

## Introduction

Geocaching connects people to nature and history by using technology. This relatively new sport attempts to educate participants in outdoor ethics while bringing those who wouldn't otherwise experience nature without the technological aspect. By comparing the habits of geocachers to the general public, it can be determined if geocaching may be an effective way to teach people about ecologically friendly outdoor behavior. Also, the data will determine if geocaching has a positive or negative effect on the resources of a State Park.

## What is Geocaching?

Explanation from Geocaching.com:  
"Geocaching is a worldwide game of hiding and seeking treasure. A geocacher can place a geocache in the world, pinpoint its location using GPS technology and then share the geocache's existence and location online." Currently, there are more than 2,000,000 geocaches and more than 5,000,000 geocachers. There are geocaches on all 7 continents and even a geocache on the International Space Station!

## Methods

Geocachers participating in Devil's Den State Park's Historic Home Site Geocache Challenge were given a link to a survey, which was attached to their geocache coordinates they received on a brochure developed for this event. Flyers were placed on the windshields of cars parked at a local grocery store referring to the online survey. Both groups completed the same survey and the results were analyzed to determine their environmental habits. The survey contained questions such as:

- What is your gender?
- What is your age group?
- What percent of household items does your household recycle?
- Do you pick up trash while visiting a natural area?
- Do you like to find your own way to destination or follow trails provided?
- Do you clean up your dog's feces in public outdoor areas?
- Do you use mass transportation or bike when possible?
- Do you use reusable shopping bags?
- Do you drive a fuel-efficient vehicle?
- Do you consider yourself a part of the overall problem or solution?

In addition to the survey, before and after pictures were taken of each Home Site to determine if there was a positive or negative impact, such as a change in the amount of litter, the creation of new paths, or vandalism to home sites.

## Relation to Sustainability

There are many ways geocaching relates to sustainability. Participants are taught a variety of behaviors such as: plan ahead to travel, dispose of waste properly, and respect wildlife and others. They know to bring water and stick to the trail provided to leave as little footprint as possible. Because geocaches are placed in both the natural and built world, Cache In Trash Out (CITO) techniques encourage using geocaches as a means to maintain an area. Many geocaches are established to educate participants about a specific site and thus create a greater awareness of the importance of the site, such as the home sites chosen for the Historic Home Site Geocache Challenge at Devil's Den State Park.

## Home Sites Before and After

For the Historic Home Site Geocache Challenge at Devil's Den State Park, which was made available through the month of March, geocaches were placed at 7 pioneer home sites which dated back to the 1830s. All of these sites were located within 30 feet of a trail or road on the State Park. Pictures were taken on each site before and after to determine if there was an increase or decrease in the amount of trash and also to compare the traffic in the area of the site to see if the geocaches caused extra paths to be made or destruction to the site.

