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Science

# An Antarctic Conservation Strategy for the 21<sup>st</sup> Century

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November 2014



# ***A Natural Reserve, Devoted to Peace and Science***

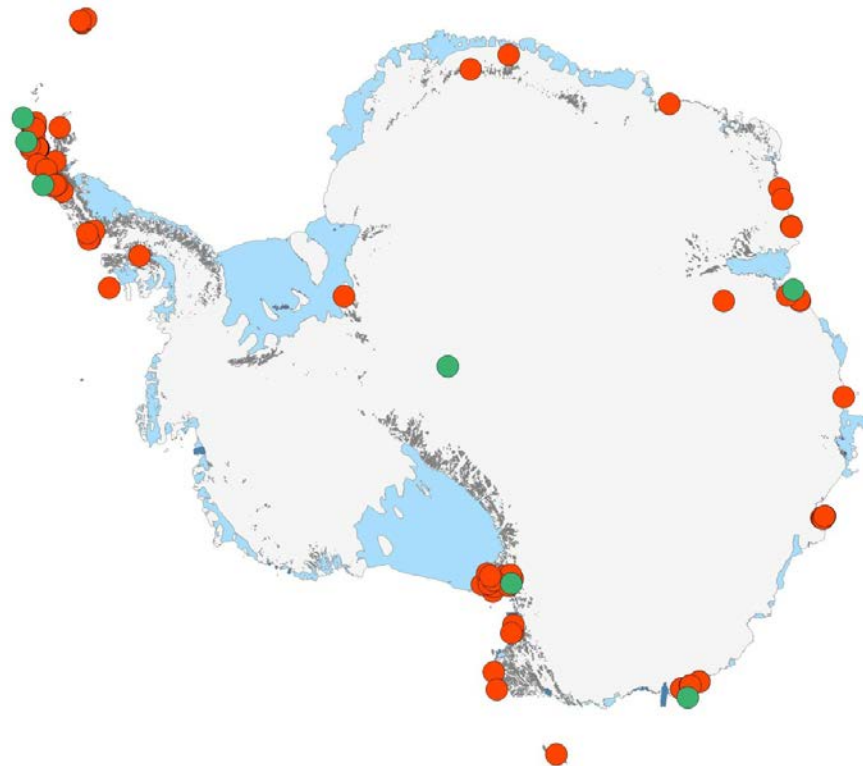
Utrecht Law Review

published by  
**igitur**

The role of the protected area concept in protecting  
the world's largest natural reserve: Antarctica

**Kees Bastmeijer & Steven van Hengel\***

# Antarctic Protected Areas



- 73 Antarctic Specially Protected Areas (ASPAs)
- 7 Antarctic Specially Managed Areas (ASMAs)

# ***A Natural Reserve, Devoted to Peace and Science?***

*So the countries which have declared their territorial claims in Antarctica designated 68% of all declared ASPAs and remaining 32% were declared by eight states which do not have such claims. In this connection, it is hard to escape a conclusion that the use of the mechanism of ASPAs and ASMAs is a peculiar mechanism of expansion of their territorial claims in Antarctica.*

V.V. Lukin. 2014 *The Polar Journal* 4:199

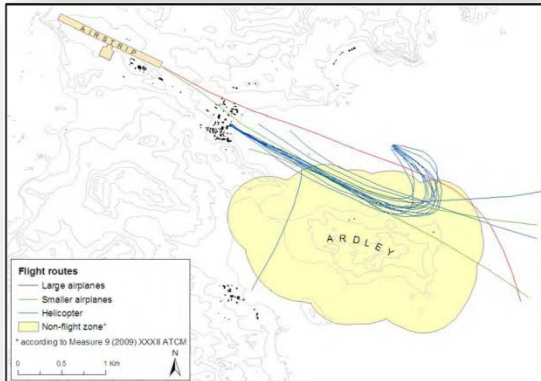
The shift in balance among fishing States along with the increasing pressure to find more toothfish fisheries may be interfering with CCAMLR's ability to effectively implement MPAs in the Convention Area.

