

News from the Australasian Section of the Society for Conservation Biology

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THIS section is to share news and views from the Australasian section members, but it is proving a little difficult to extract articles from members. We would very much like to use this to exchange ideas and information among our members, so please don't be shy and send me (tsilberb@bio.mq.edu.au) material for inclusion in the next issue (June 2005) by mid-April at the latest. In the mean time, there is exciting news about hosting the global SCB congress, positively glowing circulation figures for *PCB*, the second Bula Column from Fiji, and abstracts from student prize winners awarded at the recent (December 2004) Ecology Society of Australia conference.

Proposal to host the Society for Conservation Biology congress in 2007

The Australasian branch of the Society for Conservation Biology is working with Victoria University to put together a proposal to host the 2007 SCB congress in Wellington, New Zealand. It has been a long time since the meeting has happened in this part of the world; the last one was at Macquarie University in Sydney in 1998. This is a fantastic and exciting opportunity to interact with some of the foremost conservation biologists on the planet, so we are working hard to make it happen. Because we are in the fairly early planning stages, there are great opportunities for members to be involved. If you are interested in being involved with planning and hosting this meeting, please get in touch with Robert Davis (rob@graduate.uwa.edu.au) or Karen Firestone (kfirestone@unsw.edu.au).

Pacific Conservation Biology and the Society for Conservation Biology

A recent review by Surrey Beatty shows an increase in issues shipped to SCB members since *PCB* joined with SCB. SCB continues to acquire

new subscribers for *PCB* and their contribution is appreciated by the publishers who are greatly encouraged by the Society's efforts. Congratulations to all.

Karen Firestone

The Bula Column: The Dilemma of Conservation Education

Educating people in conservation can be a double-edge sword. We need to educate people so they can understand the basic tenets of conservation, but if we wait until they are educated then many of the ecosystems and species we are trying to conserve may deteriorate further or even disappear. Conservation is taught in schools and universities, in meetings and workshops, and we even design posters (though often not in the local language) to illustrate our concerns but rarely does this message reach or influence those people we should be "selling" our message too.

A common suggestion is that we should be targeting the young because they are our future leaders and go home and tell their parents about what they have learnt at school. However, how many times have parents actually changed their actions because of what their children were taught? I imagine it would only be a handful. We are fooling ourselves into thinking we are getting our message across by just targeting the young. Furthermore, rarely do I see non-science students attending university conservation classes and yet conservation bridges all disciplines these days. There are several reasons for this; 1) we are probably not promoting conservation hard enough; consequently conservation awareness is still very low, 2) conservation is not considered by those studying law, business or politics to be an important subject (and yet many of these students may be our future leaders) and, 3) multidisciplinary courses such as conservation are considered too hard to programme into a full degree or school curricula.

Conservation education should also target the adults in the community as well as the young but at present we are not spending as much effort on the adults as we possibly could. Many of our leaders only have a superficial understanding of conservation and it is more than obvious that their knowledge is not enough because we are still losing ecosystems and species at an ever-increasing rate. All we seem to do is invite our leaders to meetings and talk to them about the issues. Rarely do we take these influential decision-makers out to see the issues for themselves or actually offer any real solutions.

The same goes for many of our students. We need to expose them to the realities of habitat loss, pollution, and the impact of invasive alien species so they can see what is happening in their own backyards. To do this we need to get them out of the classroom (or the meeting hall) to evoke a more positive action-related response. It is just too convenient to have a lecture or meeting and expect people to act on our words. I do appreciate the difficulties of taking busy people out to see many of the problems but are we really trying hard enough?

People often know whether their actions are good or bad for the environment and it is apathy or indifference that is the biggest problem in conservation not education. Even highly educated people can be detrimental to the environment. Many village people also know what is right and wrong but they rarely if ever change their behaviour after being informed of the impacts of their actions. Therefore, what must happen is that we need to change their views and opinions and this is best achieved by both action AND education. In Fiji, we have been able to achieve some moderate success because we work with whole communities, from the chief right down to the school children. Everyone has a say and most people

get involved. Once they see the benefits of conserving an area like a marine reserve or a piece of forest, they often wish to extend and improve it. It has only been through successful action that we and many others have achieved our results; however, there is still a long way to go.

People identify well with real actions or seeing things for themselves rather than with words, and so my message is that; although education is important, we need to think about who we should educate and how we should educate them to achieve the desired conservation outcomes. Conservation education is much more than just about words spoken within four walls, it is also about informing people to make the right decisions and choices and getting them to put the words spoken into action.

Craig G. Morley

University of the South Pacific, Suva, Fiji Islands

Joint Prize for the Best Conservation Talk by a student presented at the Ecology Society of Australia annual conference, Adelaide, Australia, December 2004.

