

9. EDUCATION AND COMMUNICATION ABOUT GRASSLANDS

CREATING AWARENESS OF GRASSLAND ECOLOGY THROUGH CONSERVATION EDUCATION

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Grasslands make up one of the earth’s major biomes by covering up to a quarter of the land surface (Blair et al. 2014). However, less than eight percent of these grasslands are protected (DOW 2017). Grasslands are important ecologically and economically as they act as a biodiversity reserve, a natural carbon sink assisting in regulating the earth’s temperature, and they serve as a water catchment (WHF 2017). These lands are very productive, making them important for agriculture because of their ability to provide a feed base for grazing livestock. They also serve important roles culturally, aesthetically, and recreationally. Diminishing grasslands has left our society with critical habitat loss due to afforestation, fragmentation, and the replacement of grasslands with agricultural and crop lands (Boval and Dixon 2002). The drastic decline has left our plants and animals, particularly those that are grassland-associated, with limited resources. One of the most notable effects of decreased grasslands is the widespread and ongoing decline of grassland-associated North American bird populations (Brennan and Kuvlesky 2005).

Conservation education aims to alleviate disconnect to our land by providing experiences that allow people to gain knowledge, skills, positive attitudes, participation in nature, and awareness to address environmental issues (UNESCO 1978). Conservation education is defined as “helping people of all ages understand and appreciate our country’s natural resources—and learn how to conserve those resources for future generations” (USDA FS 2017). Because of the ecological and economical importance of grasslands, it is crucial to educate the public in conserving remaining grasslands. Conservation education programs can be geared towards educating people of all ages and backgrounds on the importance and benefits of grasslands. Creating awareness of grasslands begins with hands-on and in-field activities that provide the community with a connection to the land so they can become part of it. These activities must be sculpted in a way to be beneficial for all, and particularly for grade school children, activities must reinforce classroom material and align with state and/or national standards.

Landowners may get involved with conservation education by offering their own programs or partnering with existing programs. Partnerships such as with your state fish and wildlife agency, state extension program, local service center of National Resources Conservation Service (NRCS, USDA), local environmental organization, or school can be the stepping stone to getting the ideal conservation education program started. Partnerships can have varying levels of involvement depending on the goal in mind (Figure 1). These partnerships can provide the support and resources that may not be easily accessible to landowners, such as volunteers or material kits to conduct activities. Building, executing, or merely participating in established conservation education programs is largely volunteer based. Landowner roles may vary. For example, a landowner may be interested in providing a place (i.e., land) for educational activities

