172, 563-575.
12. Etter A., McAlpine C. & Possingham H. (2008). Historical patterns and drivers of landscape change in Colombia since 1500: A regionalized spatial approach. *Annals of the Association of American Geographers*, 98, 2-23.
13. Firn J., Rout T., Possingham H. & Buckley Y.M. (2008). Managing beyond the invader: manipulating disturbance of natives simplifies control efforts. *Journal of Applied Ecology*, 45, 1143-1151.
14. Game E.T., McDonald-Madden E., Puotinen M.L. & Possingham H.P. (2008). Should We Protect the Strong or the Weak? Risk, Resilience, and the Selection of Marine Protected Areas. *Conservation Biology*, 22, 1619-1629.
15. Game E.T., Watts M.E., Wooldridge S. & Possingham H.P. (2008). Planning for persistence in marine reserves: A question of catastrophic importance. *Ecological Applications*, 18, 670-680.
16. Hauser C.E. & Possingham H.P. (2008). Experimental or precautionary? Adaptive management over a range of time horizons. *Journal of Applied Ecology*, 45, 72-81.
17. Hoegh-Guldberg O., Hughes L., McIntyre S., Lindenmayer D.B., Parmesan C., Possingham H.P. & Thomas C.D. (2008). Assisted colonization and rapid climate change. *Science*, 321, 345-346.
18. Hoegh-Guldberg O., Hughes L., McIntyre S., Lindenmayer D.B., Parmesan C., Possingham H.P. & Thomas C.D. (2008). Where Species Go, Legal Protections Must Follow Response. *Science*, 322, 1049-1050.
19. Joseph L.N. & Possingham H.P. (2008). Grid-based monitoring methods for detecting population declines: Sensitivity to spatial scale and consequences of scale correction. *Biological Conservation*, 141, 1868-1875.
20. Klaassen M., Bauer S., Madsen J. & Possingham H. (2008). Optimal management of a goose flyway: migrant management at minimum cost. *Journal of Applied Ecology*, 45, 1446-1452.
21. Lindenmayer D., Hobbs R.J., Montague-Drake R., Alexandra J., Bennett A., Burgman M., Cale P., Calhoun A., Cramer V., Cullen P., Driscoll D., Fahrig L., Fischer J., Franklin J., Haila Y., Hunter M., Gibbons P., Lake S., Luck G., MacGregor C., McIntyre S., Mac Nally R., Manning A., Miller J., Mooney H., Noss R., Possingham H., Saunders D., Schmiegelow F., Scott M., Simberloff D., Sisk T., Tabor G., Walker B., Wiens J., Woinarski J. & Zavaleta E. (2008). A checklist for ecological management of landscapes for conservation. *Ecology Letters*, 11, 78-91.
22. McAlpine C.A., Rhodes J.R., Bowen M.E., Lunney D., Callaghan J.G., Mitchell D.L. & Possingham H.P. (2008). Can multiscale models of species' distribution be generalized from region to region? A case study of the koala. *Journal of Applied Ecology*, 45, 558-567.
23. McDonald-Madden E., Baxter P.W.J. & Possingham H.P. (2008). Making robust decisions for conservation with restricted money and knowledge. *Journal of Applied Ecology*, 45, 1630-1638.
24. McDonald-Madden E., Baxter P.W.J. & Possingham H.P. (2008). Subpopulation triage: How to allocate conservation effort among populations. *Conservation Biology*, 22, 656-665.
25. McDonald-Madden E., Bode M., Game E.T., Grantham H. & Possingham H.P. (2008). The need for speed: informed land acquisitions for conservation in a dynamic property market. *Ecology Letters*, 11, 1169-1177.
26. Murray J.V., Choy S.L., McAlpine C.A., Possingham H.P. & Goldizen A.W. (2008). The importance of ecological scale for wildlife conservation in naturally fragmented environments: A case study of the brush-tailed rock-wallaby (*Petrogale penicillata*). *Biological Conservation*, 141, 7-22.
27. Pantus F.J., Ellis N., Possingham H.P. & Venable W. (2008). Sensitivity analysis of spatially aggregated responses: A gradient-based method. *International Journal of Geographical Information Science*, 22, 575-599.
28. Rhodes J.R., Callaghan J.G., McAlpine C.A., De Jong C., Bowen M.E., Mitchell D.L., Lunney D. & Possingham H.P. (2008). Regional variation in habitat-occupancy thresholds: a warning for conservation planning. *Journal of Applied Ecology*, 45, 549-557.
29. Ross J.V., Sirl D.J., Pollett P.K. & Possingham H.P. (2008). Metapopulation persistence in a dynamic landscape: More habitat or better stewardship? *Ecological Applications*, 18, 590-598.
30. Wilmer J.W., Elkin C., Wilcox C., Murray L., Nijalke D. & Possingham H. (2008). The influence of multiple dispersal mechanisms and landscape structure on population clustering and connectivity in fragmented artesian spring snail populations. *Molecular Ecology*, 17, 3733-3751.

## 2007

1. Beger M., McKenna S.A. & Possingham H.P. (2007). Effectiveness of surrogate taxa in the design of coral reef reserve systems in the Indo-Pacific. *Conserv. Biol.*, 21, 1584-1593.
2. Bode M. & Possingham H. (2007). Can culling a threatened species increase its chance of persisting? *Ecol. Model.*, 201, 11-18.

