

Leadership: a New Frontier in Conservation Science

JIM C. MANOLIS,* KAI M. CHAN,† MYRA E. FINKELSTEIN,‡ SCOTT STEPHENS,§
CARA R. NELSON,** JACQUALINE B. GRANT,†† AND MICHAEL P. DOMBECK‡‡

*Minnesota Department of Natural Resources, Box 10, 500 Lafayette Road, St. Paul, MN 55155-4002, U.S.A.,
email jim.manolis@dnr.state.mn.us

†Institute for Resources, Environment & Sustainability, AERL Room 438, 2202 Main Mall, University of British Columbia, Vancouver,
BC V6T 1Z4, Canada

‡Ecology and Evolutionary Biology, 1156 High Street, University of California, Santa Cruz, CA 95064-1077, U.S.A.

§Ducks Unlimited Inc., Great Plains Regional Office, 2525 River Road, Bismarck, ND 58503-9011, U.S.A.

**College of Forestry and Conservation, University of Montana, 32 Campus Drive, Missoula, MT 59812-0004, U.S.A.

††School of Forest Resources, 405 Forest Resources Building, Pennsylvania State University, University Park, PA 16802-1014, U.S.A.

‡‡College of Natural Resources, University of Wisconsin-Stevens Point, Stevens Point, WI 54481-3897, U.S.A.

Abstract: *Leadership is a critical tool for expanding the influence of conservation science, but recent advances in leadership concepts and practice remain underutilized by conservation scientists. Furthermore, an explicit conceptual foundation and definition of leadership in conservation science are not available in the literature. Here we drew on our diverse leadership experiences, our reading of leadership literature, and discussions with selected conservation science leaders to define conservation-science leadership, summarize an exploratory set of leadership principles that are applicable to conservation science, and recommend actions to expand leadership capacity among conservation scientists and practitioners. We define 2 types of conservation-science leadership: shaping conservation science through path-breaking research, and advancing the integration of conservation science into policy, management, and society at large. We focused on the second, integrative type of leadership because we believe it presents the greatest opportunity for improving conservation effectiveness. We identified 8 leadership principles derived mainly from the "adaptive leadership" literature: recognize the social dimension of the problem; cycle frequently through action and reflection; get and maintain attention; combine strengths of multiple leaders; extend your reach through networks of relationships; strategically time your effort; nurture productive conflict; and cultivate diversity. Conservation scientists and practitioners should strive to develop themselves as leaders, and the Society for Conservation Biology, conservation organizations, and academia should support this effort through professional development, mentoring, teaching, and research.*

Keywords: influence, leadership, management, policy, strategy

Liderazgo: una Frontera Nueva en Ciencia de la Conservación

Resumen: *El liderazgo es una herramienta crítica para la expansión de la influencia de la ciencia de la conservación, pero los avances recientes en los conceptos y práctica del liderazgo son subutilizados por los científicos de la conservación. Más aun, en la literatura no hay una fundamentación conceptual ni definición de liderazgo en la ciencia de la conservación. Aquí nos basamos en nuestras experiencias de liderazgo, nuestra lectura de literatura sobre liderazgo y discusiones con líderes selectos de la ciencia de conservación para definir liderazgo para la ciencia de la conservación, resumir un conjunto exploratorio de principios de liderazgo aplicables a la ciencia de la conservación y recomendar acciones para expandir la capacidad de liderazgo entre los científicos y los practicantes de la conservación. Definimos dos tipos de liderazgo de la ciencia de la conservación: configuración de la ciencia de la conservación mediante investigación original, y avance hacia la integración del liderazgo en la ciencia de la conservación en la política, el manejo y la sociedad en general. Nos centramos en el segundo tipo de liderazgo porque consideramos que presenta la*

mejor oportunidad para mejorar la efectividad de la conservación. Identificamos ocho principios de liderazgo derivados principalmente de la literatura sobre "liderazgo adaptativo": reconocer la dimensión social del problema; alternar entre acción y reflexión frecuentemente; obtener y mantener atención; combinar fortalezas de múltiples líderes; extender el alcance mediante redes de relaciones; organizar el esfuerzo estratégicamente; evitar conflictos productivos y desarrollar la biodiversidad. Los científicos y los practicantes de la conservación deberían esforzarse para desarrollarse como líderes y la Sociedad para la Biología de la Conservación, las organizaciones de conservación y la academia deberían respaldar este esfuerzo mediante el desarrollo profesional, la tutoría, la enseñanza y la investigación.