This is the second year we have presented prizes to the best student talks and posters with a conservation theme at the Ecology Society of Australia conference. This year we were faced with a dilemma when the judging panel could not choose between two superb talks, so we awarded two prizes for the best student talk.

Optimal monitoring strategies for listing threatened species

Liana N. Joseph¹, Chris Wilcox¹, Scott Field^{1,2} and Hugh P. Possingham¹

Threatened species lists, such as the IUCN Red List, play a key role in providing legislative protection and determining funding allocation for vulnerable species. Information from monitoring is crucial for compiling and maintaining data on these lists. Despite this, there has

been little research into the most appropriate methods for monitoring to adequately detect population changes. Many monitoring strategies, for example, may not sufficiently detect such population declines. Other, more resource intensive, methods may provide greater detail and estimate rates of decline more accurately. However, given limited budgets for conservation, the type and frequency of data collected is often compromised and it is unclear which monitoring regimes are most effective.

We use a patch population model and a simulated survey process to investigate the optimal monitoring technique for a locally restricted and low density bird species, the Chestnut-rumped Hylacola (Mt Lofty Ranges; *Hylacola pyrrhopygia parkeri*). We compare the success of two commonly used monitoring techniques at correctly categorizing the species given financial constraints. The methods we compared are the 20-minute/2-ha abundance and the presence/absence survey methods over a range of available budgets (5–200 person-days/year). We demonstrate that presence/absence surveys can be very useful when budgets are small. We know that because managers often have limited budgets, the presence/absence surveys may frequently be the most appropriate method. We use these results to give guidelines for optimal monitoring relevant for detecting change for listing on the IUCN Red List.

The application of network theory to the conservation of habitat trees

Monika Rhodes¹, Grant Wardell-Johnson² and Martin Rhodes³

More than 300 species of native Australian vertebrates use hollows in eucalypts for shelter, including at least 43 insectivorous bat species, which use them as maternity, bachelor, migrating, mating or hibernation sites. Hollow formation in eucalypts is a long process that may take place over several hundred years, making habitat trees a valuable resource for

hollow-dependent species. However, decisions may have to be made concerning the protection or removal of habitat trees, particularly where they occur in State Forests or urban parks. Unfortunately, limited understanding of the structure of networks of habitat trees prevents informed judgement concerning the importance of individual trees. We applied current network theory to the patterns of day-roost usage of a population of the White-striped Freetail Bat, *Tadarida australis* (Microchiroptera: Molossidae) in suburban Brisbane. The roost network topology resembled a scale-free network where one roost (the hub) had the majority of connections. This roost network also enabled small-world properties such as high connectivity, short path lengths between roosts and tolerance against stochastic events, such as roost removals. Understanding the network type allows conservation practices to move from descriptive ecology to predictive understanding of complex ecological networks. Ecologists can model the effects of stochastic events or systematic attacks, and apply the appropriate protection for each system. Efficient allocation of resources to conservation planning and management would emphasize the differential importance of roost sites; analogous to protecting vital communication and service centers in human societies.

Prize for the Best Conservation Poster by a student presented at the Ecology Society of Australia annual conference, Adelaide, Australia, December 2004.

Changes in plant and invertebrate communities as a response to weed biological control

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Bridal Creeper *Asparagus asparagoides* is a major environmental weed from southern Africa and is now widespread throughout southern Australia. A biological control programme for this weed has seen the release in Australia of three biological control agents. It appears these agents will go a long way in controlling this weed, but even

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with this success of weed control will landscape health be restored following weed control? This is an important question given that the goal of environmental weed control must be to control weed damage not just the weed. Environmental weeds can alter biodiversity, but removal of these weeds in isolation can also result in unexpected changes, with weed management practices themselves altering biodiversity.

In March 2004, a PhD project commenced investigating this situation by first quantifying the impacts of Bridal Creeper. Once impacts have been quantified and the weed is brought under control, monitoring

will continue to evaluate the success of this weed control programme and to ascertain if further restoration work will be necessary. In addition to monitoring plant communities before and after weed control, invertebrates will be used as ecological indicators of ecosystem health. Invertebrates make good indicators as they interact with other parts of the ecosystem and have short generation times, allowing them to respond rapidly to environmental changes.

Results from initial vegetation sampling have shown that Bridal Creeper is reducing native plant biodiversity. Areas invaded by bridal creeper have higher phosphorus

levels and higher soil moisture content when compared to nearby areas free of weed invasion. These results may have important consequences for the restoration of plant communities in these invaded areas. Many studies in Australia have reported a positive association between phosphorus and exotic weeds. If other exotic species are favoured and establish quicker than native species, removing Bridal Creeper may lead to one weed being replaced by another.

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