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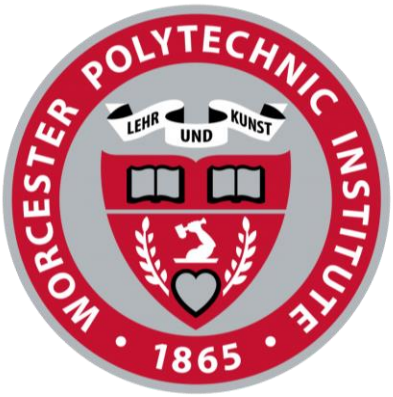

WPI

Feasibility of Cellular Webcams for Remote Wildlife Monitoring in Acadia National Park

An Interactive Qualifying Project
Submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
in Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science
by

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Submitted to:
Professor Bianchi
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Abstract

Wildlife monitoring is very important in Acadia National Park, as it can ensure the safety of various species and is useful for research and education. This project explored the application of remote cellular webcams to monitor wildlife activity in Acadia and identified opportunities and limitations for possible future applications of these webcams to monitor wildlife. This report evaluates the performance of these webcams and details recommended future applications.

Acknowledgements

Our team would like to acknowledge the many staff members from Acadia National Park who helped us with our project. We would like to specifically thank Science Coordinator Abe Miller-Rushing, Chief of Natural and Cultural Resources Becky Cole-Will, and Biologist Bik Wheeler, for their continued support and feedback throughout our project. We also would like to thank Sarah Hooper, the Education Specialist of Schoodic Institute, for the supplementary feedback she provided us toward the end of our project. Finally, we would like to show our gratitude towards Professor Bianchi and Professor Rosbach. They have both been incredible advisors to our project and allowed for us to have a wonderful experience doing our project remotely.

Executive Summary

Introduction

Acadia National Park currently lacks an efficient way to remotely monitor wildlife. Acadia has monitored its wildlife in many different ways, including population studies and invasive species detection (National Resource Monitoring, n.d.). However, these different methods entail physically capturing the animal of focus. They also may not be as efficient as alternatives because they require large amounts of time and effort and can also be disruptive to the wildlife. Webcams are an alternative method that have been effectively used by researchers in other National Parks to monitor wildlife (Uhler, 2019; Webcam Home, n.d.). While Acadia National Park currently has one webcam monitoring the shoreline, researchers do not use webcams for the purpose of continuous wildlife monitoring (Webcam, n.d.). Our proposed solution is to expand the capacity of wildlife monitoring through the use of cellular webcams in Acadia National Park.

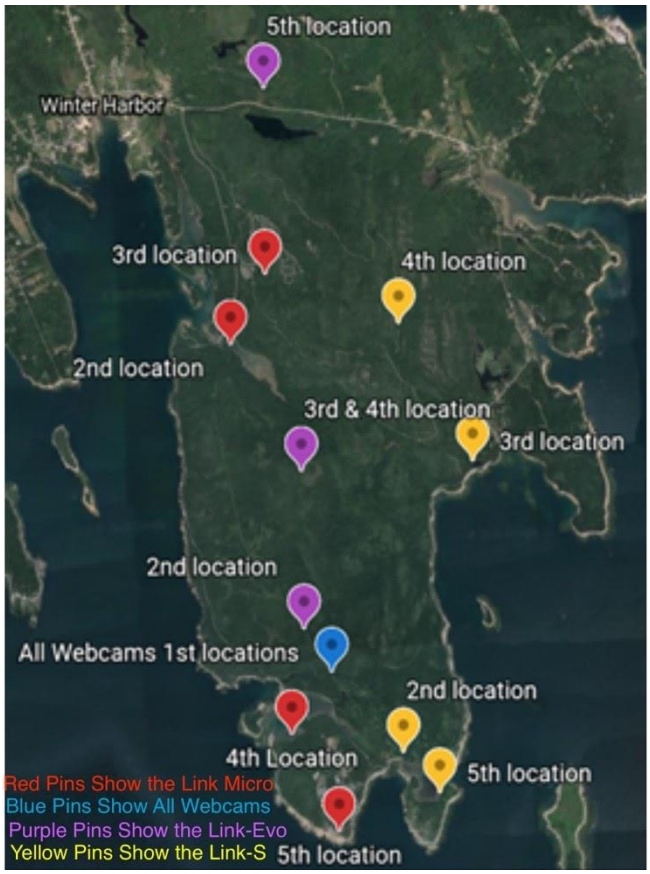
Methodology

The overall goal of this project was to investigate the feasibility of using cellular webcams to monitor wildlife in remote areas of Acadia National Park. To accomplish our goal, we established three main objectives:

- Determine the technical capabilities and limitations of the cellular webcams.
- Explore locations and placements of webcams to capture wildlife activity and upload images to a cloud server using cellular service.
- Determine the future possibilities and purposes of cellular webcam use that will benefit Acadia National Park.

We initially conducted research to identify a webcam that had all of the capabilities needed to test the feasibility of remote wildlife monitoring. These capabilities are cellular connectivity, a solar panel, motion sensing, and the ability to transmit images through a cloud to be accessed remotely. However, since we already had access to three webcams, a Spypoint Link-S, a Spypoint Link-Evo, and a Spypoint Link-Micro, we decided to use all three of these webcams for data collection and compare the effectiveness of the different camera models. We collected hourly data from each webcam including battery percentage, cellular connectivity, and temperature using a Ruby program, which can be found in Appendix E. This information gave us

insight into the technical capabilities of each webcam. All three webcams used 8 AA batteries for this project. The Link-S was activated on an AT&T cellular plan, whereas the Link-Evo and Link-Micro were on a nationwide plan, meaning they could receive a cellular signal from any cellular tower regardless of carrier.



All Webcam Locations Tested

We chose to set up our webcams in different locations throughout the Acadia National Park owned portion of the Schoodic Peninsula, including the wildlife corridor and Schoodic Woods Campground. All of the locations can be seen in the image above. We chose our five sets of locations using Google Earth, keeping in mind where we were likely to see wildlife activity, experience good connectivity, and collect a wide range of data in different and spread out locations. We set up webcams along trails, in more open areas, near water, and places with relatively higher vegetation. We also secured the webcams three feet off the ground to trees, using a tree strap, to allow for images of larger and smaller wildlife to be captured. An example of the webcam setups can be seen below.

Placement and Set Up of Webcams

We also wanted to determine what these webcams could be used for in the future based on the needs of Acadia National Park. To do this, we did research on current and past projects done by the Park and Schoodic Institute to determine where any knowledge gaps or needs for webcams. We then worked with park officials to develop three possible applications for remote wildlife monitoring throughout Acadia National Park.

Findings

During the testing period in the five locations, we experienced some difficulties with the webcams. We encountered rapid battery depletion on the Link-S, likely because this webcam was on an AT&T only plan, causing it to search harder for a cellular connection compared to the other two webcams. Meanwhile, the Link-Micro experienced issues by disconnecting from the server. We found this was not a battery issue but something else since once the camera was reset, the images it took while disconnected uploaded to the server. It was the Link-Evo that demonstrated the best overall performance, as it maintained a consistent battery percentage, experienced good connectivity, and stayed connected to the server.

During this project, we were able to capture images of a substantial amount of wildlife. The webcams took pictures of deer, both at night and during the day. An image of a deer captured can be seen below. We also captured images of rabbits, a heron, and a bobcat. Overall, our webcams were able to capture a large range of mammals, both large and small and at all times throughout the day. This shows cellular webcams are feasible for wildlife monitoring.

Image of White-Tailed Deer with Antlers

When researching current projects done in Acadia and Schoodic Institute, we found a need for webcams in locations with little data on wildlife, including the wildlife corridor on Schoodic Peninsula. We also identified a need for webcams in difficult to access locations, such as Isle au Haut and Schoodic Island, as this could reduce the energy and time necessary for researchers and park staff to travel to those locations and manually collect data. Lastly, we found a need for monitoring the behavior between wildlife and humans around campgrounds in Acadia.

Recommendations

Based on the data we collected, we formulated the following recommendations. The Link-Evo had the best performance and took the highest quality images while falling in the middle of the price range for these webcams. As such, we recommended the Link-Evo with an external battery, solar panel, and compatible long-range antenna. This will reduce the maintenance required, as it will allow for longer battery usage as well as a stronger cellular connection, ensuring the webcam will not frequently power off due to battery or connectivity issues. If multiple webcams are arranged over a given location, we recommend the use of one cellular webcam to relay the information remotely and additional static webcams that require manual data retrieval. This will lower the cost but still allow for a large range of data collection with remote access to data. We also recommend a measuring stick in view of the webcams to help identify wildlife according to their size.

Conclusion

The use of cellular webcams will enable more efficient data collection for wildlife monitoring in Acadia National Park. We hope our findings and recommendations will help researchers use these cellular webcams in the park. In addition, we feel the three applications for

web cam use we proposed will lead to improved wildlife monitoring. Lastly, we hope the pamphlets we created will aid in the use of cellular webcams for those doing research as well as in the education field.

Authorship

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1.0 Introduction

Acadia National Park values its wildlife and the scientific research and education focused on wildlife. Acadia has monitored its wildlife in many different ways, including population studies and invasive species detection (National Resource Monitoring, n.d.). Some examples of research in the park include studies on Little brown bats (*Myotis lucifugus*) and Northern long-eared bats *(Myotis septentrionalis*) through the use of radio transmitters (Bat Research in Acadia, n.d.). Research has also been done on Peregrine falcons (*Falco peregrinus*) by monitoring and tagging chicks (Bruce Connery Archives, 2020). Both of these research activities entailed physically capturing the animal of focus. These methods of wildlife monitoring are not the most efficient because they require large amounts of time and effort and can also be disruptive to the wildlife. Webcams are an alternative method that have been used by researchers in National Parks to monitor wildlife (Uhler, 2019; Webcam Home, n.d.). While Acadia National Park currently utilizes one webcam to monitor shoreline activity, it currently does not have webcams being used for the purpose of continuous wildlife monitoring throughout the Park (Webcam, n.d.).

Our proposed solution to expand the current methods of wildlife monitoring is the implementation of webcams. Usage of webcams in Acadia has been tested previously, specifically through two previous research projects regarding the use of webcams in Acadia to monitor traffic congestion. These studies concluded that the use of webcams can be very helpful in monitoring traffic (Bruno et al., 2018; Hollander et al., 2019). From the research done in previous projects, we hoped to gain insight into the strategies used to implement webcams in Acadia, as well as how we would be the most successful in our project.

