Feral and Stray Dog Population Management

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Introduction

All around the world, there are difficulties in wildlife management and complications in the implementation of these practices. Feral dog populations are especially difficult to manage for many reasons. The sheer abundance of these populations can be overwhelming for any significant area. Also, the social implications of proper management can be interfering.

A feral dog can be almost impossible to distinguish from a pet dog. They come in all shapes, sizes and colors. The main distinction is there level of reliance and dependence on humans. This becomes apparent in their inevitable behavior towards humans (Green).

Figure 1*- Stray dogs on a city street (The Blue Dog)*

There seem to be clear impacts that these populations can have on an area, which makes managing them properly essential. These impacts can affect the environment, other wildlife populations, the economy and even local communities. Major cities in Ecuador have an overabundance of feral dogs roaming the streets. Through research, it became clear that there aren't many management practices being implemented to control these populations in these areas. Upon further investigation, there seems to be more management being implemented in the Galapagos than anywhere else in Ecuador. From there, research was conducted for a few other cities that have management guidelines and practices that are used for their feral dog populations. Cities in Italy and India were studied, both with different and somewhat innovative methods of control.

Impacts

The Environment and Wildlife

Feral dog populations can have serious and detrimental impacts on the environment and the wildlife that lives among it. They can spread disease, predate species and create competition with endemic species. When dogs are pets, vaccines are typically administered to prevent the spread of disease, but when dogs become feral and free roaming, these diseases can go unchecked. This is a threat to wildlife and sometimes even local endemic and endangered species populations.

Large free roaming dog populations not only endanger other wildlife by the spread of disease, but also local human communities. The transmission of certain diseases between dogs and humans is prevalent and they share a decent amount of parasitic pathogens. Since these diseases tend to be zoonotic, this is a huge concern for local communities that have feral dog populations among them.

Feral and free roaming dogs are not only known for killing wildlife but they also tend to harass and chase them. This raises stress levels and can also displace these animals. Dogs are also known as intraguild competitor, which essentially means they are known to predate their own potential competition. This creates an interesting dynamic among these populations and their interaction not only with their prey but also their predators (Young et al, 2011).

Society and the Local Community

In a lot of societies, dogs are kept as pets, or are at least used beneficially for humans. This could pertain to hunting, herding, protecting families and livestock and companionship. This then, makes the perception of different management practices of free roaming dogs quite controversial. Local communities who predominantly have dogs as companions are going to have a harder time accepting harsher methods of control, even if it is more beneficial to the community as a whole, considering their emotional standpoint. Farmers and cattle ranchers on the other hand, have an easier time viewing feral dogs as a nuisance that should be controlled, mostly because of their economic impact (Herbert 2012).

The Economy

Since feral dogs tend to travel and live in packs, they collectively have an effect on an ecosystem. Local businesses, spanning from farming and ranching, to farmers markets and local gardens, feel an impact from free roaming dog populations. This then translates to a hit in the local economy of a community and also the personal income of the owner where the damage takes place.

Methods for Management and Control

There are many different methods to control wildlife populations depending on the severity and delicacy of the situation. Some management practices may be more inexpensive and at the same efficient as others, but it is all based on the type of population being managed and also the financial status of the people doing the managing. When it comes to dealing with feral dog management, many different practices are considered before settling on the proper one for the situation. The two most common methods are TNR (trap, neuter, release), adoption and euthanasia. Both hold their own set of benefits and also their own implications (Amaku 2010).

Figure 2- *A female being spayed during a neutering pilot project (Kinabalu 2013)*

TNR

The concept of trap-neuter-release had been implemented in a few cities around the world but it has its difficulties. Socially, people have a few stipulations, and a lot of the community tends to butt against it. Some people believe that dogs suffer without human companionship, even though this has been proven to be false. They believe that if we take the dogs off of the streets , they should then be rehomed, not returned to where they were found. On the other hand, some people believe that these animals create too many problems on the streets and therefore should be euthanized instead of returned. TNR has had great success in lowering dog populations and it probably the most successful technique out there. (Herbert 2012).

Also, the sterilization of males has proven to be far more beneficial than the sterilization of females. Intuitively, this makes sense, since the males are able to mate many more times in a season than the females can. Above, in Figure 2, a female is being spayed at a local clinic. The concept of using a sterilization injection as opposed to neutering is being explored in West Bengal, India. This would be less time consuming, and also, potentially more cost effective. There are still some stipulations to overcome but it looks to be a potentially viable option for TNR (Jana 2007).

Adoption

As an alternative to releasing them back where they were found, the idea of trapping and then rehoming them is an option. In some places, like the US, stray dogs from overpopulated areas are transported to places where they tend to be scarce. This is a means of evenly distributing the populations, and also, it gives the dogs their best chance to be adopted. In third world countries, like Ecuador and India, adoption is a tough sell. The dog to human ratio can be so high, that adoption as a sole means of mitigation is unfeasible (Diaz 2012).

Euthanasia

The method of euthanasia as a means of controlling feral dog populations has been used all over the world, with less success than other methods. In a lot of cities where dog populations are abundant, this tends to be a favorable solution. People living in urban slums in India were polled on what they believe the best control methods would be for stray dogs, and the majority ruled on killing them. This was also a poll on rabies prevention and the respondents seemed to be less informed on the proper knowledge to make sound decisions. It has been shown that catching and killing these animals has had little to no success in population control (Herbert 2012).