HOW TO GET STARTED PLANNING YOUR CONSERVATION EDUCATION PROGRAM

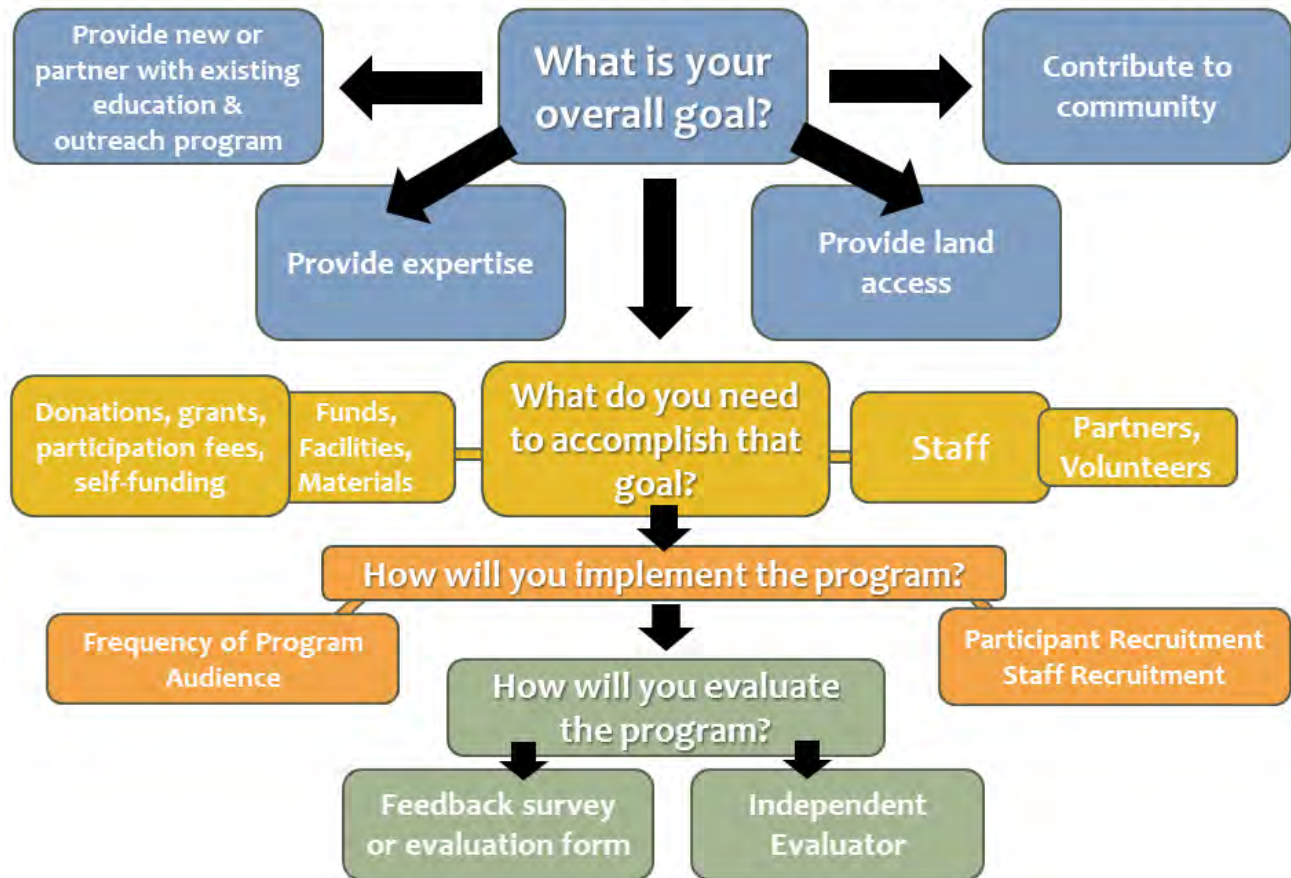


Figure 1: Framework for starting your own conservation education program or becoming involved in one as a landowner or natural resource professional.

to occur but may need the help of education or natural resource professionals to design and implement the outreach activities. Depending on the goal of the program, you may need to fill knowledge gaps to ensure you achieve the desired results. This may lead to recruiting natural resource professionals and/or environmental educators with expertise in wildlife, botany, hydrology, and other fields as partners. The commonality among all participants is the shared goal in conserving natural resources and educating the community.

There are a variety of things you can do to share your expertise or program and educate the public on the conservation of grasslands:

- Offer opportunities for field trips for schools, community groups, or other landowners to your land
- Provide guided walks or tours of your land
- Offer to speak to local K-12 classrooms and share how you manage your land
- Provide an open house to the public to share the economic and ecological importance of your land
- Have informational booths on your CE program (if existing) at local Farmer's Markets, Science Fairs, School Events, or Career Fairs

- Use social media to market your program or showcase your land or management via short online videos
- Consider providing access and/or funds to local researchers from universities to conduct research on your land—this gathers more information about your property but also provides information to the public and scientific community and educational opportunities to the researchers