The purpose of our project was to investigate the feasibility of cellular webcams in remote locations in Acadia to monitor wildlife. These webcams were used to collect data regarding the wildlife populations that could be used for research and educational purposes. Three objectives aided us in accomplishing this goal. The first objective was to determine the technical capabilities and limitations of the cellular webcams, the Link-S, Link-Evo, and Link-Micro. The second objective was to explore locations and placements of webcams to capture wildlife activity and upload images to a cloud server using cellular service. The final objective was to determine the future possibilities and purposes of cellular webcam use that would best benefit Acadia National Park. This project allowed us to gather data on different types of wildlife

in Acadia and propose other locations and situations where webcams may be useful to monitor wildlife.

2.0 Background

This chapter explores the background of the National Park Service, wildlife monitoring, webcam use in National Parks, current Schoodic Institute projects being done in Acadia, as well as various uses for webcams in Acadia. We also discuss site considerations for webcam placement and connectivity.

2.1 National Park Service

The National Park system has a long history that began in 1872 with the creation of Yellowstone National Park, which at the time was directly managed by the Department of the Interior. The National Park Service, or NPS, was created in 1916 to act as a separate entity within the Department of the Interior (Kieley, 1940). Over its tenure as an organization, the NPS has grown, now overseeing over 418 parks, 23 trails, and 60 rivers using their annual budget of 3.9 billion dollars and the service of approximately 20,000 employees (National Park Service, 2020). The mission of the National Park Service is to " [preserve] unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations," the NPS mission statement then goes on to add: "The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world" (National Park Service, 2016).

2.1.1 Acadia National Park

Acadia National Park shares the values and goals of the National Park Service and carries out their mission. Acadia was founded in 1916 as Sieur de Monts National Monument before being absorbed into Lafayette National Park in 1919. However, it was not until 1929 that the Park was officially renamed Acadia National Park. The Park itself is situated in coastal Maine on portions of Mount Desert Island, Isle au Haut, the Schoodic Peninsula and sixteen smaller outlying islands (National Park Service, 2016). Figure 1 shows a map of the Park (Maps, 2020). Acadia National Park constitutes approximately 50,000 acres of preserved land. As stated in the park foundation document, "The park was created to protect the natural beauty of the highest mountains and rocky headlands along the Atlantic shore of the United States. Significant

resources include a glaciated coastal and island landscape, an abundance of habitats, a high level of biodiversity, clean air and water, and a rich cultural heritage" (National Park Service, 2016). In essence, this park, like all National Parks, exists to preserve a naturally, historically, and culturally significant place for the enrichment and enjoyment of all who wish to experience it.

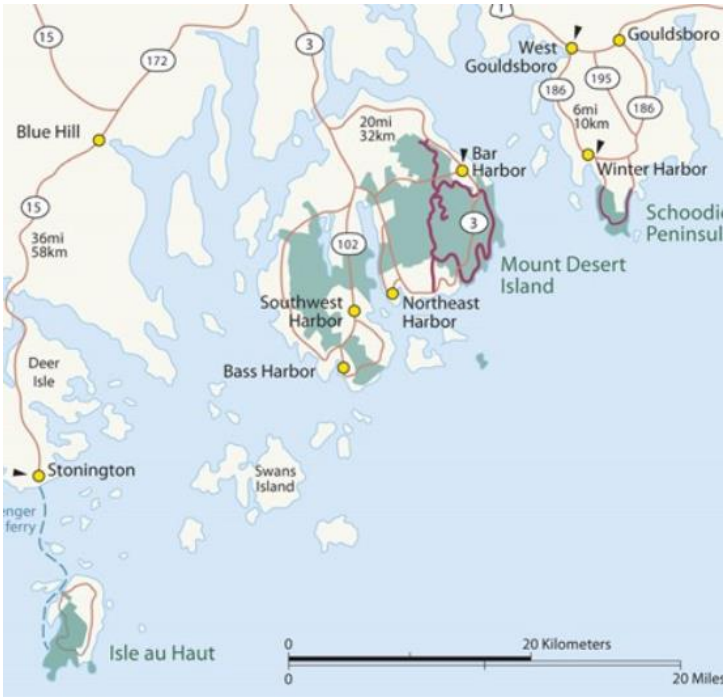


Figure 1: Map of Acadia (Maps, 2020)

2.2 The Schoodic Institute

The Schoodic Institute is a nonprofit organization that collaborates with Acadia to aid in scientific research and education. Founded in 2004, they are now the leaders nationally in developing unique strategies to incorporate the public in conservation and science at the park (About Schoodic Institute, n.d.). Their mission: "Schoodic Institute pursues collaborative solutions to critical environmental challenges through discovery and learning" (About Schoodic Institute, n.d.). The Schoodic Institute also works in conjunction with the Friends of Acadia (FOA). The FOA is a nonprofit organization that works with Acadia to determine the needs of the park as well as what projects will best benefit the park (What We Do, n.d.). One of their programs, Wild Acadia, is working to protect the wildlife at Acadia as well as the natural resources of the park (Wild Acadia, n.d.). The overall goal of the FOA is to aid Acadia in

achieving their park's mission and goals. The Schoodic Institute and Friends of Acadia work together to support Acadia National Park and realize putting their efforts together will increase their ability to help Acadia succeed. They have initiatives as partners that include education and youth as well as natural resource protection (Partnership with Friends of Acadia, n.d.). They value helping protect the wildlife at Acadia, which overlaps with our project goal of using webcams to monitor the wildlife, which these organizations can use to assure the wildlife is being protected.

2.3 Wildlife Monitoring

Wildlife monitoring refers to the activity by which people are able to identify and track the movements and habits of different species. With endangered animals in particular, this activity is integral to their conservation (Wildlife Tracking and Monitoring, n.d.). Monitoring can be done in person, either by monitoring the animals directly or through traces of their presence. It can also be accomplished technologically through using equipment, such as backpacks, a tool for animal monitoring, or radar (Monitoring of Wildlife Populations, n.d.; In Situ, n.d.). Finally, wildlife monitoring can be done completely remotely through the use of cameras, which is what we seek to do with our own work in Acadia National Park (Documenting Rare and Recovering Wildlife, n.d.).

Wildlife monitoring is an important activity because it supports multiple aspects of conservation such as scientific research and public outreach. Among the other aspects that justify the use of wildlife monitoring is the degree of species conservation being done and the response to environmental upheaval, particularly that caused by people (Martin et al., 2007; Gittleman, 1998a; Robinson et al., 2014). Given this information, it is important to consider the different applications of wildlife monitoring when determining the most appropriate methods.

One of the reasons that wildlife monitoring is important is it helps define the status of conserved species and what steps should be taken for the sake of managing their populations effectively. However, erroneous conclusions concerning the status of populations may be reached. For example, a study focusing on Floridian snail kites demonstrated how taking geographical distribution differences and the capacity for detection into consideration are crucial for monitoring protocols. Here, the failure to take these two factors into proper account resulted

in a failure to detect a population decrease when, in fact, one did occur (Martin et al., 2007; Gittleman, 1998).

Another reason wildlife monitoring is important is that wildlife monitoring influences wildlife management and preservation in response to environmental upheaval, such upheaval being the product of rising human activity. While assessments concerning population demographics are biased towards those of fixed environments, there is reason to prioritize studies on differences in demographics in broader regions, specifically those vulnerable to environmental disturbance (Robinson et al., 2014; Gittleman, 1998a). Integrated population models, which are a means of making the processes of populace alterations measurable, have particularly proven useful. This is directly relevant to our own project as similar environmental upheaval, albeit less likely to be by human activity, could certainly affect the populations within Acadia National Park (Robinson et al., 2014; Gittleman, 1998a). This provides a factor for consideration while determining the placement of wildlife cameras, especially so that they can be applied to such research.

The importance of wildlife monitoring depends on its influence on conservation. Without it, let alone the important factors that comprise it, conservation would not be as effective. As such, aspects including the definition of the species conservation degree and environmental upheaval response both encapsulate why broad wildlife monitoring is integral to effective conservation protocol. Overall, the justification for wildlife monitoring supports its use as a means of observing animal activity.

2.3.1 Advantages of Webcams

Historically, monitoring wildlife populations has been a difficult problem in biology. It has required sending out a researcher to observe the species of interest in their native habitat, disrupting the behaviors of the target species and leading to less reliable data. Further, the acquisition of this data is quite slow, as a researcher can only monitor one area at a time. With the advent of modern, miniaturized, highly efficient electronics, it is now possible to use electronics to perform the observation of the target species, leaving the researcher’s time available for analysis (Jewell, 2013). While many researchers have historically turned to invasive forms of monitoring, such as direct observation, tracking implants, or physical identification markers placed on the animal, researchers now have the option of using noninvasive techniques.

This includes webcams used to count members of a species via identifying and storing the number of unique coat patterns seen and using high resolution satellite imagery to track migrations. Also, devices that can sample detritus left by the animal to sequence its DNA or make key measurements about the health of the animal (Jewell, 2013). While the installation of a webcam in the habitat of a species is a temporary encroachment on their habitat, it is a much smaller disruption than the traditional techniques used for monitoring a population. Webcams are a much more ethical way to monitor animal behaviors than the alternatives. Researchers can place the webcams in a specific location, depending on which species they are hoping to target, and access the data remotely instead of spending lots of time and effort collecting the data.

When set up with motion detection, webcams are primarily effective and reliable at detecting large terrestrial animals. Smaller animals are not as successfully detected by motion sensitivity, as such, these webcams are less suited to statistical research on those species. However, their presence in a given area may, incidentally, be detected in the rare instance that webcams do record them (Kelly & Holub, 2008). Reptiles and amphibians in particular are far better suited to being observed or tracked with other survey methods (Brotherton, Behler, & Cook, 2005). This information is useful in discerning what species would be suitable webcam targets.

2.3.2 Webcams for Wildlife Monitoring

There are multiple knowledge gaps and needs that could be fulfilled by cellular webcams in Acadia to monitor wildlife, including webcams in wildlife corridors, hard to access locations, and monitoring human wildlife interactions.

A wildlife corridor is a section of land that is undisturbed for the means of wildlife conservation and prevention of disruption. These corridors have the means to protect wildlife, however it is still important to monitor the wildlife there to ensure the species are being protected (Wildlife Corridor, n.d.). Using cellular webcams along a wildlife corridor would allow for researchers to determine where the wildlife is present within the corridor and allow they are being protected. This data could also be used to provide evidence that the wildlife corridor is beneficial to the wildlife and should continue undisturbed.

