In order to gain a better understanding of the traits and skill sets required for career growth and to achieve leadership roles in the wildlife conservation profession, several Emerging Wildlife Conservation Leaders Board Members and alumni conducted a survey of 27 established environmental leaders. We focused on questions such as how leaders sustain themselves and how they continue their career progressions, particularly as related to perceived barriers for women, and how these leaders maintained their enthusiasm in what is arguably a demanding and oftentimes discouraging discipline. Some of the common themes cited by these leaders included the need for cross-disciplinary training, early childhood connections with nature, focusing on one's passion for the profession as a key way to cultivate personal strength, and maintaining positive relationships with others. We also solicited advice from these established professionals for our emerging leaders. Please see the below article for the full survey and responses. We would like to thank the established leaders who gave us time for the interviews.

Defining Leadership in Conservation: Overcoming barriers, sustaining the passion

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Abstract

While much has been written about leadership in the business world, little exists that focuses specifically on leadership in the environmental or wildlife conservation profession. We examined leadership in the conservation field, with specific interest in how leaders sustain themselves and how they continue their career progressions, particularly as related to perceived barriers for women, and how these leaders maintained their enthusiasm in what is arguably a demanding and oftentimes discouraging discipline. In 2006 and 2007, we conducted a survey of 27 environmental leaders, including professionals in executive positions in non-profit organizations and government agencies, as well as established academics. We content coded and quantified the survey results. Some of the common themes cited by these leaders included the need for cross-disciplinary training, early childhood connections with nature, focusing on one's passion for the profession as a key way to cultivate personal strength, and maintaining positive relationships with others. We also solicited information on what advice these current professionals would give to emerging leaders.

Keywords: leadership, barriers, career growth, environmental leaders, conservation professionals.

Introduction

A copious amount of information has been written about leadership in the business world. Bookstores are lined with volumes and entire industries and academic programs have focused on leadership and management training. However, little of the existing literature focuses specifically on leadership in the environmental or wildlife conservation professions, and until recently there were few university curricula focused on conservation leadership (Snow 1992). The study of leadership in the field of conservation biology is sorely lacking, particularly given the probable role of successful leadership skills in advancing the role of conservation science in policy and practice (Manolis et al. 2008). This paucity of information leaves a dearth of knowledge about one of the most important aspects of any discipline.

To address this shortfall, Dietz and his colleagues (2004) investigated leadership styles and the professional backgrounds of ten current conservation leaders. Defining Leadership in Conservation: a View from the Top (Dietz et al., 2004) shed light on what it means to be a conservation leader, identifying key attributes necessary to become a high ranking professional in the conservation field. They also examined why conservation leaders pursued the career tracks they chose and what barriers to entry and advancement they faced. However, the sample size of the Dietz research was relatively small (ten subjects interviewed), and of these only one was female, providing a potentially biased or limited perspective on conservation leadership.

Our research enlarged the Dietz survey in both scope and size. Our goal was to revisit the question of leadership in the conservation field through an expanded sample size, as well as address the question of gender equality within our profession. We also were interested in how leaders sustain themselves and how they continue their career progression, particularly as related to perceived barriers for women or underrepresented groups, and how these leaders maintained their enthusiasm in what is arguably a demanding and oftentimes discouraging discipline. We were unable to obtain a large enough sample size within racial/ethnic groups to adequately measure differences among these groups.

Methods

Between June 2006 and March 2007, the authors conducted a total of 27 interviews with leaders in the conservation field. Subjects were selected on the basis of the following leadership criteria: 1) Individuals in a top leadership position within a conservation organization (preferably the CEO, but also including individuals within the top two to three tiers of an organization, such as vice presidents and senior directors). Conservation organizations include not-for-profit groups, corporate entities that conduct conservation work (e.g., Disney's Animal Kingdom), and government agencies that oversee environmental or wildlife programs; or 2) Individuals within academia who are tenured faculty and well published in the conservation arena. In all cases, participants are individuals who are recognized as leaders in their particular conservation discipline. As some of our research questions related to gender, we attempted to include an equal amount of male and female respondents.

Nominees were solicited via informal surveying of conservation professionals, resulting in a list of 120 potential interviewees. After ranking the potential participants according our criteria, we attempted to contact those leaders who fit into the top third of the list.

Ultimately, 27 individuals – 15 women and 12 men - were interviewed. Each participant was assured of anonymity in their specific responses, although all consented to be acknowledged in a list of interviewees (see Acknowledgements).