3. Carwardine J., Rochester W.A., Richardson K.S., Williams K.J., Pressey R.L. & Possingham H.P. (2007). Conservation planning with irreplaceability: does the method matter? *Biodivers. Conserv.*, 16, 245-258.
4. Donato D.B., Nichols O., Possingham H., Moore M., Ricci P.F. & Noller B.N. (2007). A critical review of the effects of gold cyanide-bearing tailings solutions on wildlife. *Environ. Int.*, 33, 974-984.
5. Field S.A., O'Connor P.J., Tyre A.J. & Possingham H.P. (2007). Making monitoring meaningful. *Austral Ecol.*, 32, 485-491.
6. Garden J.G., McAlpine C.A., Possingham H.P. & Jones D.N. (2007). Habitat structure is more important than vegetation composition for local-level management of native terrestrial reptile and small mammal species living in urban remnants: A case study from Brisbane, Australia. *Austral Ecol.*, 32, 669-685.
7. Garden J.G., McAlpine C.A., Possingham H.P. & Jones D.N. (2007). Using multiple survey methods to detect terrestrial reptiles and mammals: what are the most successful and cost-efficient combinations? *Wildl. Res.*, 34, 218-227.
8. Knight A.T., Smith R.J., Cowling R.M., Desmet P.G., Faith D.P., Ferrier S., Gelderblom C.M., Grantham H., Lombard A.T., Maze K., Nel J.L., Parrish J.D., Pence G.Q.K., Possingham H.P., Reyers B., Rouget M., Roux D. & Wilson K.A. (2007). Improving the key biodiversity areas approach for effective conservation planning. *Bioscience*, 57, 256-261.
9. McBride M.F., Wilson K.A., Bode M. & Possingham H.P. (2007). Incorporating the effects of socioeconomic uncertainty into priority setting for conservation investment. *Conserv. Biol.*, 21, 1463-1474.
10. McCarthy M.A. & Possingham H.P. (2007). Active adaptive management for conservation. *Conserv. Biol.*, 21, 956-963.
11. Murdoch W., Polasky S., Wilson K.A., Possingham H.P., Kareiva P. & Shaw R. (2007). Maximizing return on investment in conservation. *Biol. Conserv.*, 139, 375-388.
12. Nicholson E. & Possingham H.P. (2007). Making conservation decisions under uncertainty for the persistence of multiple species. *Ecol. Appl.*, 17, 251-265.
13. Pillans S., Ortiz J.C., Pillans R.D. & Possingham H.P. (2007). The impact of marine reserves on nekton diversity and community composition in subtropical eastern Australia. *Biol. Conserv.*, 136, 455-469.
14. Pople A.R., Phinn S.R., Menke N., Grigg G.C., Possingham H.P. & McAlpine C. (2007). Spatial patterns of kangaroo density across the South Australian pastoral zone over 26 years: aggregation during drought and suggestions of long distance movement. *J. Appl. Ecol.*, 44, 1068-1079.
15. Possingham H.P., Grantham H. & Rondinini C. (2007). How can you conserve species that haven't been found? *J. Biogeogr.*, 34, 758-759.
16. Rout T.M., Hauser C.E. & Possingham H.P. (2007). Minimise long-term loss or maximise short-term gain? Optimal translocation strategies for threatened species. *Ecol. Model.*, 201, 67-74.
17. Skelly D.K., Joseph L.N., Possingham H.P., Freidenburg L.K., Farrugia T.J., Kinnison M.T. & Hendry A.P. (2007). Evolutionary responses to climate change. *Conserv. Biol.*, 21, 1353-1355.
18. Stewart R.R., Ball I.R. & Possingham H.P. (2007). The effect of incremental reserve design and changing reservation goals on the long-term efficiency of reserve systems. *Conserv. Biol.*, 21, 346-354.
19. Vuilleumier S., Wilcox C., Cairns B.J. & Possingham H.P. (2007). How patch configuration affects the impact of disturbances on metapopulation persistence. *Theor. Popul. Biol.*, 72, 77-85.
20. Wagner L.D., Ross J.V. & Possingham H.P. (2007). Catastrophe management and inter-reserve distance for marine reserve networks. *Ecol. Model.*, 201, 82-88.
21. Westphal M.I., Field S.A. & Possingham H.P. (2007). Optimizing landscape configuration: A case study of woodland birds in the Mount Lofty Ranges, South Australia. *Landscape Urban Plan.*, 81, 56-66.
22. Wilson K.A., Underwood E.C., Morrison S.A., Klausmeyer K.R., Murdoch W.W., Reyers B., Wardell-Johnson G., Marquet P.A., Rundel P.W., McBride M.F., Pressey R.L., Bode M., Hoekstra J.M., Andelman S., Looker M., Rondinini C., Kareiva P., Shaw M.R. & Possingham H.P. (2007). Conserving biodiversity efficiently: What to do, where, and when. *PLoS Biol.*, 5, 1850-1861.

## 2006

1. Joseph LN, Field SA, Wilcox, C. and Possingham HP. 2006. Presence-absence versus abundance data for monitoring threatened species. *Conservation Biology* 20:1679-1687.
2. Rondinini C, Wilson KA, Boitani L, Grantham H and Possingham HP. 2006. Tradeoffs of different types of species occurrence data for use in systematic conservation planning. *Ecology Letters* 9:1136-1145.
3. McAlpine CA, Rhodes JR, Callaghan JG, Bowen ME, Lunney D, Mitchell DL, Pullar DV and Possingham HP. 2006. The importance of forest area and configuration relative to local habitat factors for conserving forest mammals: a case study of koalas in Queensland, Australia. *Biological Conservation* 132:153-165.
4. Etter A, McAlpine C, Phinn S, Pullar D and Possingham H. 2006. Unplanned land clearing of Columbian rainforests: spreading like a disease? *Landscape and Urban Planning* 77: 240-253.
5. Nicholson E, Westphal MI, Frank K, Rochester WA, Pressey RL, Lindenmayer DB and Possingham HP. 2006. A new method for conservation planning for the persistence of multiple species. *Ecology Letters* 9:1049-1060.
6. Watzhold F et al. 2006. Ecological-economic modelling for biodiversity management: potential, pitfalls, and prospects. *Conservation Biology* 20:1034-1041.
7. Richardson EA, Kaiser MJ, Edward-Jones G and Possingham HP. 2006. Sensitivity of marine reserve

- design to the spatial resolution of socioeconomic data. *Conservation Biology* 20:1191-1202.
8. Etter A, McAlpine C, Phinn S, Pullar D and Possingham H. 2006. Characterising a tropical deforestation wave: a dynamic spatial analysis of a deforestation hotspot in the Columbian Amazon. *Global Change Biology* 12:1409-1420.
  9. Vuilleumier S and Possingham HP. 2006. Does colonization asymmetry matter in metapopulations? *Proceedings of the Royal Society B* 273:1637-1642.
  10. Regan TJ, McCarthy MA, Baxter PWJ, Panetta FD and Possingham HP. 2006. Optimal eradication: when to stop looking for an invasive plant. *Ecology Letters* 9:759-766.
  11. Nicholson E, Possingham HP. 2006. Objectives for multiple-species conservation planning. *Conservation Biology* 20:871-881.
  12. Baxter PWJ, McCarthy MA, Possingham HP, Menkhorst, P. and McLean, N. 2006. Accounting for management costs in sensitivity analyses of matrix population models. *Conservation Biology* 20:893-905.
  13. Etter A, McAlpine C, Pullar D, Possingham HP. 2006. Modelling the conversion of Colombian lowland ecosystems since 1940: Drivers, patterns and rates. *Journal of Environmental Management* 79:74-87.
  14. Rhodes JR, Tyre AJ, Jonzen N, McAlpine, C. and Possingham, H.P. 2006. Optimizing presence-absence surveys for detecting population trends. *Journal of Wildlife Management* 70:8-18.
  15. Hauser CE, Pople AR, Possingham HP. 2006. Should managed populations be monitored every year? *Ecological Applications* 16:807-819.
  16. Wilcox, C. and B. Cairns, H. P. Possingham. 2006. Metapopulation dynamics with variable habitat quality: a stochastic analysis. *Ecology* 87:855-863.
  17. Wilson, K. A., M. McBride, M. Bode, and H. P. Possingham. 2006. Prioritising global conservation efforts. *Nature* 440:337-340.
  18. Rhodes, J. R., T. Weigand, C. A. McAlpine, J. Callaghan, D. Lunney, M. Bowen, H. P. Possingham. 2006. Modelling species' distributions to improve conservation in semiurban landscapes: Koala case study. *Conservation Biology* 20:449-459.
  19. Halpern, B., H. M. Regan, H. P. Possingham, and M. A. McCarthy. 2006. Accounting for uncertainty in marine reserve design. *Ecology Letters* 9:2-11.
  20. Halpern, B., H. M. Regan, H. P. Possingham, and M. A. McCarthy. 2006. Rejoinder: Uncertainty and decision making. *Ecology Letters* 9:13-14.
  21. Martin, T. G., S. McIntyre, C. P. Catterall and H. P. Possingham. 2006. Is landscape context important for riparian context? Birds in grassy woodlands. *Biological Conservation*
  22. Etter, A., C.A. McAlpine, K. Wilson, S. Phinn, H. Possingham. 2006. Regional patterns of agricultural land use deforestation in Columbia. *Agriculture Ecosystems & Environment* 114:369-386.
  23. Garden, J., C. McAlpine, A. Peterson, D. Jones, and H. P. Possingham. 2006. Review of the ecology of Australian urban fauna: A focus on spatially explicit processes. *Austral Ecology* 31:126-148.