Webcams are also useful for monitoring wildlife in hard to reach locations. If a location is difficult to access, the time it takes to get to that location as well as carry out wildlife

monitoring methods is very time consuming. A much more efficient method would be setting up cellular webcams in these locations, as it would allow for real time data to be collected remotely, making for a much more time efficient method.

Webcams and the information gleaned from them can be used to identify and mitigate wildlife and human behaviors that are negative, namely habituation and food conditioning. Habituation, which is when repetitive presentation of a specific stimulus eventually leads to completely ending the natural reaction, is a hazard to the two parties due to potential of hurting each other. For example, habituated elk will permit individuals to approach them such that they are greatly proximate to each other. Despite this, if the proximity is too great, the approaching person can be physically harmed by the elk. Meanwhile, food conditioning, which is when animals develop a cognitive correlation between sustenance and either people or manmade locales, is also mutually dangerous, with consequences such as sickness, for humans, and, for animals, reduction in diet quality (Wieczorek Hudenko, 2014; Wildlife Habituation, 2016). Campgrounds are locations where these two phenomena are especially pertinent, both due to the mass of park-goers and the presence of food, the latter of which can serve as an attractant for animals. As such, campgrounds serve as a location where webcams could be beneficial in observing human wildlife interactions and mitigating any negative outcomes of this.

2.3.3 Current Wildlife Monitoring Methods in Acadia

Acadia has multiple different methods of wildlife monitoring, including attaching radio transmitters to bats and tracker to Peregrine Falcon chicks. However, some of these methods are more complex, time consuming, and less effective compared to webcam use. There is currently a disease called White-Nose Syndrome affecting many bats in Acadia and causing the population to decrease, including *Myotis lucifugus*, little brown bats, and *Myotis septentrionalis*, northern long-eared bats. In order to keep track of the population decline, scientists have been catching the bats using large nets and attaching tiny radio transmitters to them. The researchers then follow the bats using large receivers both on the ground and using aerial receivers to track the bats depending on where they are (Bat Research in Acadia, n.d.). This method is very complex as it depends on catching the bats as well as following them closely with the receivers to pick up the bats' location. Another method of monitoring used at Acadia is with *Falco peregrinus*, or peregrine falcons. Scientists have attached tags to the chicks in order to track them and used

observational surveys of the area to determine whether they are under threat of larger animals (Bruce Connery Archives, 2020). Both of these methods are very difficult and rely on catching the animals in order to attach something to them, whether it be a transmitter or a tag. These methods also only monitor one animal at a time; there is no way to easily and effectively monitor a larger spectrum of animals using these methods. Setting up webcams could potentially target peregrine falcons as well as bats in order to monitor them in a more effective way compared to the methods above, as well as observe a larger variety of wildlife. Webcams could also be placed near bird nests in order to monitor different bird populations.

2.4 Webcam Usage in Other National Parks

There are many webcams currently in National Parks in the U.S. as well as internationally. There are 20 webcams in National Parks in the U.S. used to monitor air quality. The images are refreshed every 15 minutes and data regarding air quality is updated once an hour (Webcam Home, n.d.). There are 13 webcams in Yellowstone National Park, one of which is a live video of the geyser Old Faithful (Uhler, 2019). The other 12 webcams in Yellowstone are static webcams with images updating every 30 seconds (Webcams, n.d.). In Katmai National Park and Preserve, there are live cameras to monitor wildlife such as bears. There are also live underwater webcams in Channel Islands National Park to monitor the wildlife in the ocean. Channel Islands also has a live webcam in a bald eagle nest to monitor the birds (Watching Wildlife Webcams, 2016). National Parks in Canada also use webcams to monitor their wildlife and more specifically data on population sizes of different species as well as migration. These cameras use infrared technology to not scare off the animals at night (Parks Canada Agency, 2019). Along with webcams to monitor air quality and wildlife, many National Parks have webcams to show the scenery for those who cannot visit the park in person, are looking to explore the park before they visit, or just looking to see the view. All of these webcams mentioned are accessible to the public in real time on the respective park's website. In Acadia National Park there is only one webcam, the North Atlantic Coastline Webcam. This camera shows the coast and is a static camera that is solar powered. The live image is updated once a minute and the orientation of the webcam moves every two minutes, to provide the views of Acadia without having to leave your home (Webcam, n.d.).

2.4.1 Previous Research Using Webcams in Acadia National Park

There have also been two previous IQPs done in Acadia regarding webcams. In 2018, a project was done to determine if it was feasible to use webcams in Acadia to monitor traffic congestion. They used the Spypoint Link-S and after testing 14 locations as well as cellular connectivity and the camera's battery they determined: “that a webcam could be a reliable tool to remotely monitor traffic in parking lots.“ (Bruno et al., 2018). They also recommend use of the Spypoint Link-Evo webcam. Another IQP was done in 2019 surrounding the implementation of the webcams in Acadia for the use of monitoring traffic congestion. This team built their own webcam using a Raspberry Pi with a battery, solar panel, camera, and LTE antenna in a weatherproof container. This allowed them to program their images to upload to the mock website they constructed (Hollander, Zhu & Yang, 2019). The research done by these previous IQP’s were done with the goal of monitoring traffic congestion, whereas our team will be monitoring wildlife. However, we can still learn from the research they did, as well as the recommendations they provided.

2.5 Recent Projects by Acadia National Park and Schoodic Institute

To determine the current or recent work of both Acadia National Park and Schoodic Institute, we researched projects done by both organizations regarding wildlife monitoring and citizen science. From the Schoodic Institute exclusively, we found that these were the Spring 2020 Citizen Science Challenge and the Downeast Phenology Trail (Citizen Science [lexico.com], n.d.).

The Spring 2020 Citizen Science Challenge was established by the Schoodic Institute to encourage people to participate in citizen science despite COVID-19. This challenge entailed having individuals add their findings to the Downeast and Acadia Project on iNaturalist, a website citizen scientists can use to document wildlife observations and use crowdsourcing for the recognition of the viewed individuals (Spring 2020 Citizen Science Challenge, 2020; Citizen Science [lexico.com], n.d.; Downeast and Acadia, n.d.; Observations, n.d.; iNaturalist, n.d.). Furthermore, iNaturalist allows for wildlife sightings to be narrowed down by project, location, date, and species. As such, it is through this website that we know the areas of Maine that are the

most well documented in terms of understanding what wildlife occur there (Downeast and Acadia, n.d.; Observations, n.d.).

Meanwhile, the Downeast Phenology Trail is an expansive, branching path set up by the Schoodic Institute for, in part, the purpose of supplying people a chance to participate in citizen science through gathering information. Specifically, the trail allows people to monitor when the migration of birds, blooming and subsequent fruiting of plants, and emergence of bugs occurs. Given that this project is ongoing, it is very likely that the Schoodic Institute has been a recipient of a significant influx of information gathered from this trail, specifically that pertaining to the times of the aforementioned natural phenomena (Downeast Phenology Trail, n.d.; Citizen Science [lexico.com], n.d.; Citizen Science [schoodicinstitute.org], n.d.).

2.6 Site Considerations

When considering a location to set up remote webcams, researchers typically determine a remote location that does not have heavy human interaction. This is to lessen the likelihood of any damage done to the webcams. It is also important to find a location that is the best to monitor wildlife naturally, while also not harming their habitat (Kelly et al., 2008). The number of visitors to Acadia has increased greatly. Since 2013 the number of visitors has increased nearly 51 percent (Visitation Numbers, 2020). With the increase in visitors, it is important that the webcams will be placed far from park visitors. If the webcams are too visible, this will make the visitors feel uncomfortable, thereby diminishing the visitor's experience. Ideal webcam sites are those where there is wildlife activity and low amounts of human traffic, as well as connectivity (Wearn & Glover-Kapfer, 2017).

2.6.1 Connectivity and Automation

The most important part of choosing a location for a cellular webcam is ensuring that there is cellular connectivity at the site. The Cellular Connectivity Status research project done in Acadia in 2018 made a connectivity map of the park to find the locations with the best connectivity, and they also made connectivity maps for various service providers including AT&T and Verizon. They concluded AT&T had the most connectivity throughout the park, and that over all, it was not difficult to obtain a cellular connection in Acadia when using a range extending antenna on their cellular webcam (Bergquist et at., 2018). Further, by searching the Federal Communications Commission’s Antenna Structure Registration (ASR) database, it is

easy to see that there are many towers in the area owned and operated by cellular carriers such as Verizon, AT&T, and US Cellular (FCC, n.d.). Below is a map of all registered antenna towers in the area surrounding Acadia, cellular and otherwise:

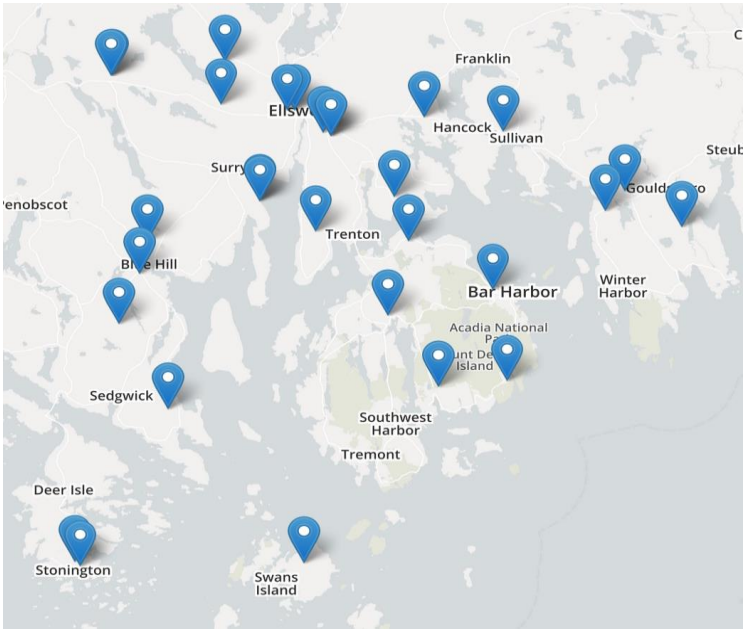


Figure 2: Map of Registered Antenna Towers within 20 Miles of Acadia

While not all the towers shown are cell towers, and there are many towers that do not have to be shown in this database for one reason or another, based on the map above and the information from research done in 2018 based on Cellular Connectivity Status, it is safe to presume that there will be cellular coverage of most of the areas of the park (Bergquist et al., 2018). The cellular connectivity on Schoodic Peninsula was explored through the methods and findings below.

