

A survey of cultural impacts that invasive species have on people in the St. Lawrence and Eastern Lake Ontario region of New York State

Abstract

Much is known about the ecological and economic impacts of non-native, invasive species. Much less is known about the impacts invasive species have on the well-being and livelihoods of people living in the survey region. The purpose of the Cultural Impact Survey was to determine how invasive species affected the well-being (*general happiness*) and livelihood (*food on the table, money in your pocket or financial means*) of individuals in the St. Lawrence Eastern Lake Ontario (SLELO) Region of New York State.

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1.0 Introduction and Purpose

The purpose of the Cultural Impact Survey was to determine how invasive species affect the well-being and livelihood of individuals in the St. Lawrence Eastern Lake Ontario (SLELO) Region. This region incorporates Jefferson, St. Lawrence, Oswego, Oneida and Lewis counties. For this survey, well-being was defined as *general happiness*. Livelihood was defined as *food on the table, money in your pocket or financial means*.

The goal of this effort was to answer the question “Do invasive species affect people, their well-being and livelihoods – if at all and if so, to what extent. A standard operating procedure owned by The Nature Conservancy (host organization of the SLELO PRISM) known as the Human Subjects SOP, prevented us from collecting any personal, identifying information or specific information regarding incomes.

The survey platform was Qualtrics® and commenced with a standard introduction that included a definition of invasive species, examples of invasive species and correlating impacts with each example. This standard introduction was necessary to provide a basic understanding of the subject matter. The survey consisted of 13 question blocks containing 4 questions each. The first question of the set was a demographics question to determine in what capacity they are answering in. Target demographics included;

- Hunter
- Charter Captain
- Angler
- Fishing Guide
- Trail Guide
- Nature Guide
- Restaurateur
- Logger, Forster/Wood Products Benefactor

- Marina Owner/Operator
- Livery/Bait Shop Owner
- Recreationist
- Waterfront property owner/proprietor
- Other (please explain)

Most popular (other) respondents included:

- Agricultural producer/farmer
- Outdoor enthusiast
- Gardner

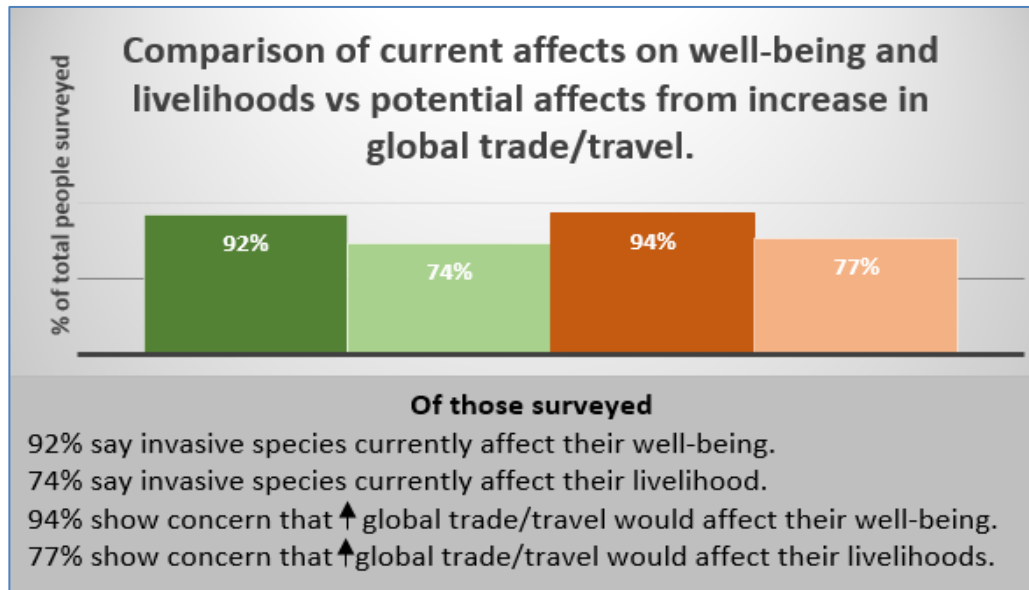
The main questions were created with the intent to cover most areas of invasive species and areas of life that people would be affected. Whether it was a business being affected or a home property, the questions were intended to be able to be answered with meaning from everyone. The last question in the set was a Why or Why Not (open-ended) question, intended to gather opinions and comments on how invasives are affecting these individuals’ lives and gain further insight into how people feel their lives are affected.

The survey was implemented over a period of four months. During this time, the survey was placed on Cornell Cooperative Extension websites and social media accounts. The post on Facebook was also boosted to reach more individuals in the region. Also, several organizations were contacted to ask for their assistance in distributing the survey. The survey was also administered in person to several businesses and individuals as well as being presented at several events (Salmon River Fish Hatchery Open House and Woodsmen Days) throughout the region. Phone calls were made to several businesses to gather responses as well.