C.M. Brooks. 2013. *The Polar Journal* 3:277

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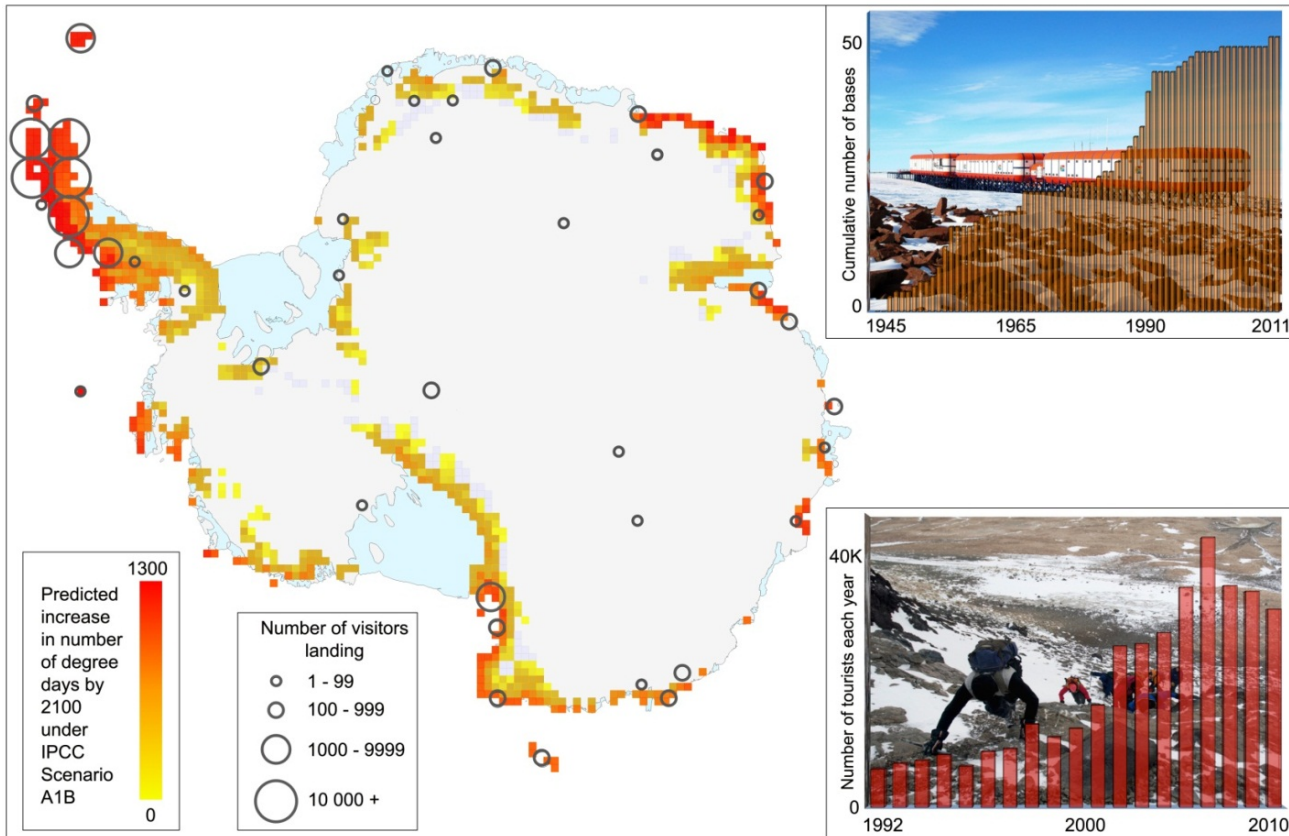
THE CURRENT ENVIRONMENTAL  
SITUATION AND PROPOSALS FOR  
THE MANAGEMENT OF THE  
FILDES PENINSULA REGION

