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Policy Forums

An open, online method in science education to support conservation: the National Conference on Conservation Biology



Vinicius Cerqueira Rodrigues*, Felipe Fonseca do Carmo, Lucas Neves Perillo

Bocaina Biologia da Conservação, Belo Horizonte, MG, Brazil

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Conservation biology is a multidisciplinary science oriented to problem solving, created by merging various disciplines from the biological and social sciences. It provides concepts and tools for nature conservation by combining different approaches, bridging basic and applied sciences (Soulé, 1985; Rodrigues, 2002; Groom et al., 2006; Martins et al., 2009). Conservation science was consolidated when Michael Soulé brought together leading scientists in a series of events and publications in the 1980s (Meine, 2010; Franco, 2013).

The history of conservation science in Brazil began with the creation of four national parks in the 1930s, but only since the 1970s conservation efforts in the country started to thrive (Mittermeier et al., 2005). Fortunately, there has been an increase in the number of publications in the past 15 years (Grelle et al., 2009), and important technical manuals written in Portuguese have been published since then (Primack and Rodrigues, 2001; Cullen et al., 2004; Drummond et al., 2005; Rocha et al., 2006; Machado et al., 2008; Piratelli and Francisco, 2013). Another major milestone was the creation of the Brazilian Association of Ecological Science and Conservation

(Associação Brasileira de Ciência Ecológica e Conservação – ABECO), a scientific society that brings together professionals engaged in research, teaching, and application of ecological sciences in Brazil. Related events have also taken place, such as the Brazilian congresses on Conservation Units and Wetlands, and the National Symposium on Protected Areas.

The most important advance in terms of events about conservation science is the Brazilian Symposium on Conservation Biology, held in Goiânia in 2011, and in Sorocaba, in 2013. However, there was still a need for additional initiatives of scientific outreach about conservation biology in the Brazilian society. Therefore, our company conceived and organized an online conference to fill this gap, the National Conference on Conservation Biology (Conferência Nacional de Biologia da Conservação – CNBC). We are members of a Brazilian company called Bocaina Biologia da Conservação, which is devoted to conservation literacy, with a staff of only three people. This was an open, online scientific event whose primary objective was to promote the discussion of conservation biology. Specifically, we wanted to train and instruct students and

* Corresponding author at: Rua Senhora do Porto, 1121 Palmeiras, 30575-590 Belo Horizonte, MG, Brazil.

E-mail address: vinicius@bocaina.bio.br (V.C. Rodrigues).

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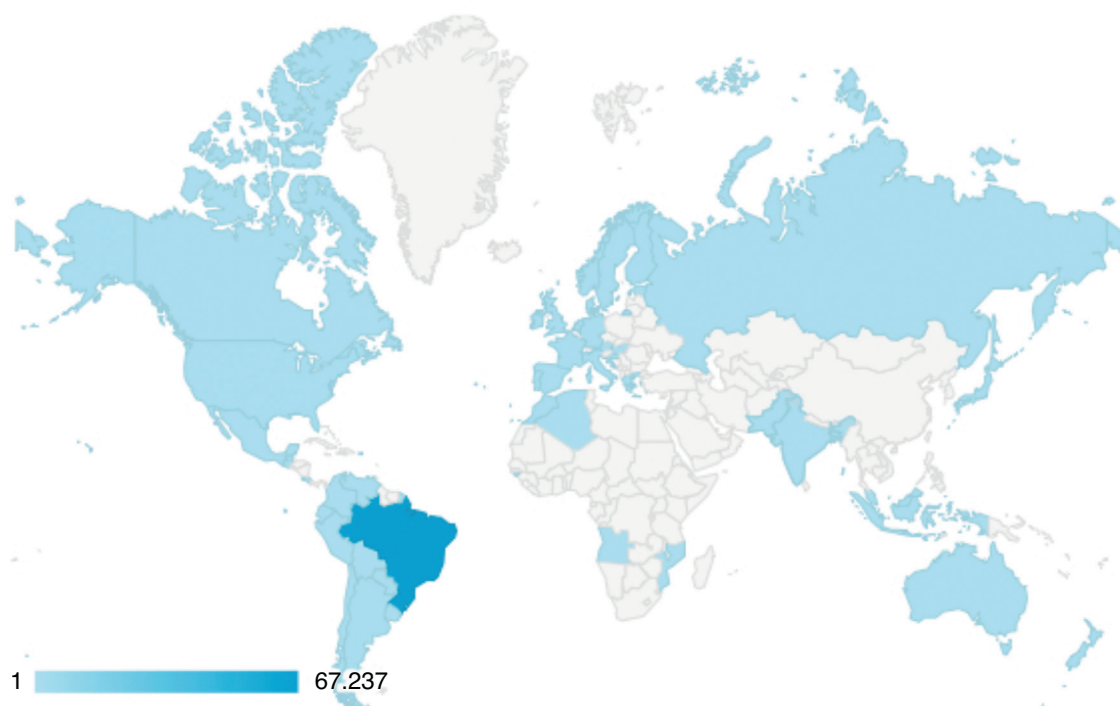


Fig. 1 – In blue, the 50 countries of origin of the total CNBC page accesses. Caption indicates the total number of hits with identified origin.

Source: Google Analytics.

professionals from several sections within conservation biology, while promoting the inclusion of the public from outside academia. The talks included recent conceptual information and basic procedures about how to make a real positive impact on the protection of nature, focusing upon the performance of institutions and professionals who have presented concrete results in conservation.

The conference occurred between 19 and 29 May 2014 on the Internet (<http://cnbc.com.br/programacao/>) and consisted of a series of 24 pre-recorded videoconferences in semi-structured interview format, with key experts in several topics of conservation biology. The topics of talks focused on primary principles for the protection and restoration of biological diversity, ecological integrity, and ecological health mentioned in the Recommended Guidelines for Conservation Literacy from the Education Committee of the Society for Conservation Biology (Trombulak et al., 2004). Aspects covered included conservation and management of species and ecosystems, research techniques and application of scientific research, legislation and political participation, environmental permitting, environmental management and restoration, protected areas, and scientific and environmental education. We invited professionals from different sectors, such as universities, museums, corporations, and non-governmental organizations, whose output was relevant to both practitioners and academic researchers. This broad arrangement enabled the discussion of both basic theoretical aspects and case studies.

The interviews were structured in two parts following a dialogical perspective of scientific communication (de Oliveira,

2007). In the first part, we asked specific questions about the area of expertise of each interviewee, focused on conceptual questions on the topics of the conferences. The second part addressed experiential, hands-on information to encourage successful conservation efforts, and pointed to errors that should be avoided by practitioners, with practical and useful guidance to early-career students and professionals (Burchard, 2011).

Based on the principles of Distance Education (Nogueira, 1996), the CNBC was conceived as a massive open online course (MOOC; Yuan et al., 2013). Thus, no requirements for participation were established. Enrollment has been done through a free double opt-in registration using a valid e-mail address. Content was broadcasted via webinars, a semi-synchronous and bidirectional communication mechanism (Santos and Rodrigues, 1999) used to transmit videoconferences from a dedicated server. This mechanism provided a favorable learning environment allowing the interaction of participants and facilitators through a questions-and-answers area (Wang and Hsu, 2008). An e-mail service was used as a support tool to send an access link to participants minutes before presentations. The only requirement to attendance was that participants needed to be connected to the Internet through a broadband service, and that they entered the room at scheduled times. An asynchronous communication mechanism was used in parallel, with the publication of the event recordings on a learning management system, in different media, including video, audio, and mind maps. This strategy allowed the full content to be permanently available to be viewed later.

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