Relocation of American Crows

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Introduction

American crows (*Corvus brachyrhynchos*) are a widespread species in the United States that are a well-known major problem in urban areas. American crows can be found all throughout the United States in the lower 48 states. Crows are in the corvid family which indicates that they are very intelligent and social species and can be found constantly moving around, calling, being in large flocks, or picking at something of interest. With crows being so intelligent, it makes the process difficult to relocate them since they do not want to leave a place that they have already settled in and established. The main areas where you can find crows are in habitats that are near people which can be cities, campgrounds, schools, garbage dumps, and many more.

American crows can be found towards the upper half of the food web. Crows are omnivores and can be seen eating a wide variety of foods. Many will eat insects, aquatic animals, carrion, and garbage left from humans. They are a nest predator and can be frequently found eating eggs or nestlings of songbirds and waterfowl. Predators to crows may include but are not limited to owls, hawks, eagles, and humans. Snakes have also been a problem to crows since they will attack their nests and eggs in the middle of the night. Crows do not see well in the dark, so it makes it difficult to see any predators that are sneaking up on them. Since crows cannot see well in the dark, they are attracted to the lights in the cities (The Cornell Lab). The urban roosting is attracting crows because it is a “heat island” and the colder nights are not ideal in rural areas. The heat is radiating from the town lights and creates thermals for the crows to keep warm. Lighting options may want to be reduce so the current location is less desirable for the species.

Crows have the behavior of roosting and breeding communally in their murder which is considered a group of crows. Since crows are very social species, there is more group behavior that is recognized. The home range and the communal roosting location will be at different locations. "… communal roosting requires travel to distant sites with long absences from territories (Caccamise, 1997). The crows will return to their roosts normally after sunset but that will depend on the individual crow. Based on studies done in the past, urban areas tend to attract juvenile crows (Withey, 2005). "Crows may gather in roosts of over half a million birds and are so abundant that even an ardent defender of birds might not deny that they are destructive to crops and should be controlled, although they consume enormous amounts of grasshoppers, cutworms, and other harmful insects" (Bull, 1997). The number of crows that are gathering in one location can great a big nuisance to the people in that city.

The problem that will be addressed is the issue of a great abundance of American crows in the Mansfield Square in Richland County, Ohio. The problem at this location appears to be too many fecal droppings from hundreds of roosting crows throughout the Central Park. The benches, statues, monuments, buildings, sidewalks, etc. are getting covered with fecal droppings and complaints are getting sent in from the public. This occurs yearly when the crows are roosting from the fall to the spring. With all this occurring, it creates a human-wildlife conflict. The human-wildlife conflict can be viewed as a negative result when there is an encounter between humans and wildlife that could result in loss of money, property, and livelihood. After realizing how bad the issue is in the Mansfield Square, Richland County officials contacted the Ohio Bird Sanctuary for advice on how to relocate roosting crows to a new area.

Review of Literature

Many cities and small towns all over the United States have had issues with the nuisance of crows and some of their attempted solutions are in the following paragraphs. In Woodland and Davis, California, there was a treatment to 63 urban roosts with lasers to see if the crows would react to the light and abandon the roost. Treatments were done around 7:00pm which was after the sunset and once the crows arrived at their roosting trees. The lasers were used by having someone stand to one side or underneath the canopy of the tree, scanning the laser up from the base of the tree and up the trunk and then scanning the branches till all the crows dispersed from that tree. Once the crows left the treated trees, the next tree would be treated. After treatment was done on the trees, the trees would be retreated if the crows returned to it. The use of lasers to disperse crows need to be combined with another dispersal method and is only temporary if the treatment is not consistent (Gorenzel, 2002). The results indicated that there was an initial dispersal during and after the treatment, but crows reoccupied the treated roosts the same night. No roosts were abandoned, and the use of lasers is not a tool to use by itself to see results of crow dispersal.

