The Roles of Optimism in Conservation Biology

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If ecologists "live in a world of wounds" (Leopold 1949), then conservation biologists could be said to perform triage daily in a ward full of chronically hemorrhaging patients. In the two decades since its inception, the crisis discipline of conservation biology has reacted to a neverending onslaught of threats. In the face of escalating rates of overharvest, habitat degradation and conversion, spread of exotic species, and exponential growth of the human population, it seems inevitable that we as conservation biologists and managers should become increasingly jaded and pessimistic as our careers advance. Nevertheless, I challenge us instead to adopt a positive outlook in our work.

An optimistic attitude should increase the conservation biologist's ability to initiate and sustain collaborations with colleagues, as few professionals choose to work with consistently pessimistic individuals. As conservation and management strategies incorporate broader spatial scales, where professionals with different training, paradigms, legislative mandates, and jargon come together, truly collaborative effort becomes a necessity. Consequently, an overly skeptical perspective may result in missed opportunities to create revolutionary ideas, develop new methods, or formulate new questions.

We conservation biologists should foster optimism in professional life also because the success of conservation efforts depends on how we are perceived by decision-makers and the public at large. Although we must alert these groups to impending ecological challenges, we must also give them reasons for hope. If we do not, resistance to conservation biology and a negative perception of its practitioners could marginalize our efforts at all scales.

In addition to advantages that optimism conveys professionally, it also may have tangible personal benefits. Individuals espousing a positive worldview are consistently more effective than those with a negative operating paradigm (Stone & Hill 1960, reviewed in Oettingen 1996). Optimism correlates with improved performance of real-world tasks and performance in classes and helps prevent the development of distress, anxiety, and other health problems (Aydin & Tezer 1991; Lee et al. 1993). An optimistic mentality may help us maintain sanity and avoid apathy or misanthropy when confronted with unending onslaughts to biotic diversity.

Optimism is particularly crucial in conservation education, outreach activities, and policy. Finger (1991) compared the ability of three strategies, scare tactics, informational, and experiential, to transmit and activate ecological knowledge among Swiss adults. He found that scare tactics were least effective in imparting ecological knowledge, and adults receiving this "treatment" were later least likely to retain learned principles and translate these into "environmental behavior" (Finger 1991). Optimism-inspired educational strategies include heralding past achievements of conservationists (e.g., Aldo Leopold or Rachel Carson) and highlighting the financial and other benefits gained by integrating conservation philosophies into projects in diverse academic disciplines (i.e., retrofitting versus reconstruction of structures). Because an informed public can contribute to the success of future strategies for biodiversity, efforts to improve the amount and quality of conservation education should remain resolute, even aggressive.

Although there are usually not institutional rewards for participating in extension-style activities or presenting research results to local agencies or environmental interest groups, these actions may indirectly benefit conservation biologists. Instead of increasing incompatibility between academia and applied conservation, biologists should engage in continuous communication. Managers may contribute large data sets for examining temporal trends and community dynamics, and academicians may provide assistance with hypothesis formation, experimental design, and analysis. Similarly, instead of assuming that individual voices advocating biodiversity to legislators will be drowned out by opposing lobbyists, conservation biologists should realize that legislators

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consider any letter they receive to represent hundreds to thousands of constituents. If conservation biologists could instill in policymakers, industry leaders, and the general public the feeling that they have a stake in our research and in the future state of ecosystems, it would be easier to garner support for our work. Instead of assuming diminishing returns from extension work, conservation biologists should engage in such work with conviction to complement their array of conservation tools for improving policy.

Because human nature often rebels against hopelessness, conservation biologists may increase their effectiveness in addressing policy issues by balancing warnings with optimism. Although the communication of undesirable consequences of different planning options should be included in deliberations, it may be more productive to focus attention on the relative merits of each strategy. By making a strong case for the diverse values of natural areas (*sensu* Kellert 1980), biologists may more easily establish broad support for conservation and thus increase their chances for favorable legal outcomes. For instance, rather than lamenting the ecological limitations of small, degraded patches of urban land and writing them off, perhaps we should instead view seminatural remnants within urban mosaics as areas that may inspire budding ecologists (Putz 1997). Furthermore, as the study of ecological economics continues to mature, conservation biologists need to highlight the value of the numerous ecological services provided by natural systems (Bengtsson et al. 1997). Demonstrating the tangible benefits of conservation acknowledges the economic reality by which most societies live and allows conservation to be measured by the same yardstick. To reinforce the valuation process in conservation through an optimistic framework, monies collected from penalties or disincentives could be used to provide incentives for resource conservation or other desirable outcomes.

Operating with a positive worldview should not mean abandoning realism when identifying conservation needs or when designing, implementing, and monitoring conservation strategies. I agree with Noss's (1995) argument against optimism based on blissful ignorance; many of us have experienced frustration at the public's naïveté regarding the scale of ecological disruption. But the problem lies with ignorance, not with optimism, because ignorant pessimism is as problematic as ignorant optimism. Furthermore, optimism should not preclude critical evaluation of conservation projects. For example, projects with little chance of success should not merit continued funding, especially if alternative plans are available. Similarly, falsely "sugar-coating" our communications is unethical and erodes the collective reputability of conservation scientists.

I do not recommend that we trivialize the severity of threats to ecosystems and their components or that we overestimate our current understanding of their ecology. For instance, an optimistic paradigm does not ignore the specter of human population growth and per-capita resource consumption. Analogously, it may not be prudent to assume that a species is extant until proven extinct—as opposed to assuming that it is extinct until proven extant (Diamond 1987)—without periodic surveys to confirm continued persistence.

As we enter the new millennium, we should approach our work, and the world at large, with an attitude of optimism, as alert, wary, and informed professionals. Through open, candid, and broad-based communication of results, by addressing ecological and conservation issues at all educational levels, and by striving to shape policy at several scales, conservation biologists can play a pivotal role in shaping the future character of the earth's biotic environment. If we maintain an optimistic frame of mind, past *Conservation Biology* articles describing "continuing worldwide declines," the "obituary of a species," and "extirpation" should not mire us in pessimism but rather stir us to action. As Noss (1995) commented, "despair provides little in the way of motivation," so "(w)e must be hopeful." Accordingly, when reading Orr's (1989) litany of "wounds" inflicted daily on the biosphere, we must remember the past achievements of conservation biologists, managers, and educators (Soulé 1990). Even if some current conservation strategies prove to be failures, we must weigh such failures against the alternative of doing nothing to address ecological challenges, and we must ask how the world would appear today without the collective efforts of those committed to conserving functional ecosystems. Conservation biologists must act optimistically; given the state of our world's species, communities, and ecosystems, we cannot afford to do otherwise.

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