

Conservation Biology: Where next? by John H. Lawton

Conservation biology is unquestionably, now, a mature science. We should celebrate this. But despite scientific success, the war to conserve biodiversity is not going well. We win some battles, but the overall trend is undeniably downwards. I want to ask why. In part, the answer lies in too few resources to realize our potential. However, 'more of the same but better funded' is not going to be enough. In a rapidly changing world, conservation biology is a necessary, but not a sufficient solution to the looming biodiversity crisis. Some of the solutions lie in a bigger scientific agenda—the Earth System Science agenda. The new conservation science is much bigger than biology. And other parts of the solution—by which I mean winning the war—have more to do with the law, economics, politics, world trade, and the whole sustainability agenda, than with conservation biology as such.

Let me start on familiar territory. The science of conservation biology has been remarkably successful,

both in establishing general principles underpinning effective conservation, and in developing and implementing species recovery programs. For instance, theory and practice tell us that reserves / protected areas should be as big as possible, as close together as possible or connected by corridors, and embedded in a matrix that is as benign as possible.

We also have sophisticated site-selection algorithms that can give us 'best value for money,' the most species at lowest cost, or what have you. We know reasonably well where the world's biodiversity hot spots are, and so in principle know where to concentrate conservation efforts if the politics allows. And, for the tiny proportion of the world's species lucky enough to get the gold-plated treatment, species recovery programs work, again underpinned by highly sophisticated science (autecological studies, MVP analyses, the genetics of inbreeding, and so forth).

In other words, our science is undeniably capable of delivering highly effective conservation. That in general it is not doing so in many parts of the world says that something else is going wrong.

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Repelling invaders and other challenges for the Charles Darwin Foundation and the Galapagos National Park Service by Robert Bensted-Smith

Though the pristine image of the Galapagos Islands has been tarnished in the past decade, the islands are still in far better shape than other archipelagos with a longer history of human habitation. They retain 95% of their original terrestrial species, large expanses of unspoiled volcanic wilderness and abundant coastal wildlife. To maintain them we must beat the alien species problem, which presents by far the greatest threat to the islands.

This is the central challenge for the Charles Darwin Foundation (CDF), which runs the Charles Darwin Research Station in Galapagos, and its close ally, the Galapagos National Park Service (GNPS). Responding to rapid expansion of the alien

species problem, CDF and GNPS have in recent years scaled up their ability to tackle the invaders. Feral pigs, which have wreaked havoc on Santiago Island since the mid-1800s, were declared eradicated in May 2002. For 25 years control work had kept the population in check, but the goal of eradication from this 580 km² island had proven beyond our abilities until 1997. In 1997, a new approach was adopted—training local hunters to use Global Positioning System technology, backed by analysis of data on pig distribution and search effort on a digitized satellite image of the island. Three years and over 70,000 hunter-hours later, hunters caught what

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MAKE YOUR VOICE HEARD! Please renew your SCB membership for 2003 and cast your votes in the 2003 election. See pages 5 and 6 for more details.

Lawton, from page 1

In part the problem is one of money. Species recovery programs are expensive. Restoring bittern populations in Britain by investing in an intensive program of research, habitat restoration, and recreation is scheduled to cost of the order of £8m (\$12m) over 15 years¹. So would more money help? Yes is the simple answer. US conservation biologists struggling to deliver species recovery programs receive on average approximately 20% of the funding they say they need to do the job properly. More importantly, analysis shows that the status of endangered species improves steadily the bigger the proportion of requested funds actually allocated².

So can we simply invest more money in conservation science, sit back, and watch the Garden of Eden return? Unfortunately not. The forces of darkness and ignorance are not so easily diverted. More money for conservation biology will help, but it is only part of the solution, not the whole solution. I do not pretend I know all, or even many of the answers. But I do see the problems.

Many conservation issues are not just about biology. Tricky legal problems abound, not least designating protected areas 'for species that aren't there yet' (but which we expect to arrive, for example, through deliberate reintroduction, or migration in response to climate change). It is currently illegal in many countries to introduce species outside their natural range. Climate change will make a mockery of such legislation. Thinking heretically, for species left with nowhere to go because of climate change or habitat destruction, does introduction back into the wild necessarily have to be on their home continent? The purists will hate it, but the concept of a 'home continent' for many taxa is meaningless over time scales of millennia. Yet the law is totally unable to provide answers to how we manage these situations. The problems are not just biological. To solve them we will have to engage with lawyers.

Effective conservation also increasingly demands that biologists understand the rules of international trade. The World Trade Organization and the General Agreement on Tariffs and Trade (GATT) are not things we normally think about but (as a recent review points out)³ to win the war, "population biologists [need] to familiarize themselves with the theory and practice of international trade, and its interactions with the environment."

We also have to see a bigger scientific picture that extends beyond the traditional boundaries of conservation biology to take an Earth System Science perspective⁴. With possibly 20-30% of all species globally threatened it is easy to lose sight of the big picture, which is as simple as it is depressing. Every year, human beings now take for our own direct or indirect use 40% of all terrestrial plant growth, one third to one quarter of all marine primary production, and 60% of all readily accessible fresh water⁵, and this 'take' is growing exponentially. Is it any wonder there is an extinction crisis?

The political message has to be loud and clear. This is unsustainable, and the solutions are primarily social and economic, not biological. We need a huge effort to deliver a sustainable future that massively reduces our impact on the planet without the lights going out. It can be done. Much of the

technology and know-how exists⁶. What is lacking is the political will, and public acceptance in the developed, wealthy world that there is a problem.

Finally, the biggest challenge of all is that we live in a world in which the gap between the minority of 'haves' and the majority of 'have nots' is growing ever wider. We live in a desperately unfair, unequal world. Effective conservation is impossible in the face of grinding human poverty on the one hand, and blinding human greed on the other. More effective conservation of Earth's biological riches will not happen without sustainable development, the stabilization of the global population, and social justice, for all nations.

The cynics among you will say that it is all too difficult, and that I am naïve. I would rather be naïve than hopeless. The hard-nosed will say that we cannot afford it. Nonsense. US overseas aid is currently 0.1% of GDP—a derisory sum—and the US intends to pull out of some of this tiny sum because it may be used to promote contraception. The mind boggles.

So, conservation biology: where next?

We must continue to do our science, but do it in determined and creative partnerships with Earth System Scientists, technologists, lawyers, socio-economists, politicians and aid workers, as we strive reduce our own footprint on the planet and to create a fairer world, with a future for biodiversity. And we must invest more of our own time in demanding that policy makers, politicians, and the public understand the dire state of the planet.

If we succeed, we will deliver a more sustainable future. If we fail, the future does not bear thinking about.

Literature Cited

1. K. Smith, Royal Society for the Protection of Birds, pers. comm.
2. Karieva, P. (2002) TREE 17, 162.
3. Yu, D.W. et al. (2002) TREE 17, 341-344.
4. Lawton, J.H. (2001) Science 292, 1965.
5. Pimm, S.L. (2001) The World According to Pimm, McGraw-Hill, New York.
6. Hawken, P. et al. (1999) Natural Capitalism. Earthscan, London.

John Lawton (Chief Executive, Natural Environment Research Council, UK, and Centre for Population Biology, Imperial College, Silwood Park, UK) received SCB's 2002 Edward T. LaRoe III Memorial Award in recognition of his leadership in translating principles of conservation science into real-world conservation and policy.

WHERE NEXT?

Turn to page 14 to learn about an innovative working model for achieving conservation success. Do you have another creative approach to share? Your contributions are welcome.

Galapagos, from page 1

proved, after 18 more months of systematic monitoring, to be the last pig. Santiago is the largest island in the world from which feral pigs have been eradicated, and GNPS and CDF have equally ambitious projects for eradication of goats from various islands.

As the work with large mammals advances, CDF is looking ahead to the post-eradication phase of ecological restoration and increasing efforts on research into more insidious invaders, such as fire ants (*Wasmannia auropunctata*). In 2001, CDF and GNPS started a program to eradicate fire ants from the near-pristine island of Marchena, which the ants had colonized some 12 years previously. By April 2002, after three treatments with Amdro, an insecticide specific to fire ants, all but 65 m² of the 22-hectare infested area was ant-free. As with the Santiago pigs, central to the eradication program is intensive monitoring, in this case using thousands of skewers covered in peanut butter (irresistible to ants!)