2.0 Survey Results

The survey produced 107 charts, tables and graphs along with 8 pages of additional comments. Overall, there were 485 complete responses, with 408 responses being from within the SLELO region. Many of the responses from outside the region were from just outside, coming from the

affected by invasive species in the SLELO region. Roughly 74% of survey participants reported their livelihood was being affected by the invasive species in the SLELO region. This may not directly represent all the answers to the questions throughout the survey however, this could be due to participants feeling their livelihood and well-being were being affected in a manner



Syracuse area in Onondaga County. The majority of responses came from within Jefferson County, with the least coming from Lewis County, but there were responses from every county within the SLELO region.

The top responding categories were Hunters, Anglers, Recreationists, Loggers/Wood and Forest Benefactors, and Waterfront Property Owners. There were also 155 responses to the Why or Why Not (open-ended) question, providing valuable insight to how people feel invasive species in the region are affecting them. The survey has shown that people in the SLELO region do feel they are being affected by invasive species. Roughly 92% of survey participants reported that their well-being was being

that was not directly addressed by the survey itself. Some of the data may suggest people were either not understanding the question or perhaps not understanding the examples and thus, are not responding with how other sections of data would suggest and are responding that invasive species were not affecting them at all. This likely shows that while not everyone may be educated on the invasive species mentioned in the survey and what their impacts are, people still felt they are affected by the invasives they know about.

Another important statistic gathered from this survey is that roughly 94% of survey participants are worried that new invasive species will be introduced that could affect their well-being and happiness.

Roughly 77% felt that their livelihood could be directly affected by the introduction of new invasive species. This shows that people are genuinely concerned about new invasive species introductions and their potential to affect them in the future and that something needs to be done to make sure they are not introduced.

3.0 Demographic Breakdown, well-being.

Of the thirteen demographic groups targeted in this survey, including the (other) category¹, there were individuals within 11 of the 13 groups who indicated that invasive species affect their well-being a lot. Individuals within 12 of the 13 groups indicated that invasive species affected their well-being a moderate amount. There were also individuals within all 13 groups who indicated that invasive species affect them a little. Only 8% of those surveyed stated that invasive species have no affect on their well-being.

The top four groups whom stated that invasive species affect their well-being a lot include: trail guides, nature guides, charter captains and agricultural producers (Appendix Table 1).

4.0 Demographic Breakdown, livelihood.

Of the thirteen demographic groups targeted in this survey, including the (other) category, there were individuals within 10 of the 13 groups who indicated that invasive species affect their livelihood alot. Individuals within 13 of the 13 groups indicated that invasive species affected their livelihood a moderate amount. There were also individuals within all 13 groups who

¹ Other includes, agricultural, outdoor enthusiasts, gardeners as most common responders.

indicated that invasive species affect their livelihood a little. There were individuals in 8 of the 13 groups that stated invasive species have no affect on their well-being.

The top four groups whom stated that invasive species affect their livelihood a lot include: fishing guides, charter captains, marina owner/operators and nature guides. (Appendix Table 2).

5.0 Actual Survey Comments

The last question in the set was a Why or Why Not (open-ended) question, intended to gather opinions and comments about how invasive species affect the well-being and/or livelihood of those surveyed. This is an important question, as it reveals insights about specific ways invasive species have impacted real people and the severity of those impacts. Eight pages of additional comments were collected, several of which have been selected for this paper to include the following;

“We don’t have a lot of money. Last weekend my husband and I both got a rash from some poisonous hog plant that we were removing from our yard. We don’t have health insurance and we had to pay a fortune to the doctors and for medicine, now we don’t have enough to buy food until next week”.

“Because we live on the river, I will not use chemicals. Therefor I have to pull the invasives or pay someone to do it. The reduced fishing because of invasives has affected my family and guests”.

“The milfoil and curly weed are wrecking by business. I have 5 or 6 slips that no one will rent because of the weeds and this business is my livelihood”.

“As a charter captain, invasive species affect my business which is my income, no fish no income”.

One positive comment selected follows;

“As a consultant, invasive species have affected my financial means positively. I often get hired to help plan on how to characterize/control/manage them.”

6.0 Hurdles

The administration of this survey did not come without hurdles. One of the biggest issues that arose with the administration of the survey was a general lack of knowledge on what invasive species are and how they could possibly affect them. This makes it so that many individuals responding to the survey may not have responded to certain questions “correctly”. They may have been affected by invasive species but were not aware that the invasive was actually doing them harm in some way. Many people also were not sure of the intrusion of these various species. Many invasives have been around for years and some people tend to think of them as native now. The reluctance of individuals to take the survey was another issue. Many people either deemed they did not have the time to take the survey or many believed that they would be contacted by solicitors later if they did participate (this was even after they were assured no personal information was being recorded). The weather conditions throughout may also have affected survey results and responses. The above average rainfall had many groups worrying about potential flooding impacts rather than the impacts from invasive species.