3.0 Methods

Our goal for this project was to investigate the feasibility of using cellular webcams to monitor wildlife in remote areas of Acadia National Park. To accomplish our goal, we established three main objectives:

- Determine the technical capabilities and limitations of the cellular webcams.
- Explore locations and placements of webcams to capture wildlife activity and upload images to a cloud server using cellular service.
- Determine the future possibilities and purposes of cellular webcam use that will best benefit Acadia National Park.

3.1 Objective One: Camera Performance Testing

Our first objective was to determine the technical capabilities and limitations of cellular webcams when put to the task of wildlife monitoring. In order to achieve our first objective, we had to begin by finding webcams that met the needs of our sponsor. After some discussion with our liaisons, shown in Appendix B, we were able to narrow in on a few key criteria that needed to be present in the webcams to support operation in the park. These criteria were diverse cellular connectivity, cloud storage, and support for solar power. After considering a variety of different camera solutions on the market, we decided that hunting cameras were the best fit for our project in terms of cost, availability, and capabilities. Taking guidance from the webcam research project in 2018, we decided to focus on cameras manufactured by Spypoint, as that research was able to successfully utilize the Link-S to achieve the goals of their project (Bruno et al., 2018).

In addition to using the data provided by the 2018 webcam research to inform our camera requirements, we decided to interview a professor at WPI, Marja Bakermans, about her experience with the use of webcams for the monitoring of wildlife. Bakermans is an Associate Teaching Professor at Worcester Polytechnic Institute (WPI) in Biology & Biotechnology and Environmental & Sustainable Studies (Marja Bakermans, n.d.). In the planning for our interview with Professor Bakermans, we researched effective and ethical interviewing techniques, in order to ensure a successful meeting. We also did background research on wildlife monitoring with webcams as part of our preparations, as it is important to ensure that the information gained from the interview could not be found anywhere else, and what we do learn is new information that would not be otherwise accessible (Beebe, 2014, p 54). Bakermans was questioned specifically

about her experience with wildlife monitoring using webcams. By interviewing her, we were able to gain perspective on what other webcams researchers have used as well as what the ideal qualities for a webcam to have are. She also gave logistical advice about considerations to take when setting up wildlife cameras as well as selecting a model of camera. The interview notes can be found in Appendix A.

Using the information gathered in our own research, our interview with Professor Bakermans, and our conversation with our liaisons, we decided that the Spypoint Link-S was the camera most suited to the task of remote wildlife monitoring, as it has LTE connectivity, a built-in solar panel, ability to upload the images to the cloud, a high-resolution camera that can take photo bursts when motion sense is activated (Spypoint, n.d.). However, we already had access to 3 webcams, a Spypoint Link-S, a Spypoint Link-Evo, and a Spypoint Link-Micro. Due to this, we used all 3 webcams to collect data, make comparisons, and based our future recommendations on a decision matrix used to analyze data we collected on each webcam's technical capabilities.

The next step in determining the capabilities of the Spypoint cameras was testing the cameras in the field to determine their technical capabilities and limitations. We did this by deploying our 3 cameras at 5 locations on the Schoodic Peninsula, and collecting data from the webcams regarding battery life, number of images taken, and cellular signal throughout the test. This was done through a Ruby program, as shown in Appendix D, which saved this data to a spreadsheet on an hourly basis. We used the data gathered to graph the connectivity of the webcams in each location to determine their performance compared to one another. The Ruby program interfacted with the Spypoint servers used to provide data for Spypoint’s web application in order to acquire the aforementioned information.

The cameras used in this project were from various performance and price tiers of the Spypoint product line, and as such have different capabilities. While all currently sold Spypoint cameras can take advantage of Spypoint’s nationwide cellular plan provided by Truphone (Truphone transforms Spypoint's cameras into smart solutions using IoT, 2018, February 20), which hops between carriers depending on which network has the best connectivity in an area, the Link-S camera used was purchased prior to the availability of this plan and as such is only able to utilize AT&T’s network (Trailcampro.com, n.d.). Fortunately, AT&T has the best coverage density in the area surrounding Acadia NPS, so this is hypothetically only a minor

drawback. Similarly, The Link-Evo and Link-Micro are only able to connect to 3G and 4G cellular networks, as opposed to the Link-S, which can connect to 3G, 4G, and LTE networks (LINK-EVO, n.d.). Another limitation shared by the Link-Evo and Link-Micro is that, unlike the more premium Link-S, they rely solely on user-provided batteries for power, while the Link-S has a solar panel and internal rechargeable battery in addition to user-provided batteries (Link-S, n.d.).

3.2 Objective Two: Selecting Webcam Locations

Our second objective was to explore locations and placements of webcams to capture wildlife activity and upload images to a cloud server using cellular service. We decided to look for a large range of locations with known wildlife activity to increase the probability that the webcams would be able to capture and upload pictures of wildlife for remote viewing. We spoke with Abe Miller-Rushing, Becky Cole-Will, and Bik Wheeler to determine what they felt the best locations to monitor would be. They were able to suggest additional remote locations that have known wildlife activity, including the wildlife corridor on Schoodic Peninsula and the Schoodic Woods campgrounds on the Peninsula. Notes from the meeting with our liaisons can be found in Appendix B.

Based on the fact that webcams are best suited for capturing larger animals (Kelly & Holub, 2008), we can inform our decisions about webcam placements, as we wanted to ensure we could capture a large range of wildlife sizes, especially targeting animals found in this region of Maine such as deer, coyotes, rabbits, and bears. Based on this research, the webcams were tested at around 3 feet above the ground and angled such that they can view both the ground and sky, generally close to level if possible. This allowed for a detection range that could capture wildlife of a variety of sizes.

We also wanted to place the webcams where they had the highest chances of detecting wildlife. We did research on wildlife activity and sightings to determine where we might see different species, while prioritizing larger carnivorous animals. One source we found is a thesis written to determine where the wildlife corridor on Schoodic Peninsula would have the most success at protecting the most animals, there was extensive research done that shows where different carnivore species can be found in the Schoodic region (Church, 2011). In Figures 3, 4, & 5 below, they show the locations on the Schoodic Peninsula where larger carnivores, including

bears, bobcats, and coyotes, have been physically found and are most likely to be found (Church, 2011). We used this information to select locations based on where these larger animals are likely to be. We also used a citizen science website, which has many recorded animal sightings, to cross reference the locations we selected to ensure we have a high likelihood of finding the large animals, like deer and bears, that we are hoping to capture on these webcams (Observations, n.d.). These sightings can be seen in Figure 6. Based on that research, we chose locations mostly on the lower portion of the Schoodic Peninsula in hopes of finding wildlife along different trails with animal sightings. We also focused on trails, shown in Figure 7, as animals tend to use these for travel, additionally it is easier to reach when setting the webcams up (Acadia National Park, 2020).

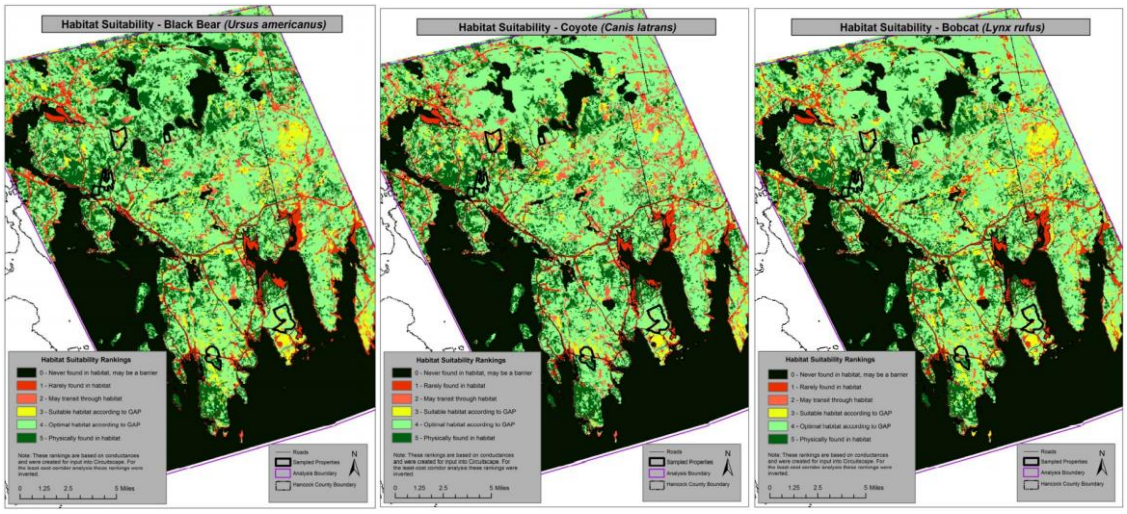


Figure 3, 4, & 5: Carnivore Locations on Schoodic Peninsula (Church, 2011)

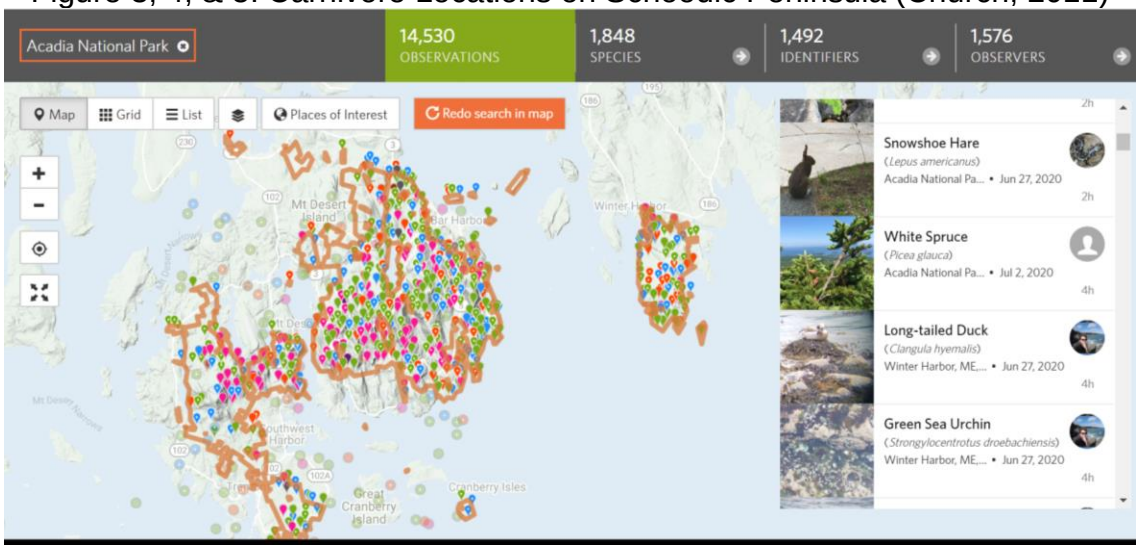


Figure 6: Wildlife Sightings on Citizen Science Site (Observations, n.d.)

