# **The International Journal of Conservation**

Published for Fauna & Flora International

www.oryxthejournal.org

January 2010 · Volume 44 · Number 1

**Conserving wild fish** A sea of market-based efforts

Invasive species and conservation Cats, rats and ferrets

**Fiji** Priority Forests for Conservation

**The 2004 tsunami** Impact on the Nicobar megapode

**Recovery of the giant otter** A success story for CITES

https://doi.org/10.1017

**Sacred sites as hotspots** Three Sisters Cave complex in Kenya

**Reducing human–elephant conflict** Do chillies help?

# **Oryx** The International Journal of Conservation

ISSN 0030-6053 Fauna & Flora International Patron Her Majesty The Queen A company limited by guarantee registered in England 2677068 Registered Charity 1011102 A registered 501(c)(3) non-profit organization EIN #04-2730954 in the United States of America A non-profit charitable institution ABN 75132715783 in Australia

# Editor

Dr Martin Fisher, FFI, UK

### **Editorial Assistant**

Elizabeth Allen, FFI, UK

### **Senior Editors**

Professor Bill Adams University of Cambridge, UK Professor Andrew Balmford University of Cambridge, UK Dr Porter P. Lowry II Missouri Botanical Garden, USA and France Dr Jeffrey A. McNeely *IUCN — The* World Conservation Union, Switzerland Dr Mike Maunder Al Ain Wildlife Park, United Arab Emirates Professor E. J. Milner-Gulland Imperial College London, UK Dr John G. Robinson Wildlife Conservation Society, USA Professor William Sutherland University of Cambridge, UK

#### **International Board of Editors**

Dr Elizabeth L. Bennett USA Dr Robert K. Bonde USA Dr Katrina Brown UK Professor Neil Burgess Denmark Dr Thomas Butynski Kenya Dr Robert H. Cowie Hawaii Professor Richard M. Cowling South Africa Dr Jenny Daltry UK Professor Jon Fjeldså Denmark Professor Ulf Gärdenfors Sweden Dr Brendan J. Godley UK Professor Rhys Green UK Professor Colin Groves Australia Dr K. Ullas Karanth India Professor Sandra Knapp UK Dr Kathy MacKinnon USA Dr David Mallon UK Dr Rodrigo A. Medellin Mexico Professor John F. Oates USA Sara Oldfield UK Professor Hugh Possingham Australia Dr Jon Paul Rodriguez Venezuela Dr Kent H. Redford USA Dr Anthony B. Rylands USA Dr Philip Seddon New Zealand Dr Paul Smith UK Dr Matt Walpole UK

# Fauna & Flora International President

Lindsay Bury

#### Vice Presidents

Sir David Attenborough, CH, CVO, CBE, FRS Professor David Bellamy, OBE The Lord Browne of Madingley, FR Eng Field Marshal Sir John Chapple GCB, CBE, DL Dr Lee Durrell Stephen Fry Edward Hoare Professor Frederick Kayanja Professor Jonathan Kingdon HRH Princess Laurentien of the Netherlands Rove McManus Dr Lisbet Rausing Jon L. Stryker Dr Charlotte Uhlenbroek The Rt Hon Baroness Young of Old Scone

#### Council

Chair Andrew Sykes Vice Chair Professor Paul Racey

FFI, 4th Floor, Jupiter House, Station Road, Cambridge, CB1 2JD, UK Tel: +44 1223 571000; Fax: +44 1223 461481 E-mail: info@fauna-flora.org http://www.fauna-flora.org FFI, Inc., 1720 N Street, NW, Washington, DC 20036, USA Tel: +1 202 375 7766; E-mail katie.frohardt@fauna-flora.org

FFI Australia, 62 Cambridge Street, Collingwood, Victoria, Australia Tel: +61 39416 5220; E-mail ffiaustralia@fauna-flora.org

#### Honorary Treasurer Philip Prettejohn Chief Executive Officer Mark Rose

Professor Bill Adams Virginia Drabbe-Seemann Melanie Gee Dr Sandra Knapp Professor Nigel Leader-Williams Philip Merricks, MBE, DL Professor Callum Roberts Diana van de Kamp Charles Whitbread John Wotton

## **US Board of Directors**

Chair Melissa Shackleton Dann Vice Chair Clea Newman Soderlund Treasurer C. Jonathan Fischer Secretary Dorette Louise Fleischmann

Virginia M. Busch Marc J. Ebbin Tom Foster Blaine T. Phillips Mark Rose Beth Ann Ruoff Charles C. Savitt Victoria Stack Anita Winsor-Edwards

#### Australian Board of Directors Chair Kevin Skelton

Allison Catterick Paul Heffernan Mark Rose John Taberner Luca Tacconi Tasma Walton

**Subscriptions** *Oryx* (ISSN 0030-6053) is published four times a year (one volume per annum) in January, April, July, and October. The 2010 subscription price (excluding VAT) of a volume, which includes print and electronic access, is £395.00 (US \$718.00 in USA, Canada and Mexico). The electronic-only price available to institutional subscribers is £348.00 (US \$634.00 in USA, Canada and Mexico).

Orders, which must be accompanied by payment, may be sent to any bookseller, subscription agent or direct to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK; or in the USA, Canada and Mexico: Journals Fulfillment Department, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133, USA. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered members should provide their VAT registration number. Japanese prices for institutions (including ASP delivery) are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan. Prices include delivery by air. Periodicals postage paid at New York, NY, and at additional mailing offices. Postmaster: send address changes in USA, Canada and Mexico to: Oryx, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133, USA. Claims for missing issues should be made immediately on receipt of the subsequent issues.

**FFI Members Subscription** Members of Fauna & Flora International receive the journal as part of their subscription to the society (Standard membership rate:  $\pounds$ 75; Concessionary membership rate:  $\pounds$ 40). A membership application form is printed at the back of this issue. Enquiries about back issues for members should be addressed to the product of the sector of the sector of the sector of the sector.

**Back volumes** Copies of the current volume and Volume 33 (1998) onwards can be obtained from Cambridge University Press at the above address. Requests for previous volumes should be directed to the Membership Secretary at FFI.

**Copyright and Permissions** This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore photocopy material (beyond the limits permitted by Section 107 and 108 of U.S. Copyright law) subject to payment to C.C.C. of the per-copy fee of \$16.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0030-6053/2010 \$16.00. *ISI Tear Sheet Service*, 3501 Market Street, Philadelphia, PA 19104, USA, is authorized to supply single photocopies of separate articles for private use only. Organizations authorized by the UK Copyright Licensing Agency may also copy material subject to the usual conditions. For all other use, permission should be sought from Cambridge University Press.

No part of this publication may otherwise be reproduced, stored or distributed by any means without permission in writing from Cambridge University Press, acting for the copyright holder.

**Internet Access** This journal is included in the *Cambridge Journals Online* service which can be found at: http://journals.cambridge.org For further information on other Press titles access http:// uk.cambridge.org or http://us.cambridge.org

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-government, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.