In January 2002, GNPS released, for the first time in Galapagos, a biological control on an insect pest, the cottony cushion scale (*Icerya purchasi*), which attacks some 60 native plant species. The decision to release the control agent, an Australian ladybug (*Rodolia cardinalis*), followed three years of research by CDF to assess the risks of undesired impacts on native species.

There are hundreds more introduced insect species, whilst introduced plants, of which over 600 species have already been recorded, now outnumber native plant species. A priority for CDF and GNPS is eradication of invasive plants that are still confined to just a few hectares, whilst controlling the worst of the widespread invaders and mitigating their impacts.

Successes in eradication and control must be complemented by reducing by one or two orders of magnitude the influx of new alien species. CDF is using an array of measures to erect effective barriers to alien species, including public awareness, education, training, collaboration with governmental agencies and stakeholder groups, establishing mechanisms for local participation, advising on legislation and regulations, and fund-raising. Many of these measures come together in a multi-institutional initiative to establish a quarantine inspection system for Galapagos. Though it is not yet fully effective in all ports and airports, the system is already achieving results, both in importation patterns and in enforcement—over 800 prohibited goods were intercepted in 2001.

By complementing research activities with engagement in a range of social and regulatory issues, all contributing to a coherent conservation strategy, CDF has become increasingly effective. A key factor enabling this advance has been the support of donors, notably the Friends of Galapagos organizations, which are CDF's core supporters, the United Nations Foundation, and the United Nations Development Program and Global Environment Facility. They have recognized that words about conservation and sustainable development in Galapagos are empty unless alien species—at the heart of conflicts between the two aims—are confronted on

a large scale, backed with permanent funding in the form of an endowment fund.

The UNDP/GEF support to CDF is part of a larger government project, reflecting the fact the government of Ecuador is taking very seriously the introduced species problem. Indeed, the government has taken a US\$10 million loan from the Inter-American Development Bank for Galapagos conservation, including investment in infrastructure for quarantine inspection. [The bulk of the IADB loan is for the Galapagos Marine Reserve, created in 1998. Conservation of the marine ecosystem, so diverse and little studied in comparison with the terrestrial ecosystem, is the other half of CDF's work in the islands and has seen important advances, both scientific and in co-management with stakeholders. Contact CDF for more information on this work.] Ecuador also has taken some difficult steps that address root causes of the alien species problem, notably restricting migration to the islands and recognizing officially that human population levels must be stabilized if net introduction and dispersal of alien

species are to be reduced to near zero and further transformation of the unique Galapagos ecosystem avoided. However, Ecuador has not yet fully grasped the nettle on some of the social and economic policy issues that such commitments imply, since the current balance of incentives tends to reduce emigration and stimulate immigration, both legal and illegal, to the islands. In this and other areas, such as sustainable agriculture, CDF needs allies with expertise

complementary to its own. Such alliances will increase in importance and feasibility along with the complexity of conservation issues and diversity of actors in the archipelago.

CDF and WWF recently published on the web (www.darwinfoundation.org) a report describing both a vision of the potential for restoration of Galapagos biodiversity over the coming 50 years under optimal management and our best-guess projections of the loss of biodiversity under current trends. The choice between the two will depend heavily on how effectively the alien species problem is tackled, through control of introduced species, mitigation of their impacts, and implementation of an array of preventive measures that are socially just without shying away from what may at present be politically sensitive. With its comprehensive approach Galapagos is at the forefront of efforts to tackle this rapidly growing, global problem of invasive alien species.

Robert Bensted-Smith
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The Charles Darwin Foundation for the Galapagos Islands received a 2002 SCB Distinguished Service Award for their extraordinary service to the Galapagos through research and protection programs and for working with the Galapagos National Park Service to promote scientifically based conservation management.

INTERNATIONAL SECTION AND SCB MEMBERSHIP NEWS

Austral and Neotropical America

SCB decided to create regional sections to organize efforts and stimulate the contribution of current and new members in specific geographic areas. One of these sections is Austral and Neotropical America (ANA), which includes all of the countries south of the United States to Chile and Argentina.

ANA (which also is a woman's name derived from the Hebrew 'hanna,' which means 'graceful') is one of the largest SCB sections, and it is growing rapidly. We have taken firm steps to give life to the section. The first of these steps was organization of interim elections for the board that will guide initial development of the section. The second, a meeting that took place during SCB's 2002 annual meeting in Canterbury, served to introduce several of the elected board members and to solicit opinions regarding various aspects of SCB membership, such as options, rates, and affiliation with more than one section.

During the past few months we have discussed the bylaws under which we will operate. We are pleased to announce that after several rounds of discussion and amendment, the bylaws were approved. If anyone is interested in obtaining a copy of the bylaws, please contact Jon Paul Rodríguez (jonpaul@ivic.ve).

Now, we are moving forward with preparations for a planning meeting of the section, which will be held in Cuba 23–27 November 2002. The board (President, Secretary, Treasurer and the four directors) will meet with other SCB members to refine the functional structure of the ANA section, establish short-term and long-term objectives, organize efforts within the section, and define the contributions that we can make to and receive from SCB and other regional sections. We are open to receiving opinions and contributions about these and other themes that you believe are necessary to address during the meeting (please send comments to Jon Paul Rodríguez or Miguel Vázquez, m.a.vazquez@andinanet.net).

Finally, we are confident that thanks to our members' ongoing work, interests, and exchange of experiences, the section will be an important source of proposals and contributions regarding practical alternatives for conservation of biodiversity in the region and the world.

Miguel Vázquez

Australasia

The Australasian Section is moving forward!

The first strategic planning meeting of the Australasian Section's Board of Directors will be taking place at the joint Ecological Society of Australia / New Zealand Ecological Society meeting in Cairns, north Queensland from 2–6 December 2002. All members (and potential members) of the Australasia Section are cordially invited to attend the section members' meeting on Tuesday, 3 December from 6:00–8:00 P.M., followed by a reception to welcome us to the region in true style!

Our board members are looking for a few good people with a few good ideas for how our section can develop in both the short term and long term. If you have a hankering to get involved on the ground level, and help decide what focus and direction we as a group will be taking over the next few years, please contact one (or more) of the following committee chairs.

Conservation. Andrew Mack, amack@wcs.org

Keeps section members informed about current conservation issues on a regional or global scale and helps facilitate awareness of regional conservation issues by SCB members outside the section.

Programme. Robert Davis, radavis@cyllene.uwa.edu.au

Assists the President Elect in arranging the program and activities schedule for the section, including members' meetings and any alternatives intended to substitute for meetings.

Education. Jean-Marc Hero, m.hero@mailbox.gu.edu.au

Acts as an extension of the section within the academic and regional community by informing the public of regional and global conservation issues and promoting the study of conservation biology. This committee also may act as a forum for discussing and debating solutions to regional issues.

Membership and Student Awards.

Menna Jones, menna.jones@anu.edu.au

Responsible for encouraging membership in both the section and SCB. Assists the Secretary in maintaining the list of the section's membership and helps facilitate any mailings to the membership. Also responsible for administering the applications for student membership awards and student presentation awards at meetings.

Audit. Eric Dorfman, edorfman@doc.govt.nz

Ensures the annual audit, independent of the section's Chief Financial Officer, of the section's financial records. This committee reports to the section President.

Communications. Angie Penn, a.penn@unsw.edu.au

Provides advice on development of printed and electronic publications of the section such as newsletters and websites. This committee also works with the Membership Committee and other committees of both the section and SCB to achieve outreach and marketing goals.

Policy and Media.

Meg Montgomery, megm@performancetechnologies.com

Statements of Resolutions and Public Advocacy explaining the section's views on a particular issue or controversy are prepared by this committee for review and action. The chair is the media contact for policy statements.

Nominations. Caroline Gross, cgross@metz.une.edu.au

Organizes all nominations for elected offices and presents to the section Board a complete slate of nominees

We received a number of great ideas from members for symposium topics at both the Duluth meeting in 2003 and for our first regional symposium in Armidale in 2003. Presently we

are seeking a co-sponsor from Australasia to help coordinate and plan the Duluth symposium. For further details please contact David Norton, david.norton@canterbury.ac.nz or Karen Firestone, karenf@austmus.gov.au.

Please check our website periodically for news and action updates and for current job listings in our region: www.conservationbiology.org/SCB/Activities/Sections/OzNz/. If you would like to advertise a job on our website, contact Angie Penn, a.penn@unsw.edu.au.

