

# **Living with Wildlife: Human impact on wildlife and the role of education in the San Juan Islands, Washington**

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## **Abstract**

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The San Juan Islands of Washington State are a unique habitat for both humans and wildlife. Although they are in close proximity to the urban cities of Seattle and Tacoma, these islands remain relatively rural and have maintained close connections to wildlife. I will be working with Wolf Hollow Rehabilitation Center in Friday Harbor, WA on San Juan Island to evaluate human interactions and attitudes regarding wildlife. Within this study I will examine the major causes of injury and harm to wildlife as well as the differences of actions and attitudes towards terrestrial and marine wildlife. Based on these results, the educational tools employed by Wolf Hollow will be analyzed in order to see if they are effectively targeting certain gaps in human knowledge about wildlife.

## **Introduction**

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Humans are one of the largest threats to the health and abundance of wildlife populations. Beliefs and attitudes affect how people view and treat wildlife. These choices can positively or negatively affect wildlife, but many people are unaware of which actions are harmful and why (Andersen MS, 2006). In order to preserve wildlife it is imperative to alter the human perception of how to correctly live harmoniously with wildlife. If education and outreach materials can be updated in a way that they effectively inform and impact human opinions in a way that makes them more conscious of the wildlife around them, then they can alter their daily habits and choices to improve their relationship with wildlife (Scheffer VB, 1976). The more people who are effectively informed, the more encouraged they will be to inform others and promote a high standard of conservation to be upheld.

## **Review of the Literature**

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Residents of the San Juan Islands are generally quite conscientious of their interactions with the environment and wildlife. However, island ecosystems are more fragile than their larger mainland counterpart, which makes sustainability and conservation more important on these islands (Simberloff, D 1994).

Marine animals are typically more difficult to protect due to their vast habitat and somewhat unknown or misunderstood regulations (NOAA Fisheries 2011). In this area, marine wildlife is well loved and characteristic of the area in general. Whale watching is a substantial contributor to the San Juan economy and an important part of the culture

(San Juan Island Chamber of Commerce 2011). Seals and sea lions are more at danger from people wanting to interact with them rather than from people intentionally harming them. On the other hand, a large amount of terrestrial animals are seen as pests that interfere with gardens, lawns, or ponds on private property. This is an intriguing split between attitudes toward wildlife based on habitat. In order to protect these animals effectively, the education and outreach materials must cater to each situation. It is clear that one method would not work well for both sets of wildlife. Also, regulations regarding harbor seals are relatively unknown by the public as well as controversial due to public opinion. For example, many people want to be able to help a seal they believe to be hurt or injured but it is technically illegal to touch these animals (Suryan, RM. 1995).

Wolf Hollow Wildlife Rehabilitation Center is one of the leading organizations on the San Juan Islands that educates the public about wildlife as well as providing a rehabilitation center for wildlife. Their mission is to, “promote the well-being of wildlife and their habitats through the rehabilitation of injured and orphaned wildlife, public education, and non-invasive research.” (Wolf Hollow Wildlife Rehabilitation Center 2011). The center regularly rehabilitates animals in order to successfully reintroduce them to the wild and researches diseases and causes of mortality in harbor seals. They also work at local events and at wildlife viewing areas to educate the public and school groups about wildlife and the environment as well as creating outreach materials (ibid).

## **Methods**

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In order to examine the issues between wildlife and humans in the San Juan Islands I used a mixed method approach. I created two surveys to be given to residents

and visitors to the islands. They each ranged from 10-20 questions and each included demographics, questions about experience with wildlife harm and injury, knowledge of current laws and regulations, attitude towards wildlife, and educational preferences. A total of 113 surveys were collected on the Washington State Ferries going to and from Friday Harbor and Anacortes, Washington. A total of 54 visitors and 59 residents were surveyed. I was pleased with this distribution because I had been worried about not finding enough visitors to survey because fall is part of the off-season for the islands. In addition to surveys, I also conducted a total of 8 interviews. Four of the interviews were with Wolf Hollow staff or interns. The others were with Joe Gaydos from SeaDoc Society, Kari Koski from Soundwatch, Cindy Hansen from the Whale Museum, and a representative from F.O.L.K.S. (Friends of Lime Kiln Society). These interviews ranged from 40 minutes to 2.5 hours. I asked them all about problems between humans and wildlife as well as specifics dealing with their background and employment and how they specifically view these issues.

I also worked 3-5 hours every week at Wolf Hollow doing volunteer rehabilitation shifts. This was my participant observation time in which I talked to the staff, observed interactions with public, participated in outreach events, and learned the basics of working in the wildlife rehabilitation field. I also spent time looking through their master log and their collections of journals and resources about wildlife interactions and wildlife. I also assisted in two seal pup releases. I helped weigh and measure the pups and took pictures for future use in educational tools, the website, and to send to donors.

