



Water:

supporting life, sustaining livelihoods



for birds
for people
for ever

Contents

Water: supporting life, sustaining livelihoods	4
Case studies: solutions for people and wildlife	
Hadejia-Nguru wetlands river basin management, Nigeria	8
Uluguru mountains uplands catchment conservation, Tanzania	10
The way forward: policy recommendations	12
Summary	14

Water: supporting life



Marco Lambertini (BirdLife International)

Water is crucial to life and livelihoods and key to sustainable development.

Freshwater ecosystems occupy less than 1% of the earth's surface, but sustain life and provide economic goods and services of enormous value.

Inland wetlands¹ have been estimated to provide services worth US \$2–5 trillion. A key challenge is to meet people's needs, while ensuring that ecosystems are properly valued and able to continue to provide the goods and services on which we all depend.

The need for healthy freshwater ecosystems has never been greater:

- More than a billion people lack access to safe water and 2.4 billion lack access to basic sanitation. Poor communities consistently identify the provision of reliable and safe water as a priority.
- Water supplies are dependent on the protection and sustainable use of ecosystems that naturally capture, filter, store and release water – such as wetlands, forests and soils – and their biodiversity.
- Wetlands are vital for biodiversity and act as significant storehouses for genetic material. They are among the world's most productive environments. Their goods and services (including food, fibre, flood control, water storage and purification, coastal protection, local climate stabilisation, transport routes and recreation) are essential for human well-being.



However, it has been estimated that half of the world's wetlands have been destroyed or heavily altered in the past 100 years, with coastal and inland wetlands being lost at a particularly alarming rate². This decline is putting at risk both the goods and services derived from wetlands and the biodiversity they support. There are currently 2,981 threatened species listed under the freshwater biome on the IUCN Red Data List of Endangered Species³.

Freshwater ecosystems are under unparalleled stress today. The threats are numerous, including over-exploitation, pollution, habitat conversion, infrastructure development (dams etc) and climate change.

Climate change will put even more stress on freshwater ecosystems and human systems. While local impacts of climate change are hard to predict, greater extremes are likely in weather patterns. The average global temperature is set to rise by 1.4–5.8°C this century, depending on our technological and lifestyle choices. Low-lying and coastal areas will become increasingly vulnerable to flooding and storms. Droughts and desertification are already spreading. Many countries face severe water constraints.



Mark Hamblin (rsphotoimages.com)

▲ **Wetlands are among the world's most productive environments and these flamingos rely on them for their survival.**

◀ **The wattle-necked crane depends on wetlands across eastern and southern Africa for its survival, but its numbers are declining as those wetlands are degraded.**

▼ **Pollution and poorly conceived infrastructure projects can harm wetlands, putting millions of livelihoods at risk.**



David Thomas (BirdLife International)

Forty percent of the world's population lives in water-scarce river basins. Livelihoods are under threat and conflicts over water are likely to increase.