Ellis Home Site Before



Ellis Home Site After



## Results

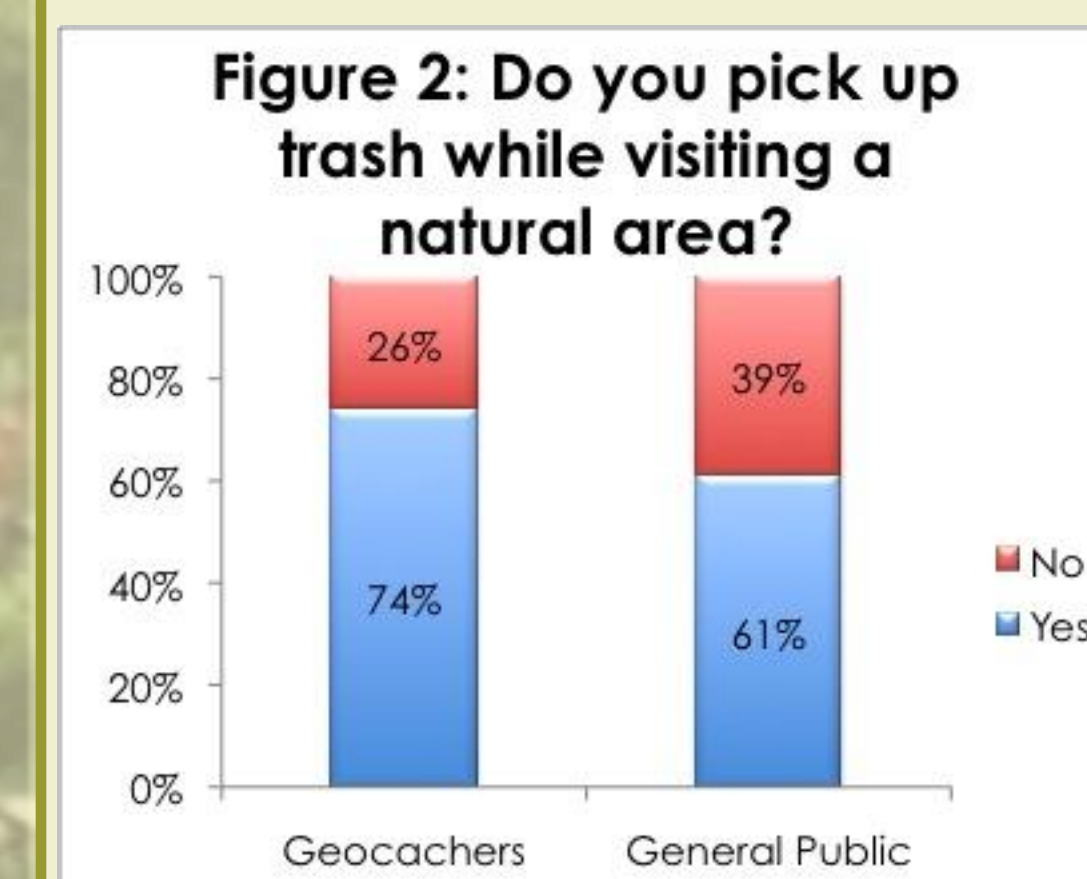
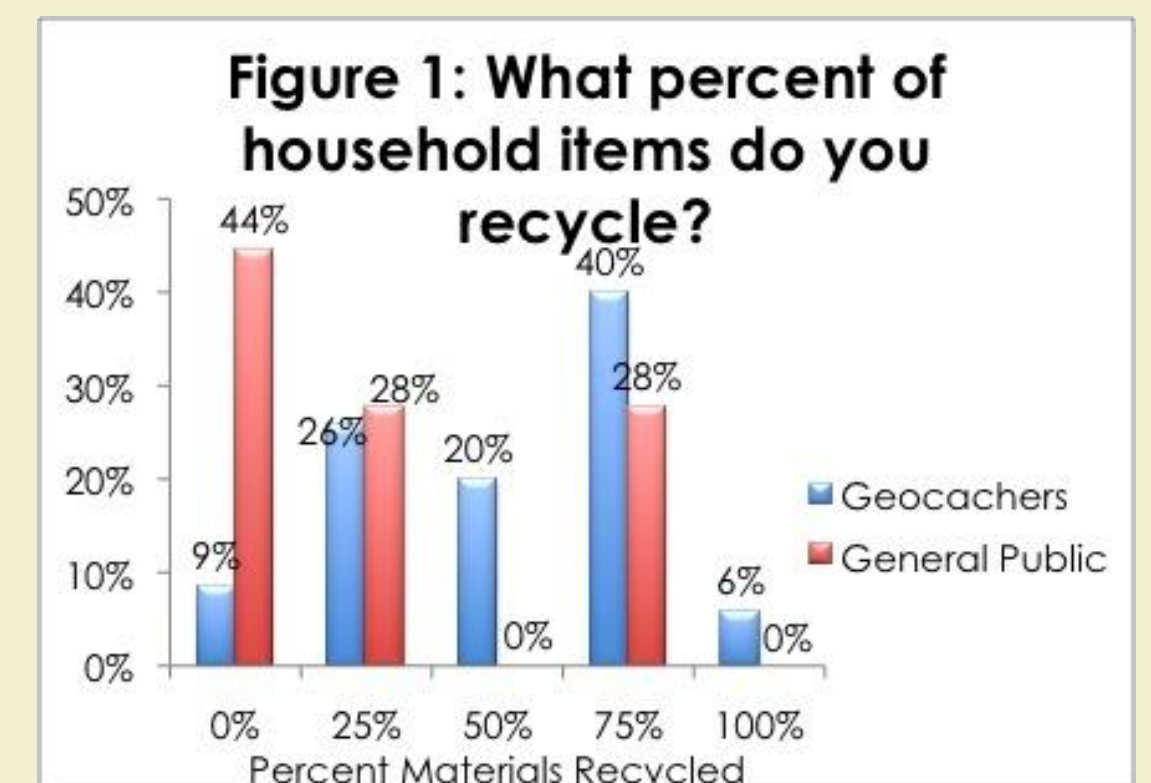
After the month-long event ended, there was no noticeable change in the amount of trash or pathways at the pioneer home sites. Additionally, pieces of pottery and steel buckets remained intact.