## 2005

1. Etter, A., C. McAlpine, D. Pullar, and H. P. Possingham. 2005. Modeling the age of tropical moist forest fragments in heavily-cleared lowland landscapes of Colombia. *Forest Ecology and Management* 208:249-260.
2. Fernandes, L. et al. 2005. Establishing representative no-take areas on the Great Barrier Reef: Large-scale implementation of theory on protected areas. *Conservation Biology* 19:1733-1744.
3. Field, S. A., A. J. Tyre, and H. P. Possingham. 2005. Optimizing allocation of monitoring effort under economic and observational constraints. *Journal of Wildlife Management* 69:473-482.
4. Field, S.A., A. J. Tyre, K. H. Thorn, P. J. O'Connor, and H. P. Possingham. 2005. Improving the efficiency of wildlife monitoring by estimating detectability: a case study of foxes (*Vulpes vulpes*) on the Eyre Peninsula, South Australia. *Wildlife Research* 32:1-6.
5. Gerber, L. R., M. Beger, M. A. McCarthy, and H. P. Possingham. 2005. A theory for optimal monitoring of marine reserves. *Ecology Letters* 8:829-837.
6. Jackson J. B. C., J. C. Ogden, J. M. Pandolfi, N. Baron, R. H. Bradbury, H. M. Guzman, T. P. Hughes, C. V. Kappel, F. Micheli, H. P. Possingham and E. Sala. 2005. Reassessing US coral reefs – Response. *Science* 308:1741-1742.
7. Jonzén, N., A. R. Pople, G. C. Grigg, and H. P. Possingham. 2005. Of Sheep and Rain: Large-scale Population Dynamics of the Red Kangaroo. *Journal of Animal Ecology* 74:22-30.
8. Jonzén, N., J. R. Rhodes, and H. P. Possingham. 2005. Trend detection in source-sink systems: When should sink habitats be monitored. *Ecological Applications* 15:326-334.
9. Kuhnert, P. M., T. G. Martin, K. Mengersen, and H. P. Possingham. 2005. Assessing the impacts of grazing levels on bird density in woodland habitat: a Bayesian approach using expert opinion. *Environmetrics* 16:717-747.
10. Martin, T. G., and H. P. Possingham. 2005. Predicting the impact of livestock grazing on birds using foraging height data. *Journal of Applied Ecology* 42:400-408.
11. Martin, T. G., P. M. Kuhnert, K. Mengersen, and H. P. Possingham. 2005. The power of expert opinion in ecological models using Bayesian methods: Impact of grazing on birds. *Ecological Applications* 15:266-

280.

12. Martin, T, Wintle, B, Low Choy, S, Kuhnert, P., Rhodes, J. M., Field, S. A., and Possingham, H. P. 2006. Zero tolerance ecology: improving ecological inference by modelling the sources of excess zero observations. *Ecology Letters* 8:1235-1246
13. McCarthy, M. A., C. J. Thompson, and H. P. Possingham. 2005. Theory for Designing Nature Reserves for Single Species. *The American Naturalist* 165:250-257.
14. Pandolfi J. M., J. B. C. Jackson, N. Baron, R. H. Bradbury, H. M. Guzman, T. P. Hughes, C. V. Kappel, F. Micheli, J. C. Ogden, H. P. Possingham and E. Sala. 2005. Ecology – Are US coral reefs on the slippery slope to slime? *Science* 301:1725-1726.
15. Pillans, S., R. D. Pillans, R. W. Johnstone, P. G. Kraft, M. D. E. Haywood, and H. P. Possingham. 2005. Effects of marine reserve protection on the mud crab *Scylla serrata* in a sex-biased fishery in subtropical Australia. *Marine Ecology Progress Series* 295:201-213.
16. Possingham, H. P. and K. A. Wilson. 2005. Biodiversity – turning up the heat on hotspots. *Nature* 436:919-920.
17. Rhodes, J. R., C. A. McAlpine, D. Lunney and H. P. Possingham. 2005. A spatially explicit habitat selection model incorporating home range behaviour. *Ecology* 86:1199-1205.
18. Stewart, R. R. and H. P. Possingham. 2005. Efficiency, costs and trade-offs in marine reserve design. *Environmental Modelling & Assessment* 10:203-213.
19. Wilson, K. A., R. L. Pressey, A. Newton, M. Burgman, H. P. Possingham, and C. Weston. 2005. Measuring and incorporating vulnerability into conservation planning. *Environmental Management* 35:527-543.
20. Wilson, K. A., M. I. Westphal, H. P. Possingham, and J. Elith. 2005. Sensitivity of conservation planning to different approaches to using predicted species distribution data. *Biological Conservation* 122:99-112.

#### 2004

- Field, S. A., A. J. Tyre, N. Jonzén, J. R. Rhodes, and H. P. Possingham. 2004. Minimizing the cost of environmental management decisions by optimizing statistical thresholds. *Ecology Letters* 7:669-675.
- Haight, R. G., B. Cypher, P. A. Kelly, S. Phillips, K. Ralls, and H. P. Possingham. 2004. Optimizing reserve expansion for disjunct populations of San Joaquin kit fox. *Biological Conservation* 117:61-72.
- Jonzén, N., C. Wilcox, and H. P. Possingham. 2004. Habitat selection and population regulation in temporally fluctuating populations. *The American Naturalist* 164:E103-E114.
- Meir, E., S. Andelman, and H. P. Possingham. 2004. Does conservation planning matter in a dynamic and uncertain world? *Ecology Letters* 7:615-622.
- McCarthy, M. A., et al. 2004. Comparing predictions of extinction risk using models and subjective judgement. *Acta Oecologia-International Journal of Ecology* 26:67-74.
- Tenhumberg, B., A. J. Tyre, A. R. Pople, and H. P. Possingham. 2004. Do harvest refuges buffer kangaroos against evolutionary responses to selective harvesting? *Ecology* 85:2003-2017.
- Tenhumberg, B., A. J. Tyre, K. Shea, and H. P. Possingham. 2004. Linking wild and captive populations to maximise species persistence: optimal translocation strategies. *Conservation Biology* 18:1304-1314.

#### 2003

- Allison, G. W., S. D. Gaines, J. Lubchenco, and H. P. Possingham. 2003. Ensuring persistence of marine reserves: catastrophes requiring adopting an insurance factor. *Ecological Applications* 13:S8-S24.
- Ball, S. J., D. B. Lindenmayer, and H. P. Possingham. 2003. The predictive accuracy of population viability analysis: a test using data from two small mammal species in a fragmented landscape. *Biodiversity and Conservation* 12:2393-2413.
- Gerber, L. et al. 2003. Population models for marine reserve design: A retrospective and prospective synthesis. *Ecological Applications* 13:S47-S64.
- Leslie, H., R. Ruckelshaus, I. R. Ball, S. Andelman, and H. P. Possingham. 2003. Using siting algorithms in the design of marine reserve networks. *Ecological Applications* 13:S185-S198.
- Lindenmayer, D. B., H. P. Possingham, R. C. Lacy, M. A. McCarthy, and M. L. Pope. 2003. How accurate are population models? Lessons from landscape-scale tests in a fragmented system. *Ecology Letters* 6:41-47.
- McCarthy, M. A., S. J. Andelman, and H. P. Possingham. 2003. Reliability of relative predictions in population viability analysis. *Conservation Biology* 17:1-9.
- Roberts, C. M., S. Andelman, G. Branch, R. H. Bustamante, J. C. Castilla, J. Dugan, B. S. Halpern, K. D. Lafferty, H. Leslie, J. Lubchenco, D. McArdle, H. P. Possingham, M. Ruckelshaus, and R. R. Warner. 2003. Ecological Criteria for Evaluating Candidate Sites for Marine Reserves. *Ecological Applications* 13:S199-S214.
- Stewart, R. R., T. Noyce, and H. P. Possingham. 2003. Opportunity cost of ad hoc marine reserve design decisions: an example from South Australia. *Marine Ecology Progress Series* 253:1-16.
- Tyre, A. J., B. Tenhumberg, Field S.A, D. Niejalke, K. Parris, and H. P. Possingham. 2003. Improving precision and reducing bias in biological surveys: Estimating false-negative error rates. *Ecological Applications* 13:1790-1801.
- Westphal, M. I., S. A. Field, A. J. Tyre, D. Paton, and H. P. Possingham. 2003. Effects of landscape pattern on