Looking forward to seeing many of you in Cairns.

Karen Firestone

Marine

Our newly formed committees—Marine Conservation Policy, Marine Conservation Science, Education, International, Membership, Program, Communications, Nominations, and Audit—have begun to meet. The Policy and Science committees in particular will be busy organizing updates on current marine science and policy to distribute via the marine website and listserv. The Membership Committee will be assisting the SCB membership committee in creating a ‘marine’ insert for the SCB brochure to promote marine conservation via distribution of this brochure. To join one of these committees, please contact Carolyn Lundquist, c.lundquist@niwa.co.nz. Further information on these committees is contained in the section bylaws, which are available on SCB’s Marine Section website.

As Marine Section members (like members of any section), we now can become a voting member of an additional international section. We believe that this will be of great benefit to the Marine Section members who also are interested in joining the section for their geographical region. You can join an additional section by logging on to <http://conbio.net/SCB/Activities/Sections/> with your SCB id number and password or when you renew your membership for 2003. For additional information on the Marine Section or to join the marine listserv (marinelist@conbio.org), visit <http://conbio.net/SCB/Activities/Sections/Marine/> or contact any of the Section officers.

Carolyn Lundquist

BYLAWS RATIFIED

On 10 October, the Board of Governors unanimously ratified bylaws for five sections: Africa, Austral and Neotropical America, Australasia, Europe, and North America (bylaws for the Marine section were ratified in July 2002). The President of each of these sections, or his or her designee, now serves as a voting member on SCB’s Board of Governors. Congratulations and thanks to the many individuals who participated in the bylaw development and ratification process.

NEW MEMBERSHIP ALTERNATIVES AND RATES

Ratification of bylaws is an important milestone, but we are aware that much important work lies ahead. The Board’s mid-year meeting in March 2003 will focus on future steps toward effective internationalization of SCB. In the meantime, we hope to make progress on various fronts such as membership recruitment. A US\$10 “membership only” option became functional as of 1 October. Members who take advantage of this alternative will receive an electronic version of the newsletter and access to member-only sections of the web site.

On 10 October, the Board of Governors approved a life membership option at a rate of 20 times the annual regular rate. For example, a member in a developing country will receive a lifetime subscription to

Conservation Biology, and all benefits of SCB membership, for \$940. Although life membership is an expensive option in the short-term, we hope it will obviate the difficulties of obtaining US currency each year and will be an affordable alternative in the long run. Some NGOs have expressed an interest in sponsoring life memberships.

At the 2002 annual meeting, SCB’s Board of Governors decided that each member of SCB may join two sections as a voting member. This change is spurring strong growth in section membership; six of the seven sections now have 200 or more members. Please review and update your section affiliations when you renew your membership for 2003.

MEMBERSHIP RENEWAL UPDATE

Once again it is the beginning of membership renewal season. With our transition to from calendar year to rolling membership and subscriptions, it is more important than ever to renew on time so you do not lose access to SCB member services or miss any issues of *Conservation Biology* or *Conservation In Practice*. Please take a moment to check the renewal date on the mailing label of your newsletter or most recent journal. You may renew online if that is most convenient for you. Regardless of the renewal method you choose, we hope you will continue to align yourself with others who are playing decisive roles in our mission of conserving biological diversity.

To access the online renewal form, go to www.conservationbiology.org/renew

Enter your USER ID (email address or login of your choice)
Press ‘Go’

All of the information you have provided us in the past automatically will appear on the form. Just follow the easy steps to renew your membership.

We thank you for your current membership and hope you will continue to enjoy the benefits that your SCB affiliation brings. Please contact the Executive Office (see page 20) if you have any problems or questions.

SOCIETY FOR CONSERVATION BIOLOGY ELECTION 2003

You may cast your vote using the attached ballot sheet, which can be removed and mailed without an envelope. Or, starting 1 November 2002, you may cast your vote online at www.conservationbiology.org.

In these statements, candidates were asked to focus on their objectives for and history with SCB.

Short versions of their curricula vitae, which provide biographical details, are available on the web site.

Votes must be received by **1 March 2003**.

PRESIDENT ELECT

John Robinson

I seek election as SCB's President. A SCB member since the society was founded, I helped organize the annual meeting in 1990, served on the Editor Search Committee in 1993, and have been on the Board of Editors since 1993. I was a member of the Board of Governors from 1999 to 2002, and am a member of the Membership Committee. SCB is establishing a Washington, D.C. presence, seeking to translate its scientific understanding into conservation action and policy, and expanding globally and reaching new audiences. If elected, I would establish ways to integrate our membership into these new activities, and position SCB as the scientific authority for conservation in both national and international arenas. Since 1990, I have directed the worldwide conservation programs of the Wildlife Conservation Society (WCS), formerly the New York Zoological Society. Following a doctorate in zoology from the University of North Carolina at Chapel Hill in 1977 and a postdoctoral fellowship at the Smithsonian, I joined the faculty of the University of Florida in 1980, where I established a graduate conservation program especially for students from tropical countries. My professional interests focus on natural resource management, especially in tropical forests, international conservation policy, and conservation planning.

Stephen Trombulak

My career has largely been spent within the field of conservation biology and within the fold of SCB. I've been a member since 1988 and served on the Board of Governors from 1997–2000. I helped establish the Education Committee, which I've chaired since its inception in 1999. I now serve on the inaugural board of the North American section and thus participate in the development of its initial agenda. Like many, I've worked on numerous governmental and NGO projects as well as conducted research on a range of conservation topics. But I'm first and foremost an educator. I've taught conservation biology and environmental science at Middlebury College for eighteen years, working on models to foster general conservation literacy and action, and curricula to prepare students going on to graduate school for interdisciplinary research. I believe we're correct with our initiatives to establish an Executive Office and become an international organization, and I'd work to keep those programs on track. In addition, I'd focus effort on SCB's educational initiatives, enhancing our ability to develop and disseminate conservation curricula to a wide range of audiences and to develop more accessible and comprehensive resources for those seeking to advance their conservation education.

BOTANICAL GARDEN, ZOOLOGICAL GARDEN, PUBLIC AQUARIUM, OR NATURAL HISTORY MUSEUM

Karen Firestone

My research is based on the application of molecular genetics as an aid to the conservation of Australia's vulnerable and endangered carnivorous marsupials. Although associated with Australian zoos and museums for well over a decade, my research readily transfers from the realms of the 19th century 'Attic' and the 20th century 'Ark' to the real world of conservation management in the 21st century through my wide collaboration with on-ground wildlife managers in addressing questions of concern. I have been active in the field of conservation biology since 1983 when I worked as a keeper at the Smithsonian's National Zoo and have been a committed member of SCB since 1998 when I attended the first meeting held in Australia. More recently, I have been one of the key players driving the formation of the Australasian section of SCB and now serve as the Secretary/CFO for our regional Board. I see the continuing internationalization of SCB as one of the key issues for the society in the coming years and will bring another international perspective to the Board. If elected, I will work to encourage communication not only from SCB to our regional sections, but also more importantly from our sections to SCB.

Nigella Hillgarth

I am the Executive Director of the Birch Aquarium at Scripps Institution of Oceanography, San Diego. I have been involved with SCB for several years and serve as a financial trustee giving advice on investment strategy for SCB. I believe I can make a strong contribution to the SCB Board. I have several years experience as a scientist specializing in behavioral ecology and conservation. However, for the past few years I have concentrated on communicating conservation to the public. I have been director of two American Zoo and Aquarium accredited institutions, first at the Tracy Aviary in Salt Lake City and presently at the Birch Aquarium. Therefore I have an unusual combination of terrestrial and marine experience in the zoo community as well as extensive nonprofit management experience that I think would be particularly useful to SCB. I am also very interested in the internationalization of SCB. I am British, raised in Ireland and received my doctorate from Oxford University, UK. I have conducted research in Europe, Asia and Latin America and have lived in the United States for the last 10 years.