The different types of trees, deciduous and evergreen, will make a difference on how a crow will react. Based on the study in Woodland, California, trees had differences when it came to the departure. The trees treated with lasers were 43 deciduous trees (68%) and 20 evergreen trees (32%). During the treatment periods, the crows seemed to leave the tree quicker if they were roosting in a deciduous tree. The crows in the evergreen trees did not take flight immediately but they eventually left the roosts as the treatment was continued. The reason for the delayed response in the evergreen trees may be from the canopy cover being thicker than in the

deciduous trees. The crows felt safer in the evergreen trees and did not feel like they were in enough danger to flee the area right away.

Another study was done for 2 years, and it was located at Cook College campus of Rutgers University, New Brunswick, New Jersey. During the study the goal was to look at how the territorial crows would resolve conflict between the group of crows and during the dispersal from the communal roosts. All the crows in the study used the same roosting location site. The research collected indicated that the territorial contests were unlikely during the later part of the day while the individuals left the roosting sites. “Additional evidence suggests that crows usually stopped during their commute between the territory and the distant roost” (Caccamise, 1997). That key point of the study will be very helpful for the relocation of a crow murder. The results concluded that the group cohesion that happens at the roosts will end once the crows left their territories. Therefore, this study shows that crows may not be in communally together other than when they are in their roosting locations.

The use of lasers to disperse American crows have been used in the past by other cities and by the city of Mansfield, Ohio. Based on the laser use by Mansfield, the results were only temporary. The Richland Source showed that lasers were purchased and put in use for scaring crows off. Other methods that were done was hanging plastic owls and ribbons in trees and blasting sounds (Richland Source, 2022). The laser method consisted of a Mansfield official going into Central Park and scanning the trees on the trunk and branches of the trees that were occupied by crows. The result of this was that crows did leave the park for a short amount of time right after the laser exposure, but the crows reoccupied the trees the next day. The laser method is only having a short-term effect and will need to be paired with another technique that

will help to relocate the crows nightly roosting location. All the methods were only temporary and does not indicate that it was done on a consistent basis.

Recommendations

Based on research from other outside sources, there are many other suggested methods that can be used to disperse crows from their urban roosts. The process of the relocation needs to start immediately when the crows start roosting which is in October. By making the current roosting location undesirable, it will make the crows want to relocate to an area that is more ideal for them. To start with the simplest way, the limit of human food should be happening so crows are not attracted to the location based on garbage or leftovers. The attempted solution to this is by investing in trash cans that are able to shut and latch down and have the public develop better skills of cleaning up around the town. There are many techniques to make the current roosting location undesirable to crows. Crow calls from speakers can be used to lure or distress crows to and from areas. Distress calls should be used in the area that the crows are roosting and being a nuisance. Both luring and distress calls need to be used in short durations, so the crows do not get used to the noise and realize that it is safe in that area. These calls should not be a stand-alone method to need to be paired with other methods. Fireworks are also an option to distress crows but may create more problems with the surrounding communities. Other humane methods could include using motion censored water sprinklers, hanging up reflective objects and eliminating the lighting around the trees. “One community moved a neighborhood roost by just having people out on the sidewalks with noisemakers at dusk for the better part of a week” (Urban Crows). The support of the community is something that is needed and will be wanted by any city that is

thinking about relocating crows roosting areas. All those suggested methods need to be done on a consistent basis so the plan will follow through.

Crows will need to be relocated in an area that has a reliable water source, constant food sources in the surrounding area and lighting such as streetlamps. Just like any bird, crows need to have a water source nearby to be able to thrive in their environment. Besides a source of hydration, crows will need water to soak their food, cool off from the heat and a way to keep up their feather maintenance. The crow will soak their food and that may be to soften it up so it is easier to eat or so they can wash it. If a natural water source is not available, there is an option to install a bird bath that is big enough for crows. Perching is a very important aspect of site location for crows. It is ideal to have a variety of tree options while picking out the location to relocate the crows. Man made structures like fence posts are good options to include but should not be the only perching option for the area.