Palabras Clave: estrategia, influencia, liderazgo, manejo, política

Introduction

In the "20th Anniversary of *Conservation Biology*" special section, a group of leading conservation professionals reflected on the past 20 years of our field (Meffe 2006). The authors document considerable progress in building a new discipline but lamented that conservation science remains vastly underutilized in practice and policy: "our collective influence on global conditions, policies, and quality of life for humans and nonhumans has been minimal as the world marches on, largely oblivious to our science and to the bedrock value of respect for life that underlies it" (Meffe et al. 2006:595). Some suggest the lack of influence is due to the complexity and size of the challenge (Balmford & Cowling 2006), the persistent gap between the social and natural sciences (Meffe et al. 2006), or a bias toward academic research rather than practical applications (Robinson 2006). Nevertheless, one potential explanatory factor remains largely unexamined: *leadership*.

Leadership has been described as "the most important attribute in the toolkit of a conservation biologist" (Dietz et al. 2004:274), but its importance is not apparent from the scant attention leadership receives in conservation-science literature and forums. Few of us have been exposed to practical training in leadership or modern leadership theory. Many conservation scientists shy away from the term leadership, due partly to the perception that leadership is mainly relevant to those in top organizational or political positions and partly to discomfort around discussions of leadership among peers (Gordon & Berry 2006). Although excellent leaders have arisen among conservation professionals, we have little understanding of what makes them effective and insufficient mechanisms to leverage their knowledge to increase our collective influence. To address leadership needs, corporations, business schools, and public affairs programs invest heavily in leadership research and development. The time is ripe for our field to do the same.

Our objective is to help find a more comfortable and useful place for leadership concepts in conservation biology and related natural resource sciences to elevate the

influence of science in solving conservation problems. We drew on our diverse leadership experiences, our interpretation of principles from leadership literature, interviews with conservation leaders, and an organized session at the 2006 Society for Conservation Biology (SCB) annual meeting. As conservation professionals—not scholars of leadership—we devised a preliminary set of principles based on the "adaptive leadership" (Heifetz 1994) literature that we interpreted specifically for conservation professionals. We argue that more disciplined, reflective attention to leadership is essential for expanding the impact of science in addressing conservation challenges. We hope our suggestions initiate an extended conversation about improving leadership in conservation science and ultimately improve conservation of our global biological heritage.

Definitions

Leadership

In the past 20 years, a revolution has occurred in leadership concepts and practice. Historically, leadership models emphasized hierarchy, charisma, and power over followers. In contrast, new models emphasize collaboration, shared power, and recognition of multiple leadership styles and roles (Senge 1990; Heifetz 1994; Bennis 2003; Crosby & Bryson 2005; Gordon & Berry 2006; Kezar et al. 2006). New models also increasingly emphasize emotional over technical intelligence (Goleman et al. 2002) and humility over hubris (Collins 2001). In addition, although leadership studies in the past focused almost exclusively on leaders with formal authority, many recent studies examine leadership roles of individuals with little or no authority (Heifetz 1994; Badaracco 2002; Meyerson 2003). Finally, new models challenge the assumption that leaders are born and not made: "For those who consider themselves 'born leaders', . . . their grandiosity is a set-up for a rude awakening and for blindly doing damage . . . conversely, those who consider themselves 'not leaders' escape responsibility for taking action . . . when they see

the need” (Heifetz 1994:20). Reflecting these changes in philosophy, we define leadership as inspiring and mobilizing others to achieve purposeful change (adapted from Heifetz [1994] and Crosby & Bryson [2005]). This definition has nothing to do with position or role: leadership can be exercised by nearly anyone who sees the need for change (Heifetz 1994).

