

Think of a challenging conservation problem you have encountered—protecting a rare species, winning support for legislation, cleaning up a river, or sustainably managing a forest. Inevitably, people are part of the problem and public education and outreach will be part of the solution. Effective education and outreach are essential for promoting conservation policy, creating knowledgeable citizens, changing people's behaviors, garnering funds, and recruiting volunteers. The fate of our ecosystems and the plants, animals, and people that depend on them lies with our ability to educate children and adults, in settings as diverse as schools, communities, farms, and forests. Findings from the Millennium Assessment Reports and the Intergovernmental Panel on Climate Change have documented that the vital ecosystem services that support life on earth—such as fresh water, fisheries, biodiversity, air and water cycling, and the regulation of natural hazards and regional climate—are being degraded and threatened. Conservation education and outreach programs are a critical component in changing course toward a more sustainable future.

The goal of this book is to present the many techniques available for creating effective education and outreach programs for conservation. Chapter 1 presents a framework for designing programs and Chapters 2 and 3 provide the theoretical and practical background for understanding the learning process, and therefore how to effectively teach and support behavior change among adults and youth. Subsequent chapters introduce the reader to an exciting array of education and outreach techniques. These include techniques for classrooms and enhancement of school resources focused on students and developing written materials, from blog posts to guidebooks, for all ages. Marketing conservation messages, using mass media, and using the arts for conservation provide a range of innovative techniques. Many on-site techniques, such as exhibits, guides, and demonstrations are critical for natural areas, parks, and community centers. The planning, implementation, and evaluation processes are described for each technique.

## What is in the book?

### Chapter 1: Designing successful conservation education and outreach

Systematic planning, implementation, and evaluation are the foundation of effective education and outreach. This chapter begins the planning process with guidelines for identifying the needs, objectives, and target audiences of a program. Possible strategies

are compared based on resources and constraints of time, money, and staff. Planning helps to ensure that educators target the right audience and use appropriate messages and delivery systems. Implementation involves pilot-testing activities and monitoring the ongoing operations. Monitoring and assessment allows educators to modify materials and strategies based on timely feedback and new information. Evaluation of the outcomes reveals whether the techniques worked. Eight tools, from quantitative surveys to qualitative observation, are described. These allow decision-making about the worth of the program.

## **Chapter 2: Learning and teaching**

Theories about learning and teaching form the basis for designing effective programs and marketing them to their audiences and administrators. This chapter provides program planners with a foundation in how people learn and a suite of theories, such as constructivism, inquiry learning, experiential learning, activity theory, social learning, and cooperative learning, that can be used to design effective interactive programs. Critical thinking, creative thinking, and systems thinking skills are important to help learners address conservation issues and can be practiced and promoted through well-designed programs.

## **Chapter 3: Changing conservation behaviors**

The road to behavior change is paved with many theories. The disciplines of education, sociology, and psychology offer a number of ideas about human behavior that can be used to design programs that influence people's conservation-related behaviors. This chapter organizes many of the most commonly used theories concerning the development and research of conservation program around key purposes: providing information, addressing social influences, building self-efficacy, exploring motivation, designing supportive environments, and organizing an effective program sequence. Some are designed to influence how people gain information and learn skills to become responsible citizens, while others explore ways to orchestrate changes in specific behaviors. Both types of theories have important roles to play in the development of conservation education and outreach programs.

## **Chapter 4: Conservation education in schools**

Partnerships with environmental organizations and agencies can help create effective conservation education in schools. This chapter presents strategies for building successful programs in schools, including the effective use of communication, serving as a resource to the schools, supporting academic standards, and integrating conservation education into legislation and policy. Education in schools should include learning about the local environment, but too often academic demands preclude the chance to study the natural world outside the classroom door. When conservation education links academic standards to the study of natural and social systems and their interactions, students, teachers, administrators, and the environment are all winners. A variety of successful approaches to the implementation of conservation education within schools are described, such as environment-based education and education for sustainability.

## Chapter 5: Making conservation come alive

Making conservation come alive can mean, for example, discovering the natural world through a neighborhood scavenger hunt or researching the perspectives of an industry group for a role-play. Techniques in this chapter, such as hands-on activities, field trips, and backcountry skills, immerse participants in exploring the outdoors or an environmental concept. Other techniques bring conservation alive through a minds-on approach, such as storytelling, games, case studies, role-playing, and contests. Conservation educators can combine these techniques, such as using a role-play to teach backcountry skills. Most of the techniques in this chapter involve an element of fun, from a field trip exploring a wetland to a storytelling session on forests. This chapter contains helpful hints for implementation, including tips for engaging an audience in a story or developing a role-play. Every technique engages the audience in learning through direct experience.