BirdLife – making the connections

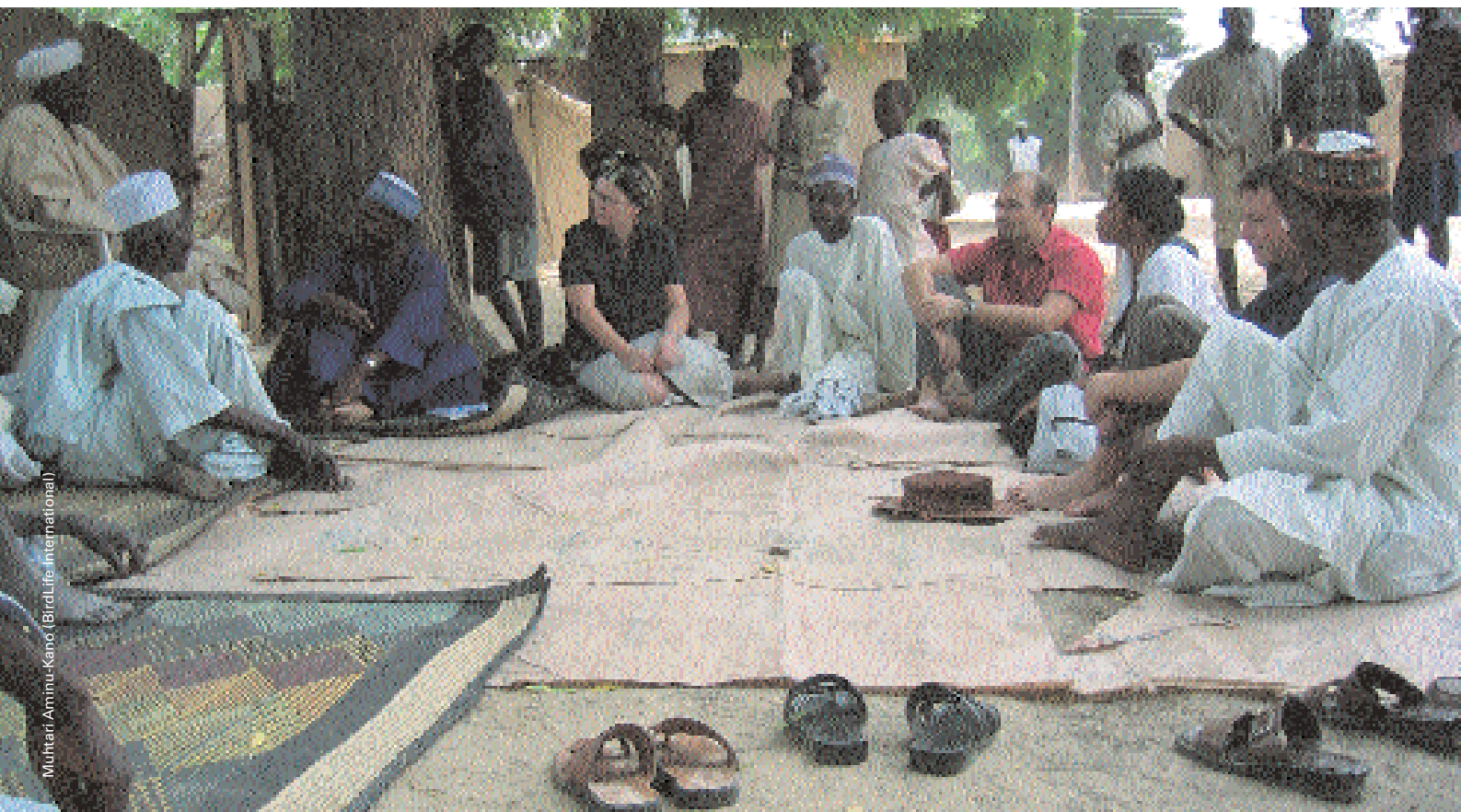
BirdLife International recognises that people in the poorest countries, particularly in rural areas, depend on natural resources for their livelihoods. Degradation of these resources deepens poverty and heightens people's vulnerability to environmental and economic shocks. At the other extreme, environmental protection that excludes people from natural resources can lead to greater poverty; environmental protection efforts are less likely to succeed if they do not incorporate local people's needs and concerns.

BirdLife International works locally, nationally and internationally to identify and tackle the causes of bird declines and to support sustainable

development. BirdLife helps people to achieve secure, sustainable livelihoods that are positively linked to natural ecosystems. At our project sites, we:

- provide local jobs in wildlife conservation and eco-tourism
- promote measures to meet local needs and improve local livelihoods
- support robust decision-making processes at a community level.

Fresh water is a priority issue for BirdLife International. The BirdLife Partnership has worked on a range of water issues worldwide, from wetland conservation and livelihood promotion in Madagascar and Ethiopia to demand management and implementation of the EU's Water Framework Directive in Europe.





Turi De Roy (FLPA)



The following pages review the experience of BirdLife and its organisational partners, share lessons learnt and give policy recommendations for a more sustainable future.

- ▲ The purple swamphen is still widespread in marshes, reedbeds and shallow ponds across West Africa.
- ▶ With good governance in place, water can usually be managed to meet the needs of both people and nature.
- ◀ Conservation efforts that involve local people fully are the most likely to succeed.

