BioOne COMPLETE

A landscape rich in inquiries in tropical conservation science

Authors: Estrada, Alejandro, and Butler, Rhett

Source: Tropical Conservation Science, 7(2)

Published By: SAGE Publishing

URL: https://doi.org/10.1177/194008291400700212

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Tropical-Conservation-Science on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Editorial

A landscape rich in inquiries in tropical conservation science

Alejandro Estrada[1] and Rhett Butler[2]

[1]Estación de Biología Tropical Los Tuxtlas, Instituto de Biología, Universidad Nacional Autónoma de México

[2]Mongabay.com

The second issue of Tropical Conservation Science for 2014 includes one Short communication and 10 Research Articles. These papers encompass a rich landscape of conservationoriented studies conducted in the Neotropics, Africa and Southeast Asia. Below is a brief and general account of each paper in the current issue.

In their paper, **Wadey et al.**, provide first-time photographic evidence of the flat-headed cat in the Pasoh reserve in Malaysia. This feline is a very elusive mammal with a patchy distribution throughout Sumatra, Borneo, peninsular Malaysia and Thailand. Little is known about the status of its populations, and even less about its behavior and ecology.

Duque et al., discuss the carbon-centric view common to programs for reducing greenhouse gas emissions to ameliorate climate change. The authors stress that such views may, in fact, lead to extinction of some endemic epiphyte species in the tropical Andes. They point out the need for mechanisms to safeguard carbon-centric conservation strategies against possible negative effects on biodiversity.

Clément et al., argue that spatial distribution models (SDMs) are an important tool in conservation of wide ranging species. The authors used sighting records of 15 widely distributed mammals in French Guiana, including primates, carnivores, rodents and ungulates. They ran three SDMs -- based on (i) entropy, (ii) genetic algorithm and (iii) Mahalanobis distance -- to investigate relationships between species occurrence and predictive variables such as vegetation, biogeographic units, climate, and disturbance index. The authors conclude that entropy procedures resulted in more accurate projected conditions than the other two models: the accuracy of the predicted distributions was higher than 90% in nine species among the 15 tested, and predicted occurrences were correlated to field-measured abundances for nine species. Their work suggests that environmental factors that determine the densities of the species can be identified through mathematical modeling and that areas with higher densities can be predicted. They further suggest that this information can be useful in establishing new protected areas or corridors between protected areas.

Based on sightings, footprints, and feces, **Lopes Rheingantz et al.**, modelled the ocurrence of the Neotropical otter and determined that the species distribution in the Americas is

Downloaded From: https://bioone.org/journals/Tropical-Conservation-Science on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

greater than previously thought. Their estimates suggest that the best areas for Neotropical otters were regions with high average temperatures and low densities of human population. They also noted that although not specifically designed for otter conservation, protected areas have a positive impact in preservation of its populations.

Toledo-Aceves et al., studied the importance of remnant cloud forest fragments as reservoirs of tree and epiphytic bromeliad diversity in Mexico. They stress that in Mexico, about 60% of cloud forest tree species are endangered. These trees host a rich ensemble of epiphytic plants that live in their canopies and are vulnerable to disturbance and climate change. The authors emphasize that these forests are an important reservoir of both endemic tree species and bromeliad species.

Addo-Fordjour et al., investigated the impact of liana cutting on community assemblage and carbon stock of lianas in two forests treated by the Malayan Uniform System (MUS) but with different time spans of recovery (19 years old and 42 years old) in the Bukit Panchor Forest Reserve, Malaysia. An untreated primary forest was used as a control. The authors report that liana cutting caused considerable reductions in liana diversity and basal area in the 19 year-old treated forest compared to the 42 year-old treated forest and the untreated forest. Liana diversity and basal area in the 42 year-old treated forest was similar to those in the untreated forest. The authors point out that attributes of liana assemblages were restored to pre-treatment level in the 42 year-old treated forest.

In their paper **Bunting et al.**, note that conservation expeditions using volunteer researchers are growing in popularity around the world. To enhance genetic data collection in a study of the sweetgum tree, the authors used a volunteer-based conservation expedition in a tropical montane rainforest and cloud forest in Cusuco National Park, Honduras. The authors found that student volunteers were able to learn the required theory and protocols for the new technology, perform basic genetic analyses, and collect reliable data during a week-long DNA field sampling course. They stress that the sweetgum tree study shows that such work can be successfully completed in remote locations.

Ceppi and Nielsen comment that in Tanzania in East Africa, tens of millions of dollars worth of meat coming from tens of thousands of wild animals is consumed and traded each year. Looking at 10 tribes, they examined factors such as ethnicity, hunting habits, the presence of wildlife, ownership of livestock (alternate sources of animal protein), and the wealth of the population. The researchers report that 46% of 300 respondents consumed bushmeat regularly. They found that tribes residing near well protected wildlife-rich areas consume less bushmeat than people from tribes living close to poorly-protected wildlife-rich areas and that poverty is not the driver of consumption. They recommend reinforcing protection of wildlife, encouraging livestock/poultry farming, and incorporating ethnic and cultural factors in policy design to reduce the impact of bushmeat hunting.

Downloaded From: https://bioone.org/journals/Tropical-Conservation-Science on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Kosydar et al., assessed the impacts of habitat fragmentation and hunting on terrestrial mammals in the dry Chiquitano forests of Bolivia. They counted photographs taken by remote cameras and animal footprints on track-plots to calculate species richness and abundance in protected forests, contiguous forests with hunting, and fragmented forests with hunting. The authors discovered that hunting negatively impacted the abundance of nine of 17 animal populations studied (e.g. peccaries, cats, armadillos, tapirs, deer) while fragmentation had a negative impact on two populations (margay cats and red brocket deer) and a positive impact on four (foxes, agoutis, coatis, small armadillos). They report that the negative impacts found on species richness and abundances were likely due to hunting and not fragmentation. They emphasize the need to assess the potential effects of hunting when analyzing the impact of habitat fragmentation.

In his article, **Mandujano** points out that determining the number of individuals within an animal population is an essential step for their protection and management, but that in reality it is very difficult to count the total number of individuals in the population due to secretive habits, dense vegetation, and irregular topography. Mandujano reports on a novel procedure that can provide an approximation of the number of individuals in deer populations. Mandujano notes that the count of feces has been used as an index of population size, but that this index needs to be converted to an index of population density. In his paper, Mandujano presents PELLET, a semi - automated procedure in Excel® to estimate deer density (number of individuals per km^2) from deer fecal pellets.

Ngo and Hölscher investigated patterns of regeneration after logging in five rare tree species in Xuan Son National Park, northern Vietnam. After decades of logging followed by nine years of full protection, the studied species still existed as adults after logging and there was regeneration, but at low densities. The authors suggest that the potential for recovery remains, which further justifies the full protection of the study site.

Published: 23 June 2014

Copyright: © Estrada, A. and Butler, R. This is an open access paper. We use the Creative Commons Attribution 3.0 license http://creativecommons.org/licenses/by/3.0/us/ .The license permits any user to download, print out, extract, archive, and distribute the article, so long as appropriate credit is given to the authors and source of the work. The license ensures that the published article will be as widely available as possible and that your article can be included in any scientific archive. Open Access authors retain the copyrights of their papers. Open access is a property of individual works, not necessarily journals or publishers.

Cite this paper as: Estrada, A. and Butler, R. 2014. A landscape rich in inquiries in tropical conservation science. *Tropical Conservation Science* Vol.7(2):i-ii. Available online: www.tropicalconservationscience.org

Downloaded From: https://bioone.org/journals/Tropical-Conservation-Science on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use