## Chapter 6: Using the arts for conservation

Using the arts for conservation can help attract new audiences, increase understanding, introduce new perspectives, and create a dialogue among diverse people. The arts—painting, photography, literature, theatre, and music—offer an emotional connection to nature. This chapter provides examples of using the arts to increase environmental awareness and inspire people to take action. Planning art activities requires reaching out to artists and the arts community, audiences with whom scientists and educators may seldom interact. Using aesthetic, kinesthetic, and philosophical approaches can help young people and adults understand their environment. Conservation problems require creative solutions. It makes sense to access more ways of knowing the world in order to take care of it.

## Chapter 7: Connecting classes and communities

Effective conservation aims to integrate, rather than compete with, the needs of the human communities that share landscapes with biological communities. This chapter focuses on techniques to connect classrooms and communities with conservation. Conservation education techniques, such as service-learning, issue investigation, and project-based learning, can involve students, teachers, and community members in finding creative approaches to issues such as reducing carbon emissions and building community gardens. In addition, public participation in scientific research involves collaboration between members of the public and scientists, and includes both citizen science and community-based research as examples. Finally, this chapter describes mapping as a technique which allows individuals or groups to create visual representations of resources, a community, or a region. The techniques described in this chapter bring real conservation issues to the forefront of communities and classrooms and ultimately help achieve conservation goals.

## Chapter 8: Networking for conservation

Networking involves aligning your interests with other individuals, groups, and communities to increase the success of a conservation effort. Talking with festival attendees at an information booth or forming a long-term partnership between organizations

both require making connections. Networking can create or use existing environmental groups or clubs, as well as promote conservation objectives through workshops, public presentations, and professional posters. The skills needed to organize conferences and special events are necessary for developing connections among larger audiences to promote conservation messages and ultimately achieve conservation objectives. The techniques in this chapter provide opportunities to network and attain success both within and beyond the conservation community.

### **Chapter 9: Marketing conservation**

A number of marketing techniques can help increase conservation-related behavior if they specifically target a behavior or action and if they help people overcome the barriers they were experiencing. Sometimes people need information, awareness, and reminders. Signs, billboards, advertisements, press releases, and prompts help people learn and remember information. However, these are rarely sufficient for supporting a new behavior. Techniques involving the use of feedback and demonstrations or models help people realize whether this behavior has become a norm in their community. Incentives and disincentives can help launch a new behavior, and asking for a commitment can help sustain it. Working with local leaders to identify behaviors and consider the barriers that deter each behavior helps educators choose the most effective combinations of techniques. This chapter provides many examples of how a variety of techniques have been used and evaluated to achieve behavior change.

### **Chapter 10: Getting your message out using the written word**

Using the written word for education and outreach is an essential technique for accomplishing the conservation objectives of many organizations and agencies. Harnessing the power of mass media through editorials, news releases, and blog posts provides the means to reach vast numbers of people with information in a reliable format. This type of free advertising is valuable to everyone dealing with critical conservation issues and tight budgets. Guidelines on the structure and format for producing these materials are presented to ensure success in the competitive mass and social media arena. Fact sheets, flyers, brochures, and guidebooks are used by conservation organizations to build audience awareness, increase knowledge, and foster new conservation skills. The tips presented for clear writing and attractive graphic design help guarantee the production of effective written materials.

### **Chapter 11: Taking advantage of technology**

Educational technology, such as radio, television, and the Internet, can dramatically increase the number of people we reach with conservation messages. It also allows audiences to vicariously experience natural events and places they might never see in person. Websites, social media, videos, and distance learning allow conservation agencies and organizations to go beyond traditional face-to-face programming. They can establish new ways to effectively reach their audience and open the door for audience members to share information with others. Whether these technologies are successful depends in part on the degree to which they incorporate relevant learning

theories. Strategies for evaluating websites, videos, and online programs help ensure good-quality output.

## **Chapter 12: Designing on-site activities**

On-site activities can enhance first-hand experiences in natural areas and community centers by orienting, informing, and stimulating visitors. The development of on-site activities considers the visitor experience, the resources of the site, and the education and outreach objectives of the organization. An initial planning process at a site paves the way for developing trails, guided walks, exhibits, demonstrations, nature awareness activities, and visitor centers. Guidelines provided in this chapter for implementing and evaluating these techniques help achieve conservation and education goals.

### **The challenge**

Abundant examples illustrate the techniques described throughout this book. They represent the hard work and wisdom shared by conservation educators around the world. We hope these will inspire creative thinking and new ideas to fit the needs of the students, educators, environmentalists, program designers, resource managers, conservation biologists, and policy-makers reading this book. We hope the book will help people speak and act more effectively for wildlife and the environment. We hope it will help conservation programs amplify their results to bring about a more sustainable future for us all.