In 2002, BirdLife launched a report, *Important Bird Areas and potential Ramsar sites in Africa*, highlighting the fact that 86% of Africa's most important wetland bird sites lack international protection under the Ramsar Convention on Wetlands. BirdLife also showed that these sites are under widespread threat from agricultural intensification and expansion, industrialisation and urbanisation.

These threats are not only potentially damaging to wildlife; they affect local people too – and often the most marginalised in society. Those living in poverty know well that nature is a vital provider.

In the Hadejia-Nguru wetlands of Nigeria and the Uluguru mountains of Tanzania, BirdLife has spearheaded integrated river basin and catchment management programmes. These deliver measurable economic benefits while sustaining and restoring valuable bird habitats.



Caroline Penn (panos pictures)

The Hadejia-Nguru wetlands, Nigeria – river basin management for people and wildlife

The Hadejia-Nguru wetlands of northern Nigeria form the middle reaches of the Hadejia-Jama'are-Yobe river basin. They are home to a million people from the Fulani, Hausa and Kanuri tribes, who directly depend on the wetlands for water, agriculture and fishing. The area is rich in flora and fauna, and of international importance for its vast numbers of resident and migratory waterfowl. The economic and social value of the wetlands, and their ecological function, depend upon a natural cycle of seasonal floods. The wetlands also provide water to groundwater reservoirs that supply wells and boreholes over a much larger area.

By the 1980s, the wetlands' integrity was under severe threat from upstream irrigation and dam building, as well as from droughts. Competing groups of water users within the river basin – farmers, fishermen, protected areas managers,

local and regional government agencies – did not communicate with each other. As a result, tensions flared over water extraction and upstream management practices that impacted negatively on other users.

The Hadejia-Nguru Wetlands Conservation Project (HNWCP) was established in 1985 by the Nigerian Conservation Foundation and the RSPB (BirdLife Partners in Nigeria and the UK, respectively). Initially, the project aimed to protect the interests of important migratory bird species in the wetlands. However, the intimate connection between biodiversity, conservation and local people's livelihoods was soon recognised. The prosperity of both wildlife and people depended on restoring and maintaining the natural hydrological regime within the wider ecosystem. All of the uses and potential benefits of the wetlands needed to be negotiated within a robust governance framework.

The Hadejia-Nguru wetlands were a prime example of what can result from unco-ordinated water use. In subsequent years, with additional support from the World Conservation Union (IUCN) and the Federal Government of Nigeria, the project became an international test case for putting integrated water resource management into practice. The project has promoted:

- **Diverse stakeholder participation**
The project created a forum for water users to represent their interests and negotiate wise management of the water to benefit their communities and the environment. It gained

BirdLife supports local people in trialling sustainable fishing methods, here shown in the Hadejia-Nguru wetlands, Nigeria. ▼





▲ The glossy ibis depends on freshwater habitats.

the support and full participation of local communities when it became as much people-as wildlife-focused. The regular, structured forum increased co-operation between stakeholders in the basin.

- **Improved environmental information**
Project staff strengthened the basis for water-related decision-making by collecting ecological data and monitoring wildlife. The project shared information about the wetland ecosystem with stakeholders, including local communities.
- **An ecosystem-based approach to water management**
People were viewed as part of the ecological system – the project addressed social, environmental and economic issues in an integrated way. For instance, an assessment of the economic value of different functions provided by intact wetlands was used to shape plans for sustainable use. Project staff figured people and wildlife’s needs into calculations for water flows.



The project has resulted in some notable accomplishments:

- A mechanism for co-ordinating stakeholder interests within the river basin was established by the Nguru basin co-ordinating council, with funding from the Nigerian Government.
- Development of a major dam in the basin was suspended; water management in the basin has become more effective overall.
- Test releases of water from upstream reservoirs were undertaken to address the needs of downstream communities and nature conservation.
- Options for more equitable water use within the basin have been developed.
- Nigeria joined the Ramsar Wetlands Convention and the Hadejia-Nguru wetlands was designated Nigeria’s first Ramsar site. Several other areas have been protected in the wetlands, thanks to the project’s efforts.