Conservation-Science Leadership

Surprisingly little has been written about leadership in the conservation-science literature. An “all years” ISI Web of Science search (1965–2008) on “(conservation biology OR conservation science) AND leadership” (dated 25 July 2008) returned only 22 papers, several of which clearly did not apply to the topic at hand. None offered a definition, so we began afresh, defining 2 types of conservation-science leadership: (1) shaping conservation science through path-breaking research and (2) advancing the integration of conservation science into policy, management, or society at large.

With this explicit focus on science, conservation-science leadership is a distinct subset of conservation leadership in general. Type 1 is research leadership—it advances the collective understanding of science and conservation and is oriented inward to the research community. Type 2 is integrative leadership—it extends beyond the research community and changes the way policy makers, managers, citizens, and scientists interact with research and with each other. Integrative leadership aims to increase the degree to which conservation science informs choices in policy, management, or daily life. Advocacy for science integration does not imply advocacy for specific conservation policies (Chan 2008), but it does imply advocacy for the use of science in management or policy decisions (Brussard & Tull 2007). We focused on integrative leadership because we believe it presents the greatest opportunity for expanding the influence of conservation science and ultimately improving conservation effectiveness.

Principles of Adaptive Leadership

How can one most effectively face the integrative challenges of conservation-science leadership? Can some of the new leadership concepts serve as guideposts or anchors in the pursuit of this challenge? The concept of “adaptive leadership” (Heifetz 1994) stands out as a compelling approach for conservation professionals because it focuses on complex, public challenges that “have no easy answers,” challenges that call for new values and new ways of thinking in society (like most conservation challenges). Furthermore, it identifies important roles through which leaders without formal authority can effect change. Interestingly, adaptive leadership is similar

and complementary to important concepts relevant to conservation biology: “adaptive management” (Holling 1978) and the emerging concept of “adaptive governance” (Brunner 2005).

We summarized a set of 8 adaptive-leadership principles (with some modification of terminology) that we believe applies to conservation-science leadership, recognizing that no single model or set of concepts is universally applicable: recognize the social dimension of the problem; cycle frequently through action and reflection; get and maintain attention; combine strengths of multiple leaders; extend influence through networks of relationships; time efforts strategically; nurture productive conflict; and cultivate diversity. Our intention was to provoke thought, not to provide proven truths or a comprehensive review of all relevant leadership principles. As Gordon and Berry (1993) suggest, theory for environmental leadership is still in its early stages and must be complemented with experience, observation, and individual thinking. Adaptive leadership principles provide “handles” for such reflective practice (*sensu* Crosby & Bryson 2005). We believe these principles will be useful for conservation-science leaders in a variety of roles—from academics initiating new transdisciplinary programs or research projects, to practitioners and scientists promoting better use of science in NGOs and government, to policy makers making the case for science in decision making.

Recognize the Social Dimension of the Problem

Integrating conservation science into policy, management, or society at large is primarily a social challenge, involving ingrained values and attitudes among scientists, policy makers, managers, and the public. For example, the high value placed on objectivity and neutrality makes it difficult for many scientists to engage in integrative activities. Conversely, in conservation NGOs or government agencies, science is sometimes seen as esoteric or impractical (Franklin 1999). When ingrained values and attitudes are involved, Heifetz (1994) suggests the problem is an “adaptive challenge” in which people need to develop new values and attitudes to address the issue (a form of cultural adaptation). Adaptive leaders must recognize the social dimensions of their focal issues and facilitate a process in which new values are cocreated among involved parties. In conservation-science leadership the new values emphasize integration across traditional boundaries among science, policy, management, and the public.