Devra Kleiman

I am currently a free-lance consultant after serving 28 years at the Smithsonian National Zoological Park, primarily as

Assistant Director for Research. Throughout my career, I have worked to fuse science with conservation implementation. My specific focus has been the integration of in situ and ex situ conservation for endangered species, through studies of behavior, ecology, and reintroduction. I have recently edited the volume *Lion Tamarins: Biology and Conservation*, which summarizes the last 30 years of efforts to preserve the Brazilian lion tamarins and Atlantic Forest and embodies my philosophy of conjoining science, policy, and outreach. Most recently, I have been involved in developing approaches to assess and improve the organization and structure of conservation programs, especially those involving multiple stakeholders. I am on the SCB Conference Committee and have served on the editorial board of *Conservation Biology* since 1986. I received an SCB Distinguished Service Award in 1988. I am an active member of several Specialist Groups for the IUCN/SSC and am Vice Chair for North America and Primates for the Reintroduction Specialist Group. If elected to the SCB Board I would focus on long-term strategic planning, increasing international involvement, and evaluating impact and cost-effectiveness of conservation activities.

UNIVERSITY OR COLLEGE

Aram Calhoun

I am both an Assistant Professor of Wetland Ecology at the University of Maine and a wetland scientist for Maine Audubon Society, a unique relationship that allows me to link research with practical conservation. The ecology and function of isolated wetlands, especially their role as amphibian habitat, is my research focus. Working with Audubon has given me a forum to translate research results to wetland policy and management initiatives, including wetland conservation projects with government planners and foresters. I have been an active member of SCB (attending 9 of our annual conferences) since 1991. I have served on an ad hoc committee to review *Conservation In Practice*, chaired the Student Awards Committee for four years, and attended five Board meetings. These experiences have familiarized me with the challenges and exciting new initiatives embraced by SCB (notably, internationalization and the new Executive Office) and I am committed to helping SCB maintain this momentum. As a member of the Board of Governors I would work to make SCB more relevant and attractive to students (I am currently organizing a student chapter in Maine) and to continue to foster initiatives that appeal to conservation practitioners worldwide.

John Craig

SCB has set out to become a truly international organization and would benefit from wider international governance. I believe I can assist members by bringing a broad understanding as well as a commitment to ensuring that biodiversity conservation is effective, inclusive, and international. Building conservation as a necessary part of sustainable management rather than as an often separate and conflicting approach is an important step toward this. I have a decade of involvement with SCB and have been a regular attendee at annual meetings. I am a New Zealander with 33 years experience in conservation

biology and biodiversity management. My research interests are broad including sustainability, restoration ecology, ecotourism, and threatened species. In my role as Professor of Environmental Management at the University of Auckland, I teach these subjects as well as conservation biology and resource management. For me, theory is the necessary base for practical conservation and sustainable development. I have long been involved in community led restoration projects and work closely with many, including indigenous Maori. My work in conservation has been formally recognized, including a Distinguished Service Award from SCB. I also work with industry in sustainable management.

William Sutherland

I teach ecology and conservation at the University of East Anglia, England. I wrote *The Conservation Handbook: Research, Management and Policy Techniques* and *From Individual Behaviour to Population Ecology* and edited *Managing Habitats for Conservation* (with David Hill), *Ecological Census Techniques, Conservation Science and Action*, and *Behaviour and Conservation* (with Morris Gosling). All of these make perfect birthday presents. I am currently creating a series of books describing techniques in ecology and conservation and editing the first one (*Bird Ecology and Conservation: a handbook of techniques*). The plan is that this series will cover the major taxa and conservation issues and provide readily accessible information on a wide range of techniques. I believe that a lack of access to information is severely limiting the development of global conservation. I have given away over 1800 copies of *The Conservation Handbook* to 134 countries and believe that more authors should do this. My research concentrates on combining theoretical models and field data to predict the consequences of environmental change such as GM crops, climate change, disturbance and habitat loss. I am particularly keen on integrating fields, such as economics and ecology, as I believe this is the only way to solve many conservation problems.

Donations to SCB promote the science of conservation biology and protect the diversity of life on Earth

- Donate appreciated stocks, bonds, or mutual funds. If you donate equities owned more than a year, you can avoid tax on the capital gains and reduce income tax by deducting the fair market value as a charitable contribution.
- Make a bequest to SCB in your will. A bequest may reduce taxes on your estate.

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Our students, for their classes and seminars:

Wrote the management plan for endangered golden-headed lion tamarins (monkeys) for all North American zoos.

Reviewed four species of plants for the Office of Scientific Authority (US Fish and Wildlife Service) and decided which to recommend for inclusion in the international CITES treaty.

Worked for Monitor International to reconcile differences between an international treaty (CITES) and a regional treaty (SPAW) protecting endangered Caribbean species.

Consulted to the Maryland Department of Natural Resources concerning the problems caused by a growing population of bears and made recommendations on how to solve them.

Advised the World Wildlife Fund on the potential for using a business stewardship council to promote sustainable development in the Russian Far East Ecoregion.

Do you want a graduate program located in the world's largest concentration of federal and state agencies, multinational banks, and non-government organizations that dominate national and international conservation efforts?

We're located just outside Washington, D.C. (8 miles from the White House), and we have established professional relationships with many of these organizations where you'll find abundant internship and job opportunities. In fact, most of our students find jobs here before graduating. For information about job placement, see the alumni directory on our program's home page.

Do you want a small graduate program with an outstanding cohort of peers?

Our program has 40 students from 10 countries, all with outstanding academic credentials. 80% of our students have two or more years of work experience before joining our program.

Do you want a graduate program with a strong yet flexible set of course requirements?

Our students take core courses in ecology, policy, resource economics, and problem-solving, seminar courses, and electives in several colleges across the campus. The University of Maryland has 35,000 students and offers all the advantages of academic, cultural and intellectual diversity to be found on a large campus, and the museums and cultural resources of the nation's capital.

Do you want a graduate program with opportunities for financial support?

Each year about 1/4 of our new students are awarded Graduate School fellowships, and most students who seek teaching assistantships are awarded them.

If these are the criteria you're looking for in a graduate program in conservation biology, consider applying to the graduate program in **Sustainable Development and Conservation Biology** at the **University of Maryland**, College Park. For more information, see the program's home page at www.umd.edu/CONS or contact:

CONS program
Department of Biology
University of Maryland
College Park, MD 20742-4415 USA

telephone: 301-405-7409
FAX: 301-314-9358
e-mail: consoffc@umail.umd.edu
Directors: David W. Inouye and James M. Dietz

SOCIETY FOR CONSERVATION BIOLOGY ELECTION BALLOT 2003

Please indicate your choices by marking an "X" next to the appropriate names

Statements provided by the candidates are attached (pages 6-7). Short curricula vitae are posted on SCB's web site.

Starting 1 November 2002, you may cast your vote online at www.conservationbiology.org

PRESIDENT ELECT

_____ John Robinson
_____ Stephen Trombulak

BOARD OF GOVERNORS. Vote for **one (1)** candidate in each category.

BOTANICAL GARDEN, ZOOLOGICAL GARDEN, PUBLIC AQUARIUM, OR NATURAL HISTORY MUSEUM

_____ Karen Firestone
_____ Nigella Hillgarth
_____ Devra Kleiman

UNIVERSITY OR COLLEGE

_____ Aram Calhoun
_____ John Craig
_____ William Sutherland

_____ member number (printed on the newsletter mailing label) or name
*We ask you to provide your number or name to guarantee that each member casts only one ballot.
Ballots are strictly confidential.*

To allow sufficient time for processing, ballots must be received by **1 March 2003**

Return your ballot to
Kathryn Saterson
Duke University
Box 90328
Durham, NC 27708-0328, USA

Please note: This ballot sheet may be removed, folded, and mailed without an envelope.
Only ballots on original newsletter paper will be counted.

postage

Kathryn Saterson
Duke University
Box 90328
Durham, NC 27708-0328
USA

2003 ANNUAL MEETING: Call for abstracts

The 17th Annual Meeting of the Society for Conservation Biology will be held 28 June—2 July 2003 in Duluth, Minnesota, USA. The local organizing committee is now accepting abstracts for invited symposia, oral presentations, and poster presentations. The theme of the meeting, *Conservation of Land and Water Interactions*, will focus attention on water, forests, wetlands, the Great Lakes and other large lakes and rivers of the world, marine and coastal systems, and associated biodiversity issues. Topics for invited symposia already have been selected, and abstracts for symposium presentations are by invitation only. However, the local organizing committee will continue to consider proposals for workshops and organized discussions that are submitted by **30 November 2002**. For more information contact 2003@conservationbiology.org or see www.conservationbiology.org/2003/.

