

ABSTRACT BOOK

**27TH INTERNATIONAL
CONGRESS FOR
CONSERVATION BIOLOGY**

**4TH EUROPEAN CONGRESS
FOR CONSERVATION
BIOLOGY**



**ICCB
ECCB
2015**

**MISSION
BIODIVERSITY:
CHOOSING
NEW PATHS FOR
CONSERVATION**

**MONTPELLIER,
FRANCE
2-6 AUGUST 2015**



Society for Conservation Biology



The Society for Conservation Biology (SCB), a global society of conservation students and professionals, held in August 2015 in Montpellier, France its 27th International Congress for Conservation Biology, jointly hosted with the 4th European Congress for Conservation Biology. SCB celebrated its 30th birthday with its largest conference ever, comprised of 2063 attendees, 782 poster presentations and 943 oral presentations organized in 74 contributed sessions and 73 symposia sessions.

The theme of the conference “Mission Biodiversity: Choosing new paths for conservation” represented a response to the fact that the traditional methods for conserving biodiversity need to adapt and change to match the ever-changing nature and needs of today’s world. It emphasized that the same rapid and ongoing biophysical and societal changes our world is facing also affect

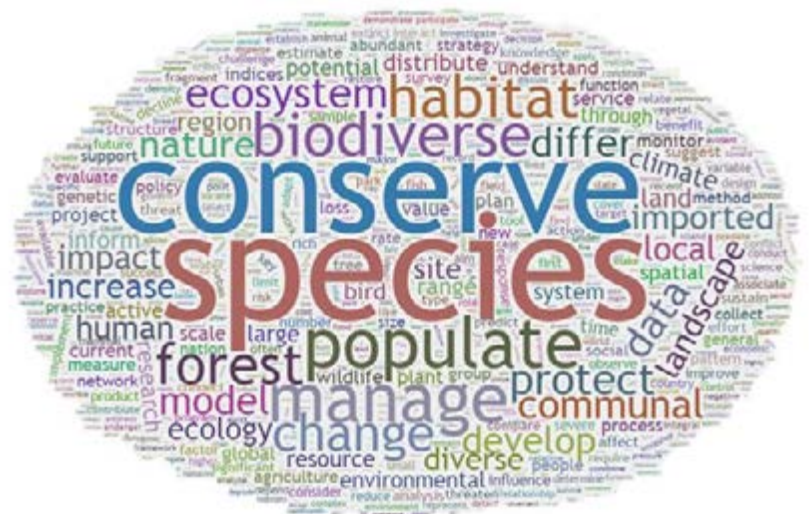
conservation science and practice.

We are asking very different questions than what we asked years ago, and using different methods to get the data we need to answer these questions. Increasingly, we work with people from different disciplines such as political science, computer science, economics, and social science, among others. We investigate different challenges that range from new pathogens and invasive species to new drivers of habitat loss such as oil palm production in West Africa to tangled socio-political issues such as the growing illegal trade of species and their parts on the internet. We are developing new methods and tools to address these challenges with on-the-ground conservation, such as using drones and new remote-sensing technology for monitoring and conservation enforcement or citizen science projects for collecting data and engaging the public. Unsurprisingly, one of the most common words in abstracts presented at ICCB-ECCB abstracts was “change.” The ICCB-ECCB 2015 theme and its scientific content, summarized in this Abstract Book, document these changes and our need to keep up with, and even anticipate them for better conservation science and practice.

ICCB-ECCB 2015 featured several presentations, workshops and training courses that provided solutions to prevent or mitigate anthropogenic threats, and celebrated several exemplary success stories through the mini-plenaries from the Society’s Distinguished Service and Early Career Conservationist awardees. ICCB-ECCB 2015 also featured an open debate starring Peter Kareiva and Clive Spash on Conservation Biology today; and how its fundamental principles and values are changing over time.

We would like to thank all participants, organizers and sponsors of ICCB-ECCB 2015 for their excellent work at the conference, and we look forward to many more conservation success stories in the coming years.

—Piero Visconti, Marit Wilkerson,
Edward Game and Raphael Mathevet



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For any queries on regards to this book of abstracts please contact Nathan Spillman nspillman@conbio.org



Society for Conservation Biology

ABOUT THE SOCIETY FOR CONSERVATION BIOLOGY

SCB is a global community of conservation professionals with members working in more than 100 countries who are dedicated to advancing the science and practice of conserving Earth's biological diversity. The Society's membership comprises a wide range of people interested in the conservation and study of biological diversity: resource managers, educators, government and private conservation workers, and students.

