

Deer and Littering in Nara

1. Motivation behind Research Paper

Have you ever noticed the garbage that littered the streets? In recent years, we humans have built a civilization of mass production and mass consumption. Mass-production and mass-consumption society has made us richer, but it has also caused harmful effects such as depletion of resources, destruction of the natural environment, and global warming. We thought we must protect the natural environment of our home, Nara. While researching about that, we found the serious problem that deers living in Nara park eat littered garbage.

2. Introduction

Research was done using a study conducted by the General Incorporated Foundation Deer Lover Society. We researched how to prevent deer eating dangerous litter and the negative impact on the environment in Nara Park caused by littering. According to the General Incorporated Foundation DDeer Lover Society, deer have the problem of eating plastic that smells like food. People litter because there are no garbage cans in Nara Park. In the past, a 3.2-kilogram chunk of plastic was found in the stomach of a dead deer. Nara's deer are wild animals, but they are very rare animals in the world as they live in an urban area. As a result, deer approach our daily life and end up eating things that they are not supposed to eat, which can cause health problems.



*Figure 1. Images showing plastic found in deer by Nara Deer Welfare Association
 Blog Event Information and Daily Things (July 2021)*

According to the results of a garbage pick up survey by Mr.Usami of Japanese Veterinary and Life Science University, food packaging bags were the most common trash found.

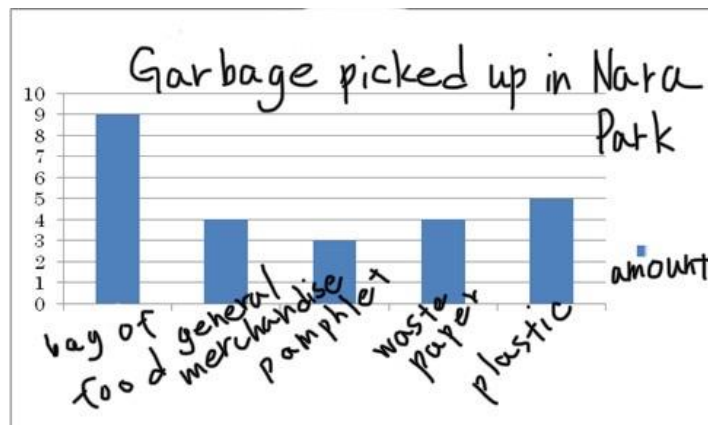


Figure 2. Bar graph showing kinds of garbage by Usami, Japanese Veterinary and Life Science University (February 2019)

To achieve this goal, we called the General Incorporated Foundation Deer Lover Society and asked two questions about how we could reduce the impact on the deer in Nara. The first question asked if trash cans could be put in Nara Park because we thought that putting the trash cans is the best way to reduce the amount

of litter being left around the park. However, we can't put the trash cans out due to a lack of human resources and the cost of distributing the trash cans and collecting the trash. The second question was what effective countermeasures are that students can help with.

3. Results and Analysis

A poster was created and displayed at Nara Kokusai High School to raise awareness for the damage to deers in Nara Park. This is because we thought that changing people's consciousness would connect to the solution of this problem. First, we thought about what kind of posters would attract people's attention. Therefore, we created a poster focused on pictures and a poster focused on letters, put them up in front of the entrance of the school, and did a questionnaire about which poster was easier to see after one week.



Figure 3. Image showing the posters displayed at Nara Kokusai High School

In the questionnaire, we asked the question, “Which do you think will catch the eye of people who come to Nara Park?” A total of 66 students from the school responded (June 17,2022).

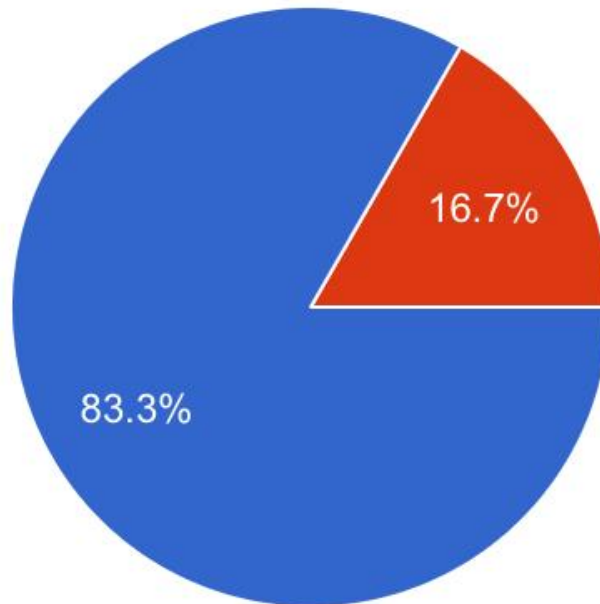


Figure 4. Results of the questionnaire about the posters displayed

As a result, more than 80% of the respondents said the poster with pictures was easier to read. People who saw the poster gave opinions such as “it’s colourful and stands out,” “It caught my eye,” and “It’s cute.” On the other hand, it was found that the poster with only text was easier to understand. There were also options “Even foreigners can understand,” “It is simple and doesn’t have too much on it,” and it is true that there are people who pay attention to the advantages of characters only, although the percentage is small. With that in mind, we set out to create a groundbreaking poster that incorporates the best of both previous posters. We also thought about where to put the posters so that more people could see them. We suggested Kintetsu Nara Station. According to the open data website, Kintetsu Nara

Station is used by about 34,000 people in a day, and there are many foreign tourists. Because of this data, we thought that Kintetsu Nara Station would be a good place to get more visitors to see.

4. Conclusion and Future Problems

As mentioned above, we thought that enlightenment activities such as posters would be the best way to protect the deer in Nara Park. Then, in order to get to know about damage to deer, we tried to make a poster that anyone can understand and we put the two posters (one with pictures and the other with text) in front of the entrance of the school, and did a questionnaire to students about which poster they thought was easier to see. The result of the survey showed that the poster with pictures was easy to understand, and the poster with text was easy to understand, even for foreigners, and had an impact. In addition, we researched where to place the posters so that more people would see them, and found that the area near the ticket gate of Kintetsu Nara Station was a good place. Based on these results, we considered that the most effective enlightenment activity would be to put the posters near the ticket gates that combine English text and illustration that are easy for anyone to understand. However, the activities ended without any action. We have no plans to continue our research activities in the future, but we would like to be aware of what we have learned in this exploration activity in our daily lives and try to move as close as possible to a sustainable earth.

5. Reflection

There were reasons and problems that we couldn't achieve. At first we thought it was a simple problem to solve. However, this problem was more difficult

than we imagined, and the way to resolution was long. The coexistence of deer and people in Nara is different from coexistence with common wild animals. Nara's deer respect people and are animals that have achieved coexistence with humans a long time ago. We humans should respect the deer of Nara and change our consciousness. We thought that awareness-raising activities such as putting up posters, which we actually did, were the best way to protect the deer in Nara Park. However, this problem should be easily solved if humans are conscious enough to take the garbage home with them. It's easy to have the awareness of taking garbage home, but some people don't try to take action. We are always aware of this and want to act. Through this research activity, we were able to do little and may not have taken a big step toward solving the problem, but our consciousness has definitely changed.

6. Work Cited

Adami. "About garbage in Nara Park."

Open Data website