The challenge ahead

More work is needed to ensure that threats from large-scale irrigation projects do not again jeopardise local livelihoods and the ecosystems on which they depend. It now rests on all the agencies, groups, and donors involved to secure this approach through institutional development, appropriate regulation and continued political and financial support.

For further information on the Hadejia-Nguru wetlands conservation project, contact Muhtari Aminu-Kano, BirdLife International (e-mail muhtari.aminu-kano@birdlife.org) or the Executive Director, Nigerian Conservation Foundation (e-mail ncf@hyperia.com).

► The bar-tailed trogon lives in the forests of the Uluguru mountains, Tanzania.

Uluguru mountains, Tanzania – conservation of an upland catchment for people and biodiversity

The Uluguru mountains form part of the ancient chain of the Eastern Arc mountains, stretching through Tanzania into southern Kenya. The mountains and their forests are recognised as one of the world's biodiversity hotspots. The Ulugurus contain at least 317 different species found nowhere else on earth.

The Uluguru mountains also form one of east Africa's most important areas for human water supply. They provide all the water in the Ruvu river, which in turn supplies Tanzania's largest city, Dar Es Salaam. The loss of the Uluguru forests – and, consequently, the ability of the mountains to



supply water – could harm the three million people and major industries that rely on the water downstream. The fragility of the natural system was demonstrated in 1997 and 2003, when droughts dried up the mountain rivers, leading to critical water shortages in Dar Es Salaam.

Residents of the Uluguru mountains depend on the forest for fuel wood and medicinal plants. However, the conversion of public forests into farmland, and commercial exploitation for timber, has compromised the long-term ability of the forests to provide these goods. The mountainous forest reserves, which are essential to the



long-term protection of the upper catchment, are under increasing threat.

The Wildlife Conservation Society of Tanzania (WCST, BirdLife in Tanzania) has worked with the RSPB and other BirdLife Partners in the Ulugurus since the mid-1990s to conserve the remaining forest. Since 1999, the Tanzanian Government, at national, regional and district levels, has joined the effort, along with the Danish Ornithological Society (BirdLife in Denmark) and WWF Together, project partners have undertaken:

- **Context analysis**
Assessing local people's varying attitudes to land management. Findings were attributed to different socio-economic status, religion and experience of land-use projects.
- **Improved stakeholder awareness**
Different groups and villages were encouraged to communicate about the value of the forest and the threats to it. Project staff found that the local people valued the forest highly and were frustrated by corruption and Government unwillingness to protect the forest from outside exploitation.
- **Options for improving local economies**
Uluguru mountain communities were extensively surveyed to assess the aspirations and needs of the people, so that sustainable development activities could be planned and co-ordinated with them.

Results

The project has completed steps that are fundamental to securing the remaining Uluguru mountain forests:

- A participatory forest management system in and around the forest reserves has been established, enabling local communities to access and benefit from the natural resources more easily. The system is designed to plan and monitor for sustainable use and prevent over-exploitation.
- The project is helping farmers to develop more environmentally-sustainable farming techniques. They are diversifying activities to reduce their own economic reliance on the forest's natural resources and, through this, they are helping to conserve the forests.
- The productivity of the land around the forests has been improved, reducing the need to expand agricultural land further into the forest.

The challenge ahead

Project staff recognise that successfully conserving the forests will depend on convincing people that they can gain economically by keeping them intact. They need to find ways for the people, often far downstream, who use the water and other forest resources, to help pay for their protection.

For more information on the Uluguru project, contact Paul Nnyiti, Senior Conservation Officer, WCST (wcst@africaonline.co.tz) or Thomas Lehmborg, Technical Advisor, DOF (tlehmborg@hotmail.com).

