

Introducing conservation marketing: why should the devil have all the best tunes?

The choices we make every day have created lifestyles that are a key driver of all major threats to the environment. This makes influencing human behaviour the ultimate challenge for a conservationist.

This challenge is not unique to conservation science. In the commercial sector there have been decades of research on how to influence consumers. This knowledge has not gone unnoticed in the non-profit sector, and since the 1970s social marketing (i.e. the use of marketing principles for social good) has grown in popularity. The use of marketing principles has also expanded in areas such as public health but has remained relatively scarce in biodiversity and environmental conservation.

Conservationists have largely been uneasy about relying on the same dark arts used to sell products such as cigarettes and alcohol, leaving untapped the potential of using marketing to drive the adoption of environmentally friendly behaviours. But shouldn't the ethic behind the need to conserve nature be powerful enough to drive change? In August more than 2,000 conservationists from 90 countries gathered in Montpellier, France, for the 27th International Congress of Conservation Biology, organized by the Society for Conservation Biology (SCB). Amongst the 60 symposia there was a newcomer in the social sciences: the first session dedicated to the use of marketing tools in biodiversity conservation. This session built on the success of an event at the International Marine Conservation Congress in Glasgow in 2014.

The symposium brought together academics and practitioners from the commercial and non-profit sectors to discuss how marketing can best support conservation. The topics covered were diverse, from wildlife trade and marine conservation to the use of celebrity endorsements. Our goal was to reframe what marketing means in the context of conservation, away from the perception of being a dark art and towards its adoption as a new path for more effective behaviour change. The symposium was well attended, with those present exceeding the seating capacity of the room and revealing a yet untapped interest in conservation marketing.

To address this demand and interest the Conservation Marketing and Engagement Working Group (ConsMark), which will function within the SCB, has been formed. The group defines conservation marketing as 'the ethical application of marketing strategies, concepts and techniques to influence attitudes, perceptions and behaviours of individuals, and ultimately societies, with the objective of advancing conservation goals'. ConsMark has several objectives. One is to promote the use of marketing techniques and strategies to tackle environmental issues. Another is to improve access for conservation practitioners to marketing

tools and to build capacity for their effective use. With the support of the SCB, ConsMark now has a website and a mailing list open to non-SCB members, where you can find out more about the group and its work (<http://conbio.org/groups/working-groups/conservation-marketing-working-group>).

We urge all who see the adoption of more environmentally friendly behaviours as a key to address the challenge of conserving biodiversity to join our efforts to mainstream the use of marketing tools and principles.

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Wildlife forensic science in the investigation of poaching of vicuña

Chilean authorities, with the help of the U.S. National Fish and Wildlife Forensic Laboratory, are currently developing crime scene investigation techniques and forensic protocols to combat an increase in poaching of the vicuña *Vicugna vicugna* occurring on the Andean altiplano. The techniques and protocols are being shared with other countries in the vicuña's range (Chile, Peru, Bolivia, Argentina and Ecuador).

Over 5,000 vicuñas have been killed in recent years for their valuable fur, the black market value of which is USD 100–200 per kg. The corpses of 1,823 skinned vicuñas were found in Peru and 3,289 in Bolivia during 2008–2015, 149 in Argentina during 2012–2013 and 51 in Chile during the first 4 months of 2014. An additional 337 pelts were confiscated from smugglers caught at international borders during 2014–2015. These figures are probably underestimates of losses in a problem that is increasingly difficult to monitor and control. The vicuña was on the verge of extinction in the 1960s and 1970s, mostly as a result of poaching, but recovered as a result of conservation efforts across its range. The current poaching is, however, better organized: hunters use motor vehicles and long-range firearms, and are bold enough to shoot at law enforcement officers.

