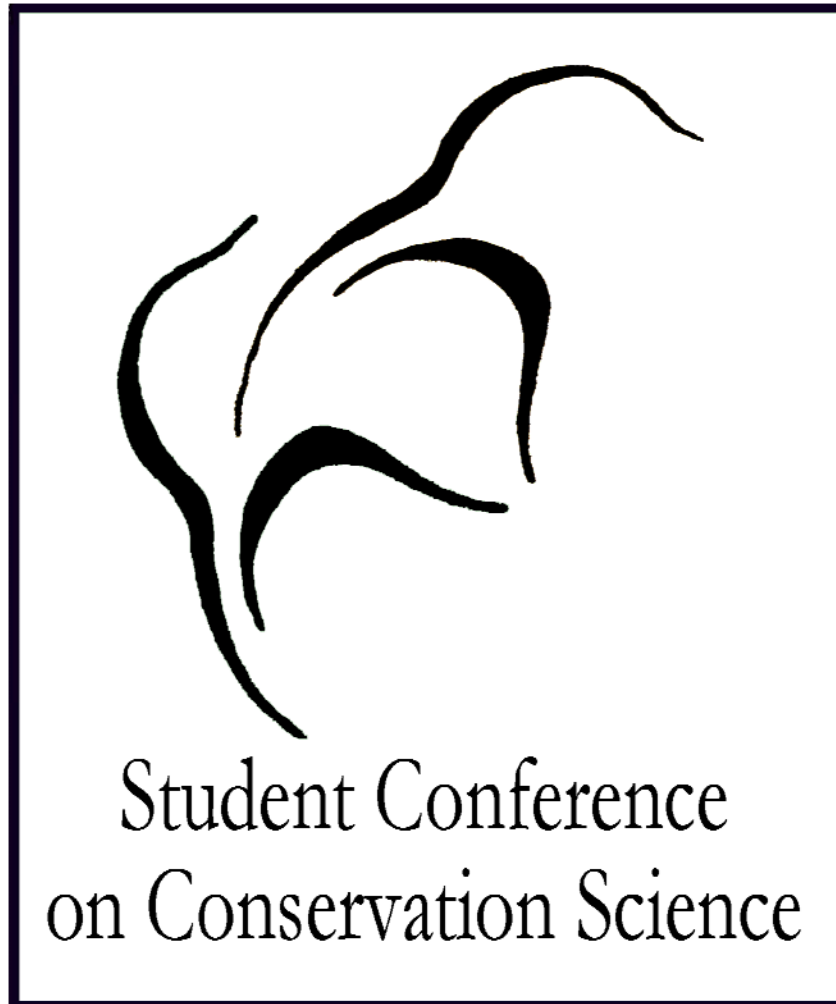


Talks and Posters



University of Cambridge

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Building links among young conservation scientists and practitioners

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Abstracts of Talks

Recovery of forest amphibian communities after logging

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In forests of varying age since logging, we assessed abundance, species richness and diversity of amphibian communities, and how composition varies with respect to species characteristic of intact forests and disturbed sites. A total of 8,408 amphibians were collected from 24 species. Species characteristic of disturbed habitats increased following logging then declined by 10 years. Forest-dependent species recover more slowly, but by 20 years amphibian communities had returned to a state indistinguishable from that of undisturbed forest. The data provide an encouraging indication that amphibian communities, though sensitive to disturbance, are able to recover if forests are left undisturbed.

Conserving large marine ecosystems through private sector engagement

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Conservation of large marine ecosystems requires particular attention owing to its wider geographical scope and biological characteristics, diversity of stakeholders involved and the challenge in implementing suitable institutional arrangements. Focusing on Verde Island Passage (VIP) in the Philippines--considered as the "center of the center of global marine biodiversity," this study explores how private sector's environmental performance systems and CSR initiatives be geared towards conservation to reduce resource extraction and pollution. Given resource limitation among developing countries, these can be maximized by the government sector and the non-governmental organizations' catalytic role in bridging such gap is found necessary.

Water needs and the likely response to hydrological change of fynbos plants

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This study aims to provide quantitative, scientific basis for incorporating ecohydrology in the management of Fynbos habitats potentially threatened by water abstraction and climate change in the Cape Floral Region. Niche overlaps computed on Restionaceae from ten fynbos communities in the CFR showed segregation along fine-scale hydrological gradients on axes of tolerance to aeration or drying stress. Understanding the response of these species to

changes in soil hydrological conditions in response to water abstraction and climate change is thus important to prescribe management intervention. This was made possible through hydrological and species distribution modelling to down-scaled climate change scenarios.

Isolation of individuals in a gregarious tree species

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We focus on the case of *Isobertia doka*, to investigate how the analyses of spatial patterns can help to set up sustainable management strategies for valuable wood species under high anthropogenic pressure. The study was conducted in woodlands where the spatial distribution of *I. doka* trees was analyzed and isolated individuals were identified. Their nurse plant effect was assessed. *I. doka* trees showed an aggregative distribution. Isolated trees in rock outcrops experience low human pressure but had limited germination under mother trees and suckering. Sustainable management and restoration strategies must enhance their ability to maintain a viable population.

Land, lions and livestock: a conservation enigma from Greater Gir, India

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Range extension of Asiatic lions outside the Gir forest makes it imperative to develop strategies ensuring species' long-term survival and we evaluate mechanisms permitting human-lion coexistence in agro-pastoral landscapes. We studied ranging and demography through telemetry, lion abundance through mark-recapture and food habits through predation events, scats and telemetry. Many lions outside Gir were long-ranging, exhibited regular movement between Gir and satellite populations. We propose landscape-level conservation of critical lion habitat-refuges outside Gir through legislations and restorations. Despite lion use of human-dominated landscapes, their utilization of productive livestock is minimal highlighting real versus perceived conflict; probable mechanisms permitting human-lion coexistence.

Ecosystem services and Important bird Areas: a case study from Nepal

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In recent years a wealth of research has been conducted on ecosystem services (ES). However, there is still a lack of accessible and practical tools for assessing ES at a site-level so as to inform development and conservation planning. Our research at Shivapuri-Nagarjun National Park (SNNP) piloted a simple yet robust 'toolkit' to assess ES. We measured multiple services provided by the Park compared to services delivered by the surrounding (degraded) area, and thereby identified the added value that SNNP provides for livelihoods. We also considered the greater 'intrinsic value' of SNNP, especially as an important site for cultural services.

The UK great bustard reintroduction trial

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The Great Bustard became extinct in the UK circa 1832. From the first five years of the UK reintroduction trial, I assess the viability of reintroduction as a tool for conserving this species. Eighty-nine Great Bustards were reintroduced to Salisbury Plain between 2004-2009. Following IUCN guidelines, success indicators were set to measure progress. The project achieved every qualitative indicator; however, quantitatively post-release mortality is higher than expected increasing the projected time needed to establish a founder population. Pre and post-release monitoring have provided important information to guide future reintroductions of this flagship species and other threatened bustards.

Subsistence hunting at saltlicks

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Aiming to set up culturally and biologically acceptable management practices that help to conserve lowland tapir and other wildlife in the Colombian Amazon, this project takes an interdisciplinary approach that combines research on ecology of wildlife that use natural-licks with an understanding of the indigenous people who use licks for bush meat hunting. The results aim to develop community-based conservation actions by means of: Understand the relationship between the local indigenous people and licks, develop a classification of the natural licks, understand how wildlife uses the licks and the ecological processes taking place in the licks and determine the social role of licks both for animal and human users.

Assessing the impact of climate change on Madagascar's endemic baobabs

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Despite baobabs' nutritive, economic, social and environmental importance it seems that several baobab species density and distribution are reducing. Fire, overgrazing, drought, deforestation and increasing human pressure and even climate change are negatively affecting these species, to an unknown extent. Species distribution modelling (Maxent) together with a small set of observations and bioclimatic variables were used to generate present and future species distributions. While future projections for the three less threatened species were quite favorable, future projections for the most threatened species were pessimistic. Conservation action is urgently needed to ensure the persistence of the remaining populations of these species.

Can education influence children's knowledge and attitudes to the guíña?

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Retribution poaching is considered one of the main threats to the kodkod cat (*Leopardus guigna*). Post education based outreach the attendees of classroom workshops showed improved factual knowledge whilst students who had interactive experiences with captive kodkod had better knowledge and more positive attitudes. The education treatment received by students; perceptions of prevailing social norms concerning *L. guigna* and the domestic animals at the students home were all significant predictors of student knowledge and attitude. The results support increased interactive contact with the highly cryptic *L. guigna* as an effective method of removing the social stigmas associated with the species.

Inequity in REDD governance

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Following the publication of the Stern's Report REDD has gained enormous political voice and would likely to be the main mechanism for climate mitigation in post-Kyoto period. By design, REDD will have multi-party and multi-level nature of governance with the national government as the main negotiator. This will bring efficiency through economies of scale. However, it involves risks for the poor unless reform offers sufficient room for institutional interplay between local organisations and national and international bodies. In the context, my research analyses asymmetries in the proposed multi-level governance of REDD which may jeopardise forest conservation by marginalising its protectors.

Can REDD programmes be a tool for conservation? The jaguar on the spot

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Deforestation is a major cause of global warming and biodiversity extinction, and Reducing Emissions from Deforestation and Degradation (REDD+) programs are increasingly being proposed as strategies for protection and sustainable management of forests, as well as to potentially deliver benefits to biodiversity conservation in tropical countries. We developed a weight-based ranking system at the level of Brazilian municipalities to identify places where REDD+ projects might yield a combination of effective conservation of carbon stocks, protection against deforestation, enhance conservation of an endangered species (the jaguar) and contribute to overall biodiversity conservation. Preliminary results suggest that REDD+ strategies could be an efficient tool for conservation in identified key locations.

Spatial ecology and conservation of an arboreal marsupial

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Habitat loss and fragmentation compromise long-term survival of the arboreal marsupial *Dromiciops gliroides*, which depends on the forest structure for its persistence. We have estimated its abundances, and 14 individuals were radio-collared to study their spatial ecology. *Dromiciops gliroides* was abundant in old- and second-growth forest habitats (90% of core areas were located in old-growth stands), but it was rare or undetected in forest strips; tracked individuals did not move across open habitats. *Dromiciops gliroides* is a key seed disperser of temperate rainforests, and given that individuals avoid crossing open habitats, habitat loss and fragmentation could disrupt its ecological role.

Distribution and habitat occupancy of slender lorises

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Lorises (Primates: *lorisidae*) in Sri Lanka are selected as endangered yet limited data are available for applied management needs. To fulfil these concerns, a hypothesis driven research model was designed, following a meeting of experts and interested parties in 2009. A total of 120 forest sites were surveyed in the Wet, Intermediate and Dry Zones in South Western Sri Lanka. Occupancy of lorises was 0.68 and probability of detection was 0.49. A species conservation strategic plan is currently being developed which will include activities such a

habitat restoration via the establishment of corridors and complete a detailed taxonomic review.