Cycle Frequently through Action and Reflection

Simply “knowing what is going on” is a key challenge of effective leadership (Heifetz 1994; Heifetz & Linsky 2002a). We all have blind spots, and the tunnel vision that is typical within any discipline can limit understanding and strategic thinking. An antidote is to cycle

frequently through action and reflection. Reflection means mentally stepping back, observing oneself in action and learning from it, thus preparing for adjustments in strategy or tactics once back in action (Heifetz 1994).

This action-reflection cycle (McNiff & Whitehead 2003) ideally occurs at both individual and group levels. At the individual level, the cycle is a foundation for professional effectiveness (Schön 1983). At a group level the cycle is a foundation for adaptive management and social learning (Salafsky et al. 2002; Keen et al. 2005). For example, Richard Cowling and his colleagues demonstrate both personal and group reflection in their evolving conservation assessment and planning work in South Africa (Cowling & Pressey 2003; Cowling 2005; Knight et al. 2006). Their group produced one of the best examples of comprehensive conservation planning in the world, yet they clearly admit to and learn from their mistakes (Balmford 2003). One mistake was not including implementation and operational issues early enough in the planning process. In recent projects Cowling and his colleagues have addressed this problem and now appear to be at the cutting edge of bridging the gap between research and implementation (Knight et al. 2008).

Get and Maintain Attention

Attention can be hard to get, especially for complicated scientific issues. For example, the Millennium Ecosystem Assessment—a major scientific undertaking involving 1300 experts from 95 countries—got little attention from the U.S. press (Reid 2005). On a smaller scale, scientists and practitioners frequently struggle to get the attention of resource managers and executive leaders when sharing new scientific information.

Tactics for getting attention are well developed within the fields of marketing, journalism, rhetoric, political science, and other social sciences. Heath and Heath (2007) suggest that the most important strategy is to go against people's expectations, using the element of surprise as a hook. Phil Pister—a California fish biologist—used this strategy to bring attention to the endangered Owens pupfish (*Cyprinodon radiosus*). As the pupfish's only remaining habitat (a room-sized desert pond) was drying up in 1969, Pister and his colleagues literally carried the last individuals of the species in buckets in a heroic translocation effort. Later, Pister used the jolting image of "Species in a Bucket" to bring further attention to the conservation needs of the pupfish and other desert fishes. The Owens pupfish survives today, though its future remains tenuous (Pister 1993; Fraidenburg 2007).

Although attention is often necessary for change, it is not synonymous with change. Accordingly, it is crucial to clearly identify the kind of attention sought and the role it will play in the path to change. Sustained attention may be desirable, particularly among key stakeholders and policy makers who have an ability to address the issue.

Unfortunately, when issues are challenging and conflict-ridden, involved parties tend to let their attention drift to easier, more trivial issues and avoid the tough ones. Leaders need to watch for and counteract this behavior and maintain attention on the difficult, central questions (Heifetz 1994; Heifetz & Linsky 2002a).

Combine Strengths of Multiple Leaders

Phil Pister's efforts to bring attention to the conservation status of the Owens pupfish was highly effective in part because he worked with a range of partners who took different roles in spreading the word. Similarly, Al Gore's documentary *An Inconvenient Truth* is testimony to the attention-getting power of collaboration among politicians and media specialists who draw on the expertise of scientists. These are 2 examples of a general principle—that efforts to bring change can be most effective when leaders in diverse roles work together. In another example, diverse leaders combined their strengths to initiate and expand a carbon-mitigation project in Chiapas, Mexico. Initially, a forest economist from the University of Edinburgh and 4 scientists from a government research institution (ECOSUR) in Chiapas worked with leaders from a local coffee-producers' cooperative (Pajal) to examine the potential for carbon-mitigation projects to help meet livelihood needs of farmers while enhancing conservation in the region. Following a feasibility study, these leaders formed a local organization that established links among 43 farmers and international companies willing to purchase carbon credits. Within 5 years the effort grew to include over 450 farmers and 4 communal land holdings, contracting 30,000 t of carbon credits (Nelson & De Jong 2003). The combined efforts of diverse leaders—from farmers to scientists—were critical to rapid growth of the project, and over time leadership responsibility shifted from scientists to local community members (K. Nelson, personal communication). Although the emission-reduction and biodiversity benefits of emerging carbon markets continue to be debated, it is clear that such policy innovations need to be initiated, expanded, and evaluated. Collaborative leadership is key in this process.