- bird species distribution in the Mt. Lofty Ranges, South Australia. *Landscape Ecology* 18:413-426.
- Westphal, M. I., M. Pickett, W. Getz, and H. P. Possingham. 2003. The use of stochastic dynamic programming in optimal landscape reconstruction for metapopulations. *Ecological Applications* 13:543-555.
- Westphal, M. I., and H. P. Possingham. 2003. Applying a decision-theory framework to landscape planning for biodiversity: Follow-up to Watson et al. *Conservation Biology* 17:327-329.

## 2002

- Bascompte, J., H. P. Possingham, and J. Roughgarden. 2002. Patchy populations in stochastic environments: Critical number of patches for persistence. *The American Naturalist*. 160 128-137.
- Haight, R. G., B. Cypher, P. A. Kelly, S. Phillips, H. P. Possingham, K. Ralls, A. M. Starfield, P. J. White, and D. Williams. 2002. Optimizing habitat protection using demographic models of population viability. *Conservation Biology* 16:1386-1397.
- Lindenmayer, D. B., A. D. Manning, P. L. Smith, H. P. Possingham, J. Fischer, I. Oliver, and M. A. McCarthy. 2002. The focal-species approach and landscape restoration: a critique. *Conservation Biology* 16:338-345.
- McDonnell, M. D., H. P. Possingham, I. R. Ball, and E. A. Cousins. 2002. Mathematical methods for spatially cohesive reserve design. *Environmental Modelling and Assessment* 7:107-114.
- Possingham, H. P., S. J. Andelman, M. A. Burgman, R. A. Medellin, L. L. Master, and D. A. Keith. 2002. Limits to the use of threatened species lists. *Trends in Ecology and Evolution* 17:503-505.
- Shea, K., H. P. Possingham, W. W. Murdoch, and R. Roush. 2002. Active adaptive management in insect pest and weed control: Intervention with a plan for learning. *Ecological Applications* 12:927-936.
- Wilcox, C., and H. P. Possingham. 2002. Do life history traits affect the accuracy of diffusion approximations for mean time to extinction? *Ecological Applications* 12:1163-1179.

## 2001

- Amarasekare, P., and H. P. Possingham. 2001. Patch dynamics and metapopulation theory: the case of successional species. *Journal of Theoretical Biology* 209:333-344.
- Burgman, M. A., H. P. Possingham, A. Jasmyn-Lynch, D. A. Keith, M. A. McCarthy, S. D. Hopper, W. L. Drury, J. A. Passioura, and R. J. and DeVries. 2001. A decision support protocol for setting plant conservation target areas. *Conservation Biology* 15:603-616.
- Coulson, T., G. M. Mace, E. Hudson, and H. Possingham. 2001. The use and abuse of population viability analysis. *Trends in Ecology & Evolution* 16:219-221.
- Lindenmayer, D. B., I. R. Ball, H. P. Possingham, M. McCarthy, and M. Pope. 2001. A landscape scale test of the predictive ability of a spatially explicit model for population viability analysis. *Journal of Applied Ecology* 387:36-48.
- Lindenmayer, D. B., M. A. McCarthy, P. H.P., and L. S. 2001. A simple landscape-scale test of a spatially explicit population model: patch occupancy in fragmented south-eastern Australian forests. *Oikos* 92:445-458.
- McCarthy, M. A., D. B. Lindenmayer, and H. P. Possingham. 2001. Assessing spatial PVA models of arboreal marsupials using significance tests and bayesian statistics. *Biological Conservation* 98:191-200.
- McCarthy, M. A., H. P. Possingham, J. R. Day, and A. J. Tyre. 2001. Testing the accuracy of population viability analysis. *Conservation Biology* 15:1030-1038.
- McCarthy, M. A., H. P. Possingham, and A. M. Gill. 2001. Using stochastic dynamic programming to determine optimal fire management of *Banksia ornata*. *Journal of Applied Ecology* 38:585-592.
- Milner-Gulland, E. J., K. Shea, H. P. Possingham, T. Coulson, and C. Wilcox. 2001. Competing harvesting strategies in a simulated population under uncertainty. *Animal Conservation* 4:157-167.
- Tenhumberg, B., M. A. Keller, and H. P. Possingham. 2001. Using Cox's Proportional Hazard Models to Implement Optimal Strategies: An example from behavioural ecology. *Mathematical and Computer Modelling* 33:597-607.
- Tenhumberg, B., M. A. Keller, H. P. Possingham, and A. Tyre. 2001. The effect of resource aggregation at different scales: optimal foraging of *Cotesia rubecula*. *The American Naturalist* 158:505-518.
- Tenhumberg, B., M. A. Keller, H. P. Possingham, and A. J. Tyre. 2001. Optimal patch-leaving behaviour: a case study using the parasitoid *Cotesia rubecula*. *Journal of Animal Ecology* 70:683-691.
- Tyre, A. J., H. P. Possingham, and D. B. Lindenmayer. 2001. Inferring process from pattern: can territory occupancy provide information about life history parameters. *Ecological Applications* 11:1722-1737.
- Tyre, A. J., H. P. Possingham, and D. P. Nijalke. 2001. Detecting environmental impacts on metapopulations of mound spring invertebrates - Assessing an incidence function model. *Environment International* 27:225-229.

## 2000

- Ball, S. J., M. Adams, H. P. Possingham, and M. A. Keller. 2000. The genetic contribution of single male immigrants to small, inbred populations: a laboratory study using *Drosophila melanogaster*. *Hereditary* 84:677-684.
- McCarthy, M. A., D. B. Lindenmayer, and H. P. Possingham. 2000. Testing predictions of PVA models of

- Australian treecreepers (Aves: Climacteridae) in fragmented forests. *Ecological Applications* 10:1722-1731.
- Possingham, H. P. 2000. Is environmental research a waste of time? *Ecological Management and Restoration* 1(2):81-82.
- Richards, S. A., R. M. Nisbet, W. G. Wilson, and H. P. Possingham. 2000. Grazers and diggers: exploitation competition and coexistence among foragers with different feeding strategies on a single resource. *The American Naturalist* 155:266-279.
- Shea, K., and H. P. Possingham. 2000. Optimal release strategies for biological control agents: an application of stochastic dynamic programming to population management. *Journal of Applied Ecology* 37:77-86.
- Tuck, G. N., and H. P. Possingham. 2000. Marine protected areas for spatially structured stock. *Marine Ecology Progress Series* 192:89-101.