Cascading effects of hunting on fruit-frugivore networks

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Hunting in neotropical forests focuses on larger bodied vertebrates, which influences the seed dispersal services available to tree species: larger seeded tree species may depend more heavily on those frugivore species most depleted by hunting. I used a range of techniques to record fruit phenology and productivity, frugivore densities, and fruit-frugivore feeding interactions from both flooded and non-flooded forests of the Jurua region of Brazilian Amazonia. On a wider scale I present a similar network of feeding observations, compiled from the literature, for primates across the neotropics and examine the potential impacts on seed dispersal of depleted frugivore communities.

The effect of canopy fragmentation on grizzled giant squirrels

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This study examines the influence of canopy fragmentation on habitat use and nest site selection of grizzled giant squirrels in a fragmented riparian habitat in southern India. A multi-scale approach was used to identify factors influencing intensity of area used at a smaller scale and habitat selection at a larger scale. Sightings and signs of squirrels, habitat structure, food availability and human disturbance were measured. Results highlighted the importance of canopy connectivity particularly when human disturbance was high: canopy connectivity influenced habitat use together with human disturbance at smaller scales and together with food abundance at larger scales.

Blackbuck social behaviour influences dispersal of an invasive plant

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Interaction between grassland dependent native antelope, blackbuck (*Antelope cervicapra*) and woody invasive, mesquite (*Prosopis juliflora*), threatens grasslands. The study examines how the intra-specific differences in blackbuck ranging and territorial behaviour differentially affect mesquite seed dispersal. Seed dispersal stages were sampled using camera trapping, scan sampling, quadrat plots and germination experiment. Results show that seed deposition

and seedling recruitment were high on territories used mainly by territorial blackbuck males. Directed seed dispersal due to blackbuck male territorial behaviour facilitates mesquite spread in grasslands. The study helps predict pattern of spread of mesquite and devise better management practices for its control.

Assessing the potential for community-based protected areas in India

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The potential for community and conservation reserves (new reserves in India which integrate local communities and private organisations into protected area (PA) management) was evaluated at 25 reserve forests and private forest fragments of the human-dominated landscape of the southern Western Ghats. Data was collected at each site through questionnaire surveys and focus group discussions on issues based upon the local community participation, resource-use and biodiversity conservation. On omitting sites where local communities were unwilling to participate in PA management, the remaining were prioritised through ranking. Sixteen potential, community/conservation reserves were identified subsequently. The study also explored the perceptions of forest department officials and conservation researchers towards the establishment of such reserves. They were largely preservationist in attitude and unsure whether community-based reserves would be beneficial for conserving biodiversity.

Conservation of the Chinese white dolphin

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“Big Industry, Big Port, Big Tourism”, the local government’s blueprint shows the ambitions as well as the ignorance to the nature conservation. Through the past seven years’ study, the population size of the Chinese White Dolphin, *Sousa chinensis*, in the water of Sanniangwan has been roughly estimated to around 130. This small but healthy population is threatened by the booming industry development, port construction, overharvesting and the wild crazy extension of oyster farms. We are searching for the win-win possibility to balance the development and the nature.

Assessing the socio-ecological resilience of Marine Protected Areas

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Many Marine Protected Areas (MPAs) of the Caribbean are under-resourced, lack evidence based management plans and, rarely achieve their conservation goals. Interdisciplinary approaches are needed to evaluate MPA effectiveness in order to improve management. In this study we use a set of biophysical and socioeconomic indicators to estimate resilience and human intervention in coral reefs, and to evaluate management effectiveness of two Colombian MPAs. Results show that these MPAs are in risk of shifting to lower resilience states and, system's reorganization is the best action to mitigate threats. This research contributes to understand socioecological systems dynamics towards the conservation of coral reefs.

Conservation status and needs of the world's most threatened tortoise

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The ploughshare tortoise is known as the most threatened tortoise on earth and classified Critically Endangered by the IUCN. Remaining representatives were estimated to be about 600 individuals in four natural populations, still affected by smuggling. To have an accurate population size, we undertook a study of the density using "distance sampling". Captive-born individuals also have been reintroduced into the wild to create new population in an abandoned habitat and were followed daily to see their evolution. Results show that density of wild ploughshare is extremely low and captive Angonoka can adapt to natural conditions and survive.

When wolves show up for dinner uninvited

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This study analysed a particular county in Portugal where the conflict between humans and wolves is an important issue. It aimed to assess the attitudes of inhabitants towards that conflict, as well as towards the compensation scheme set by the government to pay for damages caused by wolves, and the eventual acceptability of a different type of compensation scheme. The results showed that people, especially farmers, are not happy with the current situation. Possible measures to improve it were suggested based on what is already being done to attenuate the conflict in different European countries and throughout the world.

Private conservation initiatives in Amazonian countries

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What is the status of private conservation initiatives in Amazonian countries? What financial and legal policies are being developed to foster such initiatives? A group of experts conducted national analyses, through reviews of grey literature and the legal framework of each country. This study represents the first broad overview on the status of private conservation initiatives in Amazonian countries, where more than 2000 initiatives are being implemented across a surface of 2.5 million hectares. Our comparative analysis highlights trends and incentives, and the new strategies necessary to promote such efforts.

Experimental foodwebs under habitat fragmentation and climate change

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The large scales at which habitat fragmentation and climate change operate have limited our understanding of their effects. Here we outline our research into the individual and interactive effects of fragmentation and climate change using the moss-microarthropod model microecosystem. While previous experiments have provided valuable inferences about the effects of habitat fragmentation on species assemblages, little is known about how food-webs are affected. This limitation has constrained the interpretation of experimental results by failing to address the effects on longer-term persistence of communities that could occur through non-random loss of species with respect to feeding guild.

A critical analysis of Ireland's national biodiversity awareness campaign

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The following study investigates the effectiveness of Notice Nature, a public awareness campaign on biodiversity issues among Irish people initiated in 2006. Specifically, it examines the degree of public participation in the campaign's decision-making process, development and content, and knowledge and attitudes of the general public towards biodiversity and their awareness on the campaign itself through the use of interviews and questionnaire. This analysis demonstrates how more collaborative public participation can lead to a stronger impact on public perceptions, attitudes and ultimately, behaviour. Future biodiversity awareness campaigns should involve the public from initiation to implementation in order to avoid the practical and financial failings of Notice Nature campaign.

REDD and the indigenous question: a case study from Ecuador

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Various indigenous organizations continue to be ardently opposed to REDD+. In Ecuador, this opposition represents a considerable obstacle in the creation of a national strategy since 60% of the country's remaining forests are on indigenous land. Thus, a critical challenge will be the construction of a strong legal, financial, and institutional framework - one that the greater indigenous community might be willing to accept. Lack of information, political considerations, and the dissimilar organizational capacity levels of communities make carrying out REDD+ on these lands extremely complex. However, the biggest obstacle may be ideological. Indigenous people are only willing to consider such projects if they clearly see preconditions that safeguard their cultures, territories, and autonomy.

Modelling range boundaries to assess climate-induced range shifts

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Many studies demonstrate poleward shifts of species ranges due to global warming, but fail to incorporate the probabilistic nature of species' distributions. Here, we model edges of spatial distributions, based on presence/absence grid-cell data along a north-south axis. We use the bounded Beta distribution and estimate its parameters with an optimization procedure. Likelihood ratios were used to test significance of shifts in ranges between two time frames. We used our framework to test range shifts in British birds. Contrary to previous works, which are not statistically rigorous, our analysis does not find effects of climate change on British bird distributions.

Are butterflies expanding their altitudinal ranges in Papua New Guinea?

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The composition of butterfly communities was monitored along 300m long transects in primary and secondary forests along a complete rainforest altitudinal gradient. The study sites were located at intervals of 500 altitudinal meters from the lowland forest at 200m asl to the timberline at 3700m asl on the slopes of Mt. Wilhelm, the highest peak of Papua New Guinea. I report trends in species composition, richness and abundance of butterflies along altitudinal and successional gradients, as well as specific preferences of individual species. Further, I test relationships between altitudinal range, habitat specificity and geographic range for common species of butterflies.

Retribution killings of predators in South Africa

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The randomised response technique (RRT) was used to estimate the proportion of ranchers persecuting five species. RRT question sensitivity, attitudes towards species, and social projection were recorded and modelled to investigate the relationship of farmers' attitudes and perceptions with reported behaviour (RRT response). Few farmers persecute brown hyaena and leopard. Farmers reporting questions as not-sensitive, holding the attitude that species should be killed, and estimating a high prevalence of persecutors (social projection) were more likely to have killed species. The latter finding supports the false-consensus-effect whereby, for sensitive behaviours, individuals over-estimate the degree to which others behave as they do.

Impacts of post-Soviet and current changes in agriculture on grassland birds

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The collapse of the intensive Soviet farming system in 1991 meant that steppe bird populations could partly recover from earlier declines. However, new trends are observed that could lead to population crashes again, namely reclamation of abandoned land, intensification in arable farming and changes in livestock grazing patterns. Changes in agriculture will have large-scale implications for threatened (e.g. Sociable Lapwing) and near-endemic (e.g. Black Lark) species. A network of protected areas and lobbying at political level (e.g. to introduce Agro-environment schemes) is needed.

Conservation status of an endangered frankincense tree

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Boswellia papyrifera is a key dry forest tree species of Africa valued for its commercial produce, frankincense. The tree has been over-exploited (tapping, grazing, fire, clearing for agriculture) and currently regeneration is lacking. We studied the dynamics of the tree population in 12 two-ha permanent plots at Metema, Ethiopia. Our analyses of the population dynamics (using matrix modelling) showed that the population growth rate was <1 in all studied populations indicating these are all declining. Apart from regeneration also the high mortality rates of adult trees (>10 cm diameter) hamper the populations and thereby threaten future frankincense production.

Tibetan sacred sites and conservation

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Using a case study of one valley in Tibet, the research aimed to study the role of religion in shaping actions toward forest in the context of new development and environmental policies in China. Data were obtained through household surveys, interviews, participatory mapping and observation. Sanctity plays a role in conservation through norms of non-extraction, but boundaries are dynamic, norms vary between sites, and land governance is politically rather than religiously orientated. This suggests that sacred sites cannot be simply translated into protected areas; a more nuanced understanding of changing cultural connections with the landscape by conservation practitioners is needed.

Abstracts of Posters

Dimensions of Human-Carnivore Conflict in the Brazilian Central-Savannah: Perspectives for Conflict Mitigation

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In Brazil Human-Wildlife Conflict is a flourishing but poor understood issue, and immediate effort is required to better manage and mitigate conflicts. The present study aimed to assess human-carnivore conflicts in farmland areas of the Brazilian Central-Savannah. The study focuses on the factors contributing to carnivore predation of livestock, the relation of wild prey availability and livestock predation, and current animal husbandry techniques. The results showed that most livestock losses were not due to carnivore attacks but to inadequate management techniques. Nevertheless, carnivores did prey on unattended herds, highlighting the importance of good animal husbandry techniques for reducing human-carnivore conflicts.