Crow Stations

Crow feeding stations were set up and monitored via trail cameras from April 9th to April 29th, 2022. Two stations were set up on property of Mount Vernon Nazarene University. The first station was further away from the main part of campus and was on a tree line beside the Kokosing River (Figure 1). The second station was across Martinsburg Road and was right beside the riparian zone of Delano Run (Figure 2). Each morning, food was taken to the station and put on the table for the day. The table was staked to the ground so it would be secure through the entire study. The foods that used cracked corn, unshelled peanuts, and cheez-its. This variety of food was selected because they are high in fat and crows would be more likely to eat it.

Based off the trail camera footage, there were multiple days with crows making an appearance at only one location. The number of individual crows is unknown due to the timing the pictures and videos that were taken and the time interval in between the crow moving around. Figure 3 shows three crows feeding and hanging out around crow station #2. There was no footage of the crows on the trail cameras but there was a sighting of a crow nearby on April 11th, 2022. The reason that there were no crows at feeding station #1 may have been from the location of the locate crow roosts. If that was true, it would indicate that crows do not have a flightpath that is near that location. Other footage included raccoons, opossums, deer, groundhogs, songbirds, turkey vulture, humans, and a dog. Observations in the Mansfield square in April 2022 was not able to be done because the crows were nesting at the time and not creating a nuisance in the town.

Conclusion

In conclusion, there has not been a reported complete successful relocation of the roosting location for crows in urban areas. Due to the large amount of intelligence, crows will return to their roosting sites even after being scared off. Many studies were only performed for a short amount of time and did not look at the long-term relocation of American crows. The recommendation is to stay consistent with the method that is chosen and to pair it with another method, so the crows do not get used to one technique over another one. The relocation of hundreds of crows will be difficult, and it will need to be an ongoing study since it will take an extended amount of time to see long term results. Overall, this study on relocation of urban crows was a very interesting topic and many future studies can be done to find a successful solution to relocate crows that will work in any town.

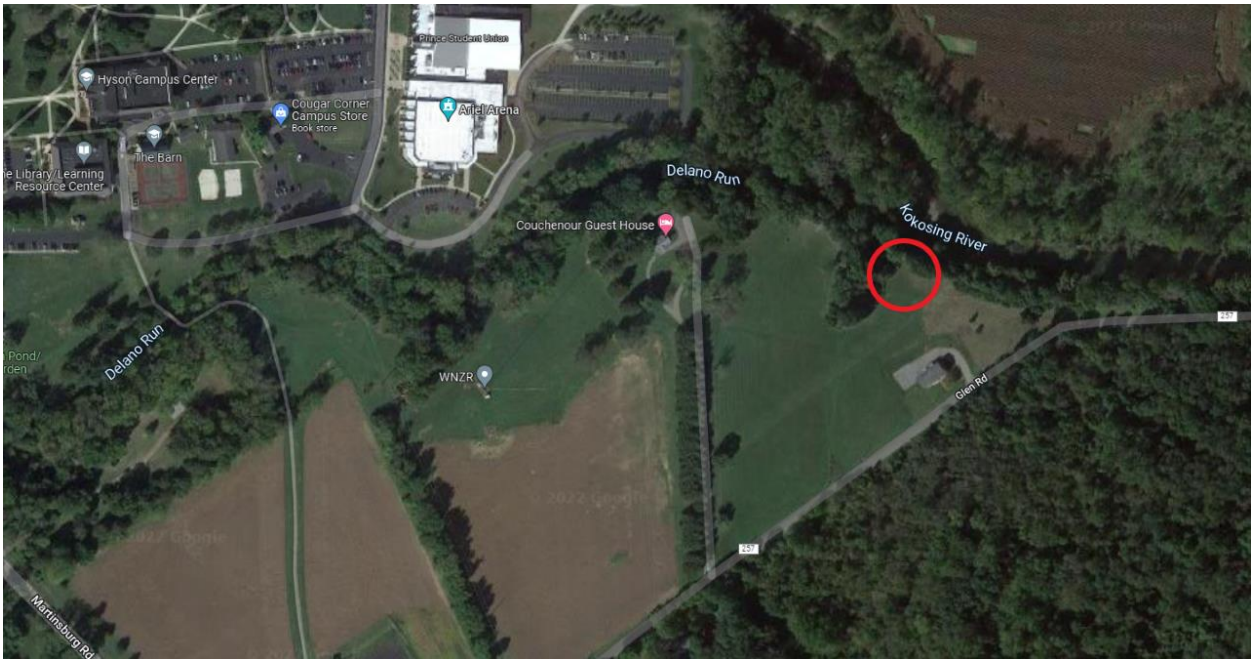

Figure 1: Map location of crow station #1 on Mount Vernon Nazarene University campus.