#### Before 2000

- Tyre, A. J., Possingham, H. P. and Lindenmayer, D. B. 1999. Modelling dispersal on a fractal landscape. *Environmental Modelling and Software* 14:103-113.
- Pressey, R.L., Possingham, H.P., Logan, V.S., Day, J.R. and Williams, P.H. 1999. Effects of data characteristics on the results of reserve selection algorithms. *Journal of Biogeography* 26:179-191.
- Supriatna, A. K. and Possingham, H. P. 1999. Harvesting a two-patch predator-prey metapopulation. *Natural Resource Modelling* 12:481-500.
- Richards, S. A. Possingham, H. P. and Tizard, J. 1999. Optimal fire management for maintaining community diversity. *Ecological Applications* 8:156.
- Ball, I. R., Lindenmayer, D.B. and Possingham, H. P. 1999. A tree hollow dynamics simulation model. *Forest Ecology and Management* 123:179-194.
- Supriatna, A., and Possingham, H. P. 1998. Optimal harvesting for a predator-prey metapopulation. *Bulletin of Mathematical Biology* 60:49-65.
- Lundy, I. and Possingham, H. P. 1998. Fixation probability of an allele in a subdivided population with asymmetric migration. *Genetical Research* 71:237-245
- Parma, A., Amarasekare, P., Mangel, M., Moore, J., Murdoch, W. W., Noonburg, E., Pascual, M. A., Possingham, H. P., Shea, K., Wilcox, W. and Yu, D. 1998. What can adaptive management do for our fish, food, forests and biodiversity. *Integrative Biology* 1:16-26.
- Shea, K., Amarasekare, P., Mangel, M., Moore, J., Murdoch, W. W., Noonburg, E., Parma, A., Pascual, M. A., Possingham, H. P., Wilcox, W. and Yu, D. 1998. Management of populations in conservation, harvesting and control. *Trends in Ecology and Evolution* 13:371-374.
- Pressey, R. L., Possingham, H. P. and Day, J. R. 1997. Effectiveness of alternative heuristic algorithms for approximating minimum requirements for conservation reserves. *Biological Conservation* 80:207-219
- Lindenmayer, D.W. and Possingham, H. P. 1996. Modelling the inter-relationships between habitat patchiness, dispersal capability and metapopulation persistence of the endangered species, Leadbeater's possum, in south-eastern Australia. *Landscape Ecology* 11:79-105
- Lindenmayer, D.W. and Possingham, H. P. 1996. Ranking conservation and timber management options for Leadbeater's Possum in southeastern Australia using Population Viability Analysis. *Conservation Biology* 10:235-251.
- Pressey, R. L., Possingham, H. P. and Margules, C. R. 1996. Optimality in reserve selection algorithms: When does it matter and how much? *Biological Conservation* 76:259-267
- Richards, S. A., Possingham, H. P. and Noye, B. J. 1996. Diel vertical migration: modelling light-mediated mechanisms. *Journal of Plankton Research* 18:2199-2222
- Richards, S. R., Possingham, H. P. and Noye, B. J. 1995. Larval dispersion along a straight coast with tidal currents: complex distribution patterns from a simple model. *Marine Ecology Progress Series* 122:59-71.
- Possingham, H. P., Comins, H. N, and Noble, I. R. 1995. The fire and flammability niches in plant communities. *Journal of Theoretical Biology* 174:97-108.
- Bull, M. and Possingham, H. P. 1995. A model to explain ecological parapatry. *The American Naturalist* 145:935-947.
- Lindenmayer, D. B. and Possingham, H. P. 1995. Modelling the impacts of wildfire on the metapopulation behaviour of the Australian arboreal marsupial, Leadbeater's possum, *Gymnobelideus leadbeateri*. *Forest Ecology and Management* 74:197-222.
- Possingham, H. P. and Davies, I. 1995. ALEX: A population viability analysis model for spatially structured populations. *Biological Conservation*. 73:143-150.
- Southgate, R. and Possingham, H. P. 1995. Modelling the reintroduction of the Greater Bilby, *Ilagotis macrotis*. *Biological Conservation*. 73:151-160.
- Goldingay, R. and Possingham, H. P. 1995. Area requirements for viable populations of the Australian gliding marsupial, *Petaurus australis*. *Biological Conservation*. 73:161-167.

- Lindenmayer, D. W., Burgman, M., Akçakaya, R., Lacy, R. and Possingham, H. P. 1995. : A review of three generic computer models - ALEX, RAMAS/Space and VORTEX, for modelling the viability of metapopulations. *Ecological Modelling* **82**:161-174.
- Lindenmayer, D.W. and Possingham, H. P. 1995. Modelling the viability of metapopulations of the endangered Leadbeater's possum in south-eastern Australia. *Biodiversity and Conservation* **4**:984-1018.
- Lindenmayer, D.W. and Possingham, H. P. 1995. The conservation of arboreal marsupials in the montane ash forests of the central highlands of Victoria, South-Eastern Australia. VII. Modelling the persistence of Leadbeater's possum in response to modified timber harvesting practices. *Biological Conservation* **73**:239-257.
- Day, J. R. and Possingham, H. P. 1995. A stochastic metapopulation model with variability in patch size and position *Theoretical Population Biology* **48**:333-360
- Tuck, G. and Possingham, H. P. 1994. Optimal harvesting strategies for a metapopulation. *Bulletin of Mathematical Biology* **56**:107-127
- Possingham, H. P., S. Tuljapurkar, M. Wilks and J. Roughgarden. 1994. Population cycling in space-limited organisms subject to density-dependent predation. *The American Naturalist* **143**: 642-661
- Possingham, H. P. 1993. The impact of elevated CO<sub>2</sub> on biodiversity: a population-dynamic perspective. *Australian Journal of Botany* **41**:11-21.
- Possingham, H. P., Lindenmayer, D. W., and Norton, T. W. 1993. A framework for the improved management of threatened species based on PVA. *Pacific Conservation Biology* **1**:39-45.
- Possingham, H. P. 1992. Habitat selection by two species of nectarivore: habitat quality isolines. *Ecology* **73**:1903-1912.
- Possingham, H. P., Davies, I., Noble, I. R. and Norton, T. W. 1992. A metapopulation simulation model for assessing the likelihood of plant and animal extinctions. *Mathematics and Computers in Simulation* **33**:367-372.
- Possingham, H. P. and Roughgarden, J. 1990. Spatial population dynamics of a marine organism with a complex life cycle. *Ecology* **71**:973-985.
- Possingham, H. P., Houston, A. I. And McNamara, J. M. 1990. Risk-averse foraging in bees: a comment on the model of harder and real. *Ecology* **71**:1622-1624.
- Possingham, H. P. 1990. Optimal patch use by a territorial forager. *J. Theoretical Biology* **73**:1903-1912.
- Possingham, H.P. 1989. The distribution and abundance of resources encountered by a forager. *The American Naturalist* **133**:42-60.
- Possingham, H.P. 1988. A model of resource renewal and depletion: applications to the distribution and abundance of nectar in flowers. *Theoretical Population Biology* **33**:138-160.
- Roughgarden, J., Gaines, S.D. and Possingham, H.P. 1988. Recruitment dynamics in complex life cycles. *Science* **241**:1460-1466.