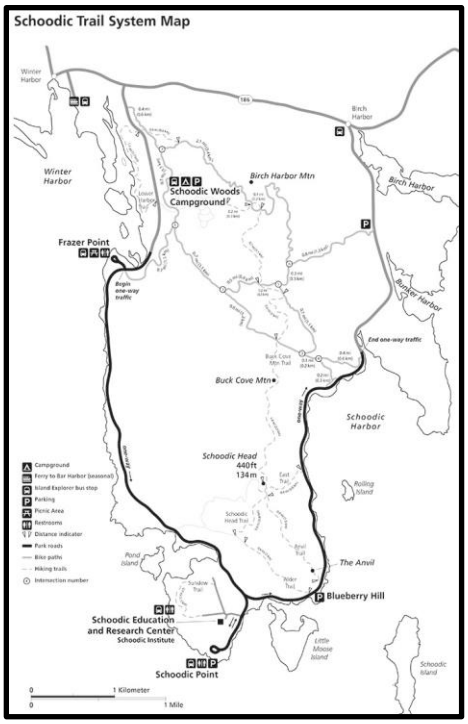


Figure 7: Trails on Schoodic Peninsula (Acadia National Park, 2020)

Another factor we used to determine webcam locations was a geographic distribution to test connectivity throughout the peninsula. We used previous research and did further research on where cell towers are located throughout and near Acadia. We then created a heat map, shown in Figure 8, based on the location and amount of towers in the area and a rough estimate of how far the average tower can send a signal based on the free space path loss of a cell signal (Whitaker, 1996). This map shows where the cell towers that have been registered with the Federal Communications Commission are, although there are likely to be a number of towers that aren't registered, due to falling below the height and environmental impact requirements for registration. The signal may go farther or closer than what is portrayed on the map, but stronger connection will be achieved the closer the webcams are to the towers. Furthermore, due to the topography of Mount Desert Island, there are likely to be many localized areas of improved or degraded reception, as the radio frequencies used for 3G/4G/LTE rarely propagate beyond line of sight, and are often influenced by multipath interference caused by buildings or dense foliage in between the transmitter and receiver. Because there isn’t clear knowledge surrounding the connectivity on Schoodic, it is important that our webcams were used for ground testing the connectivity. We also used the information on cellular connectivity collected in each location to

determine where cellular signal was strongest and where the signal may also be strong in other locations.

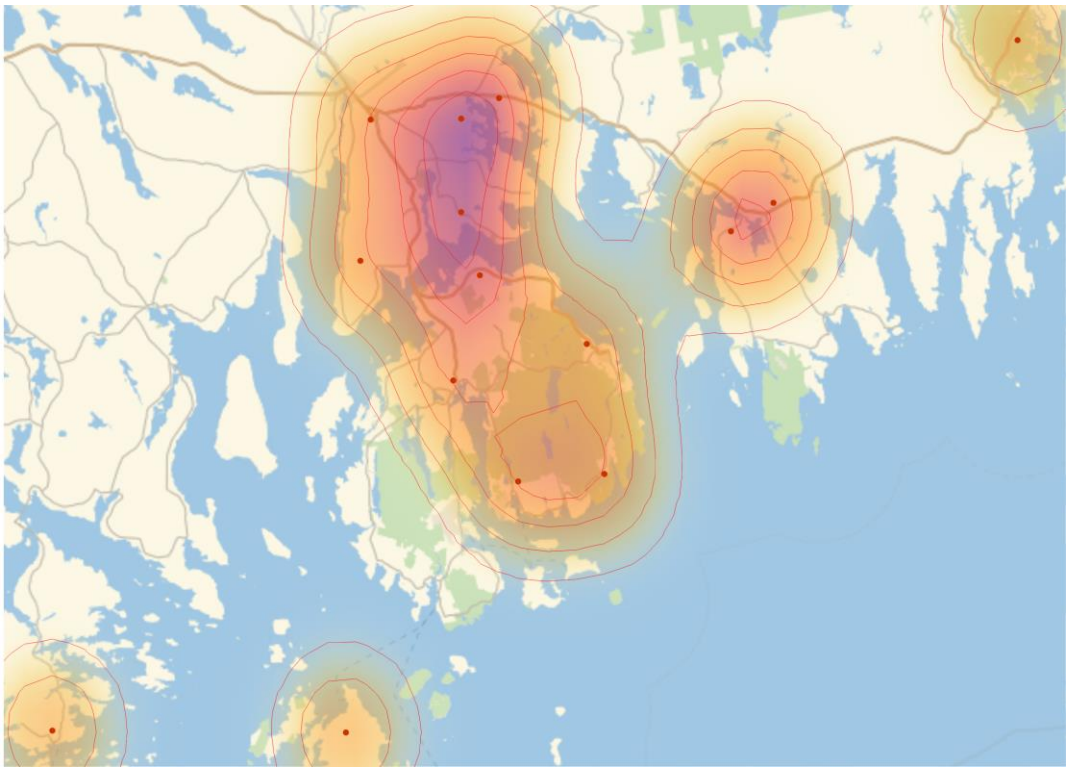


Figure 8: Cell Tower Density Map for Acadia and Surroundings

We used Google Earth to select coordinates in locations where research showed wildlife activity as well as to select a range of locations to test cellular connectivity. We searched for locations at points of interest. For example, we selected locations near water as well as some near more open locations or trails to catch wildlife as they travel between locations and identify where their route of movement may be. We also wanted to ensure our locations were spread out to collect a wide range of data across the Schoodic Peninsula. Once we determined the locations, our advisors investigated the area and looked explicitly for animal tracks or traces, including scat, and placed the webcams near those markings as they were clear evidence of wildlife. The first location surrounds a pond, but since it was difficult to access due to high vegetation, the webcams were placed further down the power line path. This allowed us to maintain the cellular connection and observe the wildlife activity we hoped to obtain on that trail. Figure 9 is a map of the first locations tested.

Figure 9: First Locations Tested

When determining the next set of locations, we used the previous steps, as well as the information we gathered from placing the webcams in the first location. For our second locations, we kept one webcam on the power line trail, as we experienced good connectivity there. We placed the other webcams near different water sources to capture any wildlife passing by the water. Our third locations were near more open areas, as we had not yet collected data in that type of location and we felt there would be wildlife activity there. One of these locations was also in the Schoodic Woods Campground. For our fourth location, we kept one webcam in the same location as we felt it was optimal for wildlife activity, We chose the other two locations based on what we have learned from the other locations and placed one webcam on a trail and the other near a coastal inlet. Our final webcam locations were selected based on a conversation with Abe Miller-Rushing and Bik Wheeler, which can be found in Appendix C. After explaining to them the data we collected and what we learned, we selected a location on Schoodic Point, where there is believed to be a strong cellular connection, north of the campground, as larger wildlife like bear and moose tend to be found most often in that area of Acadia, and a location on Little Moose Island as we wanted to test a large range of locations with our webcams. Figure 10

shows all five of the locations tested on the Peninsula. The Link-Micro is shown in red, the Link-S locations are shown in yellow, the Link-Evo locations are in purple, and blue shows all webcams in that location. By tracking the cellular connectivity while the webcams were in the field, we were able to see if the areas we expected to have good connection were reliable or not when selecting the next locations, as well as the decibel milliwatts needed in an area to successfully upload images from the webcams.

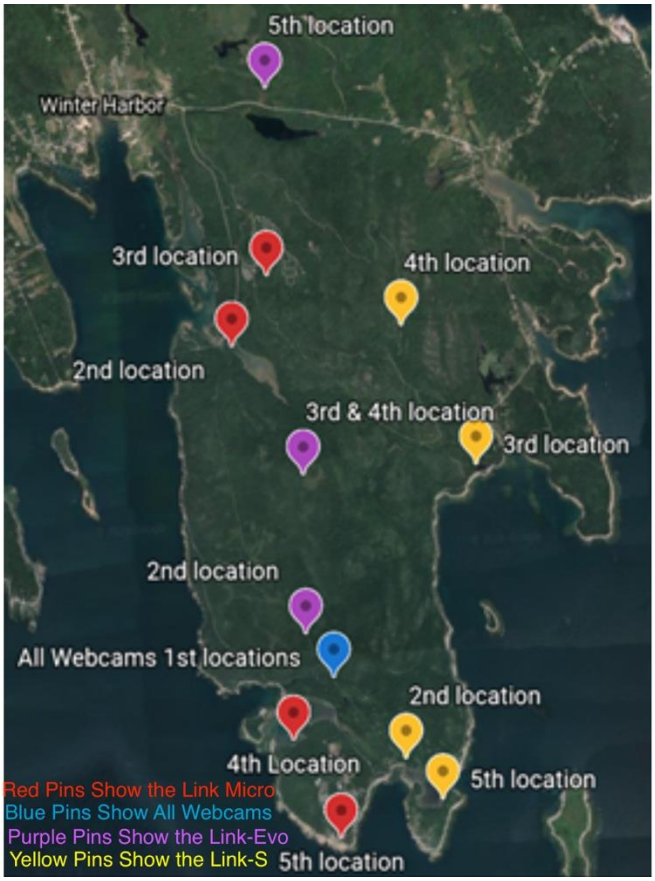


Figure 10: All Locations Tested on Schoodic Peninsula

All the webcams were set up using a strap to attach the webcams to a tree. The webcams in the first location were close to each other and placed to see if the webcams would catch the same wildlife and register the same levels of connectivity. During the first placements, we had to readjust the Link-Evo as it was too high. For the rest of the locations, the placement at roughly three feet from the ground was used with success. Figure 11 shows the setup of the webcams in the same first location. Figure 12 shows the setup of the webcams using a tree strap. Figure 13 shows the height of the webcams based on capturing wildlife of different sizes.