Protecting endangered species in Iran

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The study examines the network of protected areas and its role in conserving endangered species, including critically endangered Asiatic cheetah and Persian onager and endangered Persian leopard, Asiatic black bear, marsh Crocodile and etc, Iran. Also the perspective of conservation of these species in a regional and global scale. This study shows that the network of protected areas in Iran has so far been partially effective in conserving endangered species, as evidenced by recovery of certain species in different protected areas – How can we model that and build a better network of protected areas in Iran and neighbouring countries including connecting corridors and transboundary protected areas.

Study on Javan slow loris.

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Javan slow loris is a prosimian endemic to Java. Habitat loss, traditional medicine and illegal trading for pets have led to a drastic population decline. Lack of detailed study has hampered a proper assessment. This study aimed to assess the density, distribution and behavior of javan slow

loris in GPNP. Thirty-six individuals were sighted, with density of 4.29 individuals/km² in primary forest and 12.16 individuals/km² in secondary forest. Distribution mapping showed some individuals share certain home ranges but others seem to be solitary. The activity pattern of the primary forest's population is significantly different compare to those in secondary forest.

The Status of Northern Nigerian Snakes: Threatened or Endangered?

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Demographic survey across eight States of Northern Nigeria (Kaduna, Katsina, Kano, Zamfara, Sokoto, Bauchi, Gombe and Plateau) using scenario planning's, field sampling and questionnaires with local snake handlers (charmners and catchers), villagers' and residents was conducted to assess the status of snakes' species of Northern Nigeria. A total of 380 snakes' species distributed amongst five snakes families - Elapidae, Viperidae, Colubridae, Pythonidae or Boidae and Atractaspididae were encountered and recorded. A major challenge facing the snakes' biodiversity, species richness and abundance in Northern Nigeria are anthropogenic activities and the negativistic attitude of individuals to snakes (kill on sight).

Impact of substrate heterogeneity on plant diversity within forest layers in a rain forest from the Congo basin

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The way substrate heterogeneity affects composition and diversity of plant communities of a same climate range has been investigated in the Yoko forest, one of the protected natural semi-deciduous forests home sites in the Congo Basin. Sampling plots were placed both on sandy and clay soils and investigations were made through each of the forest layers. We located sampling replicates in an area where these substrates encounter and established some others through a scale of distance. Comparisons of diversity were done, using a variety of diversity indices and estimators, and we showed species accumulation curves based on abundance of species.

Conservation planning in a tropical forest landscape: a case study of Ranomafana National Park, Madagascar

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Ranomafana National Park is characterised by its exceptional biological diversity due to the altitudinal gradients and microclimates. However, access to forest resources is causing high level of pressure on the forest. This study presents a possible improvement of systematic conservation planning approach for the RNP. Rapid assessment program was done to identify the areas of highest conservation priority. Socio-economic investigations permit us to identify local land uses and to understand forest-population relationship. We show that creating markets by economical valuation of natural resources can help local communities to reduce their dependences on forests.

Birdwatching Clubs – Building a new generation of nature conservationists in Kazakhstan

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Over the past 20 years a huge gap in scientists, particularly ornithologists, arose in Kazakhstan. In 2007 only 15 local professional ornithologists based at two main cities. In a huge country like Kazakhstan this meant a survey area of about 120.000 km² for one ornithologist! Birdwatching as a hobby was practiced only by foreign visitors. ACBK did a huge work for involving a students in conservation. In 2007 ACBK started a program for building a Birdwatching Club's Network. This program is attempt to bridge the gap and stimulate young scientists for work in conservation.

Forest Rights Act, 2006, Conservation and Livelihoods

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This paper tries to study the various provisions of the Act to determine the extent to which it has succeeded in striking a balance between livelihood security and the conservation goals in the Study area. With numerous land laws passed in Kerala, it tries to understand the relevance of the Forest Rights Act with respect to the State political scenario. It discusses the question of 'cross cutting': how the Forest Rights Act, 2006 stands vis-a-vis

other forest legislations (Wildlife Protection Act, 1972 etc). It unfolds the problems related to on ground implementation of the Act and understands the true spirit in which the process of implementation is taking place.

Habitat fragmentation, genetic diversity and disease: a study in avian immunogenetics

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Habitat fragmentation is recognised as having had one of the largest impacts on biodiversity abundance and distribution by reducing population sizes and causing population bottlenecks and inbreeding. My research investigates the impact of habitat fragmentation on three Australian passerine species, the brown treecreeper (*Climacteris picumnus*) and the spotted (*Pardalotus punctatus*) and striated pardalotes (*P. striatus*), by assessing levels of immune gene diversity and prevalence of avian malaria across a mosaic of habitats.

Threats for Globally Threatened bird species at Zhumai-Maishukyr lake system, Kazakhstan

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Zhumay-Mayshukyr lake system is a recently establishes Important Bird Area - key stopover site for large numbers of migrating waterfowl in Central Kazakhstan. 4 Globally Threatened bird species are annually using this site and each of them has direct or indirect man-caused threats. Our poster will tell about these threats and the proposed activities in order to minimise their influence.

The ecology of waters surrounding seamounts targeted by deep-sea fisheries

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Seamounts are poorly understood underwater mountains that are hotspots of biological activity. The fish that live on seamounts are commercially valuable, however they are very slow growing and slow to mature, and hence particularly vulnerable to overfishing. Bottom-trawl gear is used to fish these species, which results in the destruction of benthic fauna on the seamounts and surrounding areas. The management of deep-sea fisheries is complex, especially on the high seas where approximately half of seamounts are found, as these areas are beyond national jurisdiction. Understanding the ecology of seamounts is necessary for sustainable fisheries management and protection policies.

Exploring the influence of climate on foraging efficiency in the American pika (*Ochotona princeps*)

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Herbivores show different types of adaptations like food hoarding which help them to cope with variation in food quality and abundance in different seasons. Food hoarding is one such significant survival strategy. Rapid changes in climate caused several local extinctions of the American pika (*Ochotona princeps*), a small lagomorph inhabiting talus fields in alpine or sub alpine areas in the Western United States during the later part of the 20th century. This study address how climate change may force alterations in the available forage and hoarding behaviour of the American pika— changes that may affect pika survival.

Enhancing pollinator habitat in existing grass buffer strips

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Pollinating insects are crucial for crop and wildflower pollination but have suffered global declines. This study investigates the effectiveness of two methods to increase the establishment of wildflowers for the benefit of insect pollinators in existing grass buffer strips: (1) graminicide application to reduce the dominance of competitive grasses; (2) scarification to create germination niches into which wildflower seeds were sown. The

combination of scarification with wildflower seed, and graminicide, produced the greatest establishment of wildflowers, and highest abundance of bumblebees and butterflies. Adoption of these management tools could help conservation of pollinating insects on farmland in future.

Leopard diet analysis aiding conservation

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Human-carnivore conflicts are increasingly of conservation concern, especially since viable populations of large species are rarely constrained to protected areas alone. This serves as a case study on how a large felid ranges across protected and unprotected areas, and how this knowledge can help reduce future conflicts. I analysed 66 leopard scats collected over 19 months in 3 habitats, recording percent occurrence and relative biomass of different foods eaten by leopards. Activity pattern data from two G.P.S collared leopards assisted with the interpretation of dietary findings. Importantly, the findings suggest livestock contribute nominally to leopard diet in the region.

Woodlark in hop cultivation area

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In Bavaria (Germany) the woodlark is classified as a critically endangered species. To date, hop fields have rarely been described as a secondary habitat of the species. A habitat use analysis showed that the birds visit fallows and hop fields for feeding, and males use hop racks as song posts and lookouts for surveying their territory. Nests are usually built in winter cereal fields or fallows adjacent to hop fields. Territory density of the woodlark was highest in regions with a high percentage of fallow fields. According to these results, regional conservation measures for the species were devised.

Crop diversity and resilience in urban agriculture: an Oxford case study

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This research explored whether allotments, a blend of urban green-space and agriculture, have the potential to maintain or increase crop diversity, thereby increasing food security and enhancing resilience. Interviews with allotment gardeners provided information about vegetable varieties, along with gardening practices and demographics. Results show a high level of heterogeneity of vegetable species and varieties utilised, as well as a range of nationalities, ages, practices and experience. Additionally, comparisons of sites across Oxford showed compositional differences. This research showed that allotment gardening may play an important role in the maintenance of crops of conservation concern, including locally-adapted landraces.

Plover conservation in St Helena

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The St Helena Plover is the only extant endemic bird on the UK Overseas Territory of St Helena. It is Critically Endangered, suffering threats from introduced predators, habitat change and future development. We developed a custom built individual population model based on empirical estimates of demography and other life history parameters and used it to test the influence of a variety of potential conservation and development options on population dynamics. Simulations compared the likely outcome of reduced predation pressure, habitat improvement and site removal at population and at site level.

The South African Grassland Scoring System (SAGraSS), an arthropod-based habitat integrity index for endangered grasslands.

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Despite the importance of grasslands to the social and economic well-being of South African citizens, these habitats are being degraded at unprecedented rates. The success of potential mitigation strategies is dependent on sound synecological data. The South African Grassland Scoring System (SAGraSS), a rapid bioassessment methodology, is presented as a potential source of reliable, yet easily obtainable, data of higher trophic levels in these habitats. This method could overcome resource and human capital constraints which have previously limited the conservation of the grassland habitats.

Measuring conservation effects in Brazil: lessons from a megadiverse region

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Quantifying the extent to which conservation works is increasingly recognised as a very important practice. Such evaluation can help systematize conservation experience and identify factors that contribute to intervention success or failure. My research contributes to this field by addressing the question: do conservation interventions have a measurable effect? This is tackled by applying the Cambridge Conservation Forum Project Evaluation tool in Brazil, and using remote sensing data with pre-processing matching methods to measure conservation effects. In this poster I present preliminary results and discuss future research.

Agriculture Modifies the Seasonal Decline in Reproductive Success in a Tropical Wild Bird Population

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Studying how the life history traits of forest-specialists respond to exposure to novel agricultural habitats is fundamental to predicting population trends in these landscapes. Forest-dwelling Mauritius kestrels breeding in territories that contain agriculture are more likely to fail in the attempt, and agriculture accentuates the rainfall-related seasonal decline in breeding success. We show that a potential explanatory mechanism for this is that kestrels exploit non-traditional prey available in agricultural land that can be unsuitable for young chicks to consume, enhancing nestling mortality risk. Ability to occupy and exploit novel habitats for foraging may thus not necessarily be advantageous for productivity.

Conservation of the critically endangered Pacific Goliath Grouper in Colombia

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Groupers are top predators vulnerable to overfishing. Historical fisheries statistics and traditional ecological knowledge have been used to describe the conservation status of the Pacific Goliath grouper in Colombia. Grouper exploitation in the Pacific has taken place for relatively short time using less damaging techniques compared to the Caribbean. Low population density and urban development are likely responsible for a better state of groupers in the Pacific. Understanding socio-economic and ecological aspects of

fisheries in these regions can bring insights into what factors contribute to threaten fish species and what to do to prevent this trend in relatively unexploited areas.