Extend Influence through Networks of Relationships

The importance of partnering is well understood in conservation biology because there are few conservation problems that can be addressed from within a single organization or discipline. But working with obvious partners is often not enough—it can also be critical to "court the uncommitted," those in the middle who do not oppose an initiative on substantial grounds, but resist change simply because it is unfamiliar and potentially disrupting (Heifetz & Linsky 2002b). Resistance from these wary individuals can morph into outright opposition, but effective relationship building can turn them into partners.

Developing relationships with direct opponents is also important. Although opponents may never become active supporters of a change effort, understanding opponents' viewpoints can help leaders challenge them more effectively or develop novel strategies that incorporate their ideas. Over time, common ground may arise unexpectedly. For example, cooperation between conservation professionals and animal welfare groups (often, but not always, opponents of conservation-based eradications) resulted in a successful feral pig control program in Fort Worth, Texas (Perry & Perry 2008).

Another example of relationship building helped establish a thriving ecotourism industry near Dadia National park in northeastern Greece. Established first as a forest reserve in 1980, the 42,000-ha park supports breeding populations of numerous rare raptor species, including the threatened Eurasian Black Vulture (*Aegypius monachus*). Initially, reserve designation was strongly protested by the local community because it reduced logging, an important income source. In the mid-1980s conservationists saw the potential for ecotourism to provide new jobs and began promoting the idea with a few receptive local leaders. Eventually, the local leaders reversed opposition and generated support for ecotourism. World Wildlife Fund Greece, other NGOs, and government leaders brought funding for lodging facilities, an interpretive center, local staff, and marketing. Now, ecotourism brings 50,000 visitors per year, providing a mainstay of the local economy and populations of several rare raptor species are stable or increasing (Valaoras et al. 2002; Svoronou & Holden 2005). Without explicit efforts to build relationships among local, NGO, and government leaders—along with community members who were initially opposed to the reserve—this success would not have been possible (S. Zogaris, personal communication). Although the current situation in many of Greece's protected areas has deteriorated, the success in Dadia fuels hope for other communities (Aperghis & Gaethich 2006).

Time Efforts Strategically

Sometimes an initiative hits a brick wall, or even results in a backlash. Witness the fate of the U.S. National Biological Service—a U.S. agency created in 1993 to improve collection and delivery of the nation's ecological information. The Heritage Foundation depicted the service as a "guerrilla army that would sneak uninvited on to private property in search of rare creatures in whose name to block development" (Economist 1995:85). The U.S. Congress eliminated the agency in 1995. In part, the agency was created too quickly, without building enough stakeholder, agency, and congressional support (Burd 1995; Economist 1995). In such cases it may be more effective to push more slowly, where leaders "let

their ideas and programs seep out a little at a time, so they can be absorbed slowly enough to be tested and accepted" (Heifetz & Linsky 2002a:119).

Some organizations plan explicitly for the start-and-stop nature of conservation. Consider the Canadian Parks and Wilderness Society, a science-based organization that strives for nature conservation on public lands. This mid-size NGO intentionally juggles more projects than they can truly push forward simultaneously, allowing for the fact that at any given time some are more ripe for progress than others. This approach yields a steady stream of results distributed among multiple projects. It allows the group to seize a window of opportunity when political conditions are right for a given project and prevents the squandering of time and effort on projects that are not yet ripe for action (C. O'Loughlin, personal communication). Such examples illustrate the importance of strategic timing: knowing when to push hard, when to push slowly, and when to wait. There are no solid rules for deciding which approach to take or that guarantee success. Nevertheless, being aware of the choices—and consciously weighing the risks for each one—can help.

