

# The Culture of Conservation Biologists: Show Me the Hope!

RONALD R. SWAISGOOD AND JAMES K. SHEPPARD

*We contend that there is a continuing culture of hopelessness among conservation biologists, one that will affect whom we recruit to academic halls of conservation science, and that will influence our ability to mobilize conservation action among the general public. We explore the repercussions of hopelessness for the field of conservation biology and challenge conservation scientists to better balance realism with hope. People must believe that their actions make a difference. Although others have suggested a need for hope, conservation biologists have not yet found an effective way to address this continuing problem. We advocate for the establishment of professional rituals that force us to regularly confront despair and seek out the positive, even when things take a turn for the worse. These measures may seem drastic, but history proves this wrong: Unless we are reminded, we conservationists are stingy with our hope.*

**Keywords:** conservation biology, hope, pessimism, conservation psychology, education

**I**n recent years we have noticed a worrisome trend among our colleagues in conservation biology: a continuing culture of despair. This culture manifests particularly in conference presentations, most recently at the 2009 annual conference of the Society for Conservation Biology in Beijing. Many young, emerging conservation biologists could be heard questioning, “Where’s the hope?” and expressing despair at the gloominess of many presentations and discussions. This is not a novel problem. The wider implications of conservation despair have been explored previously (e.g., Beever 2000, Orr 2004, 2007, Webb 2005). Unfortunately, previous dialogue on this topic has not been especially effective. How do we make hope routine when we regularly deal with so many hope-challenged scenarios? If we do not embrace hope, we risk falling into the vicious cycle of “learned helplessness.” Decades ago, Martin Seligman discovered that dogs conditioned to inescapable electric shock did nothing but cower when signaled that another shock was coming (Seligman et al. 1968). Even when dogs could turn off the shock, they failed to learn how to do so, choosing instead to sit and suffer quietly. If we wish to do more than complain and whimper about the current state of affairs, we will need to (re-)learn that our actions do make a difference: We turned on the shock, we can turn it back off.

## The ramifications of pervasive conservation pessimism

There are more want-to-be-conservation biologists than there are positions, so why is it a problem that we discourage

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*O star-eyed Science, hast thou  
wander'd there, To waft us home  
the message of despair? —  
Thomas Campbell*

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passionate young scientists? “Are you bummed out by the message? Yes? Well, then you just failed the entrance exam to the academic halls of conservation.” One reason to worry is that those who pass such an “entrance exam” will not be a balanced sample of personality types. We might end up with our ranks populated exclusively by pessimistic scientists, content to complain about the inevitable stupidity of humanity on the path to self-destruction. Alternatively, a profession dominated by despair may select for recruits with the tenacity and commitment to tackle problems that at first seem insurmountable. Although this may be admirable, we stand to miss out on some important, and different, contributions that could be made by those who might turn away from a profession too dominated by despair. Let us draw an analogy from

evolutionary biology. Populations of animals comprise an array of behavioral types, each with its own set of response probabilities to environmental variables: For example, bold animals behave in predictably different ways from shy individuals (Sih et al. 2004). A functional population, capable of meeting all its various environmental challenges, needs all types; if some types are eliminated, the population may not be able to adapt to all future contingencies (McDougall et al. 2006, Watters and Meehan 2007). So, too, might a population of conservation biologists composed only of gloom-and-doom temperaments be ill equipped to meet the conservation challenges we face.

If conservation biologists are pessimists, who, then, will inspire the masses to follow us in our endeavor to save

nature from humanity? What words will a conservation pessimist utter into a CNN microphone, and what messages will find their way into *Time* magazine? A society that is habituated to the urgency of environmental destruction by a constant stream of dire messages from scientists and the media will require bigger and bigger hits of catastrophe to be spurred to action, and ultimately will give up hope that anything can be done. People will learn that they are helpless. How we frame our conservation messages determines whether they effect change in the target audience (Saunders et al. 2006). Is it such a stretch to suggest that how we present our ideas, our findings, and our conclusions also affects the actions of conservation biologists?