Functional diversity assessment: a tool to manage and restore Tropical Dry Forests in the Colombian Caribbean

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Dry forest ecology studies in Colombia are very scarce and most of the publications available only include floristic and vegetation descriptions of relatively undisturbed fragments. Less information exists in relation to its natural regeneration after disturbance and the phenological, dispersal and establishment dynamics that occur during this process. A conceptual framework that underlies the importance of producing information regarding functional diversity of dry forest in the Caribbean and its relation to disturbance is presented. As well, as an approach to link the results of this type of studies with management and conservation actions of this highly threatened ecosystem.

Participation of the local community in saving the critically-endangered river terrapins: How do we measure success?

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For decades, local villagers have been eating all River Terrapin eggs in the Setiu River and no hatchlings have been produced. In 2004, a villager was hired to purchase and incubate terrapin eggs and hatchlings were raised between a week and four years before they were released. By 2010, up to 2,000 eggs have been saved from human consumption, of which 988 terrapins have been released into the river to replenish the depleted population. Beginning 2009, local fishermen were engaged to surrender terrapins that they encounter while fishing to the project for analysis. To date, 158 terrapins have been analyzed.

Key issues and conservation strategies for biodiversity conservation in China

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Biodiversity loss in China is becoming increasingly prevalent under sociological and economical changes over recent decades. China has lost 126 species of birds and over 10 species of mammals since the 1900s. To prevent biodiversity loss, China has developed some effective strategies for biodiversity conservation, such as converting farmland to forest, returning pasture to grassland and protecting virgin forests since 1999.

Consequently, China has already established 2,395 nature reserves until 2006, forest cover has recovered to 20.36% until 2009, the rate of species loss has lessened and many mammal and bird populations showed an upward tendency during last decade.

Overabundant deer impact on songbird

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The decline of temperate forest songbirds is not completely understood. Furthermore, ungulate overabundance is now recognized as a major driver of understory loss. So we try to identify if deer overabundance could be responsible of songbird decrease. Based on functional traits, we determined biological characteristics of sensible bird species. We used the case study of Haida Gwaii to test this method that was then applied in a meta-analysis at the North American scale. Sensible species to deer impact present different functional traits from those of non sensible species. The results at local scale are confirmed at the continent one.

Mangu Stream – Chitila Wetland (Romania)

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Mangu Stream – Chitila is one of the last remaining wetland near the developing urban area of Bucharest. It shelters a significant number of nesting waterbirds, most of them being protected at European level. We identified a number of 19 birds species of conservation concern and we estimate the population size. Also we identified three Nature2000 habitat types. We draw up the habitat range of the protected birds and mapped the habitats. The area was proposed and we send the documentation to the Environment Ministry to include it under a protection status. At this moment the designation is in process.

Conservation genetics of the endangered Malleefowl (Leipoa ocellata)

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Malleefowl have undergone dramatic reductions in range over the past 25 years. Populations of this species are now small and highly fragmented. Conservation genetics is an important tool in managing fragmented and declining populations. Understanding the genetics of Malleefowl is a priority in the recovery plan for this species. This study focused on mitochondrial and nuclear genetic variation in Malleefowl across Australia. Low genetic diversity in the mitochondria of this species has highlighted historic population dynamics. Together with fine scale population structure, inferences for the management of this species can now be made.

Fragmentation effects on the genetic diversity of *Melampyrum sylvaticum*, a rare plant in the UK

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Melampyrum sylvaticum is an annual plant of montane woodlands which has been lost from 90% of its UK range within the last century. The effect of habitat fragmentation on genetic diversity was investigated with the aim of informing conservation management of the remaining populations and the creation of new populations. Small and fragmented UK populations were compared to large Scandinavian populations and were found to have lower genetic diversity and greater between-population differentiation. The species was shown to be highly inbreeding reducing the risks of experiencing inbreeding depression. Morphological and reproductive traits were analysed to detect signs of inbreeding depression.

Land-use changes and the endemism-rich avifauna of São Tomé.

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The island of São Tomé (Central Africa) has long been known as an important hotspot of biodiversity owing to its endemism-richness. Although little is known about how its endemics respond to land-use changes, expanding and intensifying agroforestry practices are considered the most important threats in this hotspot. I conducted bird point counts across the island and found that the environmental variety of more intensive land-uses increased species richness. I also found that in more intensive land-uses, widespread species increasingly replaced endemics and therefore argue for precaution in the use of species richness as a measure of biodiversity.

Fuzzy modelling to identify conservation priorities for raptors: Effectiveness of the network of protected areas of Andalucía (Spain)

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About 50% of the European raptor species breed in Andalucía. Their persistence is uncertain given threats such as poisoning and electrocution. To evaluate the effectiveness of Andalucía's protected areas, we modelled the distribution of all breeding raptors using atlas data. To avoid the use of arbitrary thresholds and targets, we calculated diversity metrics and their degree of protection from favourability values using fuzzy logic. Richness has the lowest degree of protection; the regions of Sierra Norte, El Poblado and central Cordoba were identified as priorities. Steppe raptors are the least protected species and are an important gap in the network.

Impact of sport hunting on browser species habitat use in Pendjari Biosphere Reserve, Benin

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Browser species are known to experience increased population pressure due to habitat loss and hunting activities in Beninese Park. To understand the impact of hunting sport on the browser bovid species data were collected by direct observation along transects. We performed time series analysis on available long term monitoring information. Gallery forests represent the preferred habitat type for the browsers. A high concentration was recorded in the non-hunting zone while only the sizable gallery forests

in the hunting zone contained browsers. Our result supports the hypothesis that habitat use is correlated with the body live weight in browser ungulate species.

Growth and survival of *Trochus niloticus* in the Philippines

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The growth and survival of the Philippine threatened reef gastropod *Trochus niloticus* were studied in three sites using a mark-recapture method. The von Bertalanffy growth parameters K and L_{∞} were calculated based on the following number of recaptures per site: Site 1- 427; Site 2 – 529 and Site 3 - 105. Survival rates were high, but recapture and growth rates largely vary among sites. The high survival rates in all sites suggest that the introduction of wild trochus in a suitable habitat of a well managed people's sanctuary could be a cost effective means of stock enhancement.

Freshwater turtle trade in Nigeria, the conservation concerns

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Market survey of freshwater turtles from ten locations across eight states in Nigeria, yielded the following three turtle species: the African helmeted turtle, the West African mud turtle and the West African forest black turtle. The critically endangered African soft-shell turtle previously reported in Nigeria was not encountered during the survey. The sizes of turtles sold ranged from 50mm to 290mm plastron length and were mainly purchased for food and fetish purposes. The greatest conservation concern bothers on the active sales of young hatchlings and juvenile turtles which though costlier are the preferred size of turtles requested by consumers.

Estimating effective population size and genetic viability in the Siberian jay

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I tested the usefulness of effective population size (N_e) estimation in the population viability assessment of the Siberian jay (*Perisoreus infaustus*), a rapidly declining bird species of Southern Finland. Using a 30-year sighting and DNA dataset, and both demographic and genetic estimators, I estimated the effective population size (N_e) of its largest remaining Southern Finnish population. My results suggested that the maintenance of genetic viability

in this population may be dependent on immigration, highlighting the need for isolation prevention. Demographic Ne estimation was laborious and genetic Ne estimates showed large variation, but the results proved relevant for conservation planning.

Predation on capercaillies in Pyrenees

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Capercaillies are declining at a 4% annual rate in the Pyrenees. Predation has been listed as one of the possible main causes of decrease. The recovered carcasses indicated that adults are killed by aerial and terrestrial predators in similar numbers, and alike for both sexes. After the first three years of an ongoing experiment of removal of terrestrial mesopredators, capercaillie breeding success in the treatment area was higher than in controls, though without statistical significance. The short length of the experiment and the compensation by aerial predation could be some possible explanations.

Genetic structure and conservation of *Daphne blagayana* in the Balkan Peninsula

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Daphne blagayana is a rare plant with a fragmented distribution in the Balkan Peninsula. Being the oldest protected plant species Slovenia it represents a symbol of Slovenian conservation. We collected samples from several populations across its distribution range and used nuclear and chloroplast markers to assess genetic variability of the species. Although most markers did not show enough variability, one region proved to be useful in the phylogeographic assessment. The results suggest that *D. blagayana* was historically widespread across the Balkans. Southern populations became putatively isolated during Pleistocene. As they show more variability, conservation should be focused on them.

Do bats like tea and/or coffee? Assessing bat activity and richness in a modified landscape in Valparai plateau, southern Western Ghats, India.

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Habitat fragmentation and conversion of natural habitats to other land uses such as plantations is a major threat to biodiversity. In this study, we

assessed the effects of rainforest fragmentation and land-use change on bats in a production landscape in the southern Western Ghats, India. Bat activity and richness in contiguous forest, rainforest fragments, coffee and tea plantations were quantified using acoustic sampling techniques along transects using a bat detector and recorder. Preliminary analyses based on “echolocating morphospecies” indicated differences between fragments and plantations. Further, some morphospecies appeared to be more affected by fragmentation than others.

Implementing Standardized Wildlife Monitoring across Mongolia: Wildlife Picture Index

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Currently there is very little scientifically robust monitoring of Mongolian biodiversity, which is required for conservation planning and management. Our main method was the Wildlife Picture Index. Using this tool, we can measure the effectiveness of these protected areas. We set up 50 camera stations in both the buffer zones and the core zones of three protected areas of Mongolia for the last two summers. It has shown high biodiversity in the Buffer zones than core zones of PA. Our results suggest that hunting and increased livestock in the protected areas have had a detrimental effect on wildlife putting the effectiveness of those protected areas into question.

The use of historical museum specimens to study genetic variability and structure of the Eurasian otter populations

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During the last century, Eurasian otter (*Lutra lutra*) populations have suffered significant reduction in population size. Such substantial decline can bring along decrease of genetic variability and loss of evolutionary potential. We therefore provide genetic analysis of museum samples to study historical populations and to compare past and present genetic variability of the Eurasian otter in the Czech and Slovak Republics. So far, we have analyzed 128 historical samples. Overall amplification success (19 microsatellite loci) for different types of material ranged from 60 to 70%. Relatively low rate of genotyping errors (allelic dropout 7.6%, false alleles 1.5%) was detected.

Impact of Human Activities on Miombo Woodland of Bereku Forest Reserve, Tanzania

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This paper presents findings on the status of tree species with reference to disturbances, socio-economic factors influencing human disturbance in the Bereku forest reserve in Tanzania. The results revealed that diversity index, stem density, species number, basal area was low in disturbed stratum compared to undisturbed stratum. Livelihood activities, period of residence in the reserve area, and distance from homestead to the forest, farm land size, household size, education, awareness on management of the forest reserve and awareness on reserve boundaries are the principal socio-economic factors impacting the quality of the forest.