◀ **The Uluguru Mountains are part of the Eastern Arc mountain chain of Tanzania and Kenya. They provide a critical water catchment function for the surrounding drylands.**



Alex Hipliss

The way forward – policy recommendations

Lessons from the BirdLife experience

Establishing sound, transparent and participatory governance processes helps deal with the pressing issues of today, including water-related conflicts, while preparing for tomorrow's challenges. This will require:

Improved governance at the catchment level

- Creating the right institutional and regulatory frameworks for integrated catchment management.
- Reducing pollution at the source and enforcing the 'polluter pays' principle.
- Reducing diffuse pollution as much as possible, partly by ending the application of surplus nutrients in agriculture.
- Introducing full cost-accounting when considering infrastructure development and broad-scale land use planning. This should recognise the total economic value of environmental features such as natural flood cycles.
- Participatory decision-making, by identifying and engaging all stakeholders as early as possible and establishing a clear mechanism for stakeholder involvement.
- Educating relevant stakeholders about reducing the demand for water and managing land in an environmentally-sustainable way.
- Using facilitation and arbitration processes to resolve conflicts over trans-boundary and shared water resources.



▲ Hadejia-Nguru wetlands, Nigeria.



Alex Hipkiss

- Recognising the value of local knowledge and skills for maintaining environmental solutions in the long-term.
- Twinning outside, scientific expertise with local knowledge from the outset of projects and programmes.
- Co-operating internationally and following global standards through full implementation of the Ramsar Convention on Wetlands.

◀ **The management of forests in upper river basins, as here in the Udzungw Mountains National Park, Tanzania, is essential to securing long-term water supplies.**

▼ **These lilies thrive in one of the world's biodiversity hotspots: the Bemamba wetlands in western Madagascar.**

Overall improvements in environmental governance

- Better integration of the role and relevance of biodiversity and ecosystem functions in poverty eradication programmes.
- Using comprehensive environmental impact assessments and strategic environmental assessments for development projects and sector policies (especially water sector policy) to ensure that biodiversity and environmental assets are sufficiently valued and protected.
- Bolstering forest protection in non-forest development policy and practice (including agriculture and education policy).



R Safford

Summary

Integrated management practices for wetlands and river basins that take a holistic approach (including ecological and biological as well as social, institutional, economic and cultural aspects) are essential in ensuring water resources into the future.

Truly sustainable development requires long-term strategies and support for locally-led initiatives. The best, most cost-effective results come from small-scale, resource-intensive activities that build capacity at a local level. The challenge is scaling these up effectively.

Scaling up can be achieved through government-led decentralisation processes and multi-agency programmes. Such initiatives must empower local decision-makers, who are accountable to both local needs and environmental standards at catchment and regional levels.



Bob Glover (ispb-images.com)

▲ Black-tailed godwits breed in the UK but winter in estuarine and coastal areas of Africa.

► Interested youngsters will ensure that progress continues into the future.