## Books/booklets

- Moilanen, A., Wilson, K.A. and Possingham, H.P. (2009). Spatial conservation prioritisation: Quantitative methods and computational tools. Oxford University Press.
- Possingham, H.P. 2001. *The Business of Biodiversity*. Australian Conservation Foundation TELA Series No. 9, 44 pp. [http://www.acfonline.org.au/uploads/res/res\\_tp009.pdf](http://www.acfonline.org.au/uploads/res/res_tp009.pdf)
- Lindenmayer, D. B. and Possingham, H. P. 1994. *The Risk of Extinction: Ranking management options for Leadbeater's possum using population viability analysis*. Centre for Resource and Environmental Studies, Canberra, 254pp. (Book launched by Federal Environment Minister in Jan 1995)

## Other recent or significant peer-reviewed publications and book chapters

### 2009

1. Moilanen, A., Possingham, H.P. and Polasky, S. 2009. A mathematical classification of conservation prioritization problems. Chapter 3: Pages 28-42 in Spatial conservation prioritisation: Quantitative methods and computational tools. Eds Moilanen, A., Wilson, K.A. and Possingham, H.P. Oxford University Press, Oxford, UK.
2. Possingham, H.P. Moilanen, A. and Wilson, K.A. 2009. Accounting for habitat dynamics in conservation planning. Chapter 10: Pages 135-144 in Spatial conservation prioritisation: Quantitative methods and computational tools. Eds Moilanen, A., Wilson, K.A. and Possingham, H.P. Oxford University Press, Oxford, UK.
3. Ball, I.R., Possingham, H.P. and Watts, M. 2009. Marxan and relatives: Software for spatial conservation prioritisation. Chapter 14: Pages 185-195 in Spatial conservation prioritisation: Quantitative methods and computational tools. Eds Moilanen, A., Wilson, K.A. and Possingham, H.P. Oxford University Press, Oxford, UK.

4. Knight, A.T., Cowling, R.M. Wilson, K.A. and Possingham, H.P. 2009. From theory to practice: Designing and situating spatial prioritization approaches to better implement conservation action. Chapter 18: Pages 249-259 in *Spatial conservation prioritisation: Quantitative methods and computational tools*. Eds Moilanen, A., Wilson, K.A. and Possingham, H.P. Oxford University Press, Oxford, UK.
5. Moilanen, A., Possingham, H.P. and Wilson, K.A. 2009. Spatial conservation prioritization: past, present and future. Chapter 19: Pages 260-268 in *Spatial conservation prioritisation: Quantitative methods and computational tools*. Eds Moilanen, A., Wilson, K.A. and Possingham, H.P. Oxford University Press, Oxford, UK.
6. Wilson, K. A., J. Carwardine, and H. P. Possingham. 2009. Setting Conservation Priorities. ***Annals of the New York Academy of Sciences The Year in Ecology and Conservation Biology***: 1162:237–264.
7. Cowling, R.M., Michael B. Mascia, Hugh Possingham and William J. Sutherland. 2009. Conservation science for impact: the first year of Conservation Letters. ***Conservation Letters***: 2, 1-3.
8. Carwardine, J., Carissa J. Klein, Kerrie A. Wilson, Robert L. Pressey, Hugh P. Possingham. 2009. Hitting the target and missing the point: target-based conservation planning in context ***Conservation Letters*** 2, 4-11.

## 2008

9. Richard M. Cowling, Michael B. Mascia, Hugh Possingham, William J. Sutherland. 2008. Editorial. ***Conservation Letters*** 1:1.
10. Grantham, H. S.; Petersen, S. L.; Possingham, H. P. 2008. Title: Reducing bycatch in the South African pelagic longline fishery: the utility of different approaches to fisheries closures. ***Endangered Species Research*** 5: 291-299.
11. Klein, C., C. Steinback, A. Scholz, and H. Possingham. 2008. Effectiveness of marine reserve networks in representing biodiversity and minimizing impact to fishermen: a comparison of two approaches used in California. ***Conservation Letters*** 1:44-51.
12. Grantham, H.S., Atte Moilanen, Kerrie A. Wilson, Robert L. Pressey, Tony G. Rebelo, Hugh P. Possingham 2008. Diminishing return on investment for biodiversity data in conservation planning. ***Conservation Letters*** 1: 190-198.
13. Underwood, E.C., Shaw, M.R., Wilson, K.A., Kareiva, P., Klausmeyer, K.R., McBride, M.F., Bode, M., Morrison, S.A., Hoekstra, M. and Possingham, H.P. 2008. Protecting biodiversity when money matters. *PLoS one* <http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0001515>

## 2007 or before

14. Mace, G. M., H. P. Possingham, and N. Leader-Williams. 2007. Prioritizing choices in conservation. Pages 17-34 in *Hot topics in conservation biology*. Ed. D. MacDonald, Oxford University Press, UK.
15. Possingham, H. P., K. A. Wilson, S. Andelman, and C. H. Vynne. 2006. Protected Areas: Goals, Limitations, and Design. Pages 509-533 in M. J. Groom, G. K. Meffe, and C. R. Carroll, editors. *Principles of Conservation Biology*, 3rd Edition. Sinauer Associates, Inc., Sunderland MA.
16. Banks, S. A., G. A. Skilleter, and H. P. Possingham. 2005. Intertidal habitat conservation: identifying conservation targets in the absence of detailed biological information. *Aquatic Conservation: Marine and Freshwater Ecosystems* 15:271-288.
17. Possingham, H. P., Franklin, J., Wilson, K., and Regan, T. J. 2005. The roles of spatial heterogeneity and ecological processes in conservation planning. Pages 389-406 in *Ecosystem function in heterogeneous landscapes*. Eds. Lovett, G.M., Jones, C.G., Turner, M.G. and Weathers, K.C. Springer-Verlag, New York.
18. Cabeza, M., Moilanen, A., and Possingham, H. P. 2004. Metapopulation dynamics and reserve network design. In: *Ecology, genetics, and evolution of metapopulations*. Eds. Hanski, I. and Gaggiotti, O.E. Elsevier Academic Press, New York. pp. 541-564.
19. Possingham, H.P., Jarman, Peter, and Kearns, Allen. 2003. Western Shield Conservation and Land Management: Independent review of Western Shield, Report of the review panel. Department of Conservation and Land Management.
20. Stewart, R.R. and Possingham, H.P. 2003. A framework for systematic marine reserve design in South Australia: a case study. In: *Aquatic Protected Areas: what works best and how do we know?* Eds. Beumer, J.P., Grant, A. and Smith, D.C. University of Queensland Press, Brisbane. pp. 132-143.
21. Possingham, H.P., Ryan, S, Baxter, J. and Morton, S.R. 2002. Setting biodiversity priorities. A paper prepared as part of the activities of the working group producing the report *Sustaining our Natural Systems and Biodiversity for the Prime Minister's Science, Engineering and Innovation Council* in 2002. [http://www.dest.gov.au/sectors/science\\_innovation/science\\_agencies\\_committees/prime\\_ministers\\_science\\_engineering\\_innovation\\_council/meetings/eighth\\_meeting.htm](http://www.dest.gov.au/sectors/science_innovation/science_agencies_committees/prime_ministers_science_engineering_innovation_council/meetings/eighth_meeting.htm)
22. Possingham, H. P., Lindenmayer, D. B. and Tuck, G. 2002. Decision theory thinking for PVA. In: *Population viability analysis*. Eds. Beissinger, S.R. and McCulloch, D.R. University of Chicago Press, Chicago. pp. 470-489.
23. Possingham, H. P., Lindenmayer, D. B. and McCarthy, M. A. 2001. Population viability analysis. In: *The encyclopedia of biodiversity*, volume 4. Eds. Levin, S. et al. Academic Press, San Diego. pp. 831-844.