The scientific program will include plenary sessions, invited symposia, workshops, organized discussions, poster sessions, and concurrent sessions of contributed oral presentations. Due to the centralized location of the meeting site, the organizing committee is expecting a large response to our call for abstracts. Space for invited symposia and contributed oral presentations will be limited, and poster presentations are strongly encouraged. All posters will be displayed three days during the meeting, thus providing for ample viewing time. Two poster sessions will provide for in-depth discussion between authors and attendees.

Please adhere to the following guidelines when preparing your abstract.

- Oral presentations will be limited to 15 minutes, including time for questions.
- The abstract should include new information. Abstracts should not be submitted for presentations that have been given at previous SCB meetings or similar conferences.
- The abstract should include specific information about the results and conclusions of the research. Abstracts that state “results will be discussed” will not be accepted.
- The abstract should have a clear connection to conservation biology.
- Contributed oral presentations will be grouped according to topic. Please choose from among the list of general topic areas to assist us in placing your presentation in an appropriate session.
- If your abstract is accepted but cannot be accommodated as a spoken presentation, you will be notified as soon as possible so that you will have ample time to prepare a poster.
- Individuals are limited to presenting only one oral or poster presentation. If your name appears on more than one presentation, make sure you are listed as the presenter for only one of them.

Presenting authors (oral and poster) must register prior to 14 March 2003 or their presentation will be dropped from the program. Because late cancellation excludes others who might have presented, authors who fail to notify the local organizing committee of their withdrawal by 30 May 2003 will be excluded from giving a presentation at the next annual meeting.

All session rooms will be equipped with a slide projector, an overhead projector, an SVGA computer projector, and a PC laptop. Presenters who wish to give a Microsoft PowerPoint presentation will be required to submit the PowerPoint file by 13 June 2003 so that it may be pre-loaded to avoid incompatibilities and similar problems arising during sessions. If you need to make special arrangements for other types of audio or video presentations, please email Kris Lund at 2003@conservationbiology.org for assistance.

INSTRUCTIONS FOR PREPARING ABSTRACTS

Abstracts should be submitted for oral and poster presentations and for invited symposia. Please note that the topics for invited symposia have already been selected, and that abstracts for symposium presentations are by invitation only.

Please follow the instructions carefully, including all requested information and formatting. Any abstract with errors or omissions will be returned to the sender for correction and runs the risk of missing the abstract submission deadline. Abstracts should be submitted electronically via the meeting web site, www.conservationbiology.org/2003. Web submission is strongly encouraged.

If you cannot submit your abstract via the web site, please email your abstract to Kris Lund at 2003@conservationbiology.org. The abstract should be attached as a Microsoft Word, WordPerfect, RTF or ASCII text file, and the subject line of the email should read “Abstract for SCB 2003.”

If neither Web nor email submission is possible, please submit your abstract on a PC computer disk. Mail the disk along with a hard copy of your abstract to

Kris Lund
UMD Continuing Education
251 Darland
1049 University Drive
Duluth, MN 55812-3011 USA

Regardless of the method of submission, all abstracts must be received by **10 January 2003**. The local organizing committee will attempt to notify all authors by 21 February 2003 regarding the outcome of the review process. Abstracts must be submitted following the format described below.

1. Type of presentation. Indicate whether the abstract is intended for an Oral, Poster, Either Oral or Poster, or an Invited Symposium presentation.

2. Name of invited symposium. If applicable, indicate the name of the Invited Symposium to which the abstract belongs.

3. Authors. List the contributing authors with the name of the presenting author in CAPITAL LETTERS. Order should be last name first for the first author, but first name first for all other authors. Write out full first names.

4. Addresses. List the institutional affiliations and addresses, including countries, for each contributing author in the same

order as given above. For the presenting author only, include an email address in parentheses at the end of the address. If there are multiple addresses, place the initials of the author in parentheses at the end of each address (see examples below).

5. Title. List the title in CAPITAL LETTERS. Titles are limited to 150 characters or less.

6. Abstract. The body of the abstract is limited to 200 words (excluding formatting codes) and should not exceed one paragraph. Begin with a clear statement of the problem or objectives, give brief methods and major results, and end with a substantial conclusion. Do not use vague statements such as “results will be discussed.” Abstracts submitted via the meeting web site are limited to ASCII text format. Follow the instructions given below to indicate any special formatting or symbols within the abstract. Abstracts that exceed 200 words will not be accepted and will be returned to the author for revision.

7. Topic areas. Please choose from among the list of general topic areas to assist us in placing your presentation in an appropriate session (see list below). Indicate your first, second and/or third choices.

8. Student presentation. Indicate whether the presentation will be given by a student (regardless of whether the student is a candidate for a student award).

9. Session chair. Indicate whether you are willing to chair the session in which you will be presenting (chair own), a session in which you will not be presenting (chair other), or none.

10. Comments. List any necessary comments pertaining to your abstract submission, including any special scheduling requests.

11. Name of contact. Provide the name of the contact person for necessary correspondence, including notification of abstract acceptance and program position. Include the contact person’s complete mailing address and country. Also provide an email address and telephone number, including the country code if outside the United States.

Topic Areas

The following general topic areas will be used to place your abstract in an appropriate session.

Landscape ecology
 Spatial ecology and conservation
 Risk assessment and uncertainty
 Inventory and monitoring
 Population viability analysis
 Population dynamics
 Alien and invasive species
 Biogeography
 Ecosystem management: theory and practice
 Recovery of endangered species
 Community ecology
 Restoration ecology
 Disturbance ecology
 Aquatic ecology
 Wetland ecology
 Grassland/prairie ecology
 Marine conservation

Conservation genetics
 Conservation area planning, design and management
 Grazing and agricultural issues
 Indigenous knowledge and conservation
 Education and outreach
 Economic and social context of biological conservation
 Science and policy in conservation
 Scientists and managers: bridging the gap
 Conservation issues concerning people
 Conservation issues concerning plants
 Conservation issues concerning fish
 Conservation issues concerning amphibians and reptiles
 Conservation issues concerning birds
 Conservation issues concerning invertebrates
 Conservation issues concerning mammals
 Conservation issues concerning Great Lakes
 Other _____

Special Characters and Formatting

Abstracts submitted electronically via the meeting web site are limited to ASCII text format. Please use the following codes to indicate the use of special formatting and symbols within the abstract. Replace special symbols, such as Greek characters, with their text equivalent whenever possible. If the abstract contains other special formatting or symbols, such as accented characters or mathematical symbols, email Kris Lund at 2003@conservationbiology.org for further instructions.

FORMAT/ CHARACTER	EXAMPLE	SUBMISSION EXAMPLE
italics	<i>Emydoidea blandingi</i>	<i>Emydoidea blandingi</i>
underline	<u>Book Title</u>	<u>Book Title</u>
superscript	km ²	km²
subscript	CO ₂	CO₂
degree	°	<degree>
em dash	—	
en dash	–	<en>
copyright	©	<copyright>
registered	®	<registered>
trademark	™	<trademark>
plus or minus	±	<+/->
greater than or equal	≥	<great/equal>
less than or equal	≤	<less/equal>
tilde	~	<tilde>
per thousand	‰	<perthousand>

STUDENT AWARD CANDIDATES

Student award candidates must submit two abstracts. One should be formatted according to the instructions given above and submitted online by **10 January 2003**. In addition, an extended abstract (3-5 paragraphs, preferably including 3-5 tables or figures) must be submitted to Alan Thornhill at athornhill@conbio.org no later than **17 January 2003**. The abstract should be attached as a Microsoft Word or ASCII text file, and the subject line of the email should read “Extended Abstract for SCB 2003.”

ABSTRACT EXAMPLES

EXAMPLE #1

Either Oral or Poster

NIEMI, GERALD, William Berg, JoAnn Hanowski, Malcolm Jones and James Lind. Natural Resources Research Institute, University of Minnesota, 5013 Miller Trunk Hwy, Duluth, MN 55811, USA (gniemi@d.umn.edu) (GN, JH, MJ, JL); Minnesota Department of Natural Resources, 1201 East Hwy 2, Grand Rapids, MN 55744, USA (WB).

LARGE-SCALE POPULATION TRENDS FOR GROUND-NESTING BIRDS AND MAMMALS: IS THERE A CONNECTION?