Umwelt  
Bundes  
Amt  
Für Mensch und Umwelt





# Conservation challenges



Chown *et al.* 2012 *Science*



# Conservation challenges

## 10-year Horizon

Climate change, marine ecosystem effects and marine resource use

Ocean acidification

Invasive alien species

Habitat alteration and activity impacts

Pollution

Regulatory failure

## 50-year Horizon

Climate change impacts on marine systems

Climate change impacts on terrestrial systems

Hydrocarbon exploration

Mineral extraction

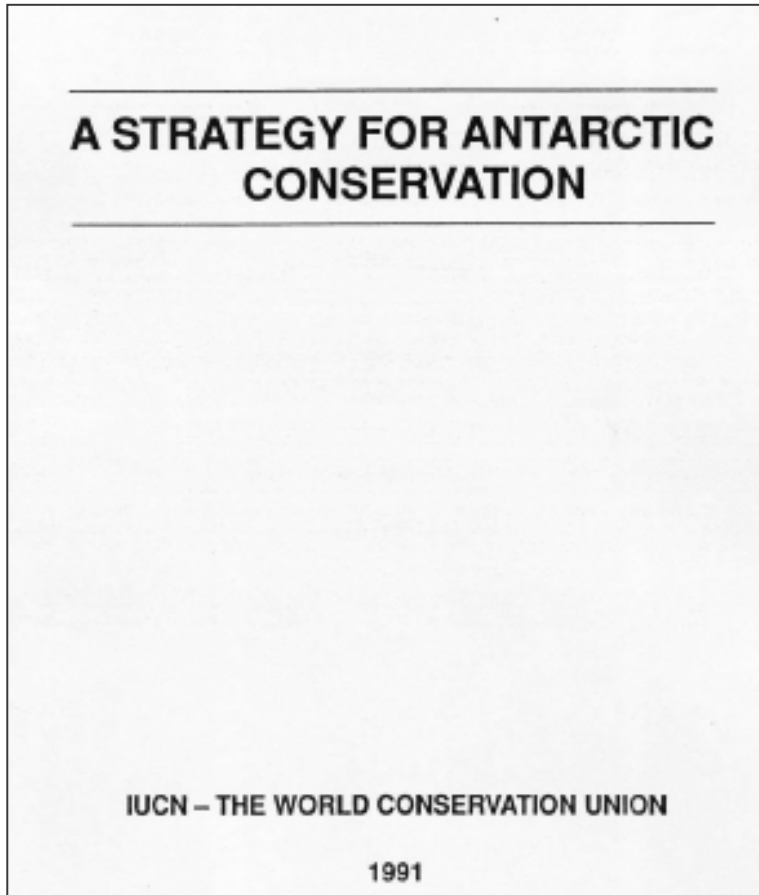
Bioprospecting

Permanent human settlement

Chown *et al.* 2012 *Science*

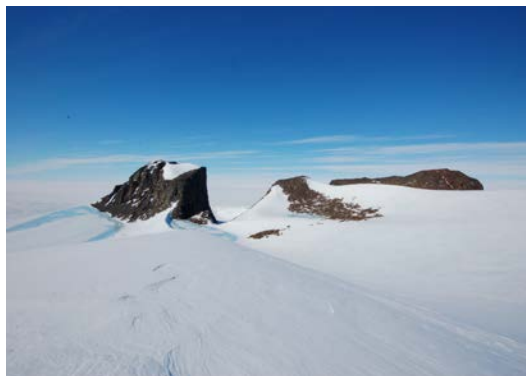
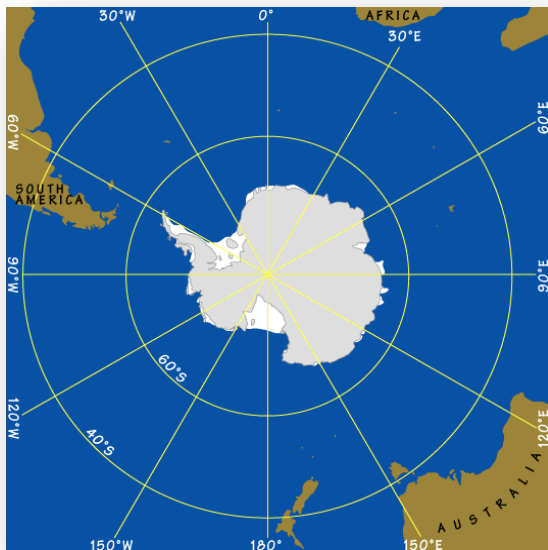