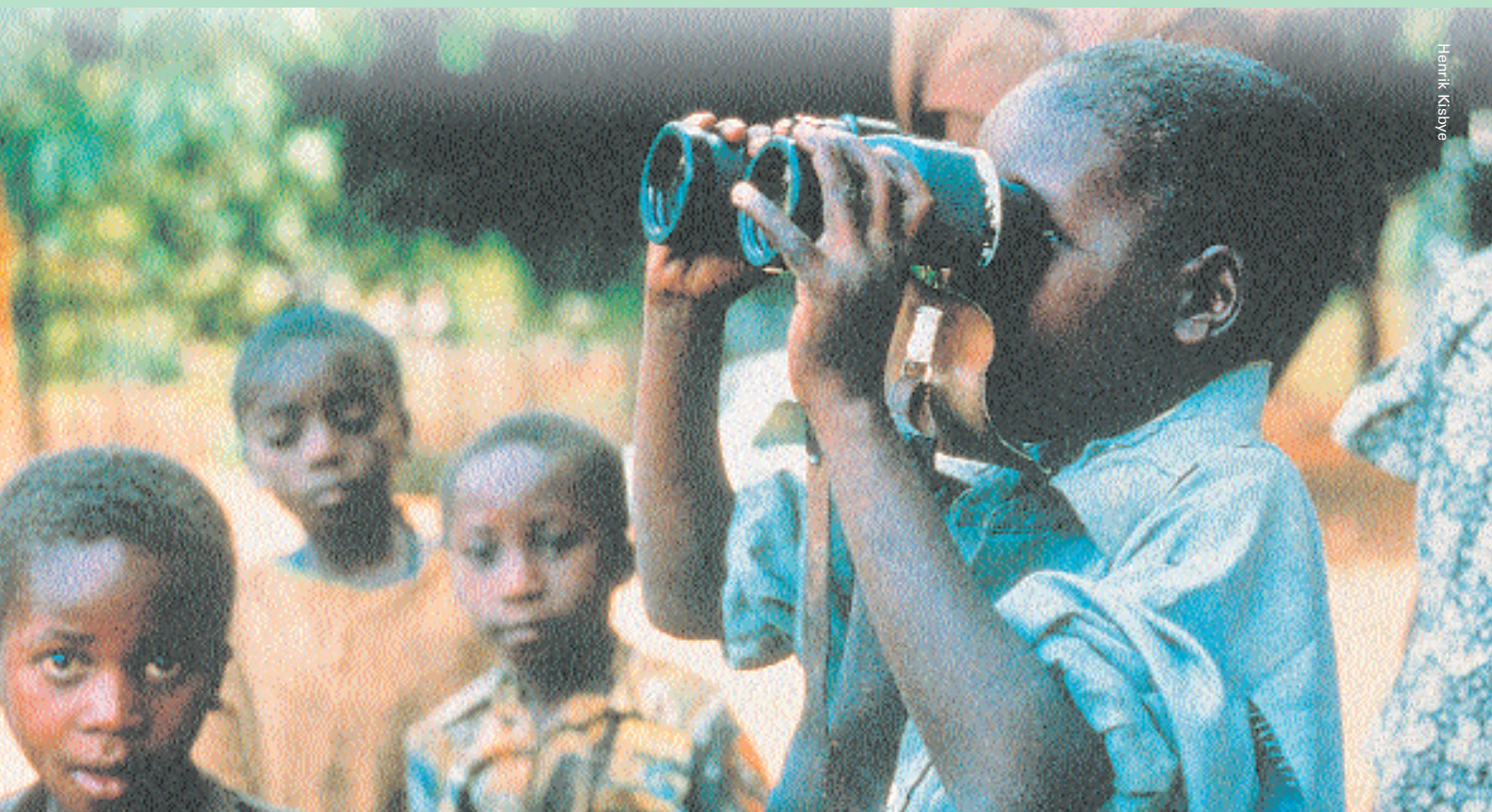
References and footnotes

- 1 These include aquatic habitats, such as rivers, swamps and marshes. The Ramsar Convention 2004.
- 2 Freshwater wetlands and mangroves have the most rapid loss rates – around -2.5% per year.
- 3 IUCN Red Data List of Threatened Species 2004, www.redlist.org.
- 4 The Ramsar Convention parties have defined ‘wise use’ of water resources and river basins, and have adopted guidance and tools to help deliver this (eg *Integrated river basin management and water management guidance*, www.ramsar.org).

BirdLife International is a global partnership of conservation organisations and local networks, working in more than 100 countries worldwide. The BirdLife Partnership strives to conserve birds, habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Its worldwide community of grassroots organisations and individuals is working to create a brighter future for the world’s six billion people

and 10,000 species of bird, whose lives and futures are inextricably linked.

BirdLife International is one of the Ramsar Convention’s international organisation partners. The Ramsar Convention promotes the conservation and wise use of wetlands and river basins.



**BirdLife International Secretariat Sustainable
Development Policy Team
BirdLife International
Wellbrook Court
Girton Road
Cambridge CB3 0NA**

The RSPB is the UK partner of BirdLife International.
It leads on water policy issues for the BirdLife Partnership
and coordinated and produced this publication.

For further information, please contact:

Joanna Phillips
Head of Trade and Development Policy
E-mail: joanna.phillips@rspb.org.uk

Sarah Oppenheimer
Water Policy Officer
E-mail: sarah.oppenheimer@rspb.org.uk

The RSPB
UK Headquarters
The Lodge
Sandy
Bedfordshire SG19 2DL
Tel: +44 (0)1767 680551 Fax: +44 (0)1767 685140

www.rspb.org.uk



for birds
for people
for ever