Pervasive Invasives: The Public's Perception of Invasive Species

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ABSTRACT

In northwestern Connecticut, it is a usual occurrence to come across people hiking in the forest on the weekends. However, most of these hikers and the public in general are unaware of the many invasive plant species (i.e. non-native harmful species) that threaten our local forests and backyards. Because invasive species can have serious repercussions on the environment, the economy and human health, it is vital that everyone be aware of these species to prevent their spread and promote removal.

Through surveys of the public to gather baseline data on their perspective and knowledge of invasive plant species, I, under the guidance of the Sharon Land Trust, tailored invasive plant workshops. The survey revealed that the public was knowledgeable about how to identify invasive plants, but unsure of how to control them and how much economic damage they cause in the United States. Due to these results, I customized the workshops to focus on how to control various invasive plants in a safe and effective way, as well as discussed how these species arrived here and the various negative impacts caused by them.

INTRODUCTION

Invasive plant species have become a prevalent problem all over the United States (US), from highway shoulders to forests and backyards: they are everywhere. An invasive species, as defined by the National Invasive Species Information Center, is a non-native species that causes harm to the economy, environment or to human health (1). Damages from invasive species have been estimated as high as $120 billion dollars per year US (2). As such, invasive species are a huge issue not only for the environment, but also to people.

In northwest Connecticut, invasive plant species can be found throughout the landscape. They invade silently and people may not realize that they are there. If the public is unaware of invasive species and the threats they cause, management/control of invasive species will be ineffective without societal support.

Consequently, it is important for the public to be educated about what these invasive plants look like, what the consequences of having them are, and how to remove them in an effective and efficient manner. To effectively educate the public, first we need a good understanding of their knowledge base. Subsequently, educational programs can then be better tailored to meet the needs of the local community.

Fig 1. Sarah Coon and Lauren Murtagh speak to a local garden club about the dangers of invasive plants and how the Sharon Land Trust controls them.

OUR GOAL

To evaluate the public's perception of invasive plants and further educate the local community on different invasive plant species and the methods to control them.

METHODS

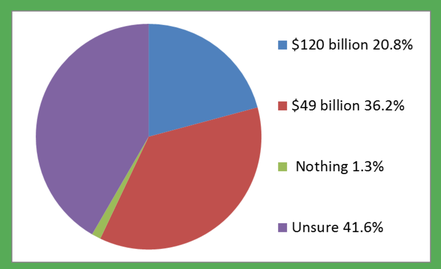
The Survey

- The survey comprised questions that aimed to better understand:
  - Ability to identify invasive plants;
  - Knowledge of methods of control;
  - Knowledge of the origin of invasive plants; and
  - Impact of uncontrolled invasive plants economically and on public health.
- Promoted survey and workshop dates via press in the Lakeville Journal, the Sharon Land Trust Newsletter (SLT), Sharon Audubon (SAC) social media, at Housatonic Valley Regional High School, the Sharon and Millbrook Garden Clubs and the Town of Sharon website.
- Administered Google form survey from Sep-Dec 2016 through email to local school and conservation groups, and via the SLT and SAC website posts.

The Workshops

- The two workshops took place on November 11 and 12, 2016 at a SLT property and at the SAC (Figs 1 & 2).
- I used both lecture format and a guided plant walk for the workshops.
- Topics that were focused on:
  - Identification of 10 invasive plants;
  - Education on why these plants cause issues; and
  - Discussion of safe control methods for invasive plants.

Fig 2. The first invasive plant identification workshop was held on SLT property on November 11, 2016 (left photo). We selected a property with roadside habitat as there was a number of invasive plants that dominate in these habitats (right photo).



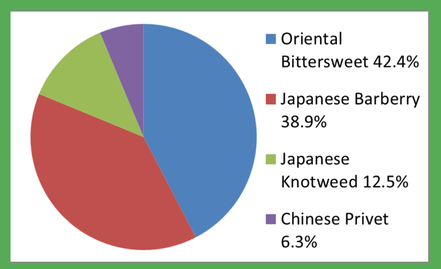


Fig 3. Percentage of survey responses on (a) the perceived economic impact of invasive species in US and (b) which invasive plant can harbor disease-carrying ticks.

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RESULTS

150 surveys were completed online (n=150). Results showed that although 59.3% of people knew which plants were invasive, the majority of those who took the survey:

- Were unaware of why invasive plants are harmful (62.6%);
- Were unsure of how much the US spends on invasive plant control or remediation (79.3%; Fig. 3a);
- Were unaware that Japanese Barberry can harbor disease-carrying ticks (61.1%; Fig. 3b); and
- Were conflicted on how to control invasive plants (58.6%; Fig 4).

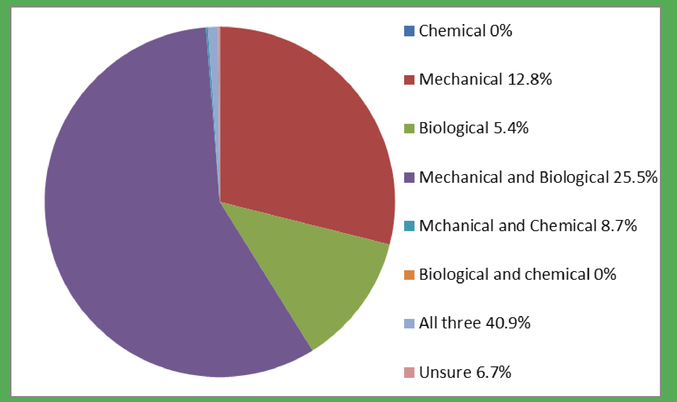

Fig 4. Percentage of survey responses on the eradication methods that people believed to be acceptable to use to remove invasive plants.

CONCLUSIONS

Benefits of educating the public on invasive plants are environmental, economic and social. As a result of this project, people seem ready to take action to eradicate invasive plants. This will help protect forest biodiversity and improve the aesthetics of our landscape. Also, the Sharon First Selectman is interested in management efforts by roadside crews to remove these invasive species. Early intervention and continuous follow-up can keep down the cost of controlling invasive plants. In the case of Japanese Barberry (*Berberis thunbergii*), its eradication can help reduce public health risk of Lyme Disease (3).

As a result of the survey and workshops, the message of invasive plants was spread throughout the community. Information from the workshops was published in the local newspaper and the Sharon Land Trust newsletter. Many who attended the workshops were interested in learning more about controlling these silent invaders.

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REFERENCES

1) Environmental Protection Agency. 2017. Invasive Non-Native [accessed 26 Feb. 2017] <https://cfpub.epa.gov/watertrain/module.cfm?module_id=2&object_id=1>
2) The Nature Conservancy.2017.The Impacts of Invasive Species. [accessed 27 Feb. 2017] <http://www.nature.org/ourinitiatives/habitats/forests/explore/invasives-101.xml>
3) Benson, J. 2011. Scientists Say Invasive Plant Harbors Ticks, Contributes to Lyme Disease. [accessed 27 Feb. 2017]<https://www.lymedisease.org/754/>