

Abstract

Weed risk assessments evaluate introduced plants and identify and prohibit ones with potentially large ecological impact (i.e. that could become invasive as in *Figures 1-2*). Geographic origin is an important component of risk assessments because climate and habitat matching influence risk. However, if the origin is explicit in a species name this might also create implicit biases that could affect risk assessments' accuracy. **Here, we ask how an explicit description of geographic origin affects people's perception of risk.**



Figure 1: Kudzu vine taking over a house, Robert L. Anderson, USDA Forest Service

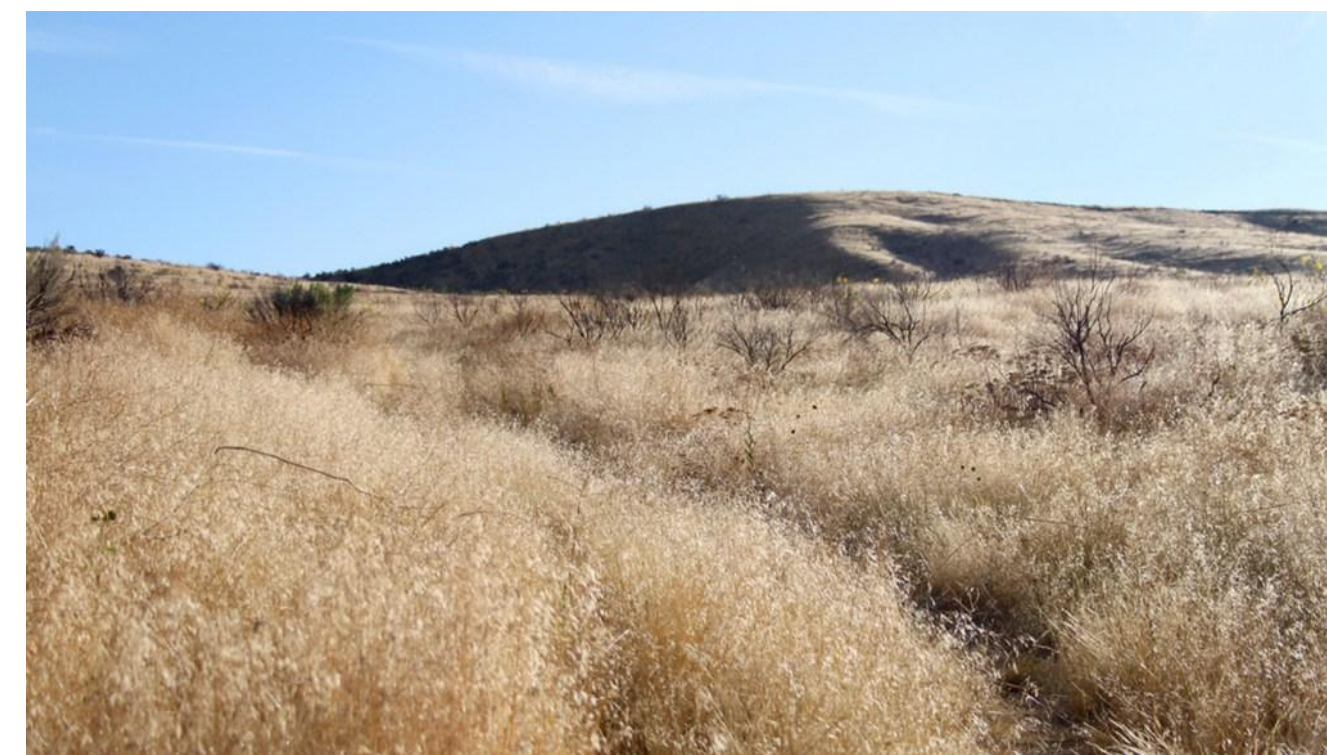


Figure 2: Cheatgrass invading sagebrush rangelands, Jaepil Cho, US Fish-Wildlife Service

Background

- Weed Risk Assessments (WRAs) score introduced plants based on their fact sheets to distinguish invasive from non-native plants.
- Fact sheets include the plant's description, background, habitat, and ecological impact along with its common and Latin names.
- Studies show that people are less likely to conserve negatively named species, indicating that names influence opinions by triggering sympathetic, patriotic, or fearful emotions (1).
- Since people may have negative associations with place names due to implicit bias (*Figures 3-4*), understanding how place names affect risk perception could enhance socially responsible communication between climate adaptation science and management through WRAs.

The New York Times

'Murder Hornets' in the U.S.: The Rush to Stop the Asian Giant Hornet

Sightings of the Asian giant hornet have prompted fears that the vicious insect could establish itself in the United States and devastate bee populations.

Figure 3: NYT, 2020

The war on Japanese knotweed

Once hailed as a 'handsome' import, this most rampant of plants has come to be seen as a sinister, ruinous enemy. Can it be stopped?