Butterfly monitoring in Bryansk region of Russia for identifying and conservation important areas

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Many butterflies have decreased considerably in recent years, but most data come from western European countries with well developed recording schemes. We describe the biodiversity of butterflies in a previously poorly-studied country, the Russian federation, and identify important areas for conservation, especially for rare species. We established a volunteer network for research in 10 districts across the Bryansk region in Russia, a country with little data on insect biodiversity. We identified 26 species of Lepidoptera, one of them included in Red Data Book of Russia. We identified some important areas for butterfly diversity that were related to plant community composition.

Population estimates and conservation of river dolphins in the Amazon and Orinoco river basins

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This study is the largest initiative to estimate population size and densities of river dolphins (*Inia* and *Sotalia*) using statistically robust and standardized methods. From May 2006 to August 2007, visual surveys were conducted in large rivers of Bolivia, Colombia, Brazil, Ecuador, Peru and Venezuela in the Amazon and Orinoco river basins. Population sizes of river dolphins were estimated for different habitats and high-density areas were identified. We propose that high-density areas constitute critical habitat for river dolphins, which seem to coincide with well-managed freshwater

protected areas and should be considered as hotspots for river dolphins in South America.

Biome Switches: How a global scale shift from grassland to forest is affecting biodiversity and other ecosystem services in southern Africa

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Grasslands have long been viewed as anthropogenic and seral to forests. However, isotopic records and the presence of many highly adapted grassland species suggest that in southern Africa forests are the more recent invaders of grasslands. The two systems support unique communities and are ecologically distinct. Over the last century these grasslands have experienced woody plant thickening which is further spreading forests. This has gone largely understudied because of the misconception that all grasslands are anthropogenic. Both systems are highly diverse and conservation efforts should aim to maintain the forest-grassland mosaic and avoid the complete eradication of grasslands by forests.

Threat assessment and conservation prioritization of Chamaeleonidae in Africa

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To date there has not been a comprehensive extinction threat assessment for Chamaeleonidae in Africa. This study will use the methods outlined by the IUCN Red List for endangered species to complete preliminary assessments for all species. I will also assess if the current reserve network is adequate for Chamaeleonidae conservation in Africa, and where 'gaps' in this protected area network might be found.

Lemur conservation in Madagascar.

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Madagascar's lemurs receive strict protection from the nation's wildlife laws. Many are threatened with extinction. People in rural areas are either unaware of these facts, or just ignore them. Is it surprising that a person has negative perception of a species that damages crops or brings bad luck? This project engaged with a rural forest community in eastern Madagascar.

We evaluated peoples' attitude towards lemurs during visits to households and schools. We then conducted lemur surveys with the hunters. Feed-back sessions in villages highlighted discrepancies between villagers' perceptions of lemur abundance and the actual lemurs encountered. These results are being used to develop conservation plans for lemurs.

Multi-scale land-use and landscape effects on farmland birds in Cyprus

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In newly acceded European states, extensively farmed high nature value landscapes are undergoing rapid change. I examine bird assemblage composition and abundance of Species of European Conservation Concern among land-uses and landscapes at nested spatial scales across Cyprus. I present results showing the differing spatial scales to which priority species respond most strongly, the relative importance of land cover and land-use types and examine whether responses to within-field habitat are mediated by landscape context. Results support targeted farmland bird conservation in Cyprus and the eastern Mediterranean.

Bivalve shells: native versus invasive.

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The macrozoobenthic fauna associated to some native (*Anodonta anatina*, *Potomida littoralis* and *Unio delphinus*) and an invasive bivalve species (*Corbicula fluminea*) were investigated in the field, in order to simulate two different scenarios: before and after the invasion of *C. fluminea* in the Minho estuary. Our preliminary results suggest differences in the density, biomass and diversity of the associated macrozoobenthos. The native species seems to be the preferred substratum. Our findings highlight also the dramatic shift in the macrozoobenthos composition since the establishment of *C. fluminea*.

Thermal Adaptation of *Stagnicola palustris* to Rapid Climate Change in the Baltic Sea

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Faced with a changing environment, species may respond in three ways – adaptation, migration or extinction (Holt 1990). Species can adapt to a

changing environment by phenotypic plasticity or microevolution. For this study, I want to test whether populations of an aquatic snail (*Stagnicola palustris*) have been able to adapt to a changed temperature regime during a 30 year period, mirroring some of the IPCC's worst-case scenarios for the end of this century. As biodiversity can play a significant role in keeping the ecosystem resilient under environmental change, knowledge on the species' capacity to adapt to changing environment is essential for sustainable management of the Baltic Sea.

How far does a butterfly fly? –Dispersal of Brown Argus at core and margin of its range

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Many species are forced to move to new areas because of changes in their habitat or climate change. This possesses a thread particularly to species with limited dispersal ability. Here I am looking at how dispersal traits differ in Brown Argus butterflies between individuals from core and margin of this species distribution. By understanding how species might evolve during range expansion we are able to make better estimates how species are able response to changes in their environment. This can also help us in understanding what traits might make some species more vulnerable to changes in their environment.

Mammalian predators of breeding waders

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Within lowland wet grasslands, habitat manipulations are the key management tools used in conserving rapidly declining populations of breeding waders. These habitat manipulations typically provide appropriate conditions for nesting, but their influence on predator distribution is poorly known. Manipulations of vegetation structure could influence mammalian predators (red fox, stoats and weasels) by altering the abundance and distribution of small mammals, which are an alternative prey source for these predators. We investigate the influence of current management of habitat and vegetation structure on the distribution of small mammals and mammalian predators, on a large wet grassland reserve in the Broads, England.

What limit the population growth of Przewalski's gazelle?

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Fencing has been identified by previous investigators as a critical threat to the endangered Przewalski's gazelle. We monitored the largest isolated gazelle population visually from July to September, 2010 and almost monthly ever after. It is clear that fence twisting is a major threat to the fawns, and fencing increases the predation risk to the adults. To learn more about the effects of fencing on population dynamics of the gazelles, we will use tooth wear and marrow fat as two indicators of age and body condition of the dead directly or indirectly caused by fencing.

Ecology and Conservation of the Critically Endangered Liben Lark (Heteromiraфра sidamoensis)

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The Liben Lark (*Heteromiraфра sidamoensis*) is a critically endangered bird endemic to Ethiopia. It is found in a restricted range of only 35 km² in the Liben Plain of Southern Ethiopia, mainly used as a grazing land. Remote sensing analyses suggest that there is no other similar habitat in southern Ethiopia. Surveys done from 2007 to 2009 indicate a population of 90-256 adults. It is a terrestrial ground nesting bird which does not seem well adapted to long-distance dispersal. The plains are currently becoming degraded by overgrazing, bush encroachment and agricultural expansion. Sustainable rangeland management practices need to be implemented.

Mapping Cultural Landscape in Biligiri Rangaswamy Temple (BRT) Wildlife Sanctuary, India

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Approaches to biodiversity conservation most frequently encompass the perspective of 'expert knowledge'. However, evidence from world over highlight the need to incorporate traditional local knowledge in understanding ecosystem structure and function. This talk highlights a method for incorporating local narratives to better inform conservation action. Our effort included the use of formal cartographic instruments such as use of GIS enabled devices to locate places and names which the Soligas cultural and ecological understanding. Our results show that combining traditional knowledge with expert knowledge has important implications for biodiversity conservation. Incorporating local narratives would help in

better understanding ecosystem function and help improve future management, for the benefit of both biodiversity and the people who live amongst it.

Seven Years of the European Moth Nights in Portugal (2004-2010)

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The international event “European Moth Nights” started in 2004 and has provided an unparalleled chance of gathering both scientists working with this biologically relevant group of insects and the general public with surprisingly successful results. In spite of Portugal being among the most biodiverse countries in Europe, knowledge about it is scarce and fragmented with little efforts towards knowing basic biological processes or conservation of moths. According to the data gathered since 2004, with over 40 surveyed sites, more than 110 participants and 421 macro-moth species (10 of these new for the country) recorded in 35 nights of the project, this project helped to raise awareness about moths while improving the actual scientific knowledge.

Correlation between Amur tiger abundance and prey biomass in the Russian Far East

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It is currently unclear how current levels of ungulate affect the critically endangered sub-species and especially its reproductive rate. There are dramatic differences in ungulate and tiger cub densities between sites within Amur tiger habitat. These differences illustrate effects of various ecological and man-induced factors on both prey species and tiger. Protected status of territory provides a higher prey biomass and consequently a higher cub density.

Ranging pattern and survivorship of leopard in semi-arid landscape of Sariska Tiger reserve, India.

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The study on ranging pattern and survivorship of leopard was carried out in Sariska Tiger Reserve from December 2006 to August 2010 based on two relocated collared individuals (L1 and L2) and from mark-recapture data

obtained from camera traps. Through VHF tracking, 123 and 268 radio-locations were recorded for L1 and L2 respectively, which yielded the home range estimate (100% MCP) of 95.3 km² and 337.5 km² respectively. In total, 32 leopards were identified in study area. The overall survivorship of leopard in the study area was 0.55 ± 0.06 . The survival success was calculated to be 0.76 ± 0.08 .

Conservation through practice

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Traditional Knowledge (TK) related to medicinal plants plays an important role in the use of herbal medicines. But the TK is eroding day by day due to inadequate documentation and limited inter generational transfer of knowledge. On top of that, most of the important medicinal plants are also fast disappearing due to high rate of land use change. One of the best ways to conserve medicinal plants and related knowledge is through documentation and stimulating practice by involving local people.

Population trends of lions (*Panthera leo*) and hyenas (*Crocuta crocuta*) in Uganda: findings of a recent national carnivore census

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Play-backs were used to survey carnivores in Queen Elizabeth Conservation Area (QECA), Kidepo valley National Park (KVNP) and Murchison Falls Conservation Area (MFCA) between 2008 and 2009. 134 call sites were accessed with sampling effort of 19.31%, 14.29% and 14.32% for QECA, KVNP and MFCA respectively. QECA gave an estimated 144 (se 22) lions and 211 (se 25) hyaenas, KVNP 132 (se 77) lions and 75 (se 33) hyaenas, and MFCA 132 (se 24) lions and 38 (se 7) hyaenas. Elsewhere, Semuliki Wildlife Reserve had 5 lions and Lake Mburo National Park 2 lion immigrants.

Modelling factors that influence protected area resource use in Africa

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Myriad conservation approaches have been implemented in Africa to ensure sustainable use of protected areas. However, biodiversity loss from protected areas has persisted because of unsustainable practices. The question this paper attempts to address is what factors influence utilisation

of resources by local people from protected areas in Africa. The paper identifies and models factors that influence sustainable and unsustainable use of national park resources, and how these factors are interlinked. It reveals that both sustainable and unsustainable use of biological resources is dependent on African culture. Suggestions are made on how to infuse African culture into conservation science.

