dataset from a protected area management agency in Queensland, Australia covering over 100,000 km2 across 1000+ sites to examine this topic. We quantified the effect of stochastic events on management costs and examined the ways in which managers adapted to these challenges. Our results show that natural disasters such as cyclones and well publicised occurrences of human-wildlife conflict such as animal attacks were important drivers of resource allocation across the protected area network. Managers' main adaptations, given their largely static budgets, were to shift resources away from planned activities towards crisis management. Our results show that there is a mismatch between static protected area budgets and the highly variable demands placed on those budgets. This presents an additional challenge for protected area management agencies over and above those of chronic underfunding. We recommend that more flexible funding arrangements be put in place to allow agencies to respond to stochastic events without sacrificing their usual management activities to the detriment of biodiversity conservation.

2011-12-09 15:30 Disentangling the correlates of African protected area conservation performance

CRAIGIE, I. D.*, *University of Cambridge;* **Balmford, A.,** *University of Cambridge;* **Carbone, C.,** *Institute of Zoology, London;*

Protected areas (PAs) vary in their ability to maintain their biodiversity through time. The causes of this variation are poorly understood, but disentangling them may yield benefits for PA management and biodiversity conservation. Here we explored what best predicts the population trends of 586 large (>5kg) vertebrate populations in 81 African PAs. Population trends were calculated from population time series collated from published and unpublished sources. We evaluated the effect of a range of explanatory variables including: the characteristics of the PAs (such as their size, surrounding human population density and staffing levels) and the species traits of the vertebrates they contain. We followed an information theoretic approach using linear mixed models to account for non-independence of the variables, and built several different models to address unavoidable gaps in the data. Species trends were less negative in PAs with more staff per unit area, for larger bodied-species, and for more recent time series. The effect of PA size was complex, the results showed that larger PAs performed more poorly than small PAs with the likely cause being fewer staff per unit area in larger PAs. These results show that lack of resources can outweigh the expected benefits of larger PAs and that an increased level of resources is likely to lead to improved conservation performance of African PAs for large vertebrates.

2011-12-07 15:15 Gender and stress affect facilitation intensity in a widespread cushion plant

CRANSTON, B*, *University of Otago;* **Callaway, RM,** *University of Montana;* **Monks, A,** *Landcare Research;* **Dickinson, KJM,** *University of Otago;*

Facilitation allows plants to occupy environments otherwise uninhabitable, potentially leading to range expansions, shifts in realised niches, and/or increased rates of invasion. Gynodioecy provides good opportunities to explore the effects and costs of facilitation because females and hermaphrodites often differ in resource allocation patterns, stress tolerance, and the intensity of facilitation often varies along stress gradients. We investigated the role of gender and stress on the facilitative effects and costs for the gynodioecious alpine plant, Silene acaulis across two elevations (2317 m and 2560 m) in the Rocky Mountains of Montana, USA. Consistent with general theory for abiotic stress and facilitation, the positive effect of Silene on community richness and the abundance was greater at the high

2011-12-07 10:30 Invasive vertebrates on islands: scope of the p data needs, and approaches

Croll, DA*, *Coastal Conservation Action Laboratory, Eco Evolutionary Biology, University of California Santa Cruz;* **BR,** *Coastal Conservation Action Laboratory, Ecology and Evol Biology, University of California Santa Cruz;*

Sixty four percent of all extinct species recorded by the IUCN a of all Critically Endangered species are endemic to the worlds' marine islands. Because islands are only 5% of earth's land area, th of Extinct and Critically Endangered species / ha is an order of m greater on islands than on continents. Invasive vertebrates are th cause extinction on islands and the second most important endangerment on islands. Crude estimates suggest that invasive v occur on ~40% of all islands (~70,000) and, because larger islands likely to be invaded, ~80% of all island area (~75 million ha). Er of invasive vertebrates from islands can save species from extinctio number, frequency and size of successful eradications have steadily i Still only ~1% of invaded islands have had one or more invasive v eradicated. To prevent future extinctions, conservation biolog to: 1. Develop new methods to make eradication faster and less 2. Determine which islands have both vulnerable endemic sp damaging invasive vertebrates 3. Develop prioritization mod integrate an insular species' risk of extinction, its vulnerability t invasive vertebrate and the cost of eradicating that invasive verteb one or more islands

2011-12-06 14:00 Prioritising and Evaluating Biodiversity Pro

CULLEN, R*, *Lincoln University;* **WHITE, PA,** *University*

Funds available for biodiversity projects are scarce. Choices must be made on how to use limited resources most effectively, and such should be based on clear and measurable objectives for achi Biodiversity projects should be evaluated to determine if the use resources has achieved the objective (effectiveness), and if the achieve the objective at lower cost than alternative uses of the resou effectiveness). Project selection and evaluation methods are used p biodiversity project providers and researchers. We provide an intr to project selection and evaluation; point to the range of selec evaluation methods available; ask where they are best applied; a attention on the need to overcome the hurdles to adoption and con of project selection and evaluation methods.

2011-12-09 15:15 Socioeconomic drivers of sea turtle interacti artisanal fisheries in the western Indian Ocean islands

Cunningham, E*, *C3 Madagascar and Indian Ocean Programme;* **Poonian, CNS,** *Community Centred Conservati 17 Northcliffe Drive, London, N20 8JX;* **Whitty, T,** *Scripps In of Oceanography, San Diego;*

Bycatch is a global threat to sea turtles with artisanal fisheries posing challenges in terms of data collection, monitoring and mitigation Due to the decentralized nature of artisanal fisheries, limited infra for research and monitoring in developing countries, and logistical to establishing observer programs, collecting data on bycatch interviews is recognized as a practical method for estimating the m of bycatch in artisanal fisheries We conducted over 1000 rapid a surveys of sea turtle bycatch in artisanal fisheries of the Unio Comoros, Mauritius and Madagascar in the Western Indian Oc semi-structured interviews of fishers. Bycatch was found to pose