The survey instrument was developed in part based on the Dietz survey, with additional questions probing gender issues and career sustainability, in order to help answer questions about longevity in the profession and whether career paths differ markedly between women and men. The survey instrument is available from N.F. Pilot testing was conducted among the authors to ensure inter-observer reliability. All interviews were conducted by telephone between June and October, 2006, and ranged from 30-60 minutes in length.

The survey instrument included a standard introduction and closing. Full narrative responses were transcribed by each interviewer via typing. Each subject's responses were then assigned numbers which were recorded in a spreadsheet. The subject names were removed from the narrative prior to review and analysis.

All responses to open-ended questions were content coded by the four authors. Two of the questions were content coded by all four authors together, reaching agreement on the categories, with the remainder then coded by at least two authors reaching agreement. Coded responses were then quantified, with more than one response possible from each participant for each question (for example, participants could cite more than one significant life experience as influencing their career choice) (Tull & Hawkins 1987; Patton 1990).

To answer the question related to gender differences in perceived barriers, the participants' identification number was assigned a gender code, and the effect of gender on the number of perceived barriers was tested by chi squared analysis (Tull & Hawkins 1987).

Results

Academic and professional backgrounds

Our respondents had a range of academic and professional backgrounds, although the vast majority, 23 individuals (85%), had some type of advanced degree. Forty-four percent had a Ph.D.; 33% had some type of Master's degree (including three MBAs) and 7% had JD degrees.

While the professional backgrounds among respondents ranged widely, there were a few key experiences that were commonly shared. Thirteen participants (48%) had spent some time "in the field" doing research or study, including Peace Corps work mentioned by one participant. Twelve respondents (44%) had worked in a non-profit conservation or environmental advocacy organization, seven (26%) in zoos and six (22%) had taught at the university or other level. Less frequently cited backgrounds included time in fields other than conservation such as media, governmental positions, charitable foundations, consulting and time in the military.

Significant life experiences

In response to the questions, "What significant life experiences led you to this profession? Did you know from a young age that you wanted to work in this field?," the majority of respondents (N=15) reported that spending time in nature as a youth, especially doing outdoor hobbies such as canoeing, fishing and butterfly collecting, inspired them to pursue a career in conservation; Five additional respondents credited an early connection with animals as a motivating factor, with four responding that visiting or working in a zoo was an important factor for giving them a love of animals. Many referred to a close connection to pets and farm animals as children, as well as raising or caring for injured wildlife. One respondent, in talking about overcoming a stuttering challenge as a youth, said "I had a strong emotional connection with animals because we were the same - animals had feelings and emotions but had no human voice…As I went through therapies so that I was able to speak, I told animals that if I could ever have a voice again, I would use it to speak for animals." Along these lines, several respondents referenced the fact that they felt more comfortable with animals than with people, with two individuals mentioning that an actual dislike of people contributed to their desire to pursue a career with wildlife.

Ten respondents (37%) credited key individuals as guiding their career paths, including parents, mentors and role models, as well as community clubs (e.g., 4-H) and community events (e.g., community efforts to clean up the environment) as contributing factors. Eleven percent of respondents identified reading books on nature as influential, and, not surprisingly, the majority referenced academic training in related disciplines as essential to their career trajectories. Four people identified critical events as contributing to their career choices, including three who had personal "revelations" about working for the environment or wildlife, and one who was moved to work in conservation following a death in the family.

Seventeen respondents (63%) said that they were aware as a child that they wanted to work with wildlife or in a conservation-related field, even if they did not know what their specific career path would be, and several pointed out that the discipline of Conservation Biology as such did not exist when they were young. One stated that "I was clear from the day I was born I wanted to be a biologist," which reflected a common sentiment among our participants. Three more respondents indicated that while they did not identify a career in conservation at an early age, they watched television shows about wildlife, painted animals in art class or otherwise had an affinity towards nature. One respondent said that, when they were young, they wanted to be Jane Goodall, although they had not taken the dream seriously. Only six respondents said that they had no idea when they were young that they were interested in pursuing a wildlife or environmental career.

Key leadership qualities

Following on the work of Dietz and his colleagues (2004), we assessed the leadership qualities the respondents felt were most critical to this profession. Possessing people skills was a general category that was by far the most commonly cited, and included traits such as listening and other communication skills (n=11), being able to inspire and help others in their development (n=9) general management ability/people skills (n=5) and having empathy (n=4).

