Natural Resources Conservation Academy
University of Connecticut

# Invasive Plant Project Template

*An invasive species is a species that, evolved in its own specific environment, is introduced to a new environment where it grows unchecked, often outcompeting native plant species. We care because invasive species can disrupt ecosystem processes, both in terms of structure and function. The resulting environmental degradation can threaten the survival of native natural resources and the value of those natural resources to the human population (i.e., ecosystem services). Thus, invasive species can result in fundamental harm to the environment, which can result in significant impacts to the economy and potentially human health. To control invasive species, property owners develop invasive species management plans that include: 1) mapping current invasive plant cover, 2) developing a control strategy, and 3) establishing an on-going monitoring plan.*

## What are Invasive Plant Species?

Introduced invasive species are often referred to as "exotic," "alien," "non-indigenous," or simply "non-native." More than a thousand exotic plant species have been introduced to the temperate deciduous forest ecosystem in the northeastern United States, and more than a hundred of these have become invasive. These invasive plant species come in all shapes and sizes, from herbaceous species that cover the forest floor to shrubs that overtop native species in the forest understory, from trees that come to dominate the forest canopy to vines that can occupy all vegetation layers.

## What Will this Invasive Plant Project Accomplish?

Development of an invasive plant species management plan will provide land owners the tools they need to assess the type and extent of invasive species cover on their land parcel, potential strategies to manage these species (*e.g.*, mechanical, chemical, or biological removal), and an ongoing vegetation monitoring plan to assess the overall effectiveness of the management action.

## Ideas for Tailoring Project

*If your team would like to explore additional components to add to your project, here are some ideas:*

- Try different removal techniques in different areas.
- Develop on-going monitoring plan and continue to monitor areas where removal occurred.
- Carry out mapping and/or removal on additional properties.
- Plant native plants.
- Create trail or property signage to educate the public.

***IMPORTANT: Once you've completed this handout or outlined your project, take photos of all pages (including additional pages that describe your project plan) and email it to nrca@uconn.edu so that we can best assist you during your project.***

CTP

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**Your Project Plan**

*The following is a guide to assist you in your project planning. You may wish to develop your own strategy. If you follow this outline below, however, it's not necessary to fill in every box; you may want to add or modify the sections below to best help you develop your project.*

**Step 1: Determine your project duration**

The scope of your project should be determined by how much time you are able to commit to the project. All team members need to contribute equally to the project. As a team, determine the total amount of time you will be able to dedicate to this project.

- ☐ 3-5 weeks
- ☐ 6-8 weeks
- ☐ Other _____

Compare schedules and list some tentative times that might work for your field work. For example, do you want to wrap up the project before the end of summer? Before the holiday season sets in? Are there days of the week after school/work/other that are most accommodating for your schedules or days/dates that you are unavailable to meet?

**Step 2: Determine what property(s) and species to focus on**

List project location(s) that your team would like to focus on. What kind of property is it (state park/forest, land trust, town park, school property, etc.). Who do you need to contact for permission (if needed), & tentative date of site visit.

Property name & type:

Point of contact:

Tentative schedule for visit(s):

List important online resources or literature on CT invasive plant species to learn more about their ecology, how to ID them, and effective removal techniques. These resources will help guide you in selecting which invasive species to focus on.

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Based on an initial site visit and literature review, list the species or groups of species that your project will focus.

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**Step 3: Determine monitoring approach & schedule**

Describe where and when monitoring will occur. Will it occur along transects, such as along trails or roadways, or will it occur within distinct plots? If you are interested in seeing how certain environmental factors influence presence and abundance of invasive plants, make sure that monitoring occurs at sites that vary regarding that factor (*e.g.*, highly degrade sites, moderately degraded sites, or non-degraded (*i.e.*, relatively healthy) sites).

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| Monitoring site type(s):<br><br>Number of monitoring sites or amount of area covered by monitoring:<br><br>Tentative schedule for visit(s): |

Describe how you will use Track-Kit, Epicollect, Google Maps and/or any other apps or technology (*e.g.*, Leafsnap, iNaturalist, etc.; note: you do not need to use both apps if not necessary):

Beyond monitoring and mapping the results, are there other components to your project you'd like to consider? (Review "Ideas for Tailoring Project" above.)

**Step 4: Determine final product and how you will share your results**

Describe how you will document your project (*e.g.*, report, poster, video, story map, interactive map, outreach materials, or Online NRCA Project Form).