## Results of Survey

35 responses were received on the Geocachers Survey, while 18 responses were received on the General Public Survey. The General Public Survey had ~6% response rate at ~300 surveys released.

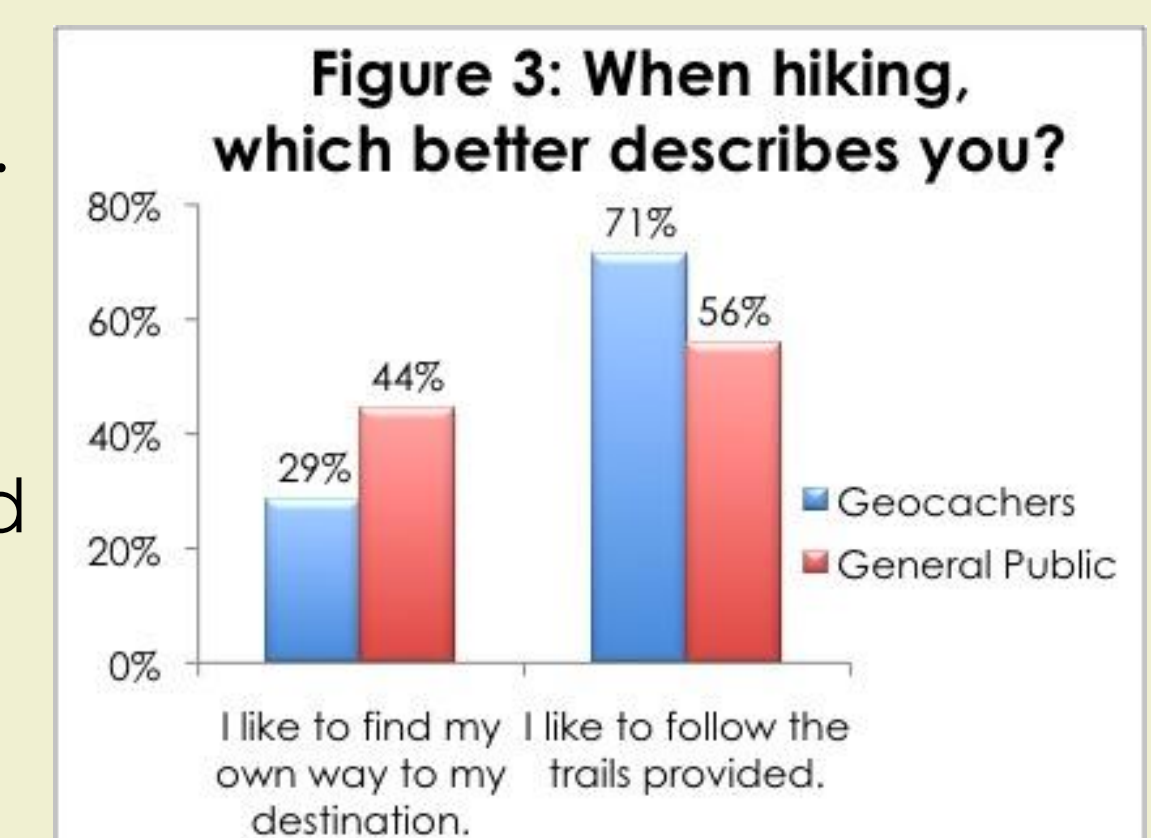
- Each survey had approximately the same proportion of males and females.