Nurture Productive Conflict

Conflict is inevitable when attempting to change values, attitudes, or behavior, even for something as innocuous as integrating science into policy and practice. We usually think conflict is negative, but it is actually an engine for change (Heifetz & Linsky 2002a). The challenge is to nurture conflict and keep it productive. With too little conflict, nothing will change; yet, if conflict escalates beyond what people can tolerate, the change process will break down. Leaders can play a key role in keeping conflict within a tolerable, productive range.

A first priority in managing productive conflict is creating a "holding environment," which is a "space formed by a network of relationships within which people can tackle tough, sometimes divisive questions without flying apart" (Heifetz & Linsky 2002a:102). A good example of a holding environment is the Ecomuseum Kristianstads Vattenrike (EKV) in southern Sweden (Olsson et al. 2004). This flexible, transorganizational network provided a forum that was critical for developing coordinated, landscape-scale ecosystem management of a globally important wetland complex called the Kristianstads Vattenrike (KV) (i.e., Rich Wetlands of Kristianstad). Prior to initiation of EKV in 1989, bird populations were declining and wetlands were degrading due to eutrophication and land-use change. Conservation was not a high priority in the local community, and management responsibilities were fragmented among multiple organizations. The EKV, spearheaded by a local museum scientist, provided a holding environment in which stakeholders exchanged information, built trust, developed a shared

understanding of wetland conditions, and eventually created a shared vision for the future of the region. Through the work of EKV, in 2005 KV became the first UNESCO Man and the Biosphere Reserve (MAB) in Sweden. The EKV is now the nexus for 20 different restoration and education projects involving over 200 people (Hahn et al. 2006).

Once a holding environment is established, participants can use several techniques to manage the process. The details are beyond the scope of this essay, but Heifetz and Linsky (2002a) suggest that several key approaches are (1) strategically timing the level of effort (as described earlier), (2) deliberately gauging the intensity of conflict and adjusting it when necessary by alternating focus on harder and easier parts of the issue, and (3) focusing on a positive vision of the future.

Cultivate Diversity

Increasing diversity within the field of conservation science would yield multiple benefits. Diversity of discipline, ethnicity, gender, socioeconomic status, level of education, and thought enhances potential for creativity, fosters understanding and engagement of a broader set of perspectives, and builds a stronger and more inclusive movement. Despite increasing recognition of the importance of diversity, people with unconventional perspectives are often ignored and are sometimes silenced (Heifetz & Laurie 2001). Leaders need to counteract this tendency because minority voices are critical representatives of the political, cultural, and scientific landscape. (Note that we use the word *minority* broadly. It can mean any underrepresented perspective). There has been some progress toward increasing diversity within the field of conservation science. For instance, women now account for 45–50% of doctorates in biology (Rimer 2005). Nevertheless, there are still too few women in positions of authority in government, NGOs, and academic institutions. There also has been progress on the diversity of disciplines represented within the conservation sciences, yet there is much further to go on this front (Mascia et al. 2003). Other aspects of diversity, such as ethnicity, remain significantly underrepresented.

Recommendations

For more effective application of conservation science, leadership must be acknowledged and supported as an object of study, teaching, and professional development in conservation science. Without such attention conservation professionals will miss a great opportunity to expand their influence. To improve leadership capacity, we distinguish 2 levels of focus: self-development and development of individuals and institutions.

Self-Development

To increase personal effectiveness, it is imperative to be intentional, focused, and disciplined. No course, book, or fellowship can substitute for a personal commitment to self-development. Nevertheless, many resources can help individuals build on personal commitment. We recommend the following.