The risks of forsaking hope are significant. Take the case of the well-placed fears of our colleague, Steve Amstrup, the senior scientist heading up the polar bear program for the US Geological Survey. The polar bear is an icon of climate change. Although it faces some of the most dire predictions for population collapse (Stirling and Derocher 2007, Courtland 2008), a combination of northern refugia, public action to mitigate the effects of the climate change, and scientifically guided stewardship of the downsized remnant populations gives cause for hope (Owen and Swaisgood 2008). Cultivating such hope for one of the most bleak conservation scenarios is essential, as Amstrup discovered late one sleepless night. He had been struggling with the dawning realization that the dire prognosis for polar bears that he and coworkers had issued (e.g., Amstrup et al. 2008, Regehr et al. 2010) had been perceived by the general public as a prediction of unavoidable doom for the species. He fired off a passionate e-mail to his colleagues, making a plea for hope. We quote some of this e-mail (with his permission) below:

“Clearly, the implications for polar bears, from the documents we just prepared, are sobering. Just as clear, however, is that how the message is... [conveyed] to the public and hence to policy makers will be critical to the so what of the impact of global warming induced loss of sea ice on polar bears. I was much chagrined by the first flurry of reports in the media covering the release of our information. The take home message seemed to be that polar bears are going to disappear and there is nothing we can do about it.”

Further along, Amstrup writes: “I am also sure that if the general public thinks nothing can be done, THEN NOTHING WILL BE DONE!” Amstrup went on to argue that because climate change is caused by humans, humans have the ability to do something about it. He concluded: “I much prefer the concept of presenting the prognosis for polar bears in a way that emphasizes that there is hope if we do the right things” (Steven C. Amstrup, US Geological Survey, Alaska Science Center, Anchorage, personal communication, 9 September 2009). Yes, we must do the right things, but we also hope that more conservation biologists will have similar late-night epiphanies.

### Striking the right balance between hope and reality

Of course, we will always have to report the hard facts of wildlife population decline, habitat destruction, and fragmentation. This is surely one of our core duties as conservation biologists. In an age of great obfuscation of information by the media, corporations, and politics, we should never shy from disseminating the truth about the state of nature as widely as possible. Nevertheless, our field has arguably become one of the most depressing sciences. While we conservation biologists are reporting the rapid extinction rates of species, nuclear physicists are reporting the exciting discovery of new quantum particles. While we try to raise the public profile of habitat destruction and warn of an Earth made depauperate by climate change, astronomers are uploading images of glorious vistas of pristine new worlds, beamed back from intrepid probes and space telescopes. Orr (2007) cautions that a positive spin on conservation issues can detract from efforts by scientists to help society face uncomfortable realities. We certainly agree. However, we also maintain that conservation biology needs to strike the right balance between reporting the negative impacts of human activities on natural systems and presenting the hope—the stories about the often fantastic progress we are making in understanding, preserving, and managing ecosystems.

These are the stories that inspire and encourage, that lift our spirits and justify our efforts: the exhausted field biologist braving malaria and bandits to gain a new understanding of tiger habitat preference, the conservation nongovernmental organization (NGO) battling government bureaucratic inertia to win new habitat protection legislation, the establishment of a new population of soaring California condors where a few years ago the skies were empty. The senior author of this article recently co-organized a symposium on conservation science for giant pandas and their habitat and found that despite the monumental obstacles facing this critically endangered species, hope is renewed in the recent flurry of scientific activity supporting conservation, coupled with some key visionary policies crafted by the Chinese government (Swaisgood 2010). It is hoped that reporting on these recent advancements will catalyze more efforts for this species, as well as other species facing similarly daunting prospects.

The gloom-and-doom niche in conservation is well occupied, and its message will resonate with only a small proportion of the public we are trying to spur to action. By contrast, the hope niche is relatively open, despite recent improvements in more hopeful messaging by many conservation NGOs. There is an evolutionary landscape poised for the adaptive radiation of new and more hopeful conservation NGOs. Zoos of the future are well situated to occupy this niche (Swaisgood 2009). As employees of a zoo adopting conservation as a priority, we are privy to a different and more hopeful perspective. We conduct fieldwork with some of the most endangered species on the planet (giant pandas, California condors, black rhinoceroses, and

mountain yellow-legged frogs, to name a few). The news is not always good for these species, forcing us to engage in a great deal of introspection: What are we doing, tinkering around the edges, fiddling while Rome burns? We have to reinvent hope each day, which makes this struggle for positivity a familiar one. Zoos have become trusted sources of information for the public (Reading and Miller 2007) and have a long history of putting a positive spin on their conservation work. Of course, we must also resist the temptation to overreport or, worse, exaggerate claims of success. Here, zoos have sometimes been at fault, painting overly optimistic pictures of the contributions of captive breeding and reintroduction—important conservation tools, but ones that are fraught with difficulty (Swaigood 2009, 2010). Zoos should not be allowed to corner the market on hope: There is room for many more hopeful conservation NGOs and governmental organizations. Could hope be infectious? We hope so.

