Engineering Hope

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I'm a pessimist of the intellect, but an optimist of the will.

Antonio Gramsci

The rapidly deteriorating forest environment in Indonesia has been highlighted in a cluster of recent papers (Curran et al. 1999; Holmes 2000; Jepson et al. 2001; Curran et al. 2004; Fuller et al. 2004), and it is likely that the next ten years will see the degradation of all remaining lowland forest and the extreme fragmentation of upland forest. The number of species that will be lost forever is unknown but is sure to be great. On a more personal level, the field station where I have worked over the past 15 years was recently occupied by illegal loggers and nearby trees were felled. Many readers no doubt can cite similar destruction elsewhere and have similar personal stories.

In the face of such crushing reality, how can we continue to work as conservationists? Hope is fundamentally about willing what we care for to come to pass, and at an unspoken level many of us desire the total cessation of destruction of tropical forests and their restoration to former magnificence. Yet if we proceed in holding on to this hopeless dream our path will be one of despair and bitterness. Instead, what we need is a renewed basis for hope that will carry us forward into continued action.

The field of conservation biology is in a unique position: in a world of increasing human health, wealth, and technological capacity, few other disciplines are waging losing wars. The finding of new hope is therefore also fundamental to the healthy functioning of our community of researchers and activists. Why then is there so little public talk of strategies for finding hope? Prior to David Orr's recent article (2004), there had been only one paper in this journal with *hope* in the title (Putz 1993). Among popular books on environment and nature, few deal with finding hope amidst the "end of nature" (but see Meadows et al. 1992; McKibben 1995; AtKisson 1999; Goodall & Berman 1999; Suzuki et al. 2003). Even among fellow conservationists hope is seldom discussed except with one's closest friends. Although one's deepest motivation is clearly a private issue, we all need encouragement. One after another, Western conservation workers are leaving Indonesia, partly for want of encouragement. On a recent visit I was dismayed to encounter rising despair among talented Indonesian conservationists.

Perhaps the time has come for a more audible discussion of hope within the conservation community. We need meetings where the perpetual liturgy of sad facts and hand-wringing about nature is temporarily banned. We might even imagine retreats for burned-out conservationists that focus on the renewal of hope, just as faith-based organizations meet frequently for mutual encouragement. Orr's paper (2004) has opened this discussion. In it he suggests that in the face of the near-certain devastation of nature in the coming decades, hope is to be best found in adopting an attitude of comic heroism, celebrating life, "fitting in" with the natural world, and trimming our "sails of ambition." He ends with a concise statement of the way forward for our hearts: "Hope, real hope, comes from doing the things before us that need to be done in the spirit of thankfulness and celebration, without worrying about whether we will win or lose."

But how do we make such a transition happen, from tragic martyrdom to comic heroism? How do we find cause for celebration and joy in the face of so much bad news? Surely not with ease! Like Buddhist students trying to attain a state of nonattachment, we need methods and disciplines. We must make hope happen, managing and renewing it, rather than just waiting for it to find us. In the context of my own confrontation with despair for Indonesia's forests, I have been trying to chart such a pragmatic course of mental action. I offer below some elements of this personal strategy in the hope that others might find it useful and that it might stimulate further discussion. The elements include recognizing our mourning, forgiving, identifying realistic hopes, adjusting expectations, and speaking our minds.

Though we may not identify it as such, many of us are experiencing a state of mourning: the vast forests of wonder we first encountered have all but gone. This is the root of our heavyheartedness, which is not so much fear of the future as knowledge of loss. Recognizing our mourning as such may help us to deal with it, using all the

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resources humans have accrued to deal with personal loss and death. In this way we can celebrate the thousands of hectares of forest that are no more, and then move on, rather than carrying their ghost around inside us.

The current losses sustained by nature are not random catastrophes, like the meteor that may have precipitated the last mass extinction, but have been suffered at the hands of humans. To the extent that we identify with nature's losses, we feel anger at humanity in general and at the illegal loggers, timber barons, and mindless consumers in particular. And we know we are also to blame with our wealthy lifestyles. Of course, anger is useful as a source of energy, but it should be a righteous anger at the indignities suffered by nature, not a hateful anger against people we do not know, which only damages the angered. Forgiving others, and ourselves, is the only way to let this anger go, hard though it is to forgive. Such forgiveness and understanding also rehumanizes the "enemy" and permits the development of creative solutions that recognize the human motivations behind acts of destruction. As readers of this journal, we are more educated and aware of global environmental trends than most humans and must remind ourselves that this is not the result of any innate or superior capabilities, but of opportunities we have been fortunate to have.

Locating realistic hope is perhaps the most daunting challenge to combating conservation despair because of the apparent fixedness of the current trajectory of environmental decline. But there is hope out there. First, hope may be found by some people in the capacity of nature to heal itself. The ultimate hope for biodiversity comes from the regenerative power of evolution itself. Even if we were to reduce the world's biota to a handful of weedy species, in 100 million years there would probably again be an abundance of forms evolved from those few species. This potential, although wonderful in the abstract, is too slow to be a truly meaningful source of hope. A restorative power of nature on a more human time scale is the capacity of forests to regenerate. The temples of Angkor Wat in Cambodia were built a thousand years ago on an empty plain but were rediscovered last century deep in mature forest. Large areas of Borneo that are now forest were savannah 10,000 years ago. Indeed, most of the forests we value have probably been affected by humans at some time in the past. We should therefore hope to preserve enough small patches of forest to permit forest re-expansion at some time in the future, when political and economic circumstances place a higher value on multispecies forest as a landscape option than they currently do.

