

## CHAPTER 1

### ABOUT THE INVADERS OF TEXAS PROGRAM

Welcome to the Invaders of Texas volunteer citizen scientist team! You are part of an exciting new program developed by the Lady Bird Johnson Wildflower Center in partnership with the Texas Forest Service, Texas Parks and Wildlife Department, Texas Master Naturalists, the Houston Advanced Research Center and many others. This innovative initiative was launched with the April 20<sup>th</sup>, 2005 premiere of National Geographic's Strange Days on Planet Earth TV series on PBS. The opening episode of this series was all about Invaders.

**Invasive species** – organisms that evolved in one area of the world and become problematic in other areas – are becoming increasingly worrisome. One reason for the concern is that we humans are major intentional and/or unwitting agents of transportation for these marauding plants and animals. How serious is the problem? What do we stand to lose? As renowned biologist E. O. Wilson states, "On a global basis...the two great destroyers of biodiversity are, first, habitat destruction and second, invasion by exotic species." These invasive species aggressively overtake or displace native species, and their ecological and economic impacts can be enormous. Experts estimate the cost of invasive species to the US economy alone is over 135 billion dollars each year.

**Invaders of Texas** is an innovative campaign whereby volunteer "citizen scientists" are trained to detect the arrival and dispersal of invasive species in their own local areas. The intent of the program is to empower the public to become involved as citizen scientists in order to more effectively slow the spread of harmful invasive species and reduce their environmental and economic damage. Citizen scientist can help detect invaders' arrival and dispersal in their own local areas. You will be working throughout Texas to help detect invasive plants and enter the data into the detection database through a web-based data entry form. The data you collect will be mapped and shared with managers on the ground for use in pest and weed management planning and eradication.

In addition, you will be learning to identify invasive species, use GPS units, and enter your detection data via the web. Your participation in this initiative will not only benefit Texas, but will also contribute to national efforts to map the distribution and spread of invasive species.

This workbook in association with the training program will take you on a step-by-step journey through the Invaders of Texas Citizen Science program. By day's end you will be trained and ready to join over 300 citizen scientists like yourself engaged in the detection and reporting of invasive species throughout our fair state.

## Being an Invaders Volunteer

We hope you will find volunteering in the Invaders Program as an opportunity to learn as much as possible about invasive species in Texas. We have goals for the outcomes of our program efforts as well as goals for your own development as volunteers. We will measure the former in an evaluation process at the end of the program. To measure the latter, we have established a series of benchmarks that you will be able to follow as you progress through your training and subsequent fieldwork.

## Goals of the Invaders of Texas Citizen Science Program

In this program, we have several goals we hope to accomplish:

- Begin to develop a baseline map of targeted invasive species in Texas.
- Develop partnerships with regional resource management agencies to guide us toward sites where we can focus our detection and reporting efforts.
- Provide information to these partners that helps lead to the control and/or eradication of invasive species where possible, and through these connections, provide our volunteers an opportunity to help in these eradication efforts.
- Bring our cohort of Invaders volunteer trainees to a level at which they feel comfortable training other citizen scientists in the future.

## Benchmarks for Invaders Volunteers

As volunteer citizen scientists in the Invaders Program, we will have the opportunity to measure your training and volunteer accomplishments against a series of benchmarks. The requirements for each benchmark are:

1. **Apprentice:** Has completed the formal lab and field training and is ready to start data collection and reporting.
2. **Intermediate:** Has submitted 10 verified invasive species observations.
3. **Expert:** Has submitted 25 verified invasive species observations.

## Volunteer Activities

Volunteers in the Invaders of Texas Citizen Science program will be engaged in the following activities:

1. You will be trained in the identification and reporting of invasive species,
2. You will conduct surveys in the field to observe and record the presence of targeted species,
3. You will use GPS and digital cameras to confirm location and identification of targeted species, and
4. You will use the web to post data and images to an online database.

## Volunteer Qualifications

In order to perform the activities cited above, volunteers should have or be willing to acquire the following skills:

1. **Field experience:** Hiking skills, field-worthiness, and ability to walk on uneven terrain and work in all weather conditions. Ability to handle all situations in the field, including map reading, trail-finding, and first aid situations.
2. **Technical skills:** Ability to use (or be trained to use) digital cameras, GPS units, and an online database.
3. **Background:** Some background in natural history with an emphasis on plant identification. Familiarity with Texas ecosystems is helpful.
4. **Other:** A desire to help stop the spread of invasive species.

## Beyond Detection and Reporting

Finally, we hope that you will share what you learn with friends, family, and neighbors and take your interest to new levels. For those whose interest extends beyond early detection and reporting, we encourage you to form local partnerships with institutions and agencies that are doing eradication projects so that you might assist in the management of some of the species we track.

## Invaders Program Organizational Structure

The Invaders program is set up as a distributed network of satellites consisting of groups of volunteer citizen scientists under the direction of a satellite leader. The satellite leader recruits volunteers, organizes local workshops and outings and serves as the point of contact for the program administrators at the Lady Bird Johnson Wildflower Center.

While the satellites operate somewhat autonomously and report on different invasive species, they are all linked together by common training and the shared early detection and reporting database that resides at [www.texasinvasives.org](http://www.texasinvasives.org).

The **Invaders of Texas** section of the website lists all of the existing satellites and provides contact information for the satellite leaders. If there is already satellite working in your area, we encourage you to join that group by contacting the satellite leader. If your location does not have an active satellite, you can register yourself as a **Voyager** or contact program administrators to make arrangements to establish a new satellite.