7.0 Conclusions

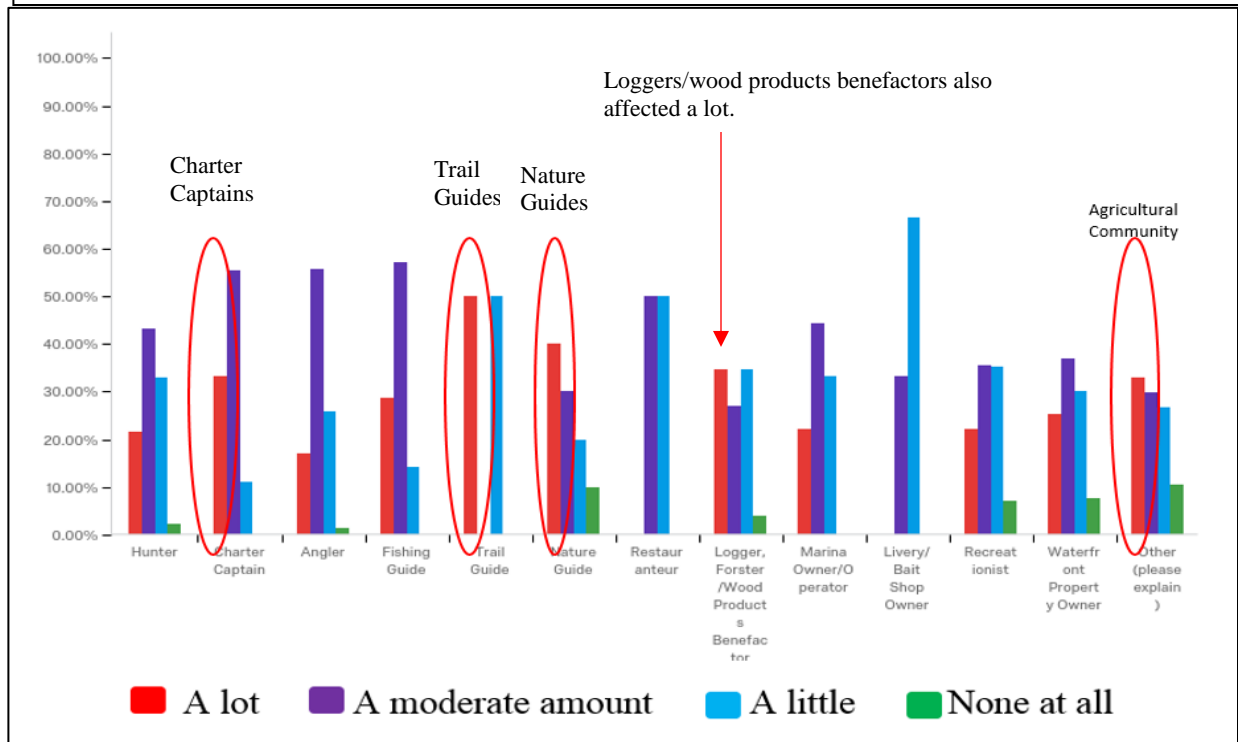
Prior to this survey, little was known about the cultural impacts of invasive species, meaning, we didn’t understand if

invasive species affected the well-being and livelihoods of people in the region of New York State where this survey was initiated and if so, to what extent. Often, we think that things like invasive species may impact indigenous peoples of third world, underdeveloped countries, but how could something like invasive species affect areas within a developed nation such as the United States. Although this survey was limited to a five-county region of New York State, the data could likely be extrapolated to other areas. We now know that, in addition to the ecological and economic impacts of invasive species, there is a real, genuine affect that invasive species have on the well-being and livelihoods of people regionally and locally.

8.0 Acknowledgements

We wish to thank the many individuals who took the time to participate in this survey. Your responses have provided insight to a subject previously not well understood. We also wish to thank those organizations and individuals who helped conceptualize and implement this survey: The SLELO PRISM partners, the Central and Western Chapter of The Nature Conservancy, Timothy Ives, Cathy Moore and Kevin Jordan from Cooperative Extension of Jefferson County and the New York State Department of Environmental Conservation – Invasive Species Coordination Unit.

Appendix Table 1. Top four groups whom stated that invasive species affect their **well-being** a lot. Trail guides, nature guides, charter captains and agricultural producers.



Appendix Table 2. The top four groups whom stated that invasive species affect their **livelihood** a lot include: fishing guides, charter captains, marina owner/operators and nature guides.