### Solutions to despair in conservation science

Others have made similar pleas for hope. Yet still we conservation biologists are compelled to paint it black. What is the solution? Orr (2004) outlined some possibilities: blissful ignorance, poorly placed confidence in new “gee-whiz” technology, and stoic resignation—all of which he dismissed in favor of a “comic” strategy that realizes our failings as human beings and encourages unity with nature. Webb (2005), on the other hand, advocated a sort of come-to-Jesus powwow, where jaded conservationists can meet, share, and soul search.

We suggest another answer is “structured” hope. Becoming hopeful, like becoming happy, requires practice. We might all learn something from the most popular course Harvard University has ever offered: Tal Ben-Shahar’s class on “positive psychology.” In his book *Happier*, Ben-Shahar (2007) urges us to schedule activities and cultivate rituals that make us happy. These same building blocks can be used to assemble hopefulness. Let us build hope into some of those practices that define us as scientists and are our primary mechanisms of communication: peer-reviewed publications and conference presentations. These ritualistic communications could serve to remind the audience (typically other conservation biologists), and indeed ourselves, that we can do something to address even the direst situations. We should strive to build rituals into this process, creating requirements that force us to think more positively about how to act.

It will take some time, effort, and creative energy to initiate new rituals that cultivate hope in the conservation community. We offer a few suggestions here to get the ball rolling. We start with conferences, those venues where great numbers of conservation scientists gather and, therefore, influence one another’s thinking. Preconference, we could engineer Web software to include a character-delimited field where the author must state how the presentation will offer hope—call it “field of hopes.” Conservation leaders could take up the mantle, organizing special symposia

focusing on new developments that inspire hope. Many conferences offer workshops targeting new recruits to the discipline; topics include how to get a paper published, new technologies available to the discipline, and so forth. Why not make standard a workshop addressing the importance of maintaining hope, with some tangible actions that can help emerging scientists realize this goal? Webb’s (2005) suggestion for open-forum hope support groups could also become institutionalized into conference agenda. Conservation-oriented journals could also implement practices to encourage authors to address hope in a more reliable (and ritualistic) fashion. Journals’ instructions for contributors could school would-be authors in the language of hope. Guidelines could suggest, or require, that the final paragraph address not just conservation implications but also how the work offers hope for a better future. Authors should be encouraged to spell out how the research or ideas presented may help solve conservation problems, or at least emphasize the next action steps that could put us on a path to a rosier scenario for the animals and plants we study. To work, practices such as these must become long-standing rituals, not one-time events; the battle against despair will continue as long as we face severe threats to nature and biodiversity—that is, forever.

If we are to modify how we communicate, both to the public and to each other, conservation biologists may need to adjust their attitudes outside of publication and presentation venues. A time-tested way to alter attitudes and inspire hope is to spend time in nature. Perhaps, as Webb (2005) suggests, we can seek a remnant patch of pristine forest and find psychological restoration even in the absence of ecological restoration. As meticulously documented by Richard Louv (2005) in *Last Child in the Woods*, time in nature awakens the spirit, sharpens the mind, cultivates creativity, and is our best chance for hope in future environmentalism. Although Edward Abbey and others long ago championed the need for humanity to get out in nature, today we still face an unprecedented disconnect from the natural world, especially among the new generation.

Even ecologists and conservation biologists in academia are finding less time to spend in nature, driven in part by the current “publish or perish” and funding environment, which favors the relatively less-time-intensive production of mathematical models over long-term ecological research (Swaigood et al. 2010). Indeed, many fear that field stations may be a dying institution, a trend acknowledged by the National Science Foundation’s creation of a grant program for field stations, and this journal’s creation of a manuscript category primarily to discuss the merits of field stations (e.g., Hodder 2009, Wyman et al. 2009). Maybe we should spend a little less time analyzing data and writing models and spend more time rediscovering the childhood joy in nature that brought us here in the first place. Time in nature could be the antidote to pessimism, and maybe this is a ritual we need to cultivate. We need to encourage greater participation in outdoor

education, hold brainstorming sessions outdoors, devote more time to outdoor research, and visit our colleagues' field research sites (with the additional benefit of greater collaboration and synergy).