Conservation of vertebrate populations often requires an understanding of the interactions among predators and prey. Recent studies suggest that many mammals are incidental, but important predators of ground-nesting birds. Two large-scale monitoring programs in Minnesota and Wisconsin, USA have detected significant population declines for ground-nesting forest birds and increases for several mammals. Based on breeding bird samples of over 500 forest stands, four ground-nesting birds have declined including three neotropical migrant birds, black-and-white warbler, ovenbird, and mourning warbler, and one short-distance migrant, white-throated sparrow, over the past 10 years. In contrast, based on indices of abundance with scent posts and winter tracking, patterns of increase over the past 20 years have been observed in red fox, coyote, house and feral cats, raccoon, skunk, gray wolf, bobcat and black bear. Significant declines for the ground-nesting birds are greater than expected by chance for this guild and similar changes have not been observed for species nesting higher in the foliage. Increased populations for mammals is likely due to reduced human persecution, reduced trapping, increased tolerance to human-dominated landscapes, climatic warming, elimination of a top predator (wolverine), possible increased populations of small mammals with increased logging, combinations of these factors, or other factors.

Population dynamics; Conservation issues concerning birds; Conservation issues concerning mammals

Chair own

Gerald Niemi, Natural Resources Research Institute, University of Minnesota, 5013 Miller Trunk Hwy, Duluth, MN, 55811, USA; gniemi@d.umn.edu; 218-720-4270

EXAMPLE #2

Oral

FLESSA, KARL, David Dettman, Bernd Schoene, Carlie Rodriguez, David Goodwin, Miguel Tellez-Duarte, Guillermo Avila-Serrano, Michal Kowalewski and Glenn Goodfriend. Department of Geosciences, University of Arizona, Tucson, AZ 85721, USA (kflessa@geo.arizona.edu) (KF, DD, BS, CR, DG); Facultad de Ciencias Marinas, Universidad Autonoma de Baja California, Ensenada, Mexico (MT, GA); Department of Geological Sciences, Virginia Tech, Blacksburg, VA 24061, USA (MK); Department of Geology, George Washington University, Washington, DC 20052, USA (GG).

NEW USES FOR THE DEAD: RECONSTRUCTING BASELINE CONDITIONS ON THE COLORADO DELTA

Paleoecological and geochemical techniques can be used to reconstruct the species composition, abundance and environmental tolerances of marine shelly invertebrates prior to human alteration of the environment. But on the Colorado Delta, like many other places, people didn't initiate observations until they had already modified the habitat. We estimated benthic shelly productivity before upstream water diversions that began in the 1930s. We used field counts, satellite images, radiocarbon-dated shells and analyses of shell growth to estimate pre-diversion population densities of 50 clams/m^2. Surveys of the living shelly fauna indicate densities of 3 clams/m². The oxygen isotope composition of prehistoric shells of the bivalve mollusk *Mulinia coloradoensis* show that this species thrived when salinity was lower than at present. The reduction in the number of shellfish has probably diminished the food supply for migratory waterfowl. Upstream water projects have profoundly changed the diversity and productivity of the Colorado River Delta in Mexico. Prehistoric shells can be used to reconstruct past diversity, composition, abundance, ecological interactions, growth rates, survivorship, salinity regimes and environmental preferences. Dead shells provide a baseline to assess environmental impact in coastal areas.

Marine conservation; Conservation issues concerning invertebrates; Other: paleoecology

Chair none

Karl Flessa, Department of Geosciences, University of Arizona, Tucson, AZ 85721, USA; kflessa@geo.arizona.edu; 520-621-7336

For More Information

Kris Lund
University of Minnesota Duluth
Continuing Education
251 Darland
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Duluth, MN 55812-3011, USA
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2003@conservationbiology.org
www.conservationbiology.org/2003/

Passing the “Taxi Test” with Foundations of Success

On a taxi ride to a meeting in Washington, D.C. recently, the driver and I were having a friendly enough conversation—until he asked the question I fear most: “So what do you do for a living?” Ugh . . . I always squirm when a cab driver—or anyone else—asks me that question. There never seems to be an easy answer. I can’t simply say “conservation”—that always requires a long explanation that, no, I don’t restore old works of art . . . I can’t say “monitoring and evaluation” because I get either a blank stare back or pointed questions revealing suspicion that I work for some clandestine spy agency. I’ve even tried “project management consultant” but usually find myself trying to back-peddle as my new acquaintance breaks into a monologue on fads in management, referring to the likes of Peter Drucker, Jack Welch, and Peter Senge.

I’m sure I’m not the only
conservation
professional who has
a hard time
describing his
or her work

to individuals outside our field. I don’t think it’s our deficiency as communicators that is the primary obstacle. Conservation is a complex concept to describe because it is a difficult thing to do. Over the last 30 years or so—since the discipline of conservation really shifted into high gear—society has invested huge amounts of time, energy, and money to achieve conservation. But our real and lasting victories have been few and fleeting and the challenges we face have only grown.

We can’t simply blame external forces on our inability to achieve conservation. Many of the obstacles are of our own making. In some quarters of the field of conservation, there seems to be a growing sense of frustration that we haven’t done a very good job of reducing complexity to make conservation a more manageable and predictable science. We’ve had a hard time defining—in clear and measurable ways—what exactly we are trying to achieve. We haven’t done a very good job of turning research into action—and learning systematically about how to make our interventions more successful. And we haven’t necessarily been collaborative as a field to combine forces to address the major threats.

But there is great cause for hope. In the past few years, many of the leading conservation organizations—including Wildlife Conservation Society (WCS), The Nature Conservancy (TNC), Conservation International (CI), World Wildlife Fund (WWF), and African Wildlife Foundation (AWF)—increasingly have looked for ways to work together to make conservation more efficient and effective. There is new interest in learning—not

only within organizations, but also among them. And there is a focus on systems for learning and measuring progress.

In this emerging environment of collaboration, learning, program improvement, and skills enhancement, my colleagues and I have established a new nongovernmental organization, Foundations of Success (FOS)—a legacy of the applied research divisions of the Biodiversity Support Program (BSP) [BSP was a USAID-funded consortium of WWF, TNC, and WRI. BSP ended in December 2001.] Our mission is to improve the practice of conservation by working with practitioners to develop and communicate tested knowledge about what works, what doesn’t, and why. Our goals—or what we believe to be the three “foundations of success” in conservation—are

1. Define clear and practical measures of conservation success.
2. Determine sound guiding principles for using conservation strategies and tools.
3. Develop the knowledge and skills in individuals and organizations to learn how to make conservation more effective.

The first foundation is focused on developing precise and yet practical processes and indicators to measure success in reaching conservation goals. The second relates to determining the conditions under which different conservation actions are most likely to achieve success. And the third foundation relates to developing the capacity to do adaptive management.

We strive to achieve these goals through two main mechanisms: learning portfolios and special initiatives. A learning portfolio is a network of conservation projects—preferably including multiple host institutions—that use a common conservation strategy to achieve their goals. The members of the portfolio seek to define success relative to the conservation actions they employ while analyzing their efficacy and building their capacity to more efficiently execute projects. At present, we work with three active learning portfolios and are facilitating the establishment of many more. In the Locally Managed Marine Areas (LMMA) learning portfolio, for example, FOS and its partners work to bring together conservation practitioners and community members from across the South Pacific to learn about and improve on the use of community-based approaches to marine and coastal conservation.

Special initiatives are short-term, focused projects related to our three goals. These initiatives are designed to advance our knowledge on key issues faced by conservation practitioners across the globe. For example, FOS is currently undertaking a project with WCS and CI that is designed to survey key disciplines that share important characteristics with conservation to determine if there are some universal principles in monitoring and evaluation (M&E) and impact assessment that are applicable to our field.

We hope Foundations of Success can make a contribution by helping to sort through some of the complexity in conservation. We aim to do this by being a catalyst for learning in action—by serving the conservation community as neutral broker, convener, objective researcher, facilitator, connector, and trainer. Given that we do not develop and manage our own field-based conservation projects, we see ourselves as a “value-added” resource that implementing and funding organizations can tap into.

Making a commitment to improving the practice of conservation through increased attention to learning is not for every organization. It requires greater investments of human and financial resources, a willingness to value mistakes, institutional structures that promote taking risks, a willingness to document learning, and investments in applied research. An organization doesn't become a learning organization just because it claims to be one. It takes hard work and commitment.

But there is a sea change happening in conservation being catalyzed by individuals and organizations that wish to pick up the pace of collaboration, systematic learning, and increased efficiency. Many major conservation organizations are restructuring themselves to be more adaptable to face current and future threats. Foundations of Success is happy to be a part of this movement and we hope we can make a significant contribution to this growing momentum to transform conservation.