Coordinated action between regulatory and law enforcement institutions in Chile has resulted in increased patrols in high-risk areas and an apparent decrease in local poaching. In addition, officials working for the National Forest Core, Agriculture and Farming Service, Chilean Police and Chilean Investigative Police, and judges, prosecutors and university professors have been trained in crime scene investigation techniques at the U.S. National Fish and Wildlife Forensic Laboratory. This has allowed Chilean

authorities to conduct crime scene investigations in the field to understand the poachers' mode of operation.

This information is not only relevant to criminal investigations but also to quantification of the impact of poaching on vicuña population dynamics and structure. Crime scene investigation uses techniques from various disciplines, including population ecology, anatomy, criminalistics and population genetics. Genotyping of individual carcasses found at a crime scene facilitates tracking of the origin of pelts seized from the black market. There is still a need, however, to develop standardized protocols for forensic entomology and taphonomy, for determining the cause of and time since death.

The study of vicuña carcasses with crime scene investigation techniques was discussed at the XVIII Reunión Técnica del Convenio de la Vicuña held in Chile on the 22 September 2015, at which international delegates promised full cooperation and support to control poaching. Delegates also pledged to participate in the crime scene investigation workshops that will be led by Chilean officials trained in crime scene investigation techniques. This will be the first time that such strategies, protocols and international cooperation have been implemented in Latin America, where wildlife forensic science is still in its infancy.

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Capacity building to conserve African otters

There are 13 species of otter, 12 of which are known to be declining. In Africa otters are often overlooked, with attention directed towards other, high-profile, mammal species. There are three otter species in sub-Saharan Africa: the spotted-necked *Hydrictis maculicollis* (formerly *Lutra maculicollis*), African clawless *Aonyx capensis* and Congo clawless *Aonyx congicus* otters. In 2015 all three species were

categorized as Near Threatened on the IUCN Red List of Threatened Species. The assessment process highlighted the lack of recent information, with much data over 25 years old.

Many of the issues facing otters, such as habitat loss, pollution, climate change and problems driven by poverty, are common to other species. Otters also face conflict with fishermen and are hunted for fur and for use in traditional medicine. But the main problem for otter conservation is lack of awareness and the resultant paucity of funding available for research, education and conservation.

During 20–25 July 2015 the International Otter Survival Fund organized the first Pan-African training workshop at the College of Wildlife Management, Mweka, Tanzania. The aim was to train participants in field techniques, public awareness programmes, law enforcement and general conservation issues, through classroom studies, discussion and practical field work. Participants came from Benin, The Gambia, Ghana, Democratic Republic of Congo (DRC), Ethiopia, Kenya, Malawi, Rwanda, South Africa and Tanzania. Some attendees were already working with otters through research or community work, as park rangers or ecologists or in associated fields such as wetland protection.

During the workshop Rita Chapman, Lubama Delphin Kumbi and Mubuma Chico Lunko from DRC gave a presentation about the rescue, rearing and release during 2010–2012 of two Congo clawless otter cubs. These otters became ambassadors for the Kikongo Otter Sanctuary in DRC, which is dedicated to conserving otters and raising awareness in the local community. These experiences provided insights into how to work with communities who may encounter impacts of otters on fishing.

The workshop identified long- and short-term goals for future work. As research alone is not conservation yet all programmes must be founded on sound scientific data, the workshop identified four goals: (1) develop projects to gather data on otter distribution, behaviour and threats, (2) share such data and experience through an active African otter network, (3) develop education material appropriate to community needs that can also be shared through the network, and (4) use social media to generate more awareness of otters and their importance in ecosystems.

To improve public awareness a Facebook page (www.facebook.com/AfricanOtter1?fref=ts) has been established for posting photographs of African otters and their signs, with a link to a confidential form for more detailed location information. The page is linked to the website of the International Otter Survival Fund (www.otter.org) and to the African Otter Outreach Project (www.facebook.com/pages/African-Otter-Outreach-Project/181450325232204?fref=ts). An invitation-only online forum has been created for people to share experiences and to seek help and share education tools, and a second African Otter Workshop is