# ***Antarctic Conservation Strategy***

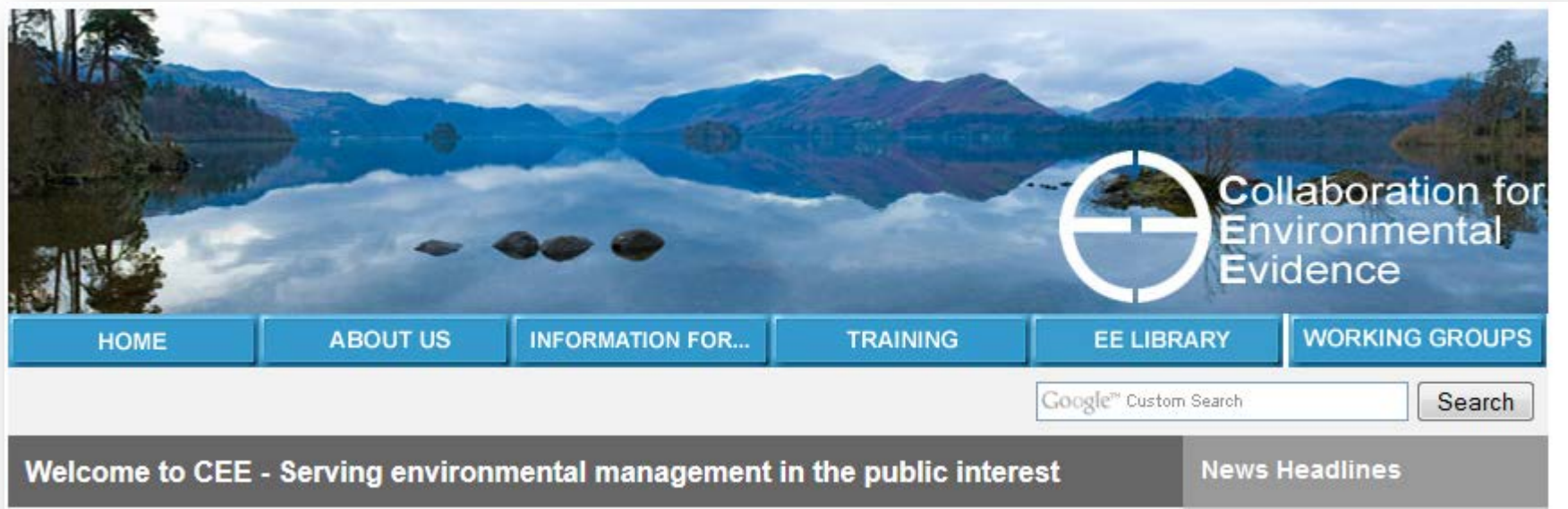




# *Antarctic Conservation Strategy*



# ***Antarctic Conservation – A Best-Practise and Evidence-Based Strategy***



# *Global initiatives and agreements – not only the Antarctic Treaty System*

OPEN ACCESS Freely available online

 **PLOS** | BIOLOGY

## Perspective

### Antarctica's Protected Areas Are Inadequate, Unrepresentative, and at Risk

Justine D. Shaw<sup>1,2\*</sup>, Aleks Terauds<sup>2</sup>, Martin J. Riddle<sup>2</sup>, Hugh P. Possingham<sup>1</sup>, Steven L. Chown<sup>3</sup>

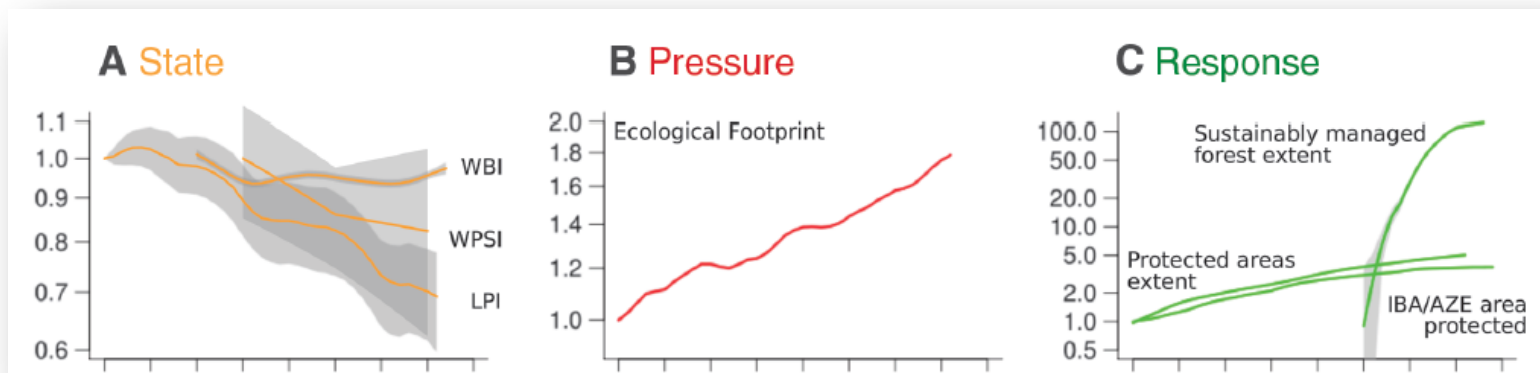
By any measure, including Aichi Target 11 under the Convention on Biological Diversity, Antarctic biodiversity is poorly protected by reserves, and those reserves are threatened.