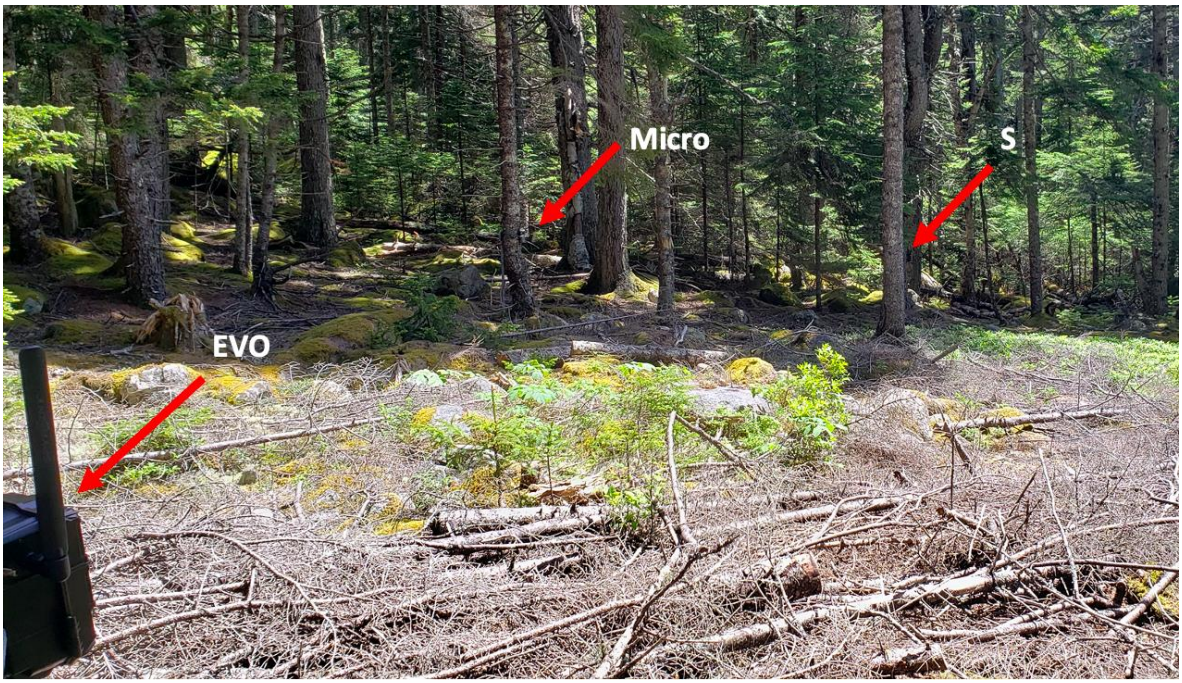


Figure 11: Webcam Set Up at First Location with all Webcams at the Same Location


Figure 12: Link-Evo at First Location Secured to a Tree Using a Tree Strap

Figure 13: Link-Micro at Second Location 3 Feet Above the Ground

Once our webcams were posted in their locations, we started getting images of wildlife sent to us from the cameras. Our vendor of choice for this project, Spypoint, provides a proprietary cloud service for their cameras consisting of a mobile application called Spypoint Link, and a web version of that app hosted on the Spypoint website (Spypoint, n.d.). From this application, photos taken by the cameras can be viewed, and settings can be configured. While Spypoint's cameras do not allow for the viewing of live video footage, they do allow for an image to be requested from the camera, which will be acquired and displayed quickly. The cloud system can store up to 100 photos on the free plan, and unlimited photos for $15 a month. Higher resolution copies of an existing photo can also be requested from the camera at a rate of $5 per 50 photos.

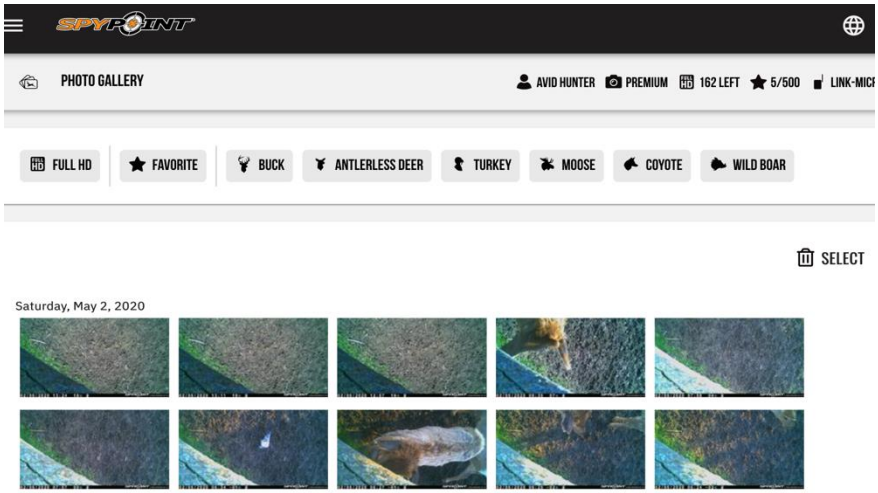


Figure 14: Spypoint Web UI Showing Images Taken by a Remote Webcam (Spypoint, n.d.)

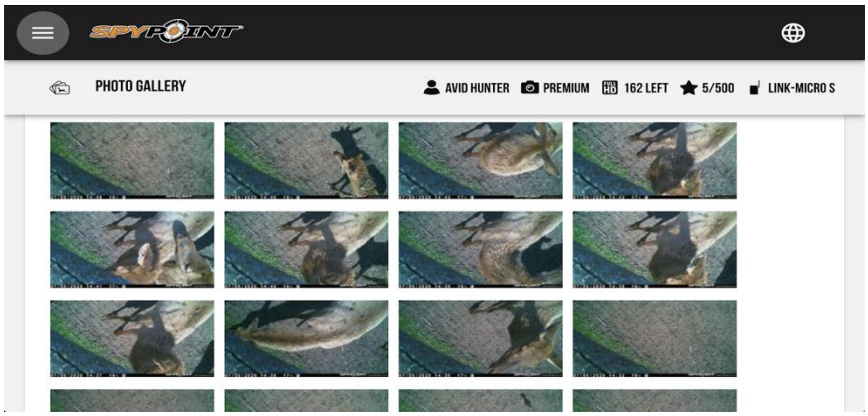


Figure 15: Images of a Coyote Taken from a Demonstration Webcam (Spypoint, n.d.)

Figures 14 and 15 show the photo gallery for the Spypoint webcams, where the images taken by the cameras can be viewed. The figures also show the premium filters we can use to identify different species, including turkeys, moose, and antlerless deer. Figure 16 shows the settings of the Spypoint camera, which can be accessed and managed remotely. Figures 17, 18, and 19 show the mobile version of the Spypoint application. This application was used to remotely access the images collected by our cameras during the testing period by having the webcams upload the images they took when they detected motion to the Spypoint app.

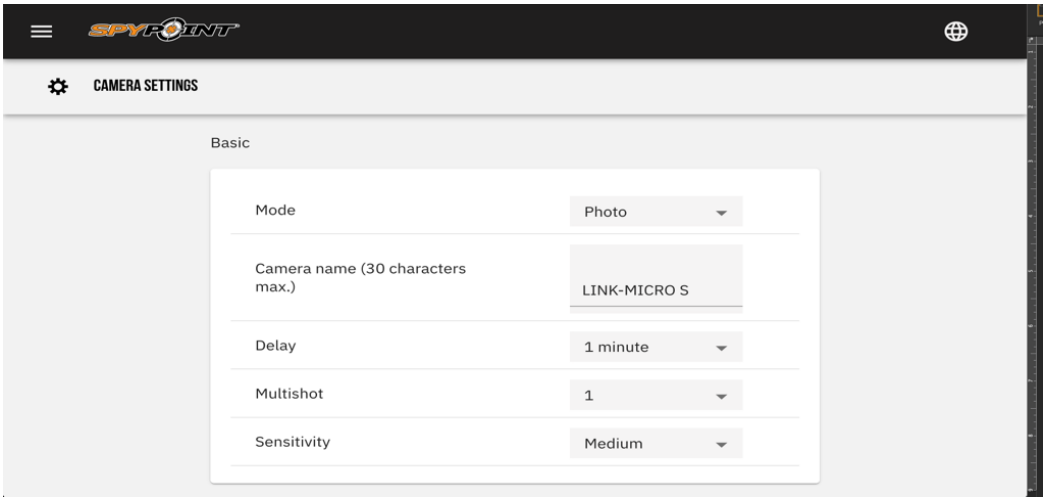


Figure 16: Camera Settings UI in Spypoint Web app (Spypoint, n.d.)

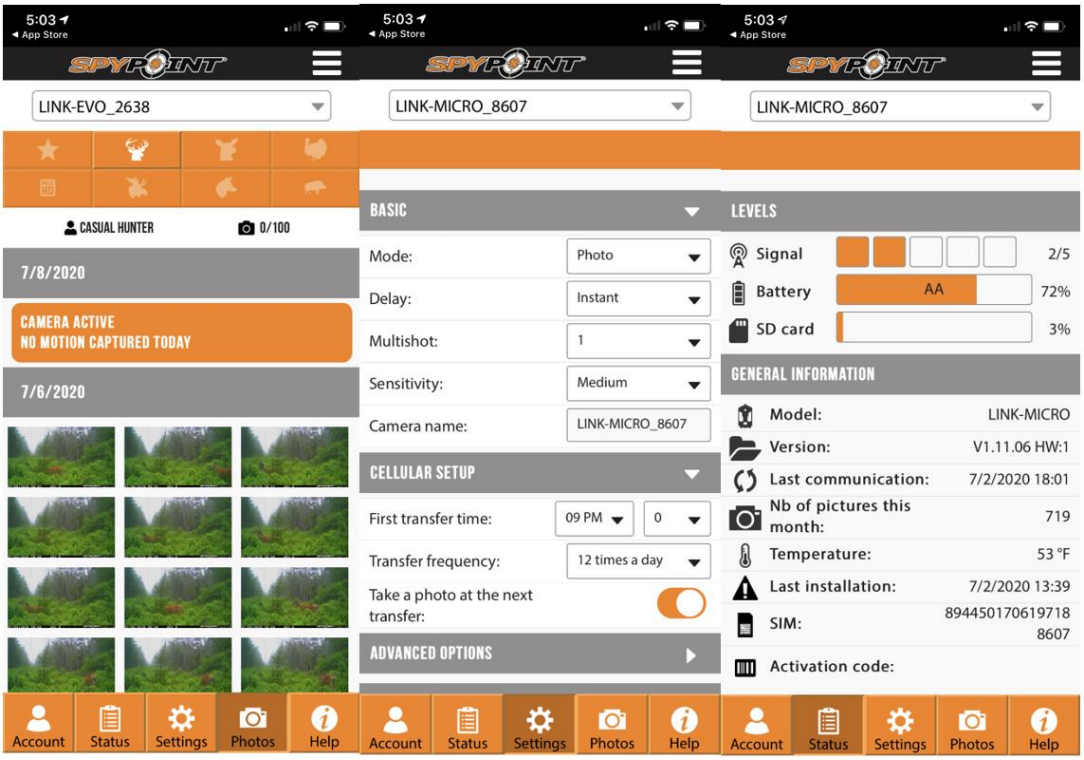


Figure 17, 18, & 19: Spypoint App User Interface

3.3 Objective Three: Determining Possibilities for Future Cellular Webcam Applications

Our final objective was to determine future possibilities and purposes of cellular webcam use that will best benefit Acadia National Park. This will help guide the effective use of webcams in the Park. Therefore, we are providing the Park with different scenarios for webcam uses that would be the most beneficial to their work. To fulfill this objective, we carried out the following methods using the problem-solving process shown in Figure 20:

- Research what both Acadia National Park and Schoodic Institute have already done or are doing.
- Evaluate sources to determine possible knowledge gaps or needs.
- Brainstorm possible ideas to match the gaps or needs that were found.
- Devise physical webcam systems to recommend to our liaisons.
- Adjust our systems and their related ideas based on the feedback of our liaisons and Sarah Hooper.