24. Hixon, M. A., Boersma, P. D., Hunter, M. L., Micheli, F., Norse, E., Possingham, H. P. and Snelgrove, P. V. R. 2001. Oceans at risk: research priorities in marine conservation biology. In: Research priorities for conservation biology. Eds. Orians, G. and Soule, M. Island Press, Washington DC. pp. 125-114.
25. Possingham, H. P., Andelman, S. J., Noon, B. R., Trombulak, S. and Pulliam, H. R. 2001. Making smart conservation decisions. In: Research priorities for conservation biology. Eds. Orians, G. and Soule, M. Island Press, Washington DC. pp. 225-244.
26. Possingham, H.P. and Field, S.A. (2000). Regional bird extinctions and their implications for vegetation clearance policy. *Lifelines* 7:15-16.
27. Possingham, H.P. 2001. Models, problems and algorithms: perceptions about their application to conservation biology. Pages 1-6 in MODSIM 2001.
28. Ball, I.R. and Possingham, H.P. 2001. The design of marine protected areas: adapting terrestrial techniques. Pages 769-774 in MODSIM 2001.
29. Lethbridge, M.R., Possingham, H.P. and Tyre, A.J. 2001. A spatially explicit population viability model using GIS. Pages 819-824 in MODSIM 2001.
30. Tyre, A.J., Tenhumberg, B. Niejalke, D. and Possingham, H.P. 2001. Predicting risk to biodiversity as a function of aquifer pressure in GAB mound springs. Pages 825-829 in MODSIM 2001.
31. Field, S.A., Tyre, A.J., Ball, S.C. and Possingham, H.P. 2001. Observer error and statistical power: evaluating survey reliability for conservation management. Pages 831-836 in MODSIM 2001.
32. Possingham, H.P. 2001. Regional biodiversity management planning: four fundamental principles. Pages 47-52 in ***Biodiversity conservation: from vision to reality***, (B. Boyes ed.). Lockyer Watershed Management Association.
33. Tenhumberg, B. Tyre, A.J. and Possingham, H.P. 2001. An optimisation approach for minimising extinction risk for endangered species through captive breeding. Pages 1713-1718 in MODSIM 2001.
34. Possingham, H. P. 2000. Is environmental research a waste of time? ***Ecological Management and Restoration* 1:81-82.**
35. Possingham, H.P. 2000. Conserving earth's biodiversity, with E.O. Wilson. ***Science* 288:983.**
36. Burgman, M. and Possingham, H. P. 2000. Population viability analysis for conservation: the good, the bad and the undescribed. In: Genetics, demography and viability of fragmented populations. Eds. Young, A.G. and Clarke, G.M. Cambridge University Press, London. pp. 97-112.
37. Possingham, H. P., Ball, I. R. and Andelman, S. 2000. Mathematical methods for identifying representative reserve networks. In: Quantitative methods for conservation biology. Eds. Ferson, S. and Burgman, M. Springer-Verlag, New York. pp. 291-306. (***almost 100 citations***)
38. Possingham, M. L. and Possingham, H. P. 2000. The birds of the South East of South Australia and their habitats. In: Birds, birders & bird watching: 1899-1999: a celebration of one hundred years of the SAOA. Eds. Collier, R., Hatch, J., Matheson, B. and Russell, R. South Australian Ornithological Association, Adelaide. pp. 180-200.
39. Tyre, A.J., Possingham, H.P. and Niejalke, D. 1999. Detecting environmental impacts on metapopulations of mound springs invertebrates: assessing the incidence function model. MODSIM 1999
40. Possingham, H. P. and Shea, K. 1999. The business of biodiversity. ***The Australian Zoologist* 31:3-5.**
41. Possingham, H. P. and Shea, K. 1999. The business of biodiversity: response to responses. ***The Australian Zoologist* 31:9-10.**
42. Luck, G. W., Possingham, H. P. and Paton, D. C. 1999. Bird responses at inherent and induced edges in the Murray mallee SA. 1. Differences in abundance and diversity. ***Emu* 99:157-169.**
43. Luck, G. W., Possingham, H. P. and Paton, D. C. 1999. Bird responses at inherent and induced edges in the Murray mallee SA. 2. Nest predation as an edge effect. ***Emu* 99:170-175.**
44. Possingham, H. P. 1998. Active adaptive management: A solution to the management/research and experiment/model nexus's? pp 61-65 in: Current issues in Australian Limnology (P. Humphries, D. Nielsen, R. Sinclair & J. Wittington eds). Australian Society for Limnology, Albury-Wodonga.
45. Possingham, M. L. and Possingham, H. P. 1997. Habitat use and abundance of dryland birds in heritage areas in the upper south east of South Australia. ***South Australian Ornithologist* 32:145-160.**
46. Possingham, H. P. and Tuck, G. 1997. Application of stochastic dynamic programming to optimal fire management of a spatially structured threatened species. MODSIM 1997.
47. Tenhumberg, B., Keller, M. A. and Possingham, H. P. 1997. An application of SDP to generate simple behavioural rules: are parasitoids all thumbs? MODSIM 1997.
48. Tyre, A. J., Possingham, H. P. and Lindenmayer, D. B. 1997. Spatially explicit ecological models: population consequences of individual habitat selection mechanisms. MODSIM 1997.
49. Richards, S. R. and Possingham, H. P. 1997. A model of diel vertical migration of zooplankton and its potential for the redistribution of organic material through the water column. MODSIM 1997.
50. Ball, I. R., Lindenmayer, D. B. and Possingham, H. P. 1997. A tree hollow simulation model for forest managers: the dynamics of the absence of wood in trees. MODSIM 1997.
51. Tyre, A. J., Possingham, H. P. and Bull, M. 1997. Characteristic scales in ecology: fact, fiction or futility. Pages 233-243 in *Frontiers in Ecology: building the links*, (Klomp, N. & Lunt, I. eds). Elsevier Science, Oxford.

52. Possingham, H. P. and Gepp, B. 1996. Assessment of fire regime options for the southern brown bandicoot *Isodon obesulus* in South Australia using Population Viability Analysis. Pages 149-153 in *Fire and Biodiversity: The effects and effectiveness of fire Management*, Biodiversity Unit, Canberra, Australia.
53. Possingham, H. P., Day, J., Goldfinch, M. and Salzborn, F. 1993. The mathematics of designing a network of protected areas for conservation. Pages 536 - 545 in the *Proceedings of the 12th Australian Operations Research Conference*. Decision Sciences, Tools for Today, eds. D. Sutton, E. Cousins and C. Pearce, ASOR, Adelaide.

*\*To Sept 6 20*

Possingham received the top 1<sup>st</sup> class Honours degree in Mathematics and Statistics (Amir Hasan Abdi Prize) at The University of Adelaide in 1983. A Rhodes Scholarship enabled him to read for a DPhil in Biomathematics at Oxford University which he completed in 1987 after two and three quarter years. His thesis generated five first author papers in international journals (*American Naturalist*, *Ecology* (two), *Theoretical Population Biology*, and *Journal of Theoretical Biology*). The unifying theme was theory development for competition between species based on their foraging behaviour.

Competition has long intrigued ecologists and in order to develop a deeper understanding of the mechanism of competition among animals, Possingham addressed the complexities introduced by animal foraging behaviour. He developed a series of models of foraging to show that the ways in which competing species interact may be markedly affected by their respective foraging tactics. His *American Naturalist* paper uses a stochastic model to show why the resources that a territorial forager encounters are not distributed in the same way we would sample those resources. It provides a model for territorial defence by exploitation, an idea that hitherto had no theoretical basis. An *Ecology* paper develops a mechanistic model for how two species should compete in two habitats. It provides a predictive model of exploitation competition that Possingham rigorously tested with published data. This approach of using empirical research to develop testable theory for particular ecological systems, which was rare at that time, characterises much of his later work. More recently Possingham has extended his interest in competition theory through collaborative work on coexistence in eucalypt species (*Journal of Theoretical Biology*), tick parasites of lizards (*American Naturalist*), and species that forage on the same patchy food resource in different ways (*American Naturalist*).