One of the key components of conservation education is to reach out to the future generation of conservationists. Becoming involved in a K-12 classroom or outreach program provides the setting needed to reach out to this important group. One of the best ways to accomplish this is through hands-on, in-field activities that get the students excited and out of their normal classroom environment. A few activities you can offer aimed towards grassland ecology include: grassland bird identification, “Grow Grass Grow” activity, and citizen science programs for monitoring. “Basics of Birding” is a free activity available at ckwri.tamuk.edu that introduces students to common birds that they learn to identify via field marks (Ortiz 2015). Once students become familiar with bird identification, they can go to the field site and conduct a bird count. This gives the landowner an idea of what species are present on his or her land but also gives students the chance to practice scientific methods in the field. “Grow Grass Grow,” is an activity from the Welder Wildlife Foundation’s Rangeland Curriculum that gets students to act as different plant parts, giving them an introduction to plant biology and allows them to recognize how each plant part is crucial to the success of an individual plant (Johnson and Winans 2012). Schools and adult community groups are often interested in citizen science programs as well. Citizen science is defined as the public’s involvement in scientific research ranging from involvement through data collection to analysis. Citizen science programs such as iNaturalist, eBird, Project BudBurst, and I See Change allow the landowner and education participants to begin a monitoring program on the land relating to plants, animals, and environmental changes.

Conservation education programs on public and private lands can provide positive experiences in nature for all participants and citizen scientist opportunities for students and the public. You as a landowner or natural resource professional can take pride in your land and community involvement by offering these opportunities to the public and making your own mark on the world in terms of grassland conservation. If you are interested in contributing to grassland conservation via conservation education programs, please refer to Figure 1 on how to get started. When we all come together in community partnerships, we can help develop awareness, understanding, and sensitivity to environmental problems of grasslands and their associated ecosystems.

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TEACHING ENVIRONMENTAL STEWARDSHIP THROUGH USE OF OUTDOOR CLASSROOMS: A MULTI-CAMPUS RESTORATION INITIATIVE

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In a time where natural areas are fewer and farther between due to urban sprawl, educating youth and the community about the benefits of essential ecosystems is of utmost importance. Colleges and universities across the nation have heard the call to action and have seen the benefits outdoor classrooms have on promoting land stewardship as well as student success and retention.

Tarrant County College District (TCCD) is one of the 20 largest higher education institutions in the United States, serving over 50,000 students across six campuses annually. As a two-year college, it provides affordable, open access to the community, a wide variety of associate degrees and certifications as well as partnerships with local school districts offering Early College High Schools.

Tarrant County College has over 800 acres of land spread across five major campuses. Each campus has

designated a fraction of its land to house sustainability initiatives with the aim to connect students to nature through outdoor classrooms. Recently, a group of faculty, staff and administrators across the district came together to form the TCC Conservation Coalition (TC4). The aim of this committee was to combine the efforts of all campuses to support a vision of experiential learning as well as to foster a culture of land stewardship among students, faculty and the community.

Prior to the formation of this new committee, faculty and staff from across the district struggled to establish footholds for support and community involvement. It is the continued hope of this committee that by joining forces, TCCD will become a leader among colleges hoping to develop outdoor classrooms and restore natural habitats as well as increase the likelihood that curriculum and programs created under this committee will be more sustainable across the five campuses.

With the multitude of restoration strategies employed across the campuses, TCC is able to demonstrate to students and the community that there is more than one way to restore habitat and approach environmental problems. The current initiatives across TCC promote land stewardship and include service learning opportunities through a diverse offering of courses and campus organizations. More specifically, there have been areas designated as Wildlife Demonstration Sites by Texas Parks and Wildlife Department, and projects designed to support the creation and maintenance of Monarch Waystations as well as seed bank initiatives. The college has also seen the benefit of developing partnerships with local groups like the Native Prairies Association of Texas, to establish preserved areas as well as develop education campaigns for the community and others like Fort Worth Nature Center & Refuge and Tarrant Regional Water District. Among other initiatives falling under TCC Conservation Coalition are working with local farmers' markets and recycling programs to educate the public and forming academic pathways from TCCD to careers in sustainable land management. Future goals across the campuses include development of curriculum for outdoor classrooms, expanding upon established partnerships between the college and local school districts, forming