## **Discussion**

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Based on my research, I have encountered many different results to all the questions that I wanted to answer. Based on my surveys, I have found that the greatest cause of harm to wildlife typically comes from vehicular impact especially to deer or birds. My interviews back up this data as well as including window impact to birds, orphaning and abandonment, and attack by a domestic pet. I compiled data from Wolf Hollow about cause of injury of animals admitted. This also shows that in the four years I looked at, the top causes of harm were orphaning, unknown, or domestic pet attacks (fig. 1).

Education seems to be an effective method to mitigate human impact on wildlife. From the materials currently employed at Wolf Hollow, it appears that the newsletter is the most effective tool, based on opinions from the staff. They believe it is the most effective because it is sent out regularly and has national distribution in order to reach the greatest number of people. Wolf Hollow also uses many other educational tools for local events, but due to decreases in funding, they have cut back certain outreach tools significantly. For example, they used to give brochures to hotels and bed and breakfasts but due to lack of funding this is no longer in action. Based on the responses of surveys, visitors in particular are extremely receptive of brochures to inform them about wildlife issues and regulations. I have also found that an area that has not yet been explored much by Wolf Hollow is a technology-based educational tool. Residents and visitors alike seem to be receptive of these new educational methods (fig 2). I would suggest that social

networking sites like Twitter and Facebook be used to raise awareness of Wolf Hollow and wildlife rehabilitation in general.

Residents and visitors to San Juan County have different ways in viewing and interacting with wildlife. Before conducting this research, I hypothesized that residents would be less enthused by wildlife than visitors are because they see the regional wildlife on a daily basis and are more likely to see it as a nuisance. These predictions were correct but there were more complications as well. For example, although residents tend to like wildlife less than visitors, there are certain groups of residents who have a closer relationship with the local nature and wildlife and are more committed to protecting it than visitors (fig. 4). For example, people who live in the San Juan Islands seasonally are often even more protective of the environment here than the full-time residents or the visitors. This can be attributed to the fact that they view the islands as their sanctuary and are devoted to keeping it that way.

I found very few big differences in what type of wildlife people thought would be more benefitted by educational efforts. Most visitors and residents thought that both marine and terrestrial wildlife would be benefitted. However, of the people who did chose between the two groups, more believed that marine wildlife would be more benefitted (fig. 3). It was most often stated that this was because we do not have as much understanding of marine animals as we do terrestrial animals. The majority of people surveyed said that their favorite animal to see in the wild in the area was a whale. This was not surprising because of the large economic and cultural importance of killer whales in the Pacific Northwest. From my interviews, I found that most experts in the field

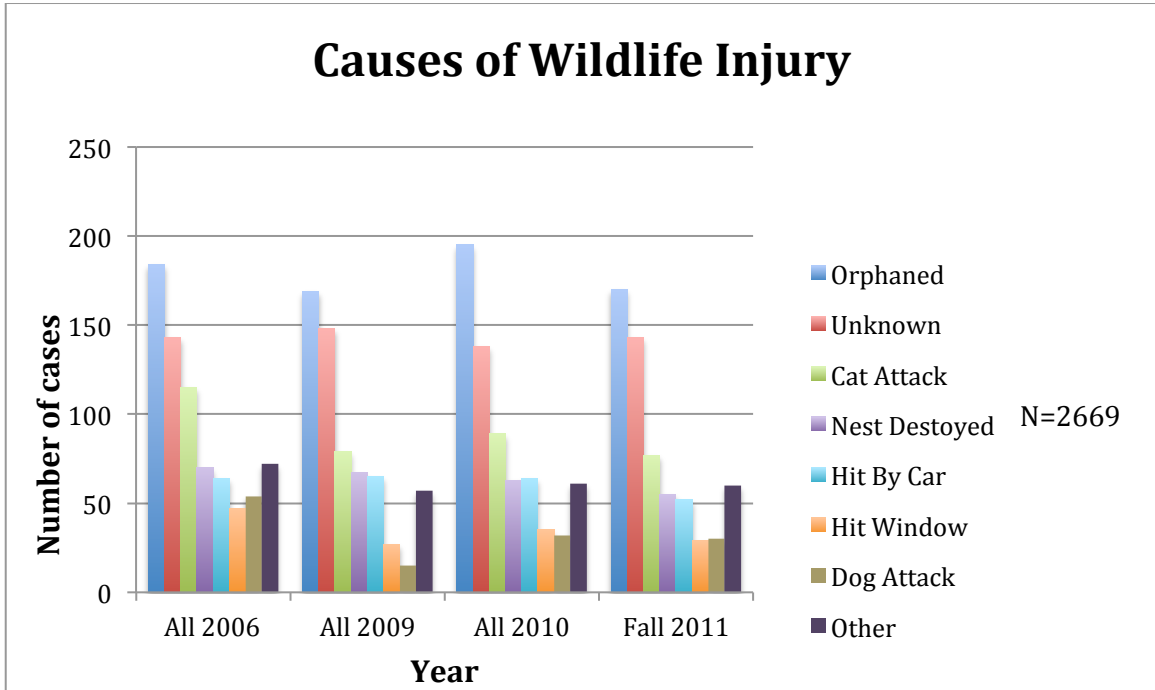
believe that marine wildlife is more revered and respected, and terrestrial wildlife is at a greater risk of harm because they are not as appreciated.