Figure 4: The Guardian, 2023

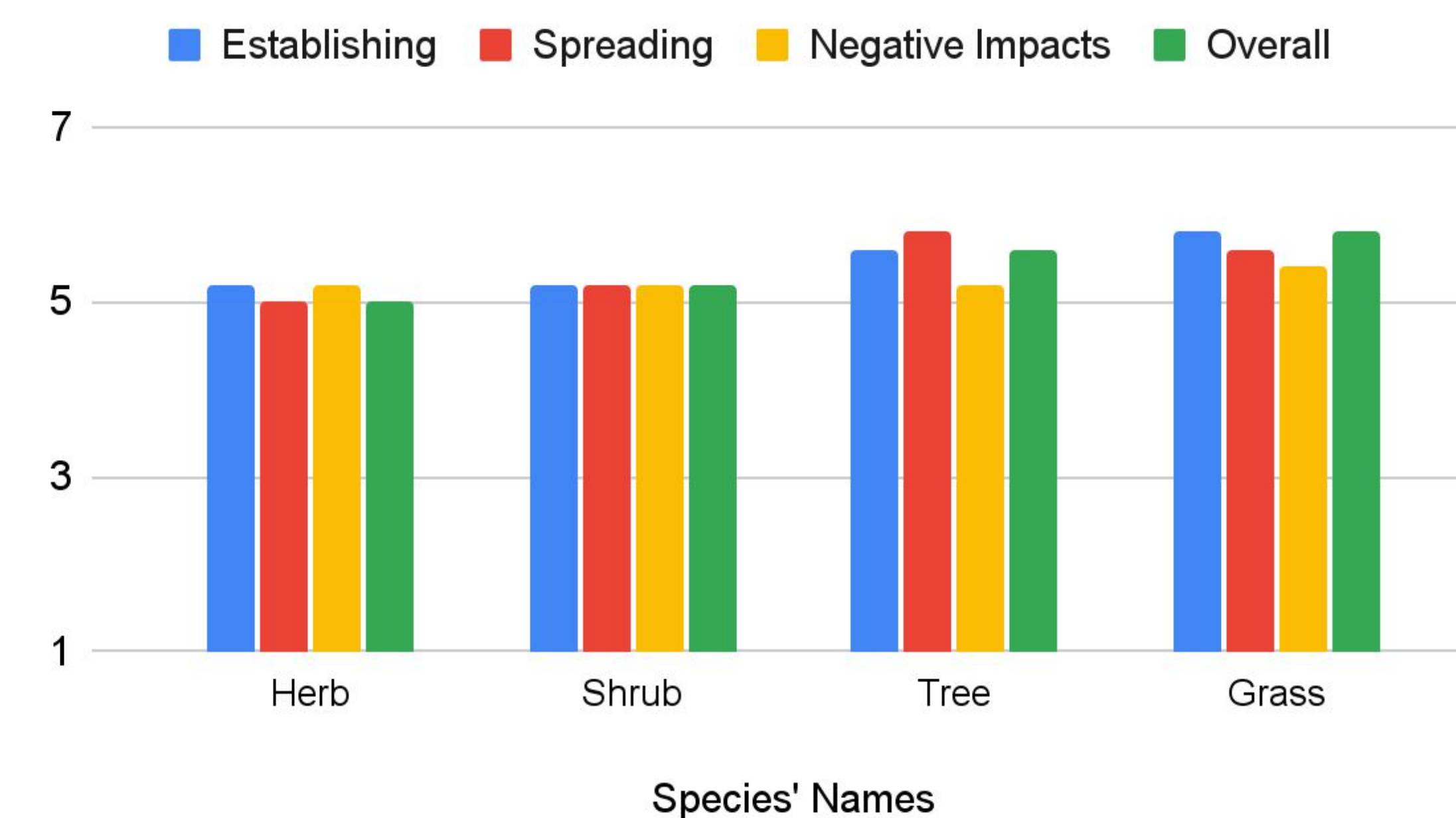
Methods

Qualtrics: simulated plant factsheets for 4 fictional species (*Figure 5*)

- Asking managers to rank the simulated species' risk based on likelihood of establishment, spread, impacts, and overall risk.