The second most critical leadership attribute cited (n=11) was passion for the profession, with vision (n=6) and lack of ego (n=5) following. Although arguably not a leadership

competency, technical skills were considered critical to 30% of respondents (n=8), including maintaining a critical knowledge base.

There was less agreement on other leadership qualities mentioned, with no other quality receiving more than two mentions. Additional qualities mentioned included diplomacy (n=2), self-confidence (n=2), integrity (n=2), patience (n=2), results orientation (n=2), maintaining a positive attitude (n=2), risk-taking (n=2), with only one respondent referencing each of the following: critical thinking skills, resourcefulness, decisiveness, common sense, self-knowledge about strengths and weaknesses, understanding the big picture, pro-activeness, and a sense of humor.

Critical steps in career progression

In answering the open-ended question, "What steps in your career were most important for developing your skills as a conservation leader?," twelve respondents (44%) cited formal study and training as the most essential steps to their career development and an additional four (15%) said that time abroad, particularly in developing countries, was important to their career growth. Sixteen respondents (60%) cited specific people as being important to their career path. These included mentors (n=7), parents (n=1), and networking and other people who provided professional or learning opportunities (n=8). Some volunteered specific areas of learning that they felt were critical, including leadership training (n=2), fundraising skills (n=2) and general business skills (n=3).

More than half the respondents spoke about personal traits and skill sets they possessed that were instrumental to their career growth. One important trait cited was the willingness to step forward and take on projects and create a niche for oneself (n=8). As one respondent said: "I was always willing to try new things: running heavy equipment to restore marshes. I was the anomaly of a young woman in conservation working for the government. It was unheard of that a woman would be this involved." Other key traits included being creative (n=2), working hard (n=2), following your heart (n=2), asking for help (n=1), and having a good attitude (n=1). Fourteen people (52%) cited specific work tasks, including writing and publication, as well as general project and work experience, as vital to the career path of a conservation leader.

Obstacles to career initiation and growth

We asked each participant, "What obstacles or barriers did you find as you began your career in conservation and as you rose through the ranks?" and "Were any of those barriers particular to women?"

There were several respondents who referenced some form of diversity issue as a barrier, including cultural barriers (n=6), gender (n=6), ageism (3), and racial discrimination (1). Those respondents who cited some form of sexism as a barrier to their career growth included gender discrimination against women (n=5), a lack of female role models (n=2) and a societal assumption that husbands and children should come before a career (n=1). However, a number of female respondents experienced either no gender-based discrimination (n=9), or even noted an upside to gender roles, including one respondent that indicated that sexism pushed them to work harder and therefore made them stronger in

order to prove themselves. Another respondent said that the lack of pressure to be the family bread-winner enabled her to pursue a career in conservation.

Analysis showed that there was a statistically significant difference between males and females regarding the presence of some form of discrimination as an obstacle or barrier, both in terms of gender discrimination ($\square 2=9.58$, $p<.01$), or more general discrimination (gender, age, ethnic discrimination combined) ($\square 2=7.31$, $p<.05$). It is worth noting that there were no significant differences based on gender found for other categories examined, including significant life experiences ($\square 2=4.31$, $p=.12$), what sustains them ($x2=.08$, $p=.96$), and what constitutes leadership qualities ($x2=.89$, $p=.64$).

More general barriers included the competition for scarce funding in the non-profit sector (n=6), a lack of access to networks and jobs (n=3), the fact that the United States is not a popular country currently (n=1), the fact that conservation is often seen as an amenity rather than a core value (n=1), and the challenges of promoting unpopular causes or species (n=1). Two people cited a lack of having a Ph.D. as a limiting factor, and one mentioned a lack of technical skills. Several respondents (n=6) said they had experienced no barriers in their career path.

Many respondents noted various personal and developmental issues that were a barrier to leadership for them. These included challenges influencing change in an institutional setting (n=3), the fact that rising to leadership positions tends to move individuals away from the core work that they love (n=2), finding balance in life and dealing with guilt over work and family responsibilities (n=3), and the need to learn to be a good leader (n=2). Other respondents noted traits such as shyness (n=1), impatience (n=1) and loneliness doing field work (n=1) as barriers.

Overcoming barriers

Almost two-thirds of respondents (n=17) said that some trait related to personal strength was key to "how they overcame barriers," with the majority of these citing traits of being persistent and not giving up (n=8), or having courage (n=5). Other personal traits that were identified as useful included letting go of your ego (n=3) and having a sense of humor (n=1). More than half the respondents (n=14) said that support from others was important to moving past challenges. Networking with colleagues was the primary form of support cited (n=6), with several female respondents noting that they felt it was particularly important for women in conservation to network with other women in the field. Family was another important support system (n=5), as were mentors (n=4). Five respondents said that maintaining a passion for the work they do is how they overcame barriers.