As our field explores the complexity of conservation and makes it a more predictable and manageable science, our understanding of what it takes to make it work will grow. I still haven't found that magic two-liner that will communicate what I do to every cab driver and anyone else I meet. But as we all continue to improve the practice of conservation, I'm confident that it's only a matter of time before I can pass the “taxi test.”

Richard Margoluis

If you're interested in contacting FOS about learning portfolios, project design, management, and monitoring, or other related topics, send an email to info@FOSonline.org or visit their website at www.FOSonline.org

CONSERVATION EDUCATION: Turning conflict into collaboration

Despite the widely recognized importance of education to conservation goals, it is often relegated to footnotes in project work plans. However, education that incorporates diverse strategies and activities can be integral to the success of conservation efforts. In 1998, the American Museum of Natural History's Center for Biodiversity and Conservation (CBC) initiated Proyecto de Conservación de la Biodiversidad para un Manejo Integrado (COBIMI) in Bolivia with the Museo Nacional de Historia Natural, Colección Boliviana de Fauna, and Museo de Historia Natural Noel Kempff Mercado. COBIMI's research has focused on describing the rich diversity of ecosystems in three protected areas in the Bolivian Andes where growing human populations depend on the areas' resources for their survival. In addition to mapping biodiversity distributions, COBIMI is developing outreach programs to encourage broad participation in conservation.

'Education' in this project has been a learning process from initiating dialogue among groups with conflicting interests, to building communication skills, to supporting conservation-related projects in communities. In 1999 and 2000, over 100 local residents, protected area personnel, educators, and scientists participated in COBIMI workshops concerning outreach and scientific investigation in protected areas. Workshop participants shared information about local ecosystems and ongoing research programs, and engaged in sometimes heated debate over resource use. They practiced techniques to build environmental awareness in nearby communities through demonstrations, role plays, puppet shows, radio interviews, brochures, and interpretive trails and exhibits.

Building on the dialogue initiated in these workshops, COBIMI has offered training for park guards, community leaders, and extension agents in identifying local concerns such as pollution, erosion, crop damage by wildlife, and uncontrolled tourism, and in developing messages and methods for communicating about these problems. To put the participants' ideas into practice, COBIMI established a small grants program. Local residents and protected area staff have applied for funds; although most of them did not have prior experience writing proposals, with specific guidelines and extensive on-site discussion with COBIMI representatives to clarify project components and how they would be carried out, the results have been remarkable. These groups have rallied community support and together they have built or rehabilitated existing structures to house community museums or cultural centers, developed informational materials about the protected areas, and enhanced tourist options with guided tours and lodging. This tangible success has inspired other communities to propose projects in the second round of the grants program.

The COBIMI project has catalyzed communication among various groups in Bolivia who are now working together to build participation in biodiversity conservation. The educational process involved has increased support for conservation and, in turn, enabled participants to apply what they have learned to raise the awareness of others.

The CBC's outreach and education activities in Bolivia have been generously supported by the Weeden Foundation, The Starr Foundation, the US Fish and Wildlife Service, and the American Embassy in La Paz.

Meg Domroese
Manager, Outreach Program
Center for Biodiversity and Conservation
American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024 USA
domroese@amnh.org

ANNOUNCEMENTS

2005 SCB meeting: Call for Proposals

SCB's Board of Governors is soliciting proposals from organizations that would like to host the 2005 annual meeting. The Board is open to proposals from anywhere in the world. The deadline for receipt of proposals is **1 May 2003**. To obtain a copy of the proposal format and instructions please contact Richard Knight, chair of SCB's Conference Committee, at knight@cnr.colostate.edu.

The New ConserveOnline

The Nature Conservancy is pleased to announce the new ConserveOnline (www.conserveonline.org). This site significantly expands the existing library of documents on conservation science and practice to include discussion groups, maps and spatial data, and access to other large repositories of conservation information housed at the Conservancy and other organizations, including Conservation International, NatureServe, and the Society for Conservation Biology.

The Nature Conservancy believes that creating an online community and making scientific and practical information more readily accessible within and across organizations is one key to lasting conservation success at scale. Thus, the new ConserveOnline has many community-building features. The discussion groups, accessible from the ConserveOnline home page or directly through groups.conserveonline.org, cover a range of topics of interest to land managers, program managers, conservation scientists and planners, and policy makers. These discussion groups provide an opportunity to share expertise and experience among colleagues and partners, and to help build communities of practice in your areas of interest.

The ConserveOnline team will be adding more features and more information to ConserveOnline over the coming months, but you can begin using the site today. The team welcomes your active participation and input and is ready to work with you to make ConserveOnline as useful as possible, by creating new discussion groups, helping you add your resources (documents, maps, or data) to the library so that others may benefit from your efforts, or modifying the site to make it easier to use. For more information, please contact Jonathan Adams, jadams@tnc.org, (703) 841-5322 or Frank Biasi, fbiasi@tnc.org, (703) 841-4518.

The topics now available for discussions are listed below. If you would like to add a topic, or would like to be a moderator (this should take no more than a few minutes a day, and no more than one hour per week), please contact Carrie Sakai, csakai@tnc.org, (703) 841-5997.

bird conservation • climate change • developing conservation strategies • marine ecoregional planning • ecoregional planning • feedback and comments • fire management • freshwater • freshwater invertebrates • GIS • grassland management • humor • information systems • invasive species • non-industrial private forest landowner • targets • travel • wetland management •

Professional Opportunities

The University of Kentucky seeks a Chair (full Professor rank) for its Department of Forestry to enhance a strong core program in forestry as well as to address a broader range of environmental and natural resource issues. Applicants must have a Ph.D. in forestry or a related discipline, ability to enhance research and graduate education, a clear understanding of the land-grant university's mission, and strong leadership, organizational, and interpersonal skills. Nominations are encouraged. Applications will be accepted through 15 January 2003 or until a suitable candidate is found. To apply, send a statement of interest describing educational background, experience, leadership philosophy, and vision for the department; resume; copies of transcripts; and contact information for four references to Nancy Cox, ASN S-107, Lexington, KY 40546-0091, (859) 257-3333, FAX (859) 257-3393, ncox@uky.edu.

The Aspen Center for Environmental

Studies in Aspen, Colorado seeks summer naturalist interns. Benefits include a weekly stipend of US\$125, housing, and free participation in one or more Naturalist Field School courses. Responsibilities include teaching environmental education programs for children, leading nature walks, and assisting with management of the visitor center, 25-acre nature preserve, and resident animals and plants. Applicants should have educational background in the natural sciences or environmental education, experience working with the public, and first aid and CPR certification. To apply, send a cover letter, completed application (available at www.aspennature.org), and resume to Summer Naturalist Intern, Aspen Center for Environmental Studies, 100 Puppy Smith St., Aspen, CO 81611.

Funding

Bat Conservation International announces the availability of student research scholarships. Approximately 15 grants ranging from US\$500 to 2500 will be made in 2003. Grants will go to research that best helps document the roosting and feeding habitat requirements of bats, their ecological or economic roles, or their conservation needs. Students enrolled in any college or university worldwide are eligible to apply. Projects must have bat conservation relevance. The application deadline for 2003 scholarships is 16 December 2002. All application information and forms are available on the web at www.batcon.org/schol/schol.html, by writing to Bat Conservation International, Student Scholarship Program, P.O. Box 162603, Austin, TX 78716-2603, or by emailing apuntch@batcon.org.

The Garden Club of America offers a graduate fellowship (US\$8000) for study and research of ecological restoration at an accredited university in the United States. Selection criteria include the degree to which the proposed fellowship work addresses the objectives of the GCA and the applicant's academic and personal qualifications. "Ecological Restoration" is defined by GCA as "the process of assisting the recovery and management of ecological integrity. Ecological integrity includes a critical range of variability in biodiversity, ecological processes and structures, regional and historical context, and sustainable cultural practices." Applications must be received by 15 January 2003. Awards will be announced in March 2003. For guidelines and further information, contact Gregory Armstrong, University of Wisconsin – Madison Arboretum, 1207 Seminole Highway, Madison, WI 53711, (608) 262-2748, FAX (608) 262-5209, gdarmstr@facstaff.wisc.edu.