Explaining the distribution and abundance of organisms is central to ecology. A fifteen month postdoctoral fellowship in the School of Biological Sciences at Stanford University with Professor Jonathan Roughgarden (1987-1988) sparked an ongoing interest in spatial marine population modelling. Possingham's primary research during that time was constructing the first fully spatial population model for a marine organism with a pelagic larval phase and a benthic adult phase (e.g. barnacles and abalone). This became part of a *Science* paper (454 citations) and a seminal paper in *Ecology* that explored the impact of oceanic currents on the distribution and abundance of marine organisms – something which had been discussed in the literature from an empirical perspective but never formalised.

Population cycling is one of the most intriguing areas of ecology. Observations of cycling in barnacles in the rocky intertidal were proving impossible to predict using classical modelling approaches. Possingham built a stochastic model based on an entirely new mechanism, episodic density-dependent predation by starfish, which quantitatively predicted the period of the cycles and their rate of decay (*American Naturalist*). A feature of this work is the use of stochastic models at a time when deterministic models dominated the field.

Possingham's interest in marine ecology was renewed in the late 90s through collaboration with researchers on problems of marine reserve design. Basic research and models concerning the size of marine reserves, the distribution of marine reserves in space, and the number of marine reserves (papers in *Ecological Applications* and *Marine Ecology Progress Series*) have underpinned actual marine system design. Indeed, decision support software produced by the Possingham lab was used to rezone the Great Barrier Reef Marine Park this year and is now the most widely used marine reserve system design software in the world. The software is underpinned by conceptual advances in conservation theory that accommodate issues of connectivity, spatial design rules, complementarity and conservation adequacy. These conceptual advances are covered in numerous publications including a widely cited book chapter published in 2000.

Population Viability Analysis (PVA) is the process of using a computer model to predict the impact of development or management on the probability a species will become extinct. It is an applied form of ecological modelling that developed in the USA in the early 1980s and has become very important to conservation because it is the only known way of determining the adequacy of conservation strategies. After moving to a Research Fellowship, and later a QEII Fellowship at The Australian National University with Professor Ian Noble, Possingham developed a model for predicting the probability of extinction of species threatened by habitat loss and modification. Construction and testing of this model on a wide variety of species with several colleagues has led to three basic advances. First, Possingham discovered that PVA is generally unable to accurately predict extinction risk, but is good for choosing between management options. Second, with David Lindenmayer and Michael McCarthy he embarked on a process of testing PVA models at a landscape scale. This was the first time that these ideas and models had been rigorously tested on a landscape scale. They discovered that for about a third of the species the models were quantitatively accurate, a third of the time they were only qualitatively accurate, but a third of the time the predictions were irreconcilable with the data. This has led to recommendations about how the theory needs to be advanced. Third, through experiences with

arboreal marsupials living in forests that can be disturbed by fire or forestry, he argued that the models must include habitat dynamics, something that other researchers have only just begun to think about. This final advance has inspired ongoing basic theoretical research into the spatial population dynamics of species that live in dynamic landscapes (*Journal of Theoretical Biology*). He is now considered a world authority in this branch of applied population modelling, has been invited to several overseas conferences and was awarded the Eureka Prize for Environmental Research (with Dr David Lindenmayer). He was invited to write the definitive review of this topic for The Encyclopedia of Biodiversity and has written numerous papers on the topic in journals like *Conservation Biology* and *Biological Conservation*.

Conservation biology is intended to be a science where ecology, economics and the social sciences meet to deliver outcomes for the preservation of biodiversity. Unfortunately the science has missed an essential component – problem formulation and solution. In 1991 Possingham took an academic position in Applied Mathematics at The University of Adelaide where he developed his skills in optimisation and stochastic modeling. Six months study leave at Imperial College and Princeton and a move to the Foundation Chair (and Head of Department) of Environmental Science in 1995 was the start of Possingham's current research passion – the application of optimisation tools to problems in population management and conservation. Metapopulation ecology is a branch of spatial population ecology that deals with space in an idealised way. With his students and staff, Possingham has built stochastic metapopulation models within an optimisation framework that has initiated a theory of metapopulation conservation (several recent papers in *Ecological Applications*, *Conservation Biology*). Nature reserves are the cornerstone of the world's conservation strategy. Until recently the selection of conservation reserves has been *ad hoc*. Clear problem formulation, new algorithms, software, and clear thinking has enabled Possingham, in collaboration with others, to rewrite the theory and practice of nature reserve design and add a dynamic component to the problem (in press paper in *Ecology Letters*).

Other influential papers have applied this decision theory thinking to problems in conservation and environmental management. For example: optimal harvesting of spatially explicit fish populations (*Marine Ecology Progress Series*), optimal release of biocontrol agents (*Journal of Applied Ecology*), optimal captive breeding (*Conservation Biology* in press), using threatened species lists to make decisions (an invited and provocative comment in *Trends in Ecology and Evolution*), and optimal fire management for ecosystem and population viability (*Ecological Applications*). Most recently Possingham's group is extending these ideas to cover issues of optimal monitoring and optimal learning about complex ecological systems (August 2004 cover article in *Ecology Letters*). This research program is the subject of his recently awarded ARC Professorial Fellowship.

In addition to his commitment to research, Professor Possingham takes a very active role in the development of links between the scientific community and society as a whole particularly through all three levels of government, scientific societies, industry, the media and conservation NGOs. Currently his main non-university service activities include Chair of the Biological Diversity Advisory Committee (reporting directly to the Federal Minister of the Environment) and being a member of "The Wentworth Group". Internationally he is an associate editor of the world's leading conservation journal – *Conservation Biology*, having recently completed a term on the editorial board of the world's leading evolutionary ecology theory journal, *The American Naturalist*.

In summary, the importance of Possingham's contribution to science is providing a quantitative dimension to four main areas of ecology and conservation biology: ecological theory underpinned by behavioural and life-history mechanisms, spatial and stochastic marine ecological modelling, population viability analysis, and the application of decision theory to population management, reserve system design and ecological monitoring. Possingham has discovered that the application of clear thinking to the definition and solution of problems yields advances in applied ecology. He calls this applied theoretical ecology, a sub-discipline which he champions to an international audience. His breadth of interests and novel research agenda means that he is repeatedly hosted at international conferences and workshops. For example this year he will deliver three "named lectures" in the USA (Wisconsin, Idaho and Montana), plus invited seminars at Imperial College London, Trieste, Leipzig, Melbourne, Yale, Washington DC and New York. Possingham has been an invited member of ten different Working Groups since 1995 at the world's premier ecological research centre – The National Centre for Ecological Analysis and Synthesis (NCEAS), in Santa Barbara, USA.

**Acknowledgements (the nice ones) that I could dig up, from my PhD student theses (under construction)**

*“To Hugh Possingham, you’ve crafted a model for research and supervision that is entirely your own and created a group that is in so many ways greater than the sum of its parts. I could not dream up a better mentor or a better place to learn. I entered your lab with absolutely no direction, and even less knowledge. Your constant support, deep experience and lateral thinking served as an inspiration that has helped me grow as a conservation researcher and as a person. I owe you so much, but all I can give you is my respect and a very heartfelt thank you!”*

Oscar Venter (ARC APD at James Cook University) – 2010.

*“First and foremost, I owe an enormous debt of gratitude to Hugh Possingham. Hugh has quite simply been the best supervisor one could ask for. I have proudly watched him deliver many great talks but the highlight for me was the career advice seminar he gave to the SIB graduate students one evening. Generous, witty and inspiring, this talk was symptomatic of the time he takes to develop successful people rather than just good researchers. He has provided me more opportunities than I could ever have hoped for and I have constantly felt proud and honoured to be his student.”*

Eddie Game (The Nature Conservancy) – 2008.