We offer these suggestions, and call on others to add more, because we believe we cannot fix how we communicate to the wider public until we first address how we communicate among our fellow colleagues, and how we actually think and feel about what we are trying to do as professional conservation scientists. In addition to internal reevaluation, we should reinvent how we communicate with the public. Hope could become the topic of a regular featured article in a popular magazine. Hope blogs? Hope press releases?

These measures may seem drastic—even silly—but history proves this wrong: Unless we are reminded, we conservationists are stingy with our hope.

### Reaching out to the general public: Lessons learned from conservation psychology

Fortunately, a small but growing group of psychologists is beginning to tackle issues such as these in the emerging discipline of conservation psychology (Saunders et al. 2006, Clayton and Myers 2009, Verbeek 2009). Paying close attention to this important work could, and should, shape how we interact with the larger public. Conservation psychology equips us with better tools for effecting change in human behavior, including the behavior of conservation biologists. Conservationists have, for the most part, used their gut instincts, rather than an empirical understanding of human behavior, to attempt to reshape human culture.

What lessons can conservation biologists glean from the findings of conservation psychologists? Among other benefits, studies show that cultivating hope is a critical element for motivating behavioral change in most people (Clayton and Myers 2009). While justifiably acknowledging that psychology cannot offer a one-size-fits-all approach to individuals who inherently vary in motivation and temperament, Clayton and Myers make a strong case, theoretically and empirically, for several generalizations. We know, for example, that when we create confident expectations for future success, effort will increase. By contrast, low expectations (i.e., lack of hope) robustly predict giving up: If people expect little improvement they will invest little effort into achieving it. Attributing our current environmental predicament to inevitable factors, such as human greed or large, amorphous, multinational companies, is commonplace among environmentalists, but this habit may be counterproductive.

Another emergent concept is that to “own” conservation problems, people must believe they can exercise some control over the situation—in effect, they must believe they are empowered to make a difference. These findings lead to the inevitable conclusion that people need to feel their contributions are desired and valued. This raises the possibility of another powerful yet underused tool that conservation biologists can employ: citizen science. As Schwartz (2006,

p. 1551) astutely observed, “There is no greater way to get people to internalize a biodiversity ethic than to have them participate in ecological stewardship.” If we conservation biologists really want to make a difference, as opposed to just documenting decline, then we must strive to engage the larger public in the process of conservation science. Having citizens invest in our science may have additional but important byproducts: Witnessing hope rekindled in the eyes of our disciples may recultivate hope in those of us fighting the loss of biodiversity in the trenches.

### Conclusions

Are we naive to believe that establishing rituals, following the insights from human psychological theories, and including the public in our research will be enough to slow the decline of our environment? Perhaps, but what is our alternative? If we are not convinced we can make a difference and work to make that a reality, then we are working for a paycheck, not a cause. However, we characterize our philosophy as hopeful, which is not the same as optimistic (*sensu* Clayton and Myers 2009). We do not believe that the environmental crisis can be averted (optimism), but we do believe that even in a dramatically altered world we can find meaning and a place for nature (hope).

If conservation is to prevail and endure, we will need to marshal our forces with equal doses of realism and hope. We cannot have empty hope, but we must call upon all to act, and in some cases, sacrifice. We need to be more like Winston Churchill, who challenged his countrymen to expend copious quantities of “blood, toil, tears, and sweat” to combat the Nazi peril (Orr 2004). When Churchill issued this challenge, there was little doubt that he had hope that the war could be won. As he saw it, “Success consists of going from failure to failure without loss of enthusiasm.” Conservation biology is now a well-established and rapidly expanding scientific discipline, so we have a pretty good grasp of reality. Today, when things are taking a turn for the worse, we need hope more than ever.

### Acknowledgments

We gratefully acknowledge the following for their insightful reviews of earlier versions of this manuscript: Russel Van Horn, Megan Owen, Debra Shier, Ben Charlton, and Richard Louv.

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Ronald R. Swaisgood ([rsaisgood@sandiegozoo.org](mailto:rsaisgood@sandiegozoo.org)) is the director of the Applied Animal Ecology Division, and James K. Sheppard ([jsheppard@sandiegozoo.org](mailto:jsheppard@sandiegozoo.org)) is a postdoctoral fellow, at the San Diego Zoo's Institute for Conservation Research.

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