Figure 20: The Problem-Solving Process (What is Problem Solving?, n.d.)

The first method we used to fulfill this objective was performing research on the recent or current projects of Schoodic Institute and Acadia National Park to define the problem (What is Problem Solving?, n.d.). Doing this research gave us an idea as to what both organizations have already done in terms of wildlife monitoring and citizen science (Citizen Science [lexico.com], n.d.).

The second method we used was evaluation of sources to determine any possible knowledge gaps in either organization's activity or if there were needs that could be fulfilled by our camera systems. This was also part of defining the problem, as we needed to understand what the Park was missing and how our webcams could be useful (What is Problem Solving?, n.d.). Doing this not only allowed us to identify problems faced by either Acadia National Park or Schoodic Institute, but also gave us the information necessary to devise solutions tailored to those problems.

The third method we used was brainstorming possible ways to use webcams to fit the knowledge gaps and needs found in carrying out the previous method. This method was used to generate new ideas in order to fix the knowledge gaps and needs with the webcams (What is Problem Solving?, n.d.). Doing this allowed us to create our own solutions to the knowledge gaps or needs that we had found in our research. After finishing our research on the knowledge gaps and needs of Acadia National Park, we used the information from that research as a foundation to build each of our ideas off of. Then, we proceeded to discuss many possible options, focusing on what our liaisons specified a need for. Once we had a list of ideas, we determined which were the strongest in terms of where the greatest need was and what the webcams would be useful for. We also combined different ideas together to create stronger ones, cover larger needs, and relate back to similar research the Park has done that fits their goals as an organization, including research and education through citizen science.

The fourth method was to create webcam system designs that could possibly be used for each of the ideas that we brainstormed and, subsequently, recommended to our liaisons. In terms of the problem-solving process, this method was used to generate new ideas as well as evaluate solutions (What is Problem Solving?, n.d.). As we began to establish broad areas of focus for each of our ideas, we developed a webcam system design for each idea. These designs entailed the cameras we would be using for a given applications, what features we would want these cameras to have, where we would want to place them, and any miscellaneous characteristics exclusive to the idea in question. While the ideas we had at the time we began developing these designs are not the same as our current ones, we still used the same process. By designing these webcam systems and applications, we were able to determine how to put each of our ideas into practice as well as more specifically define how webcams could be applied to solve the previously established knowledge gaps and needs.

The fifth and final method was to use the data gathered on our previous methods, including learning the technical capabilities of cellular webcams and where they are most successful. We used this information to then collect feedback on our cellular webcam applications that we had brainstormed, as well as our overall ideas for them, through meeting with and presenting them to our liaisons, Bik Wheeler, Becky Cole-Will, and Abe Miller-Rushing, as well as Sarah Hooper, Schoodic Institute's Education Specialist (Sarah Hooper, n.d.; Sarah Hooper appointed as Education Specialist, 2019). Receiving our liaisons' feedback allowed us to finalize our ideas in a manner such that they will best benefit the park, which aligns with the evaluating solutions step of the problem-solving process (What is Problem Solving?, n.d.). Furthermore, Sarah Hooper's feedback was also valuable as her work in citizen science and helping students track wildlife related closely to some of our initial ideas. Once we had our ideas and their camera systems established, we arranged one meeting with our liaisons and another with Hooper to review the data we collected and explain our proposed plans to each of them. Over the course of each meeting, notes were taken so that we would be able to return to the dialogue afterward. Using these notes, specifically the parts entailing the liaisons' and Hooper's feedback, as well as all of the research done beforehand, we created the final versions of our ideas for the Park, both broadly speaking and in terms of cellular webcam applications.

4.0 Findings

4.1 Webcam Technical Performance Findings

We found that predicted webcam performance was somewhat different from results of our field tests. Each webcam's performance regarding battery and cellular connectivity was rated based on model specifications found on the manufacturers website. Table 1 shows the specifications of each webcam used in this project. The green boxes show the highest capabilities of that category, the yellow boxes show a good capability in that category, and the red boxes reflect the lowest capability in that category. Based on this table, the Link-S should have performed the best and taken the best quality images. However, from our field tests, the Link-Evo was the best webcam overall, due to longer battery life, the connectivity in each location, and its ability to stay connected and communicate with the server. Due to the corrupted image we received, as well as the rapid battery depletion the Link-S experienced, we feel it may have been damaged, as it did not achieve the battery life achieved by the other Spypoint cameras.

Table 1: Comparison of Webcams

Device Name	Image	Cellular Connectivity	Solar Power	Cloud Storage	Camera Specs	Price
Spypoint Link-S		LTE, with ability to choose any major American cellular provider. High gain antenna available as an option	Small Built-in panel plus option to buy larger panel	Spypoint provides an app that can be used to view photos taken on the camera.	12MP resolution, IR night vision, able to take 3 picture bursts upon sensing motion.	$499.99, plus $79.99 for the cellular antenna, and $39.99 for the panel.
Spypoint Link-Evo		4G, with the ability to choose from AT&T, T-Mobile, or Sprint. High gain antenna available as an option	No built-in solar power, optional panel available.	Spypoint provides an app that can be used to view photos taken on the camera.	12MP resolution, IR night vision, able to take 2 picture bursts upon sensing motion.	$249.99, plus $79.99 for the cellular antenna, and $39.99 for the panel.
Spypoint Link-Micro		4G, with the ability to choose from AT&T, T-Mobile, or Sprint. High gain antenna available as an option.	No built-in solar power, optional panel available.	Spypoint provides an app that can be used to view photos taken on the camera.	10MP resolution, limited IR night vision, able to take 2 picture bursts upon sensing motion.	$149.99, plus $79.99 for the cellular antenna, and $39.99 for the panel.

4.1.1 Link-Evo

In the first location, the Link-Evo functioned properly throughout its deployment. In the second location, the Link-Evo was not connected the first night, but functioned normally afterward. At the third location the webcam disconnected, likely due to the 30-day cellular network plan ending for all three cameras. The Link-Evo however was the first camera to disconnect. The battery was not depleted during this time, so the images taken while disconnected were uploaded by the Link-Evo once connection was reestablished. In the fourth and fifth location, the Link-Evo maintained a consistent battery percentage and did not have any significant incidents affecting connectivity. The graph depicting the cellular connectivity of the Link-Evo through the 5 locations can be seen in Figure 21. The battery graph can be found in Figure 22.