SCB publishes the flagship peer-reviewed journal of the field, *Conservation Biology*, and the cutting-edge online journal, *Conservation Letters*. The Society provides many benefits to its community, including local, regional, and global networking, an active conservation-policy program, and free online access to publications for members in developing countries. SCB also administers a postdoctoral program, the David H. Smith Conservation Research Fellowship Program, sponsored by the Cedar Tree Foundation.

for the management of open landscapes, the reduction of accumulated litter and for decreasing wildfire risk. On the other hand burning can lead to the encroachment of competitor and invasive species and can threaten endangered plant and animal species; thus, inappropriate burning can result in a loss of biodiversity. We reviewed the publications on the application of prescribed burning in European grasslands and also from North-America to identify findings which can be adapted to the European grassland conservation strategy. We found that not only the application of fire management is scarce in Europe but there is also a lack of published studies on this topic. European studies, contrary to the North-American practice, usually used yearly dormant-season burning, and concluded that this burning type solely is not feasible to preserve species-rich grasslands. In North-America, application of burning has a stronger historical, practical and scientific background; it is fine-tuned in terms of timing, frequency and generally combined with other measures, such as grazing, seed sowing or herbicide application. By this complex approach several nature conservation goals can be fulfilled like increasing landscape-scale heterogeneity and invasion control. For establishing fine-tuned prescribed burning management plans for European grasslands the general findings of carefully designed case-studies should be combined with the practical knowledge of conservation managers.

TO DRINK OR NOT TO DRINK? ELEPHANT MOVEMENT STRATEGIES AS SURFACE WATER AVAILABILITY DECLINES IN A SEMI-ARID SAVANNA.

Hugo Valls Fox
C.N.R.S

Hervé FRITZ, C.N.R.S; Michel DE GARINE-WICHATITSKY, CIRAD; Edwin T MAKUWE, Zimbabwe Parks and Wildlife Management Authority; Simon CHAMAILLÉ-JAMMES, C.N.R.S

Water provision for wildlife is a common practice in semi-arid savannas. Sometimes, the viability of populations in protected areas is increased by, or even depends on, this provision. In these cases the distribution in space of perennial water sources is likely crucial, but so far little is known about the water-driven movement strategies of animals: as water sources dwindle and forage depletion occurs, should individuals make long trips far away from water to obtain better foraging prospects or short trips close to water to guarantee drinking opportunities? This affects where animals will impact their environment. We analyzed GPS relocation data of elephant breeding herds during the 2013 dry season in Hwange National Park, Zimbabwe. Elephants prefer drinking at periodic time intervals every 24h, 48h and 72h. The average number of visits to water doubled from June to October due to the addition of short (about 4h) commuting trips between waterholes. As of September, 72h-trips disappeared, however the number of 48h-trips, reaching 5-8 km from water, remained constant. The

number of 24h-trips increased and they were made at higher speed. As a result, during those trips, maximum distance to water increased from 2.5 to 4km, suggesting the avoidance of depleted foraging sites located close to water. Our study confirms that there is a threshold distance beyond which elephants cannot use the landscape during the dry season, but more importantly it reveals that below this distance elephants are able to adjust their use of the environment to foraging constraints.

95 - MITIGATING THE NEGATIVE EFFECTS OF ROADS AND TRAFFIC ON WILDLIFE: HOW EFFECTIVE ARE OUR STRATEGIES?

Edgar Alexander Van Der Grift

Alterra, Wageningen UR

Marcel Pieter HUIJSER, Montana State University, Western Transportation Institute; Carme ROSELL, Minuartia / Universitat de Barcelona

Roads may result in habitat loss, movement barriers and direct mortality. In some cases wildlife population viability may be affected. Several measures are available to help reduce wildlife-vehicle collisions and restore wildlife connectivity across roads: wildlife fences, wildlife crossing structures, and warning signs activated by wildlife detection systems. However, the effectiveness of such measures is not well studied. Although some sort of monitoring is usually carried out, in many cases the methods are not optimal and they may not allow for a proper evaluation of the effectiveness of the measures. Partially based on the SAFEROAD project (www.saferoad-cedr.org), financed by CEDR, we synthesized the effectiveness of mitigation measures through literature review. We selected studies in which the mitigation measures were clearly described and that included quantitative response variables based on study designs that included a before-after comparison and/or a comparison between treatment and control sites. We deduced guidelines for monitoring based on research principles that allow for maximizing inferential strength of study designs. We present the results of our review and formulated guidelines for evaluating the effectiveness of road mitigation measures. Selected key issues in the guidelines will be illustrated through three case studies: (1) roe deer mortality before and after the construction of a wildlife overpass, showing the importance of proper selection of impact and control sites; (2) large mammal mortality at a road section with an animal detection system, showing the effect of length of the mitigated road section and the spatial precision of crash and carcass data; (3) ungulate-vehicle collisions monitoring, showing the importance of establishing proper procedures and indicators for measuring effects of mitigation and managing the conflict.