The Myth of Sustainable Livelihoods: a case of Mnazi bay Marine Park in Tanzania

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The extent to which marine parks affect livelihood strategies and attitude of local communities towards conservation of marine biodiversity was studied in Mnazi Bay Marine Park in Tanzania. It was found that the park has had significant adverse effects on people' livelihood strategies such that people have developed negative attitudes and practices towards the park and fisheries in general. This is evidenced by increased tensions between local people and park authorities and outright rejection of the park idea in some villages. These negative attitudes pose considerable challenges to the park success and sustainability of the fishery.

Conservation of fire-resilient Phoenix palm

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Phoenix lourerii var. humilis, a versatile shade-tolerant scrub plant is highly habitat-adaptive preferring mostly open, deciduous forests. Albeit its forbearance, over-harvesting leaves the palm fruit-less for fauna and desolated ecological services. As a fire-indicator and with high-coppicing ability, this species is vital for grassland habitat conservation. Cluster sampling studies were done by establishing four 10-hectare and ten 1-hectare plots within 425KM² of forest-division. Open-scrub grassland in 900-1500m ASL slopes is the penchant habitat. Bounteous ecological-services apart from its economic-importance; Phoenix needs conservation strategies for its subtle habitat. Monetary yearning for tender leaves by humans necessitates strategies for sustaining healthy population.

Investigating avian diversity and function in the Nyandarua agricultural landscape, Kenya

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I investigate the influence of landscape composition on occurrence of birds from different functional groups, especially potential natural pest enemies and post-dispersal weed predators, in the agricultural landscapes of Nyandarua, Kenya. Preliminary results show that the larger crop-damaging granivores are more abundant on cropland whereas the smaller weed-seed predators are abundant in fallow sections of the farmland. Two species most often observed preying insects from crops have a preference for native grasslands. These results emphasize the need for leaving non-crop habitat adjacent to cultivated areas for conserving biodiversity while providing refuge for fauna that could provide some ecosystem services.

Run-off agroforestry and the maintenance of biodiversity and ecosystem services: A case study from the Sinai desert

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The Bedouin of South Sinai, Egypt, utilise a technique known as run-off agroforestry to capture rainwater and increase the agricultural potential of the arid landscape. This study investigates whether their agricultural gardens are maintaining (1) arthropod biodiversity, (2) pollinator services and (3) soil-regulatory services, in order to assess the long term sustainability of run-off agroforestry.

Credit Crunch Conservation: The importance of optimal survey design

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Money for conservation is increasingly limited, especially in recent years with many countries in economic crisis. Budget cuts mean less spending on conservation. Conservation needs to offer value for money, producing the most effective conservation action from the funds available. A great contribution to the cost of conservation is the collection of data, which is often time consuming and expensive. In order not to waste time or money, planning is required so that data will be relevant, useful and informative. Scientists and conservation managers need to be able to draw conclusions from the data, and take clear and appropriate action.

Towards evidence-based restoration: a case study of South Africa.

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Essential components of evidence-based restoration include baseline information collection; clear goals; monitoring; and effective information dissemination. To examine the strength of the current evidence base and obstacles to strengthening it, we reviewed literature and surveyed restoration practitioners and managers in South Africa. Results showed some weaknesses in all four components. Baseline information was sometimes not related to impact monitoring; goals were often poorly defined; there was more monitoring of inputs than outcomes; inconsistent monitoring of ecological indicators; and evidence was not easily accessible. We recommend improvements in the planning, management and funding processes and encourage effective communication between all role-players.

A multi-species model of bushmeat hunting in the Serengeti, Tanzania

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Bushmeat is widely consumed by local communities surrounding the protected areas of the Serengeti, where hunting is conducted for both food and cash. Because of the illegal and sensitive nature of hunting, there is however enormous uncertainty surrounding hunting rates and catch composition. Using simulation modelling, harvester behaviour and observation uncertainty are explicitly incorporated and their impacts on population structure and abundance of migratory wildebeest (*Connochaetes taurinus*) and resident impala (*Aepyceros melampus*) and topi (*Damaliscus korrigum*) are investigated. Preliminary results and future research are discussed, as well their relevance for the conservation of the Serengeti, one of the most emblematic socio-ecological systems.

Habitat Preferences of the Adonis Blue and Chalkhill Blue butterflies in the UK: Two Hosts, One Plant, Ants and a Patchy Landscape.

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Populations of the Adonis Blue (*Polyommatus bellargus*) and Chalkhill Blue (*Polyommatus coridon*) butterflies exist at the northern edge of their range on chalk grasslands in the south UK. In this highly fragmented landscape both species experienced large population declines from the 1950's - 80's, and show mixed signs of recovery. Recent work suggests, for butterfly

conservation, more emphasis should be given to understanding what factors influence the quality of a habitat as perceived by the larvae. I present work to identify what parameters determine larval habitat quality for these species and consider how preferences might be altering with climatic warming.

Five-a-day for frogs: How do carotenoids affect fitness in frogs?

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Carotenoids are yellow, orange and red pigments that are manufactured by plants, fungi and bacteria. Vertebrates obtain carotenoids from their diet and cannot synthesise them de novo. Carotenoids are involved in vertebrate reproduction, antioxidant systems, immunity and colouration, however their importance for amphibians has not been studied. I have shown that carotenoid based colouration may play a role in mating in wild nocturnal tree frogs, and this colouration is greatly reduced in captive-bred individuals. I have found that carotenoid availability can significantly increase skin colouration, and may influence survival, growth and reproductive success in captive frogs.

Effect of habitat disturbance on avifaunal diversity of a tropical forest of Eastern Assam, India.

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Tropical forest ecosystems are under threat throughout Southeast-Asia from various anthropogenic activities. Formation of artificial gaps due to disturbance also occurs in tropical forest patches of north-eastern India. It is very important to know which sorts of species are most affected by disturbance. We used moderately disturbed and disturbed habitat to compare with undisturbed habitat patches of Jeypore Reserve Forest to examine the effects of disturbance on bird diversity. Undisturbed habitat support higher diversity of birds than disturbed and moderately disturbed habitats and also they support more endemic and restricted range species. The findings will help in formulating conservation programs.

Assessment of Shrimp By-Catch Species from Coastal Industrial Shrimp Trawl Fisheries in Nigeria Coastal waters.

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An aspect of an observer programme that involves fisheries-dependent surveys was conducted to identify and quantify the species composition of shrimp by-catch and its effect on fishery sustainability. Samples were bought monthly, from October 2009 to April 2010 from landings site, at Apapa-liver pool market. Twenty-five species belonging to 18 families of fish targeted in other inshore/offshore commercial fisheries constituted the by-catch species. The percent of weight compositions of some commercially important by-catch species are: *P. senegalensis* (5.76%), *Ilisha africana* (14.65%), *Pentanemus quinquarius* (2.94%), *Pteriscion peli* (6.60%), *Galeoides decadactylus* (3.17%), *Cynoglossus senegalensis* (6.76%) and *Chloroscombrus chysurus* (10.81%). About 80% of the shrimp by-catch species compositions are juvenile fin fish and economically important species. However, pose a threat to fisheries and its sustainability.

Tracking tigers in Sumatra: Using non-invasive genetics to study the Sumatran tiger

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Indonesia has been identified as one of the key areas for the range-wide recovery of tigers. Current initiatives seek to identify the distribution of tigers and anthropogenic threats across Sumatra. In addition to collecting data on the secondary signs of tigers, prey and human activities, field teams are collecting tiger faeces for genetic analysis. My research will focus on the analysis of microsatellite data to provide estimates of population structure and patterns of regional variation. Ultimately, this will allow us to predict the impact of current patterns of landscape change on the viability of tiger populations across the island.

Effects of Road Construction in Protected Areas: A Case Study of Yankari Game Reserve, Bauchi Nigeria.

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Areas of biodiversity conservation attract large number of tourists. The major road leading into the camping area of Nigeria's foremost parks – Yankari Game Reserve, was recently paved. A survey to evaluate the effects of the paved road found out that an average of six animals is killed every

week on the road. Most roadkills occur at weekends when there are more motorists driving into the reserve, suggesting that the rate of kill increases with traffic. The results will be a working tool for the reserve management to implement and enforce speed limits in the reserve thereby conserving the fauna.

Primates of Nariño, southwestern Colombia

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I applied a multidisciplinary approach encompassing archaeozoological, ethnobiological and ecological information; based on the review of pictographs of pre-Hispanic indigenous; animal bones found in archaeological excavations, direct observation and semi-structured interviews in field trips, and niche modeling, to assess the state of conservation of non-human primates in southwestern Colombia. Landscape transformation and the loss of habitat caused by the expansion of the agricultural frontier in the Department of Nariño has caused a great reduction in the populations and distribution of several species of non-human primates, which were widely distributed in pre-Hispanic times. Some areas have a high potential for the conservation issues.

Customary potentials for wildlife conservation.

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The Korup National park, Cameroon, is one of Africa's Richest Tropical Rainforest. Wildlife (bushmeat) occupies a very important place in the cultural and economic life of the local people who happen to be indigenous custodians of the forest. Their exploitation and use of forest resources especially wildlife therefore constitutes a persistent major challenge for the Park management. Antipoaching efforts and conservation education on the wildlife law are current options employed to reduce this illegal activities in the area. On the other hand, a closer look at cultural/traditional beliefs and customs by local people are other interesting revelation/lessons with potentials for effective collaborative wildlife management that could be exploited by conservationist as highlighted in this poster.

Satellite-tracking a critically endangered bustard in Cambodia: dispersal, habitat-use and threats

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Cambodia holds the key remaining population of a Critically Endangered bustard, the Bengal florican (*Houbaropsis bengalensis*). Little is known about the species, hindering conservation measures. For half of the year (in the wet season) its location, habitat requirements and threats faced were poorly understood. We deployed satellite transmitters, identifying (unprotected) sites used by florican. Habitat data collected at satellite locations revealed the floricans' preference for open dry dipterocarp forest. Rapid, large-scale conversion of habitat to plantation was identified as a serious threat. Key sites have been identified which should be prioritised for conservation and incorporated into the protected areas network.

Resting-site selection by the water opossum *Chironectes minimus* in the Brazilian Atlantic forest

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The water opossum *Chironectes minimus* is the World's only semi-aquatic marsupial and its ecology is little known. The water opossum resting-site selection in the Atlantic Rainforest was analyzed using generalized linear mixed models. Selected sites were located in narrow river stretches with preserved riparian forest. These findings suggest that narrower segments of the river provided protection against variations in water levels. The need for well preserved riparian forest shows the high sensibility of this species to human disturbance, an important result to guide conservation and management policies. (Supervised by Fernando A. S. Fernandez)

Niceforo's wren habitat and fluctuating asymmetry

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Niceforo's wren is a critically endangered songbird endemic of the Chicamocha canyon Colombia. Its habitat has been destroyed pushing the last individuals in small pockets of forest. This study investigated the influence of 11 structural variables of fragments on the bird's community fluctuating asymmetry (FA). FA values of wing, hallux and tarsus correlated

negatively with leaf-litter depth, basal area of trees and basal area of lianas. Results provide evidence about the influence of habitat quality on birds' health condition. Thus, FA could shed lights on the stress variables influencing endangered species' habitat.