Second, although it may seem at times that the hearts of all humans are driven solely by the acquisition of material wealth, there are many, many wonderful people working to avert the train wreck of nature we are heading toward. We just do not know enough of them personally. But at important times in history individuals have often come together as movements, finding in networked numbers the strength even to topple governments. In Indonesia in 1998, it was largely an Internet-connected student movement that persuaded Suharto to step down. True, most movements in history have coalesced to promote the needs and rights of the individuals that formed them, but perhaps the time is close when people will demonstrate in great numbers for both the rights of humans and the rights of members of larger circles, the trees and the biosphere.

Many people find hope in the young, who have not yet become fixed in their acceptance of materialistic values. In Indonesia great numbers of children belong to *pecinta alam* (nature-lover) clubs. Most members eventually seem to grow out of their active involvement in such clubs and nongovernmental organizations, as they face the challenges of making a living in a poor country, but I suggest that most will remember their participation fondly and be receptive to arguments that place some inherent value on nature. It is unrealistic to expect people to identify with the needs of nature who have never encountered it. As the populations of cities continue to swell, increasing numbers of people have never been in a real forest. Perhaps our most effective mission as conservation biologists is simply to introduce people to nature, to teach them about a few species, so they can know what biodiversity really *is*.

Although our hearts may wish for a return to an imagined prehuman state, we must learn to adjust our expectations downward to take into account current realities (Rosenzweig 2003). For example, let us hope for the preservation of 500,000 ha (1%), or even 5000 ha, of truly protected forest in Kalimantan, rather than hoping for a return to the 50,000,000 ha of forest primeval. Let us work with local people for the protection of their forest gardens or orchards (e.g., the *tembawang* of the Dayaks), which can contain as many plant species as an unmanipulated forest. Let us push for the restoration of a mixture both of fruit trees and of less-useful forest species in the areas where oil palm plantation schemes have failed. It is a blessing that our physical senses have limited spatial range. I was recently standing on a ridge in Borneo in a patch of forest that extended only 200 m in any direction, but I could not be sure I was not in a vast forest. If we relax our minds, forgetting temporarily that a patch is small, we can experience again the sense of wonder and desire to understand what we have at hand. These patches are the future of tropical rain forest, so let us treasure them, rather than seeing them as the dregs.

There is also a difference between what we hope will come to pass and what we ourselves can hope to achieve. Part of the weight of despair experienced in Indonesian nature conservation today is the knowledge that, as an individual, especially if a foreigner, one can do little to influence the fate of the forest. Here, perhaps the only strategy for finding hope is again to willfully restrict one's

spatial and temporal vision to the here and now. Our capacity to foresee the long-term effects of our own actions is limited. We must focus less on the ends and more on the means. To plant a single tree is a positive step that results in a forest that is one tree larger than it would be had we not acted. To help a single student become fascinated with aspects of nature is to add one to those who do care in some small way about the biosphere's future. Even if we are skeptical about the capacity for public opinion and international relations to effect change at local levels, we are still acting positively by becoming recorders of the demise of nature and sounding alarms in the popular media. Although this focus on the here and now may appear contrived in the light of our global crisis, it is only reiterating what all the world's great philosophies agree on: worrying about tomorrow and about things we have no control over is not helpful.

Finally, perhaps the healthiest thing we can do for our peace of mind is to speak our mind. For reasons we cannot fully understand, we have an emotional tie to natural places and species: we value them for just being. And yet many of us have been acculturated to present only utilitarian arguments for their preservation. We extol the importance of sustainable logging, ecotourism, watershed protection, and biopharmaceutical research. It is true that money talks and that there is a place for assessing the monetary impact of environmental degradation, but if this is the only way we express value of nature, then we are misrepresenting ourselves and missing the opportunity to convince by the strength of our conviction. Perhaps the time has come to stand up and speak our minds clearly, especially because most anthropocentric, utilitarian approaches have failed to slow the destruction of the forest, at least in Indonesia. Nature is not a luxury. The nonhuman world has rights. Conservation is an ethical stance. True, humans have rights, and these will often clash with the rights of nature, but let us at least talk about this conflict. Obviously, arguing for the rights of nature is not new (Naess 1973), but it has seldom been the stance of academic biologists, although this appears to be changing.

There is a fine line between engineering a new hope and engaging in self-deceit. Today's natural world might be said to be in an objectively hopeless state, which no amount of mental gymnastics will change. However, as emotional animals that are only truly satisfied and joyous when acting on our passions, often in opposition to our reason, we need sometimes to knowingly manufacture new outlooks that help us act positively. After all, nearly all beliefs about our place in the world contain elements of self-delusion. Despair and cynicism are not friends of nature. They prevent us from succeeding at what many of us have always wanted from the start: to make a difference. We need to move beyond mourning, create a renewed hope, and share it among ourselves.

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