The Academy for Educational Development (AED) invites applications for the National Security Education Program's 2003 David L. Boren Graduate Fellowships competition. These fellowships enable U.S. graduate students to pursue specialization in area and language study or to add an international dimension to their education. The Fellowships recognize that the scope of national security includes sustainable development, environmental degradation, and population growth and migration. Fellowships provide support through overseas study and limited domestic tuition to students who will pursue the study of languages, cultures, and world regions deemed critical to U.S. national security; study of western Europe, Canada, Australia, and New Zealand is explicitly excluded. Fellowships are awarded in a broad range of disciplines including ecological and social sciences. Award recipients are required to work for an agency or office of the federal government involved in national security affairs or in the field of U.S. higher education in an area of study for which the Fellowship was awarded. Applicants must be U.S. citizens, enrolled in or applying to graduate programs in accredited U.S. colleges or universities. Applications must include study of a modern language other than English. Guidelines and application forms may be obtained from AED, (800) 498-9360 or (202) 884-8285, nsep@aed.org, www.aed.org/nsep. Applications must be postmarked by 31 January 2003.

Protect Keopuka O'hana, a Hawaiian non-profit conservation organization, offers housing to undergraduate and graduate students working on projects that promote ecological conservation in Hawaii. Accommodations are somewhat primitive, but are located on the shore of one of the island of Hawaii's most beautiful bays, Honaunau. The area is home to diverse corals and fishes, Hawaiian spinner dolphins, and green turtles. Protect Keopuka O'hana has access to large tracts of land that contain many species of native birds and plants as well as introduced species that pose significant conservation threats. Money for stipends or research equipment for researchers is not currently available at this time. However, Protect Keopuka O'hana is happy to provide any assistance it can; staff are eager both to share Hawaii culture and perspectives and to learn more about mainland ideas and opinions. Protect Keopuka O'hana is particularly interested in sponsoring researchers who are willing to assist in grant writing

for the organization. There is no deadline for proposals, but space is available on a first come, first served basis. For more information contact conservehawaii@hotmail.com.

EcoLife Expeditions' International Universities Program will offer a wildlife management field course for students interested in African conservation 28 December 2002–12 January 2003. The course, which includes lectures, classes and hands-on projects, is taught by instructors from the University of Pretoria's Centre for Wildlife Management. Cost is US\$1300. Academic credit from the University of Pretoria is available. For more information contact Ecolife Expeditions, 976 Duncan Street, Brooklyn, Pretoria 0181, South Africa, +27 12 460 5430, FAX +27 12 460 9707, Education@ecolife.co.za, www.ecolife.co.za.

Meetings

The Natural Areas Association will hold its sixth international workshop from 20 February–2 March 2003 in Honduras. Conservation practitioners, students, and academics are invited to exchange and disseminate information, technologies, and strategies for improving natural areas management. Attendees will visit seven protected areas in northern Honduras and meet with government and non-governmental organization staff, community members, and local businesses to discuss conservation issues and solutions and to share experiences. The land cost for the workshop is US\$1695. For more information, contact Abigail Rome, abirome@earthlink.net, or Reid Schuller, naa@natareas.org.

The Fourth Annual Ecological Integration Symposium, *Natural History and Modern Conservation*, will be held 22 February 2003 at Texas A&M University. Six speakers will discuss current trends and perspectives in ecology, evolutionary biology, and related fields. Focus will be on the relationship of modern conservation ecology to traditional ideologies in natural history. For more information, see <http://eco-symposium.tamu.edu/eco-home.htm>.

The Millennium Ecosystem Assessment (MA) will sponsor the conference *Bridging scales and epistemologies: linking local knowledge with global science in multi-scale assessments* 23–26 June 2003 in Kunming, China. The MA is an international scientific assessment designed to meet decision-makers' needs for information concerning the consequences of ecosystem change for human well-being. The goal of the conference is to bring together MA participants, academic scholars, and indigenous peoples to explore five main themes: (1) integrating local knowledge into global scientific assessments, (2) cross-scale interactions and the dynamics of complex systems, (3) methods for integrating data across multiple scales, (4) designing better scientific assessments, and (5) scale and knowledge issues in resource and ecosystem management. For more information or to request a Call for Proposals contact Carolina Katz Reid, Millennium Assessment, ICLARM, P. O. Box 500 GPO, 10670 Penang, Malaysia, (604) 6261606 x 507, FAX (604) 6265530, c.reid@cgiar.org, www.millenniumassessment.org.

see **Announcements**, page 18

The Rocky Mountain Biological Lab (RMBL) will celebrate its 75th anniversary by hosting a symposium from 14–17 August 2003 to explore the value of conducting science in model ecosystems. A model ecosystem is defined a geographic area in which a wide range of research topics, from molecular to ecosystem processes, have been studied for a significant amount of time by a large number of independent teams of researchers. While many talks will focus on Colorado's Gunnison Basin, scientists with interests in or experience with model ecosystems from around the world are invited to attend and / or contribute to the program. The deadline for submission of abstracts for oral presentations is 15 March 2003. For more information, visit www.rmbl.org/modelecosystem/modelecosystems.html or contact Ian Billick, (970) 349-7231, director@rmbl.org.

The third International Wildlife Management Congress will be held in Christchurch, New Zealand from 1–5 December 2003. Principal co-hosts are The Wildlife Society, the Manaaki Whenua/Landcare Research (New Zealand), and the Australasian Wildlife Management Society, in conjunction with Ngai Tahu (Maori tribe of New Zealand's South Island) and the New Zealand Department of Conservation Te Papa Atawhai. This will be the first time a wildlife management meeting of this magnitude has been held in the southern hemisphere. The Congress will have a strong Pacific and southern hemisphere flavor, but the main focus will be on contrasting perspectives on wildlife management in the northern and southern hemispheres. Deadline for receipt of abstracts for papers is February 2003. For complete details see www.conference.canterbury.ac.nz/wildlife2003/

Landmark Pollution Litigation

In what may have been the first direct action started in Ecuador claiming damages for a pollution accident, and the first action of its kind ever started in South America, in October 2002 the High Court of Justice of Guayaquil issued a judgment favorable to the Galapagos National Park regarding an oil spill by the tanker Jessica in January 2002. The Court ruled that the insurance company Terranova C. Ltd must pay US\$10,000,000 in compensation for damages caused by the oil spill. The claim against the English insurer was based on a 1969 convention, sponsored by the UN and the International Maritime Organization, which was designed to protect territorial waters from oil spill and oil pollution catastrophes. The convention gave third parties the option of directly suing the underwriters in the territory where an accident occurs. The Jessica was registered under the flag of the Ecuadorian maritime authority. After this first full hearing, Terranova may appeal the Court's decision. This process could take another five to six months.

Letter to the Editor

Reducing ecological assessment to reference biota: Is ICRP cutting corners on environmental protection?

The International Commission on Radiological Protection (ICRP) says one impetus for its 2002 draft environmental recommendations is the trillions of dollars cleanup facing industry and government for old weapons facilities, nuclear plants, and radioactive waste. In August 2002, ICRP—responsible for recommending radiation-pollution protections (which are then translated into national legal standards)—reported its recommendations on its website (www.icrp.org/draft_nonhuman.htm).

Given the report's importance and ICRP's request for comments from the scientific community, conservation biologists need to respond immediately. Despite strengths, (1) the ICRP recommendations take an incomplete approach to ecological assessment. (2) They recommend focusing primarily on modeled radiation doses, not actual empirical measures, and only to a few unspecified organisms. (3) They contradict existing international laws for environmental protection. (4) They defend non-transparent, scientific procedures susceptible to manipulation by vested interests. (5) They reject protection norms for the abiotic environment, e.g., air, water. (6) They ignore preservation and focus only on sustainable development. (7) They make no recommendations regarding keeping radiation doses to the environment ALARA (as low as reasonably achievable), although ALARA is part of current ICRP protections for humans. (8) They make no recommendations for protection of ecosystem structures/functions. Moreover, (9) because nuclear regulators could choose radiologically insensitive species to determine biotic effects, these recommendations could result in great harm to other species, to ecosystems, and to air and water.

Conservation biologists should respond by posting comments, before the end of the year 2002, to this ICRP report (www.icrp.org/draft_nonhuman.htm) given that (a) it will crucially impact global pollution, (b) ICRP has mandated an unrealistically short time-frame for comments, and (c) the existing report is likely to be approved, even though it was not adopted unanimously by the committee.

The source of some problems in the report may be that the main commission of the ICRP includes mainly physicists, not conservation biologists and ecologists.

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SCB newsletter

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