Career sustainability

Perhaps not surprisingly, a passion for the cause was what the majority cited as helping sustain them (n=18), the strongest, most consistent response to any question in the survey. Thirteen respondents said that the overwhelming importance and need for the profession is what keeps them motivated. According to one respondent: "My feeling about it goes beyond avocation. It's my life driver if you will. I get up in the morning and I'm never confused about what I'm getting up to do."

Many respondents (n=12) credit other people with keeping them motivated, including the "good community of people" in the profession, being inspired by young professionals and the next generation of conservationists, and helping others and impacting lives by their actions. Others cited more personal factors, from spiritual beliefs (n=2), to spending time with family and/or having hobbies (n=4).

Advice to Emerging Leaders

Responses to the question "If you could provide advice to emerging leaders in the conservation field, what would it be?" in many ways mirrored their comments to previous questions, including the need for persistence (n=9) and maintaining passion (n=8). A similar number of respondents referenced the importance of cross-disciplinary training and education, for example in economics and business, in order to solve our conservation problems (n=8). Maintaining confidence, being willing to take risks, having good listening and communications skills and being creative and innovative were all mentioned by at least four respondents as important traits to advancement. Three respondents said that technical skills are important to becoming a conservation leader, and three also said that self-reflection is important. Skills and traits listed by one or two respondents include: getting an advanced degree, taking initiative, asking for help, being open to learning new things, taking care of yourself and finding life balance, being able to move people to care deeply, maintaining good relationships with people, and finally, having a good sense of humor and being able to have fun while doing this important work.

Discussion

As the pressure on natural resources continues to grow, the need for dedicated conservation leaders is greater than ever. It is crucial that current leaders in the conservation field examine what attracts people to the work, how they overcome barriers and what helps sustain them in their career, in order to develop the next generation of leaders. Dietz et.al. (2004) began the process of investigating conservation leadership. Our interviews had threads of similarity with the Dietz findings, particularly the need for cross-disciplinary training, early childhood connections with nature, and needs for specific skills. Our questions, however, included a specific focus on overcoming barriers in the conservation field and how leaders sustain themselves in their careers. Many of the key points made by our interview subjects are similar to previously-identified leadership principles derived from 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 (Manolis et al. 2008). Although our participants might not have used the same language, the first principle, "recognize the social dimension of the problem" clearly references many of the leadership qualities mentioned, including general people skills, communication skills, and being able to inspire and help others. Similarly, influencing skills and networking seem directly relevant to the principles of "get and maintain attention" and "extend influence through networks of relationships."

Previous papers have addressed significant life experiences that lead people into environmental professions, particularly environmental education (Chawla 1998, 1999, 2001;

Tanner 1980). Experiences in natural areas, as well as family influences and education, are very important in the lives of environmentalists (Chawla 1999), as well as a "continual growth from childhood interests to adult conservation activities" (Tanner 1980). An opportunity system composed of outdoor exposure, available information, personal values, job opportunities, societal prejudices and organizational culture were found to influence involvement in environmental education (James 1995). A commitment to "principles of life or caring" and "the enjoyment of a challenge and cooperative effort" are also very important among environmentalists (Chawla 1999). These findings are similar to ours, as we have identified passion for the field and interpersonal relationships to be very important to our respondents.

Focusing on one's passion is one way to cultivate personal strength, the attribute cited most frequently as the way to overcome career barriers. The interviews suggest many elements are involved in personal strength, including the qualities of courage, motivation and introspection. One respondent said, "My biggest asset as a leader is I'm fearless in visioning the future for my organization. I have drive and energy to make it happen." Another overcomes barriers by "being very gutsy, even irreverent at the right times…but (also) reverent at the right times."