ChatGPT: generated factsheet content, trained with Pennsylvania DCNR Plant Fact Sheets, calibrated with pilot survey data (*Graph 1*)

Pilot Survey Results



Graph 1: The pilot survey includes four fact sheets without location indicators in the names

Replicate AI Tool: generate realistic AI images of species (*Figure 6*)

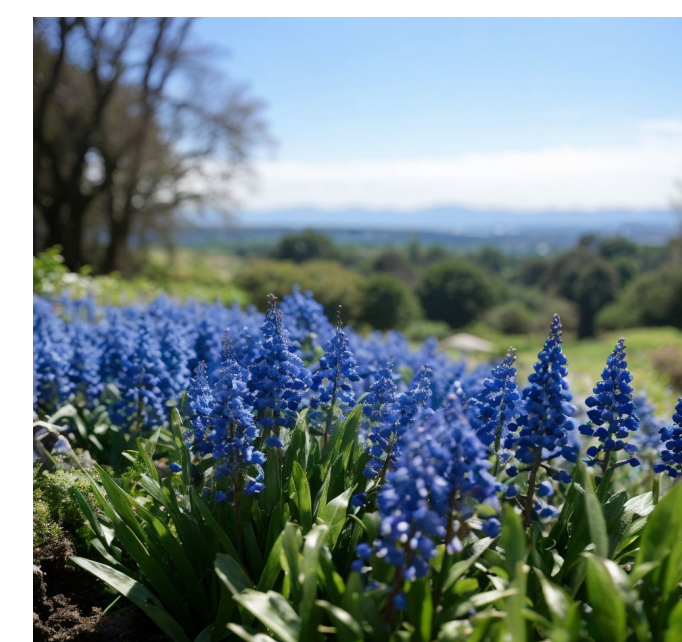


Figure 6: Progress of realistic AI generated images of Lantern Bush

JavaScript Code: randomize plant names by region (African, European, Asian, and no signifier) (*Figure 7*)

```
var continentsAdj = ["Asian", "African", "European", ""];
var continentsName = ["Asia", "Africa", "Europe", ""];
var continentsLatin = ["asiatica", "africana", "europa", ""];

function getRandomInt(array_length)
return Math.floor(Math.random() * array_length);
```

Figure 7: Section of JavaScript code to randomize the variables in Qualtrics

Figure 7: Section of JavaScript code to randomize the variables in Qualtrics

Next Steps

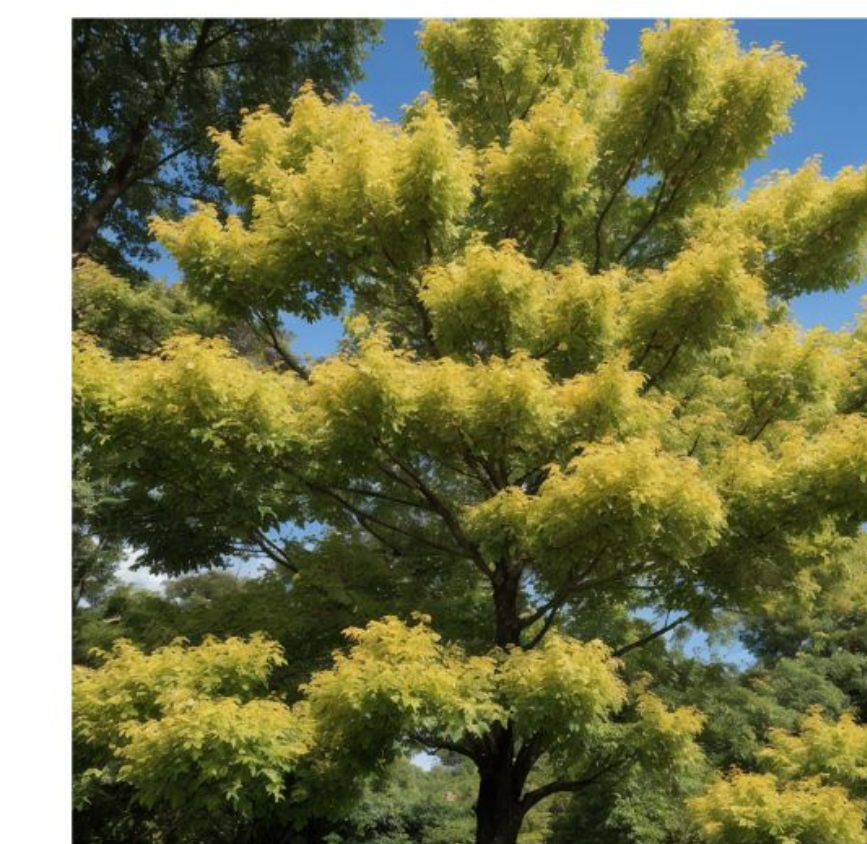
1. Sending the survey to managers for feedback.
2. Obtaining IRB approval.
3. Distributing the survey to the Regional Invasive Species & Climate Change (RISCC) Management network and other invasive species managers to collect results.

Asian Gilded Tree

Aureovenarum arbor



Dilara Isik, Univ. of Massachusetts



Dilara Isik, Univ. of Massachusetts

Description

The Asian Gilded Vein Tree (*A. arbor*) is a deciduous species, typically reaching 30 to 50 feet in height with a broad, spreading crown. Its pinnately compound leaves are ovate with finely serrated edges, turning a bright golden-yellow in the fall. This tree reproduces sexually, with small, fragrant yellowish-green flowers blooming in spring. These flowers are primarily insect-pollinated. The tree produces winged seeds in late summer, dispersed by wind. *A. arbor* is typically short lived with a lifespan of 40-75 years.