## **Conclusions**

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One of the overarching themes of my results is that human impact, direct or indirect, is the leading cause of harm and injury to wildlife in the San Juan Islands. In general, people do not intentionally harm wildlife but simply do not realize what actions are having negative consequences for the wildlife around them. Education is one of the only ways to mitigate this impact. However, there are many different interaction dynamics based on the species of animal and the individual's attitudes towards wildlife. Thus, education must be tailored to these differences. For example, a person may love whales, but hate deer because they eat his or her garden. So, the type of education material for this person must be different than for a person who is a fisherman by trade and thinks the whales and seals are eating too many salmon, but enjoys seeing terrestrial wildlife in his/her backyard. This research has exposed several demographics that should be targeted in different ways through education in order to mitigate human impact on wildlife. It is necessary to continue this research into even more demographics in order to glean a full understanding of the complex and dynamic relationships between humans and wildlife.

**Figure 1**



**Figure 2**

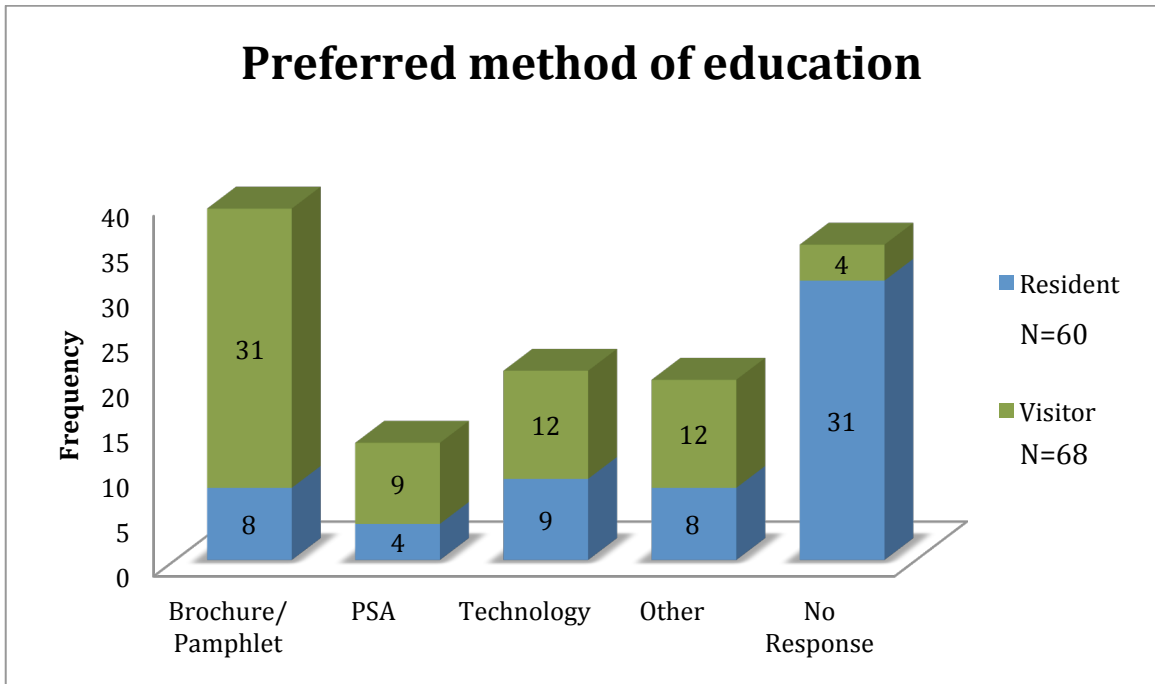


Figure 3

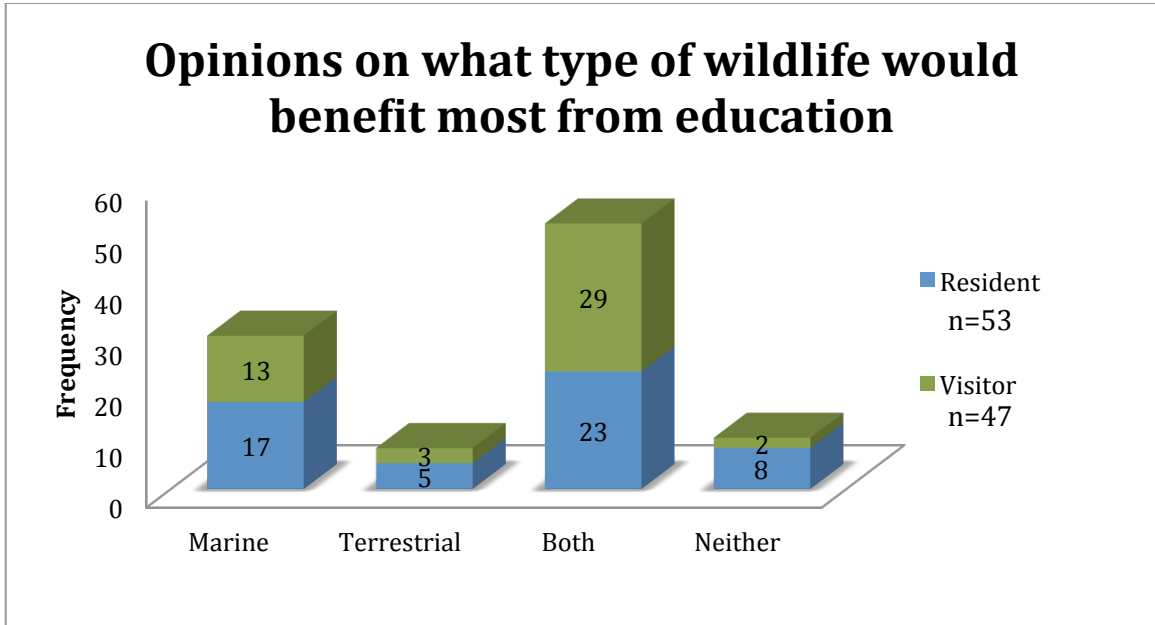
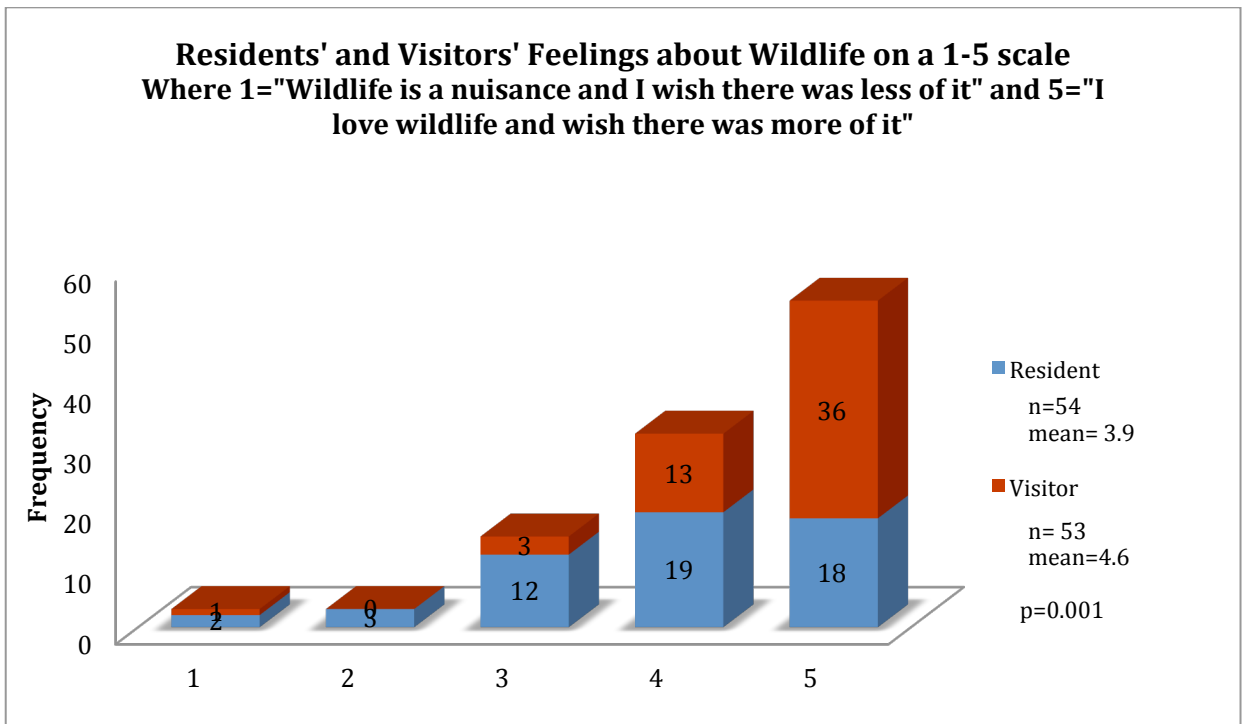


Figure 4



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