Maintaining positive relationships with others, both inside and outside the conservation field, seems to be critically important to success in conservation careers. Family members and mentors influenced respondents to enter the conservation field; networking and role models played roles during critical times in careers; people help professionals overcome barriers and sustain them in their careers; and leaders have strong recommendations for future leaders that they understand and communicate well with peers and coworkers. While some respondents noted that they felt more kinship with animals than with people, most of our interviews revealed that relationships (especially long-term relationships) were critically important in overcoming barriers and sustaining their commitment to the conservation field. In times of crisis or doubt, conservation leaders reach out to others, whether to a former academic advisor, colleagues who have faced similar crises, or family members that offer a different perspective. While some may view conservation as a discipline that cares more for trees and animals than for people, it appears that the field is dependent upon a complex network of interpersonal relationships. One respondent said, "It was people that helped me overcome those barriers; they would stand up for me and [other] people that were different… Other people of color who are in this field, because there are not many of us. There is a camaraderie that is very powerful. We're friends and we stay in touch and we don't forget each other." Those who succeed in conserving wildlife and wild places – as well as in their own career advancement – may have a more finely-tuned internal system for understanding relationships and the importance of relationship-building.

An increasing number of women have entered the conservation profession in the past few decades. At the University of Maryland's Conservation Biology Master's program, 68% of the applicants and 72% of those enrolled are female. This trend has been consistent since the program's inception in the early 1990s (Dietz, pers. comm.). In Duke University's Masters of Environmental Management, 60% of enrolled students in 2008 were female (Admissions Department, Duke University, pers. comm.). Many of the large environmental organizations have a majority of female staff. As of late 2008, Defenders of Wildlife had 62% female employees (McKenzie, pers. comm.), World Wildlife Fund-US had 63% female employees

(WWF-US Human Resources Department, pers. comm.) and the International Fund for Animal Welfare had 65% female employees (Morris, pers. comm.). Figures from the Wildlife Conservation Society reflected the gender breakdown for management and leadership positions only, with 49% female (WCS Human Resources Department, pers. comm.). In the Washington DC offices of the US Fish & Wildlife Service, the Division of Endangered Species is 69% female, while the traditionally male-dominated fields in the Divisions of Fisheries & Habitat Conservation and National Wildlife Refuges have lower numbers of female employees, with 46% and 40%, respectively.

However, there is still a dearth of racial/ethnic diversity. Much more work needs to be done to ensure professional opportunities and leadership roles for minorities in the conservation profession (Lanham, 2007). It is important to note that for logistical reasons (time differences, difficulties in making phone calls across continents, language barriers), most, but not all, of the survey participants were Americans based in the U.S. An expanded study in the future should include more international conservation leaders, as well as more minorities within the United States.

An examination of attrition among men and women in natural science and engineering careers, found that there was a 2:1 ratio of women to men that left their field within an average of 12.5 years (Preston 2004). One of the key findings was that women in the sciences were more likely than men to have a spouse who was also an employed professional, and were thus more likely to "find a solution" to the challenges in finding employment in a dual-career marriage. In addition, he noted a general sense that careers and child rearing were in direct conflict and that the "stars" in the U.S. workplace "are not likely to be men or women who spend a lot of time with children and family. Both issues will become less problematic when men start taking on an increased share of childcare." This may be true, but in order to really foster leadership in both men and women it is essential that the wildlife profession allow for balance between work and personal lives. As one of our respondents said: "Personally, in my own life, the perennial quest is to find the balance between work and home. I went through a period a few years ago where I was a workaholic and on the verge of burn-out. I learned the importance of taking breaks. Even long weekends. Recharging and getting away from it." Results from our survey support the concept that we cannot afford to let our conservation leaders suffer burn-out and leave the profession. We must instead find ways of fostering leadership and life balance.

Considering that the majority of conservation leaders we interviewed cited time spent in nature as a child as an important factor in their pursuit of a conservation career, the concept that fewer and fewer children have access to the outdoors is indeed of significant concern (Louv 2008). Developing future conservation and environmental leaders will require not only nurturing the rising professionals already among our ranks, but creating broad public education and outreach efforts to encourage outdoor programs in schools and other means of keeping children connected to nature.

Perhaps the most striking theme throughout our interviews was the respondents' emphasis on their passion for their work. Conservation leaders believe in the importance of what they do which, in turn, feeds their drive to continue when faced with challenges. Not only was passion a sustaining factor in their career, but it was also cited as helpful in overcoming barriers. If passion is a significant foundation to this field, how do we spark passion in

future conservation leaders? This question should be paramount, as organizations work to expand the creative potential of the field. Emerging leaders should be encouraged to take risks, discover creative solutions, follow-through on "wild" ideas and celebrate successes. All our respondents mentioned at least one thing in nature that was inspirational to them; perhaps conservation organizations need to make a concerted effort to encourage, and create opportunities for, their employees to stay connected with nature - the source of their passion.

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