Describe where you will showcase your project (*e.g.*, put on a community event, present at organization meeting, present at a regional conference, distribute education materials, share products on website/social media, share on NRCA website via conference poster, or Online NRCA Project Form).

## Project Timeline

*Select the project scope that is most suitable for your team (short project, 3-5 weeks or longer project, 6-8 weeks) and review the timeline and tasks below. Assign teammates to tasks, as appropriate. Add additional tasks to each phase, as necessary.*

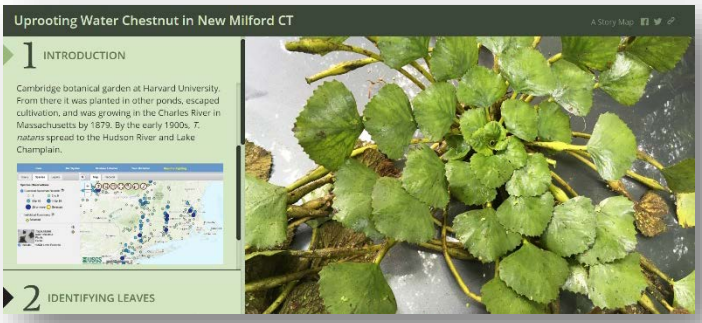
**3-5 Week Plan – Blue**

**6-8 Week Plan – Blue & Green**

| General Timeline | Project Tasks | Resources Needed | Assign Teammates to Tasks |
|---|---|---|---|
| **Phase 1:**<br>_____<br>*Write completion date* | 1. Choose property & gain permission.<br>2. Review online resources & conduct lit search.<br>3. Site visit & preliminary assessment of species. This could include photos, notes on potential plants found, basic description of overall plant community, etc.<br>4. Discuss final product goal(s) & where to showcase work. | • Literature on invasive plants<br>• Invasive plant ID guides | |
| **Phase 2:**<br>_____<br>*Write completion date* | 1. Choose most appropriate app(s) for your project. For example, create invasive plant assessment Epicollect form, decide mapping data to be collected using Track Kit, etc.<br>2. Field assessment & mapping of invasive species. | • Smartphone with Epicollect & Track-Kit apps<br>• Uploaded Epicollect form<br>• CTP Handbook<br>• Invasive plant ID guides | |
| **Phase 3:**<br>_____<br>*Write completion date* | 1. Create interactive map from field data.<br>2. Draft invasive species management plan outline.<br>3. Determine final product & where to showcase work. | • Computer & smartphone<br>• CTP Handbook<br>• Literature on invasive plant management<br>• (Optional) Poster template or story map how-to-guide | |

| General Timeline | Project Tasks | Resources Needed | Assign Teammates to Tasks |
|---|---|---|---|
| **Phase 4:**<br>_____<br>*Write completion date* | 1. Determine removal approach based on assessment & literature.<br>3. Plan & organize removal party. | • Literature on invasive plant management | |
| **Phase 5 & Beyond:**<br>_____<br>*Write completion date*<br>*Note: Timing dependent on volunteers & season* | 1. Removal party.<br>2. Plan & organize native planting party.<br>3. Native planting party. | • Literature on equipment and supplies needed for specific removal or planting approach<br>• (Optional) Refreshments & first aid supplies for volunteers | |
| **Final Week:**<br>_____<br>*Write completion date* | 1. Develop final product describing project & outcome.<br>2. Showcase project. | • (Optional) Poster template or story map how-to-guide<br>• Online NRCA Project Form | |

**Sample Projects:**




**Uprooting Water Chestnut**: A Litchfield High School student partnered with a volunteer from the New Milford Conservation Commission to map the presence of water chestnut along a section of the Housatonic River using Track Kit & Google Maps. The team developed a story map to educate others about the efforts by multiple groups to remove this invasive aquatic plant (http://s.uconn.edu/waterchestnut). Future efforts in this area can reunite water chestnut monitoring by developing a common Epicollect form for all conservation groups to use.

**Vernal Vengeance**: During one intensive field day, a team of NRCA teens worked together to quantify the percent cover of the invasive Japanese barberry at 35 sites around a vernal pool (critical amphibian habitat). Using an Epicollect form and ArcGIS online, they mapped barberry density data and assessed characteristics of areas most favorable to barberry. Then, they manually removed barberry around the vernal pool. Learn about their project story at http://s.uconn.edu/barberry.