Galapagos and Ecuador

There aren't many studies on feral dog populations within the main land of Ecuador, even though it is known to have large amounts of them in certain cities, such as Quito and Cuenca, shown in Figure 3, below. The dynamic of stray dogs in cities has been the main focus of this paper, but islands also tend to have feral dog problems as well. The Galapagos are no exception. The main problem surrounding dogs in the Galapagos are the threats to the endemic wildlife populations that reside there. The species that live in the Galapagos are special because most of them can only be found on these islands (Reponen 2013).

Figure 3- *A pack of stray dogs in the town of Mindo, outside of Quito (Personal)*

People only inhibit 5 of the 19 islands- Santa Cruz, San Cristobal, Isabela, Baltra and Floreana. The main problem dog population resides on Isabela Island and since dogs cannot be transported between islands and vaccines are prohibited, the population that resides there is isolated. As of 2004, there is believed to be around 320 dogs residing on the island. Not all of these dogs are feral, some have homes but are free roaming and unconfined. This means they are free to explore the towns and the local beach, where certain endangered endemic iguanas live. The hunting of this iguana is of particular concern. Also, the diet of the free roaming dogs can possibly pass parasites that they are not able to vaccinated against.

The methods on the islands are limited- the main one being neutering. This helps keep the population count under control but it doesn't seem to curb the potential spread of disease to humans and other animals. Also, the predation of the local wildlife is hard since there doesn't seem to be an sort of enforcement of confining the free roaming dogs (Levy 2008).

Italy

Parts of Italy have been plagued with large feral and free roaming dog populations for quite some time. Since 1991, however, they have been protected by the government and there is a no kill law in tact. The only time euthanasia is used in Italy is when the dog is proven to be "incurably ill or proven to be dangerous". They have many strategies to combat the rising numbers of stray dogs, some of which have been discussed already.

First, it is important to note how they classify the dogs that live in these areas. There are four subpopulations- Owned dogs (OD), which also include free roaming, owned dogs; Kennel dogs (KD), which are dogs in shelters and are unable to roam; Block dogs (BD) which consist of dogs that have essentially been TNRed but are also vaccinated and microchipped- the local municipalities are responsible for them; and then the stray dogs (SD), which are all the free roaming dogs with no home and these include feral dogs.

Their methods of control include kenneling, adoption, conversion of SD into BD and population control of OD, which typically consists of neutering. Kenneling is not a very viable solution on its own because shelters can only carry so many dogs, and since there is a no kill policy, they fill up fast and stay full of the same dogs. Also, the livelihood of these dogs decreases immensely since all they do is live in a confined kennel. Adoptions are a great option, but also difficult because of the limited amount of space and opportunity for the influx of dogs who would need it. Converting SD to BD is a good option for the livelihood of the dogs, and also a viable way to curb populations and also the spread of disease. Since this is release option, the nuisance aspect of stray dogs is not mitigated, nor is the environmental damage they can cause. The neutering of OD is important for the control of both free roaming OD and SD populations alike (Hogasen 2013).

The enforcement of these parts of the no kill law has not been strictly enforced. Even though adoption rates have been steady, it is still more likely for the dogs to live out their whole lives in these shelters than be adopted. This method seems to only transport the dogs off the street, which can alleviate the nuisance problem but not necessarily the stray dog problem (Natoli 2009).

India

India has suffered from overwhelming feral dog populations and has fallen victim to a lot of rabies cases every year. Jodhpur, India has implemented a system similar to Italy called Animal Birth Control (ABC). This consists of the capture, vaccination, sterilization and release of feral and free roaming dogs. Sterilization seems to be the most effective method for these areas. ABC was implemented to not only reduce populations but also to help in the elimination of rabies. The target for vaccination coverage was 70% and it is predicted to eliminate rabies within this population. The studies conducted in this study believe this goal is achievable, although the study isn’t complete. The population levels have declined as well, slowly. They also used other methods, such as habitat reconfiguration, which typically consisted of decreasing available food supply (Totton 2010).

This study was followed up with more studies a few months later, and it was found that a lot of the dogs left in the population suffered from malnourishment, which could have been caused by more quality/quantity of food. Dogs that had been sterilized seemed to be more susceptible to ticks. There seemed to be less roaming and less energy expended as well, due to the absence of mating. It is hard to tell whether a lot of the ailments found in these dogs were linked to sterilization. They could have been predetermined; there was no record or tagging system for this. There was also sample bias in the study samples, which can cause the results to be distorted. Overall, there seemed to be a higher number of sterilized dogs with skin conditions thank sexually intact dogs, as well as a higher amount of ticks and tick bites (Totton 2011).

Conclusion

Many places across the world are plagued with an overabundance of stray dog populations, and the methods and ideologies for management vary. Levels of education, financial status, resource availability and overall mentality are all factors to consider when deciding on control mechanisms. The impacts of feral dog populations also vary from place to place, but tend to be negative everywhere. Since there aren't many studies done on management of the dog populations currently living in cities in Ecuador, it makes sense to potentially implement some of the ideals from other cities where there has been success.

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