Community GIS for biodiversity conservation

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Information needs for biodiversity conservation are varied and how best to obtain the required data is emerging issue in conservation planning. This study presents the use of community GIS approach for community-based biodiversity resource inventory in Beezhazar Wetland Complex, Nepal. Basic map reading skill and GIS training is provided to the local conservationists to record their spatial knowledge about the daily observation of wildlife mobility and habitat change scenario. Visualization of biodiversity resource information in paper maps and digital database facilitate the local community to understand their surrounding environment and support for the local level conservation planning.

Habitat selection by *Merganetta armata* and its sustainable stream flow requirements in the headwaters of a Chilean Andean river

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Torrent Duck is one of five species of Anatidae restricted to fast-flowing waters and it is classified as "locally vulnerable" in Chile. This study presents a first quantitative method approach to estimate its habitat requirements in a context of hydroelectric development. We determined the habitat attributes that are related to the local abundance of Torrent Duck using analysis of use-availability. Then we selected relevant quantitative variables in order to obtain new field data and developed a hydraulic model in four rivers, estimating the habitat requirements that will allow to determinate a sustainable flow regime in the headwater of Cachapoal Basin.

North Sea Fish Community Indicators

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Interpreting the magnitude of temporal change in managed fish communities requires that the 'baseline' state of the ecosystem is established, through identification and historical analysis of suitable fish community indicators. This study compared community-level and size-based indicators of the North Sea demersal fish community from historical and contemporary periods, to determine whether aspects of community dynamics and size structure between 1902 and 1909 differed from today. Substantial differences were detected across the time-series for historic and contemporary fish community indicators. These findings will contribute to development of sustainable reference points for size-based indicators within existing North Sea fisheries management policies.

The simulation of the conspecifics as a conservation tool for a territorial forest bird.

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Conspecific simulation has been used to attract birds to protected areas. This technique had successful results in migratory territorial passerines. In this study, we assessed its effect on Thorn Tailed Rayadito (Furnariidae), a sedentary bird that inhabits the forests of southern Chile and Argentina. Rayadito density increased during the conspecific simulation by playback before breeding but the establishment and nesting occurred more frequently in control sites. It is highly recommended to distinguish the conspecific and heterospecific behavioral responses prior to the implementation of management measures that seek to attract or discourage the presence of a particular species.

Forest carbon stocks in Madagascar

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To guarantee the effectiveness of REDD schemes in forest conservation, precise assessments of carbon stocks (CS) in soil and forest aboveground biomass are needed. A typology of CS was performed in the southern region of Madagascar across spatial patterns (climate, altitude and land

use) using allometric relationships and partial least squares models. The CS of above ground biomass were 193 ± 56 and 3 ± 9 MgC.Ha⁻¹ in moist and dry forests, respectively. Soil CS averaged 56 ± 29 and 198 ± 50 MgC.ha⁻¹ in semi-arid and humid climate areas, respectively. This research demonstrated the main factors determining the spatial distribution of CS.

Towards a Comprehensive National REDD+ Strategy: a case study in Peru and Ghana

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Forests play a key part in climate change mitigation so several tropical developing countries are preparing and looking to implement their national REDD (Reducing emissions from deforestation and forest degradation) strategies. To this end, each country needs to get “ready” identifying and assessing their weaknesses and strengths under an R-PP (REDD Readiness Preparation Proposal) following World Bank’s or UN’s guidelines. However, during the development of the R-PPs key local socio-cultural, regulatory and economic factors may be overlooked. This project is an attempt to learn on the ground how these factors can impact the implementation of a national REDD+.

Habitat Utilization Pattern Of Gaur

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Habitat Utilization Pattern of Gaur *Bos gaurus* (C.H.Smith, 1827) were studied in Nameri National Park (NNP), Assam, India ($26^{\circ}50' - 27^{\circ}02'N$ $92^{\circ}38' - 93^{\circ}00'E$) from January- December 2010 by adopting Convex-polygon method (Mohr 1947), The Kernel Method (Worton 1987) and Scan Sampling and Focal Sampling (Altmann, 1974) reveals that Gaur in NNP utilizes the different habitats as Grassland (38%), Wet Grassland (25%), Dense Forest (22%) and Wetland (15%). Thus, the conservation of grassland habitat plays a crucial role for Long-term conservation prospect for Gaur in NNP along with other Habitats.

How forestry impacts snails?

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We studied the impact of clear-cutting and artificial drainage on snails in hemiboreal forests. Using visual search and litter sieving, 11 000

individuals and 69 species were collected from 100 plots. Comparing communities in relation to management and site type revealed that snails tolerate surprisingly well non-intensive forest management - soil conditions affected land snail communities more than disturbances caused by forestry activities. After swamp forest drainage, snail community seems to become similar to communities in meso-eutrophic and eutrophic mineral-soil forests. Drained forests also host several species of conservation concern and thus are not 'lost lands' in terms of conservation.

Combining Tiger and Livelihood Conservation

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Satpuda Landscape's Tiger Reserves in central India form the country's largest continuous tiger habitat, but is surrounded by an agricultural landscape supporting millions of people. Jobless youth increasingly resort in illegal logging, hunting and grazing in protected areas, threatening tiger populations with isolation and leading to deadly human-tiger conflict. Satpuda Foundation, a local NGO, and its dedicated Employment Cell (EC) initiative addresses the issue by providing conservation-based livelihood opportunities to hundreds of youth using simple local solutions and existing community structures. Its successful conservation model has now been adopted by the Government. The EC model is described in this poster.

Impact of slash-and-burn agriculture on tropical bird communities: a case study from Ranomafana Natural Park, Madagascar

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Slash-and-burn agriculture has been identified as the biggest menace to Madagascar's tropical forests, one of the highest priority areas for avian conservation. For this study, bird communities have been sampled in rainforest and agricultural areas within and around Ranomafana Natural Park. 65 species were recorded within the study landscape and bird diversity was found to be significantly higher in rainforest transects. Species composition drastically differed between habitats and primary forest species were replaced by farm-bush and/or savannah species in agricultural areas. Our results highlight the negative impacts of tree-felling for Malagasy bird diversity and point out the more sensitive species.

Spatial model of tropical deforestation

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Tropical forests have been facing severe human pressure during the last decades due to global demand for agricultural products. As a result, emissions from land use change are the second-largest anthropogenic source of carbon dioxide. The aim of this PhD project is to develop a spatial and dynamic model of tropical deforestation, and resultant carbon emissions, for the world's humid tropical zone. This model, which incorporates time (deforestation rates) and space (spatial patterns of deforestation) intra-regional variability, will then be used to test different social-economic and climatic scenarios. Currently, a regional model for the Brazilian Amazon is being developed.

Orchards' importance for wintering birds

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Agricultural landscape of Central Europe is characterized by long-lasting traditions of orchards maintenance. However, their role for birds, especially in winter, is unclear. We counted birds in 106 orchards during winter 2009/2010 in Western Poland. Orchard management, habitat and landscape characteristics were determined. Bird species number was the highest in traditional orchards and positively related to orchard area, covers of grasslands, orchards and forests in the surroundings whereas bird abundance - to fruits number. Both dependent variables were positively affected by cover of not mown herb layer. Maintenance of large, traditional orchards and their appropriate surroundings may benefit farmland birds' conservation.

Ranging Pattern and Home range of Asian elephant in Manas National Park, Assam, India

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The endangered(IUCN) and schedule-I (WPA,1972) Asian elephant ranging pattern in the Manas National Park(MNP) , India evaluated using methods of Datye and Bhagat (1995) from 2006-2009 ; estimation were done by 100% Minimum Convex Polygon method (Mohr 1947) using GPS Locations .Asian elephant seasonal home-ranges in MNP varies from minimum of 67.69Km² during monsoon and highest of 266.98Km² during winter. Annual home range varies from 137.21-281Km² and annual core home

range from 32.77-89.61Km². The scarcity of food, water leads to larger occupant of home-range by elephant, crop-depredation, human-elephant conflict and study revealed necessity of Bhutan and India trans-boundary conservation plan.

Human-Leopard conflict in Amchang Wild Life Sanctuary.

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The Near Threatened(IUCN) and schedule-1(WPA,1972) species Leopard(*Panthera pardus*) found in Amchang Wildlife Sanctuary in outskirts of Guwahati city created leopard-human conflict. The conflict in AmchangWLS were found to occur in fringe areas where anthropogenic disturbances and habitat destruction was high. It was found that areas where natural prey was less they started depredation on domesticated livestock. The mapping of human-leopard conflict areas in Amchang WLS will help in designing and mitigating strategies in such areas. Habitat destruction mapping with GIS will help in implementing site specific habitat management and restoration programme. The anthropogenic survey evaluated disturbance factors and recommendation will help in minimizing it.

Woodland resource use and raptors: A cost-effective strategy for nest site conservation

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We present results from a participatory conservation project run in North Karelia (Finland) from the year 2000. The aim was to preserve nest sites of raptors (common buzzard, goshawk or honey buzzard) on private lands subject to intensive forest management. Almost all approached landowners showed a positive response to the project. This action significantly reduced the number of nests destroyed by forestry. The distance to a new clear-cut area had adverse effects on nest occupancy. Given its potential as a tool for cost-effective conservation, we urge to test and evaluate this approach on a wider scale.

Mapping corridors of wildlife movement within the last Intact Forest Landscape of the European temperate climate zone

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The purpose of the project conducted in the largest unfragmented wildlife habitat in Europe (the last Intact Forest Landscape in the European temperate climate zone), was to obtain data on the extent to which the proposed route of a road is being used by large mammals. The study suggests that out of 198 observations 41.2% of all signs are left by ungulates, 39.4% by small-medium sized mammals and 19.4% by large carnivores. The sampling was done by direct observations of tracks, faeces or distinctive signs. The study provided maps of existing wildlife movement corridors possible crossing points on the road.

Threatened fisheries: assessing loss of ecosystem services in the Mekong River Basin using a causal effect framework

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The Mekong River Basin (MRB) is a freshwater biodiversity hotspot whose fisheries are essential for sustaining Lower Mekong communities. Currently, natural resources and livelihoods are under threat from the planned Upper Mekong dam cascade. We used a causal-effect network of ecological, economical, and social trade-offs, to develop a suite of indicators to monitor and assess the effects of mainstream dam construction on the MRB fisheries. Monitoring changes in provisioning services is an important tool to manage conflicts arising from resource exploitation. Furthermore, such assessments help to raise public and political awareness for biodiversity and livelihoods protection in the MRB.

Himalayan high altitudes wetlands conservation

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In the lap of lofty snow-clad mountains of Himachal Pradesh in the Western Himalayas, there are myriad high altitude lakes (3000 m asl) with cool and serene water, which mirror the immense beauty of this paradise on the earth. The study revealed that these high altitude wetlands are under tremendous pressure as a result of increasing population and unregulated development activities. Major threats are climate change, tourism activity and unsustainable exploitation. Unscientific extraction of medicinal plants,

over grazing, deforestation in the catchment areas leading to erosion, absence of solid waste management system especially in view of high pressure of pilgrims, tourists and trekkers. Keeping in view the importance of high altitude wetlands and the growing threats to these wetlands, WWF initiated a conservation programme on high altitude wetlands. Initiatives have been taken by WWF-India to conserve and manage these high altitude wetlands through scientific and participatory approach focusing on, besides other things, sustainable use of wetlands resources.