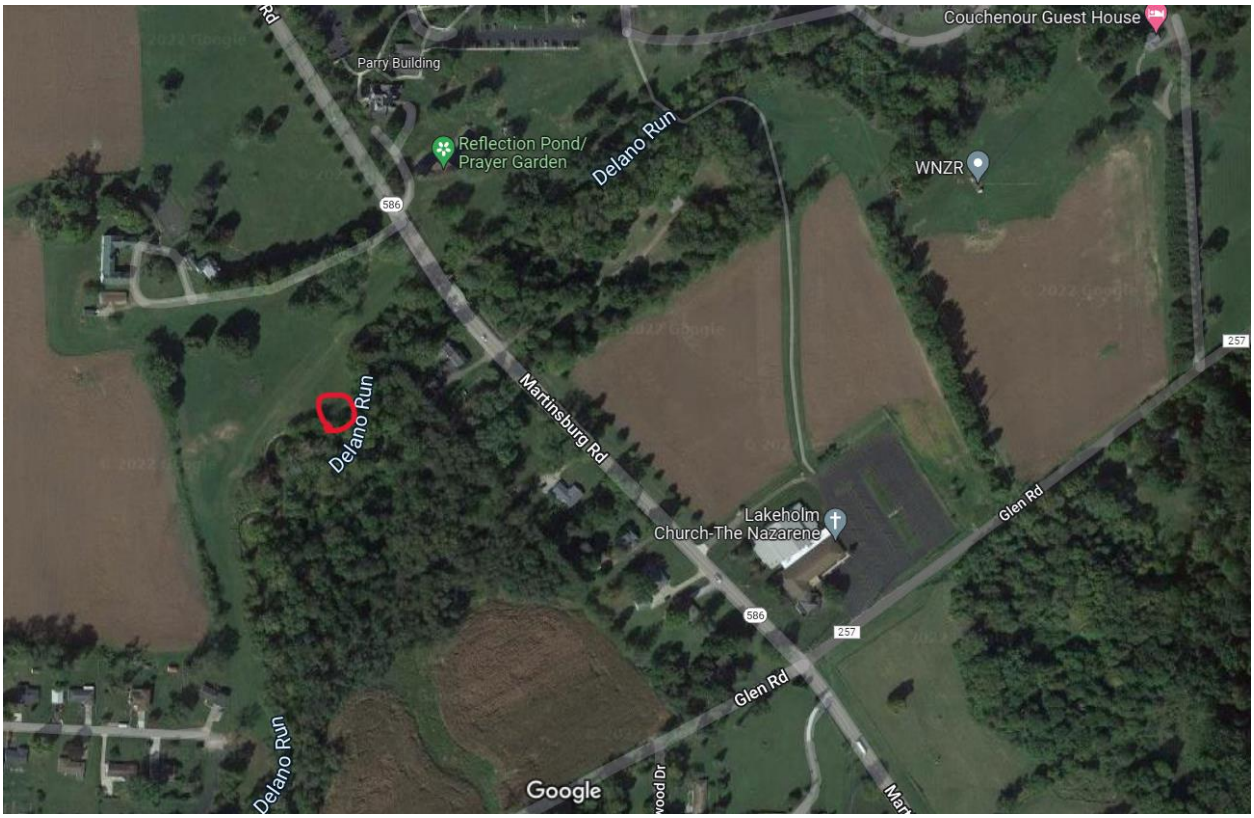

Figure 2: Map location of crow station #2 on Mount Vernon Nazarene University campus.

Figure 3: Crow station location #2, three crows eating and hanging around the area.

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