# *Global initiatives and agreements – not only the Antarctic Treaty System*

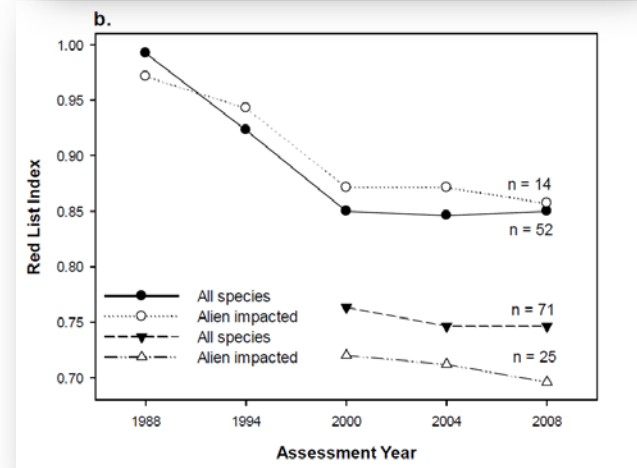
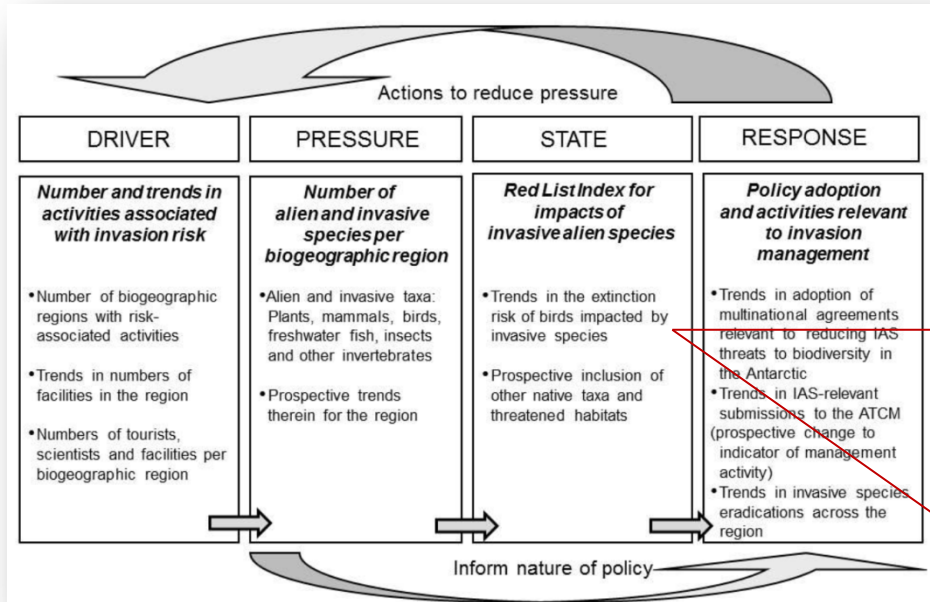
## Global Biodiversity: Indicators of Recent Declines

www.sciencemag.org SCIENCE VOL 328 28 MAY 2010

Stuart H. M. Butchart,<sup>1,2\*</sup> Matt Walpole,<sup>1</sup> Ben Collen,<sup>3</sup> Arco van Strien,<sup>4</sup>



# Example areas - invasions



McGeoch et al. in review



# ***Antarctic Conservation Strategy***

## **Contents**

### **Policymaker summary - Pressure, State, Response**

- 1. Biodiversity status**
- 2. Current and future threats**
- 3. Climate change and associated processes**
- 4. Protected areas**
- 5. Biological invasions and disease**
- 6. Species-level management**
- 7. Human disturbance to wildlife**
- 8. Pollution and waste management**
- 9. Habitat degradation**
- 10. Marine noise and light pollution**
- 11. Integrated responses and complexities**
- 12. Decision-support and implementation**



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