Beetle diversity on managed floodplains

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While some problems related to extensive anthropogenic alterations of floodplain environments have now been recognised, a detailed understanding of their impact on biodiversity is widely lacking. Based on vegetation and beetle data collected over two years, this project compares the biodiversity of floodplains over a continuum of management regimes that typify lowland British chalk floodplains; from heavily grazed pasture to natural river-forests. Furthermore it intensively examines the complex micro-environments within a floodplain forest to improve our understanding of this rarely studied and under-conserved habitat. Such information will enable the development of a fundamental and overdue baseline for floodplain forest restoration.

Conservation genetics of Siberian pit viper (*Gloydius halys halys*) from isolated population in Novosibirsk region (West Siberia)

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Investigated population of *G. halys* is included in the Red List of Novosibirsk region due to highly limited habitats and remoteness from main range. Three local populations have been chosen for this study as model localities. Analysis of variability of six microsatellite loci has revealed the existence of the fine scale (5-11 km) genetic structure at low level between all pairs of subpopulations (F_{st} vary from 0.009 to 0.024, $p < 0.05$). Estimations of heterozygosity and inbreeding coefficients are shown no evidence for inbreeding depression. Two different tests for bottlenecks haven't found traces of historical or recent reduction in population size.

When anthropology and reintroduction meet: the case of Serra da Estrela Natural Park (Portugal).

FILIPA SOARES

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In order to reduce extinctions, reintroductions are becoming important conservation tools. Focused on IUCN guidelines, we aim to analyse the socio-cultural context of a possible reintroduction of species (*Aquila chrysaetos*, *Gyps fulvus*, *Canis lupus signatus*) in Serra da Estrela Natural Park, Portugal. Results suggest that: (i) changes in the local social context and human-predator conflicts can compromise the reintroduction; (ii) local people's support depends on the «sociozoologic scale», within which the three species are perceived as "bad". This pioneering study in Portugal can be regarded as a small contribution to highlight the importance of considering nature conservation's socio-cultural context.

Rapid Assessment of Marine Turtle Status on Cambodia's Coast.

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Little is known about nesting, status, distribution and threats to marine turtles in Cambodia. Interviews and beach surveys have recently been conducted by FFI along the coast of Cambodia to assess nesting sites and gain information from those who regularly come into contact with sea turtles. Green and hawksbill turtles were seen during the survey and were said to be foraging and dispersing through Cambodia waters regularly. Hawksbill turtle nests were also found on one of the outlying islands. There is no direct poaching in Cambodia, making the biggest threat accidental by-catch. Protection of nesting sites and by-catch reduction through awareness and monitoring is proposed.

Woodpeckers: predictive mapping and conservation

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Predictive habitat models for focal species provide effective and cost-efficient tools in conservation planning. Here we implement the maximum entropy (Maxent) approach to model the potential distribution of rare indicative woodpecker species in managed forests of North-Eastern Poland. The study revealed strong dependence of woodpeckers on certain forest characteristics, such as the uneven, old growth-like stand structure and high share of wet habitats. Such optimal conditions can be found in less than

10% of studied forests. Yet, only about 20% of these valuable habitats are protected. We recommend that all optimal woodpecker habitats should be given strict protection.

Trails of new approaches for mitigating human-elephant conflict: Case studies from Laikipia, Kenya

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Conventional approaches to human-elephant conflict (HEC) mitigation across elephant ranges in Africa and Asia are centralised, expensive and have had mixed results. A novel approach has been promoted encouraging farmers to take responsibility for elephant deterrence. However it has not been objectively tested. We conducted systematic HEC enumeration to identify study areas, trained farmers on the application of the methods and provided materials. Questionnaire survey was conducted to evaluate the uptake. Spatial and temporal analysis was conducted to evaluate performance. The effectiveness of farm-based deterrents varied among control and trial farms, due to variations in uptake among different deterrents, study sites, availability of labour and the ability of farmers to work together.

Biodiversity Conservation Patterns in Bangladesh

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Tropical ecosystems suffer from biodiversity loss due to severe anthropogenic conservation problems. This is especially true for Bangladesh experiencing with the ever-increasing population density. I question, how species richness patterns (alpha-diversity) in a tropical forest of Bangladesh relate to the conservation patterns of habitats. Methods include stratified systematic sampling, GIS technologies and multivariate statistics. Species richness considerably varies with the conservation status and significantly increased in highly conserved areas indicating the importance of nature reserves and protected areas in Bangladesh. Our approach is appropriate for future comparisons and enables to make a fruitful plan for biodiversity conservation within specific landscapes.

Identifying Challenges and Ways to Go Forward in Community Based Forest Management Program in the Phillipines

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This paper/poster outlines the experiences of the three (3) Community Based Forest Management Program (CBFMP) sites in Mindanao. Two of the CBFM sites chosen for the research are relatively small size at 600 to 1000 hectares. This is the average size of most CBFM claims in the country. The third area is the biggest claim in the entire country at fifty-nine hectares (59,000 ha.). This study was done to assess CBFM implementation in upland communities, its viability and the keys in identifying the barriers of the program's success. As a basic tool for the assessment, this paper explored major areas of CBFM experience using Focus Group Discussions (FGDs) and key informant interviews. The major areas explored are the program's processes, permit requirements and approval; the resource utilization and benefit sharing and the community efforts for forest development. The effect of RUP suspensions was also discussed and the other issues that are related to this program. The fourth part gives an analysis on the CBFMs viability within the socioeconomic and environmental context. Insights were also incorporated relative to the difference of size of claim and its impact on forest management

Marine macroalgae invasions: interactive effects of functional diversity and propagule limitation

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Diversity loss and increased rate of exotic organisms' introductions are major concerns for ecologists. We manipulated functional group diversity of intertidal macroalgae and propagule pressure of the invader in order to understand their interactive effects on marine communities' invasibility. Space and light availability were assessed per functional group treatment. Our results address invasion phases from settlement to colonization. At settlement, propagule pressure and functional group diversity interacted in their effects. Recruitment and colonization results suggest a significant relationship with resource availability. Understanding the mechanism behind community resistance to invasion is relevant for the prevention and management of introduced marine species.

Effects of tree and herb layer diversity on diversity and abundance of flies (Diptera) in Germany's largest cohesive deciduous forest

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Insect diversity generally increases with increasing plant diversity due to higher resource heterogeneity. We investigated how tree and herb layer diversity in temperate deciduous forests affect diversity and abundance of flies (Diptera), a highly abundant and ecologically important insect order. Pan trap and suction samples of Diptera were collected across a gradient of herb and tree diversity in the Hainich National Park (Germany). Herb diversity, and to a lesser extent tree diversity, positively affected Dipteran abundance. Dipteran diversity, however, was most strongly determined by the herb cover. Consequently, Dipteran communities are expected to benefit from forestry practises that maintain a diverse and well-developed herb layer.

Effects of management and disturbance gradients on a bird fauna.

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Point Count Method was employed in a transect with 200 m point (50 m radius) distance and 150 m transect interval. The count was made for 10 minutes in a point between 7 to 10:30 AM with three replications. There were large effects of disturbance gradient on bird community composition. Forest bird species were negatively associated to disturbance gradient while common species were positively associated with forest management gradient (deadwood collection). The species diversity in three types of forest (different management regimes) did not differ significantly ($p > 0.05$). The bird species diversity between edge and interior showed significant differences.

Role of indigenous culture and faith on conservation of elephant-shrews

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Indigenous Boni known to be hunters and gatherers subsist on natural resources found within their locale. In addition, majority subscribe to the Islamic faith which has stringent rules pertaining to the dietary lifestyle of its adherents. This study analyses effect of culture and faith on conservation of elephant-shrew species. Data was collected using transects, questionnaires and group discussions from six villages in Boni-Dodori

National Reserves. Results indicate a strong influence of Islamic faith on local culture in sustainable utilisation only of hooved animals (halal). This shows importance of promoting positive indigenous faith and culture in area specific biodiversity conservation strategies.

Sharing of revenues from protected areas in Ethiopia: does it foster conservation?

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Channelling revenue from protected areas to local communities is often argued to offset conservation costs and improve local attitudes toward conservation. Starting from this assumption, the regional government of southern Ethiopia is now implementing a revenue sharing (RS) regulation. On the basis of interview data, we analysed its impacts. Although respondents were positive about RS in general, they described obstacles such as the lack of awareness about the regulation at all levels, inconsistent implementation and too many participating communities as factors jeopardizing the scheme. Solutions suggested include clear and participatory procedures for identification of beneficiaries, transparency and accountability.

Evaluating a citizen science programme.

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Citizen science literature contains few examples of research concerned with evaluating psychology of volunteers and their relationship with the research programme. We sought to develop a psychometric instrument investigating different dimensions of the volunteers in the second southern African bird atlas. Correspondence analysis, factor analysis and correlations were used to develop a psychometric instrument and to test how psychology related to volunteer productivity. A logic model was produced describing the relations between volunteers and the research programme. The results provide a framework for evaluation and improve understanding of the factors motivating citizens to become involved in conservation projects.

The effect of invasive crofton weeds to native plant *Rubus ellipticus* and relative arthropod assemblage.

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Invasive species are the main factor causing loss of biodiversity. Preliminary surveys in China, indicate that the native *Rubus ellipticus* coexists with the invasive *E. adenophorum*. The sites selected for this investigation were situated in Yunnan province during 2009 and 2010. We chose a comparative approach to assess the effect of invasion by crofton weed on vegetation composition and invertebrate assemblages on *Rubus*. We found that the diversity of arthropods in invasive area is lower than the native range and some special species are higher than the natives, while *Rubus* in the invasive areas could thrive better than the natives.

Reducing biodiversity loss in China during urbanization: a case study in Northwest Beijing

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During rapid urbanization, changes in urban ecosystems and loss of biodiversity in modern city like Beijing bring problems to humans and wildlife. There are few studies of urbanization in China and limited knowledge may worsen the situation. Therefore, we studied which type of urban landscape most benefited local biodiversity. We found the diversity of fish and birds show significant differences in where different landscape designs were applied. And a new sampling method of biodiversity survey will help reducing the traditional sampling methods' negative effects to the research species in this field.

Roles of megaherbivores in community assembly

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Phylogenetic community structure has been amply documented, but how megaherbivores influence this structure is poorly understood. The main objective of this study is to investigate the impacts of megaherbivores on the phylogenetic patterns within communities. We showed that pressures from specialist megaherbivores drive underdispersion pattern while generalist pressures lead overdispersion and prevent communities from random distribution. We conclude that the interaction of generalist megaherbivores with plant communities is of great importance to ensure high resistance of the Kruger flora to change.

Notes