Background

The Asian Gilded Tree is a recent introduction from temperate Asia, brought to North America in the early 21st century as an urban street tree.

It thrives in well-drained, loamy soils, prefers full sun to partial shade, and tolerates moderately dry to moist conditions. In forest ecosystems, the species typically establishes in early to mid-successional stages.

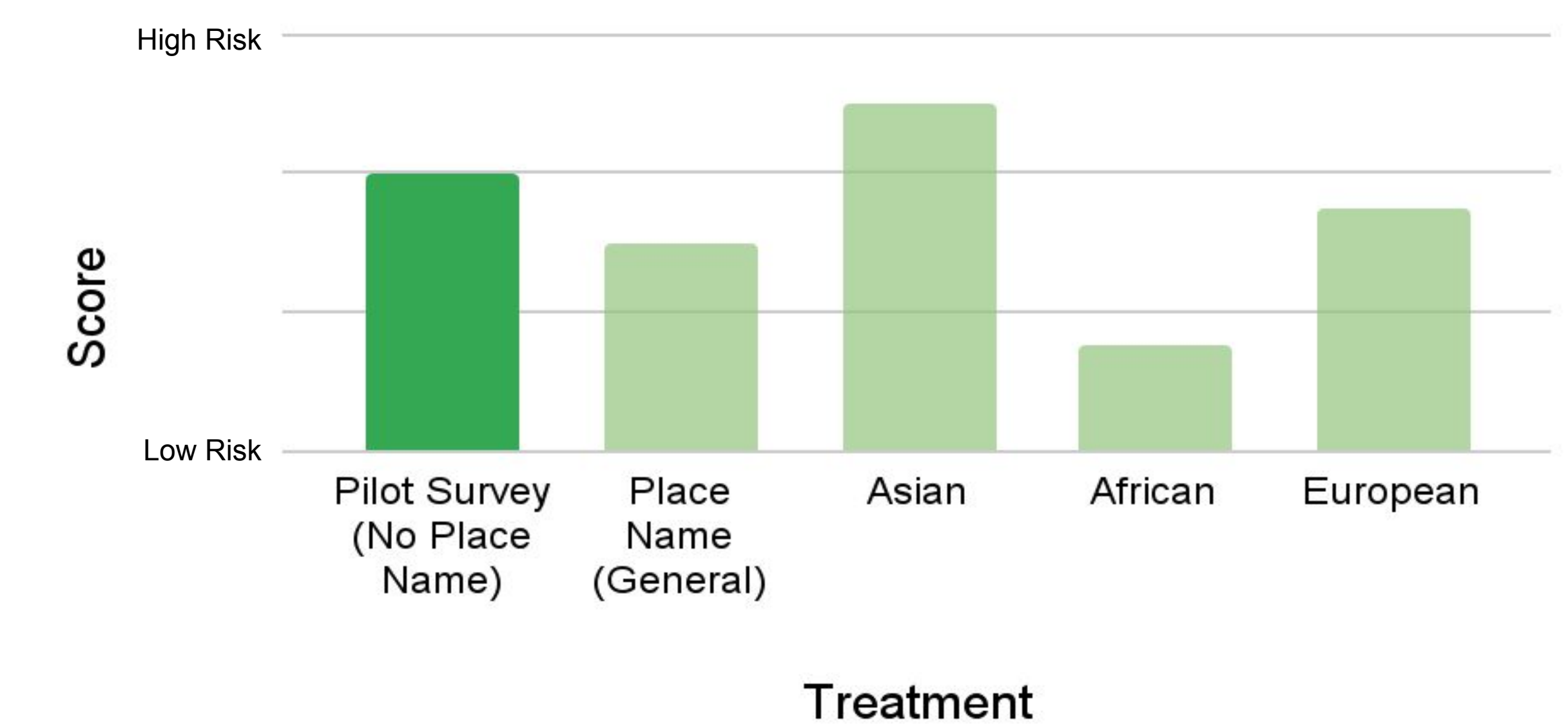
Ecological Impact

The Asian Gilded Tree may support local wildlife by providing habitat. Its ability to spread into forest edges and grasslands warrants monitoring to prevent possible displacement of native species. Its aggressive root system has created some sidewalk buckling in urban environments.

Figure 5: Example fact sheet created in Canva

Anticipated Results

Expected Results



Graph 2: Hypothetical Results

Acknowledgments & Reference

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(1) Karaffa, Paul T., M. M. Draheim, and E. C. M. Parsons. "What's in a name? Do species' names impact student support for conservation?." Human Dimensions of Wildlife 17.4 (2012).