- The General Public recycles much less than Geocachers. Nearly half of the General Public does no recycling while 66% of geocachers recycle more than 50% of their household items (Figure 1).

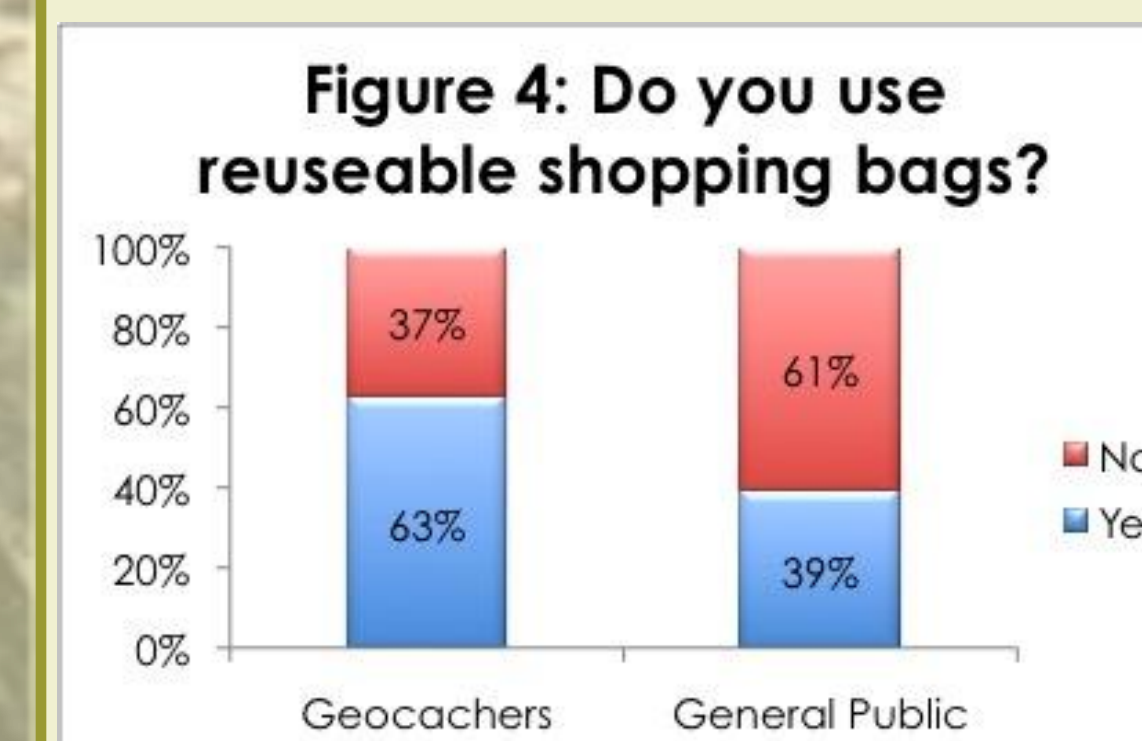


- A majority of both Geocachers and the General Public pick up trash (Figure 2).

- While both Geocachers and the General Public do prefer to follow the trails provided most of the time, the General Public is more likely to stray from the trail.



- Nearly 50% of the General Public does not clean up their dog's feces (Figure 3).
- Only about 30% of both Geocachers and the General Public use mass transportation or bike.



- About 63% of Geocachers use reusable shopping bags while about 39% of the General Public uses reusable shopping bags (Figure 4).

- About 54% of Geocachers drive fuel-efficient vehicles, while only 39% of the General Public does so.

- 66% of Geocachers believe they are the environmental solution while similarly, 50% of the General Public believes they are the solution.

## Conclusion

The results of this survey illustrate the addition of geocaches to a State Park when placed within 30 feet of a trail have no negative affect on a natural or historic resource. Geocachers have a greater sense of responsibility towards the environment and therefore practice many environmentally friendly behaviors. Teaching people about geocaching informs them about their surroundings as well and is effective at instilling sustainable habits.

## References

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