- Recognize that you do not have to be at the pinnacle of your career to be a leader. The adaptive leadership principles suggest there is great value in starting early and learning leadership gradually, cycling frequently between action and reflection (principle 2). Early-career professionals should learn and practice leadership through active involvement in hands-on projects, including volunteer experience, fellowships, and mentorships that complement coursework and training programs.
- Develop a broad range of leadership skills, including listening and communications, team building, collaboration, self-management, and strategic thinking.
- Find and cultivate relationships with mentors. Many of the best leaders have been effective because of their relationship with strong mentors (Bennis 2003).
- Get experience in more than one type of organization (e.g., academia, government, NGOs, school boards, community, religious, or professional organizations). Leaders who have experienced more than one type of organization will be able to build bridges between them.

Developing Individuals and Supporting Institutions

Aspiring leaders should not be expected to pull themselves up purely by their own bootstraps. Mentors and colleagues can help in numerous ways. In addition, institutions need to provide more incentives that support leadership development and collaboration across academic, NGO, business, government, and public sectors. For individuals we recommend the following.

- Serve as a mentor (either formally or informally). Be wary of the desire for self-replication and encourage students, employees, or colleagues to develop their own unique leadership paths. Encourage those you are mentoring to collaborate with a variety of partners (e.g., academic scientists partnering with NGO scientists and practitioners).
- Find ways to share lessons learned from successes and failures. Fraidenburg (2007) provides an engaging book of interviews in which experienced leaders share these lessons in a personal way. More resources like this are needed.

For SCB and other professional organizations within the conservation sciences, we make the following suggestions.

- Establish more awards for conservation leadership—at local chapter, working group, and section levels. Awards are motivating incentives and provide tangible recognition at promotion time. More generally, awards are statements of what is valued in a culture.
- Publish a strong statement on the importance of outreach and service for academic conservation scientists and metrics for this outreach. Candidates for academic promotion, who are generally reviewed first and foremost on research accomplishments, could cite this statement in their tenure or promotion files, and astute reviewers can appeal to it to justify service criteria in their evaluations. To help make such a statement effective, partner with broader efforts that aim to increase civic engagement in higher education (Brukardt et al. 2004; Sandmann & Weerts 2008).
- Identify the greatest needs for new training and leadership education programs, along with partnership opportunities with existing leadership programs.
- Collect and post lists or links relating to leadership trainings and development opportunities, key books and articles, and educational resources on leadership.
- Encourage and initiate workshops and forums on leadership at global, regional, and chapter meetings.

Academic, NGOs, private, and governmental organizations can do the following.

- Initiate new leadership development programs, fellowships, and mentorship programs, and secure funding for them. Some programs already exist (e.g., Aldo Leopold Leadership Program, David H. Smith Conservation Research Fellowship Program, Environmental Leadership Program, National Conservation Leadership Institute, American Association for Advancement of Science, Robert and Patricia Switzer Foundation Programs) and others (Environmental Leadership Collaborative 2005), but demand far exceeds supply. Furthermore, there are few opportunities for some career stages (e.g., assistant professors). Leadership development models used in business and public affairs programs should be evaluated and adapted where appropriate.
- Provide time and resources for staff to embark on leadership development and incentives to engage in outreach and mentorship activities.
- Initiate forums, programs, and structures that facilitate collaboration among scientists, policy makers, and managers.
- Encourage and support risk taking and accept that this may involve failure.
- Embrace diversity in personnel and partnering organizations.
- Foster a culture that values "soft skills" (e.g., communications, conflict management) and emotional intelligence in addition to hard skills and technical knowledge.

Conclusion

Johnson and Herring suggest that "The day of scientists as philosopher kings is over, the day of scientists as leaders is just beginning" (1999). As participants in this evolution, we should be proud of what we have achieved thus far. But if we are to more effectively contribute to a sustainable future for humans and biodiversity, we must become more effective leaders in integrating conservation science into policy, management, and society at large, while also inspiring and nurturing our future leaders.

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