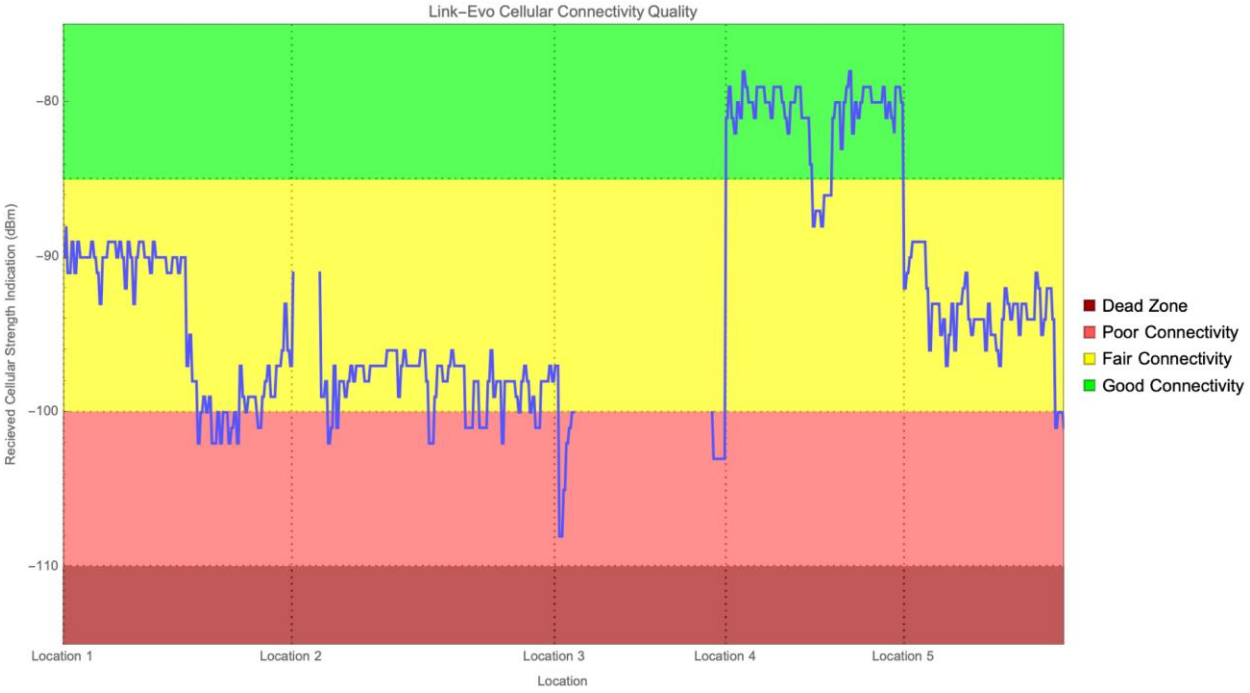


Figure 21: Link-Evo Connectivity Through All Locations

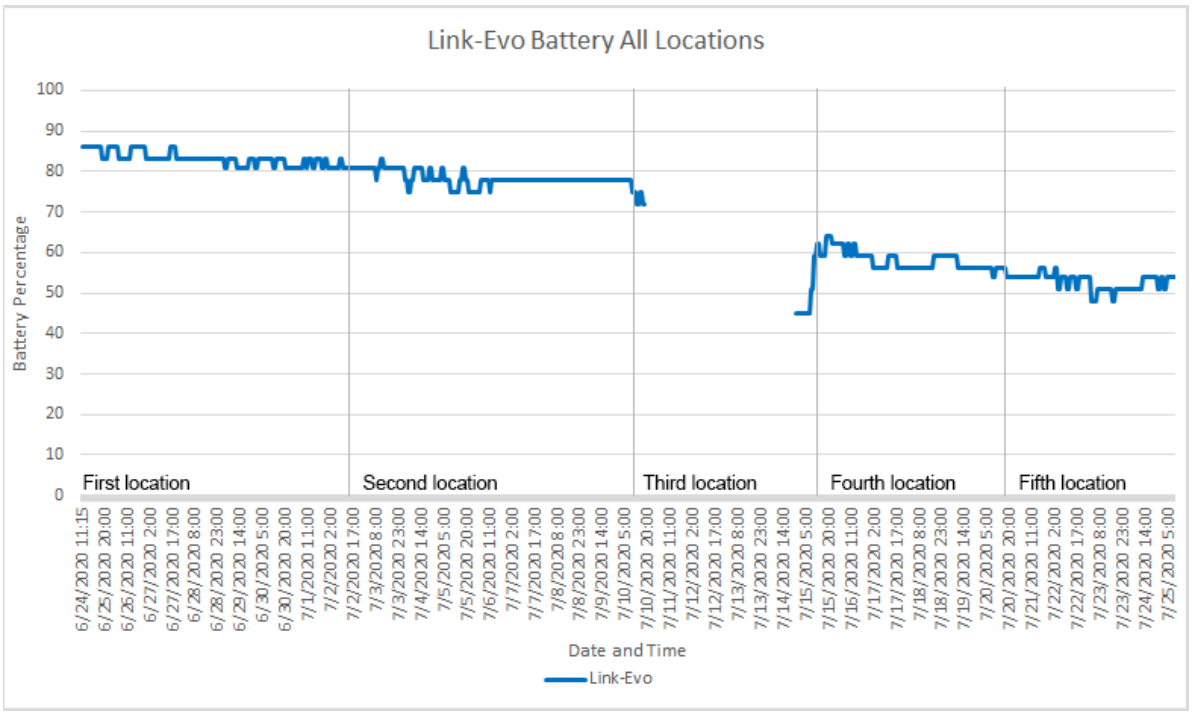


Figure 22: Link-Evo Battery Through All Locations

4.1.2 Link-S

Unfortunately, during our tests, the Link-S encountered connectivity problems that led to its battery being drained at a rate much faster than that of the other cameras involved in the tests, causing the camera to go offline prematurely. The Link-S stopped functioning only a few days after being placed in the first location. At the second set of locations, the Link-S, despite being given new batteries, refused to turn on until more than halfway through its placement there. This early failure of the Link-S was a disappointing and surprising result, as we identified it as the most capable camera for the task, combining the power efficiency shared by Spypoint's entire product line with improved night vision illumination, support for external solar and battery power, and support for fast burst imagery. Like all of the other cameras, the Link-S experienced a major lapse in connection at the third location due to the 30-day cellular plan ending while in that location. The Link-S reconnected before the other webcams, only to stop functioning a few hours later. In the fourth location, the Link-S was given new batteries. As such, the Link-S began with full battery percentage, which remained the case for the first three days of testing before decreasing rapidly to 25% within the last two days. In the fifth location, the Link-S maintained a far more consistent battery percentage compared to the rapid depletion it experienced in past

locations. The Link-S also had a consistent connectivity throughout its time at the fifth location, however it wasn't a strong connection. The graph depicting the cellular connectivity of the Link-S through all of the locations can be seen in Figure 23. The graph of its battery can be found in Figure 24.

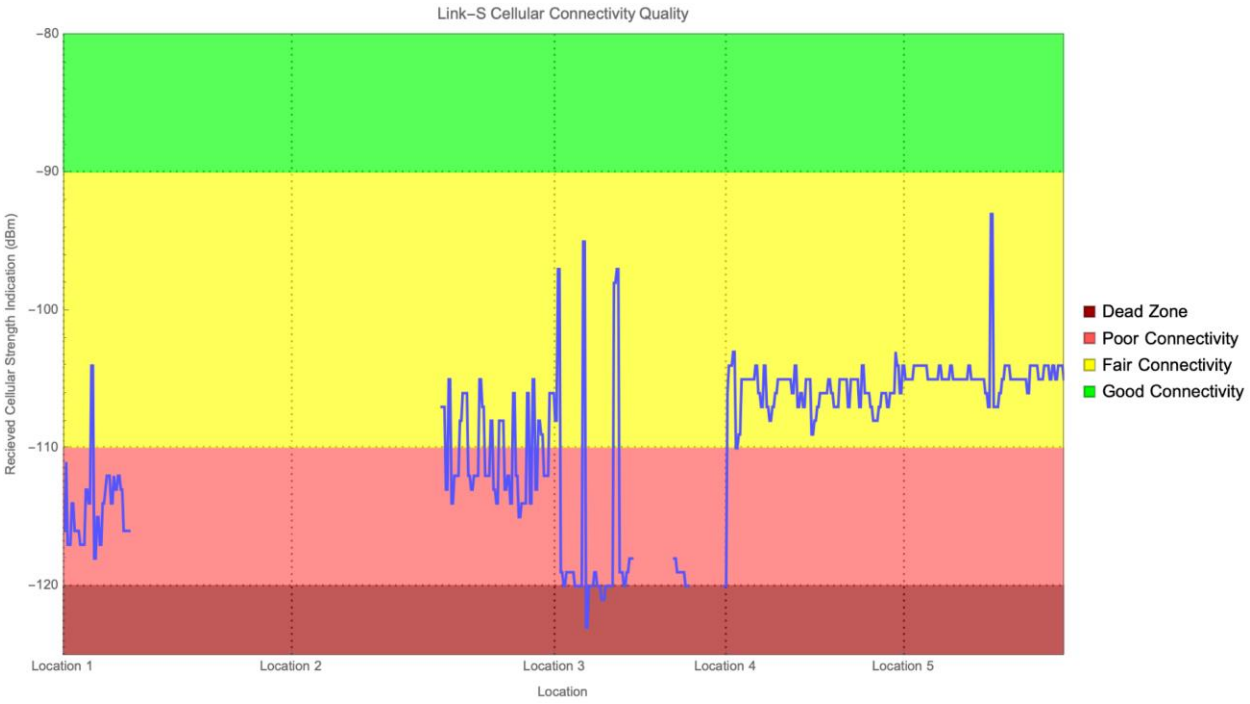


Figure 23: Link-S Cellular Connectivity Through All Locations

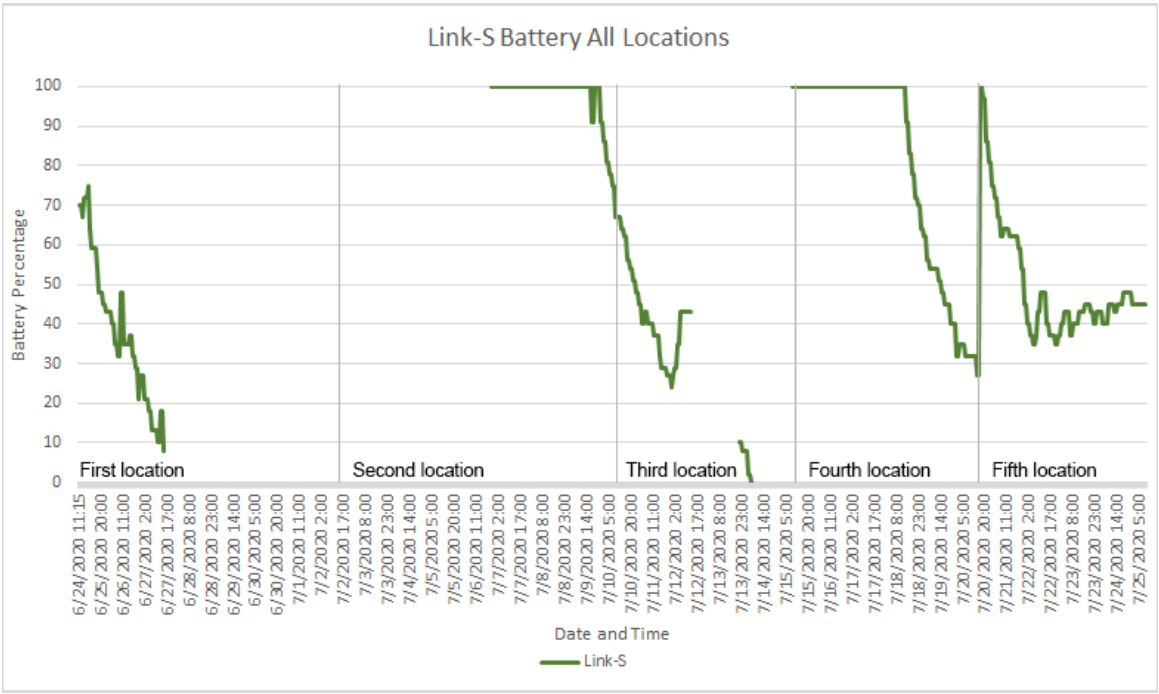


Figure 24: Link-S Battery Through All Locations

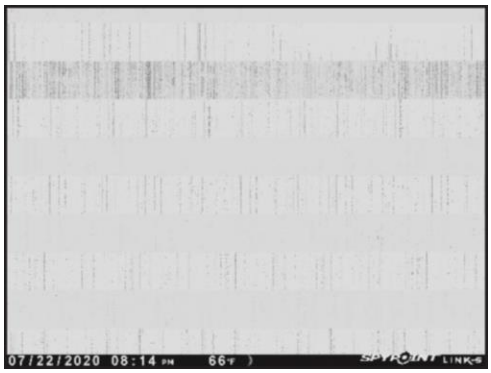


Figure 25: Link-S Corrupted Image

The Link-S also took and sent one corrupted image, as seen in Figure 25 above. This image was completely filled with static and shows the Link-S was not functioning properly. Had the Link-S been activated with a nationwide plan, we expect that we would have seen different results. Additionally, it is important to note that, while all cameras tested had been purchased for previous IQP projects, only the Link-S had seen field use in the 2018 Webcam project. As such, it is possible that wear or damage from previous deployments of the Link-S may have affected its performance during our tests.

4.1.3 Link-Micro

In the first location, the Link-Micro would not connect at first, though once it was revisited and reset, it connected to the server and sent the image it had taken the day before while disconnected. In the second location, the Link-Micro was disconnected up until the last 24 hours and, upon being given new batteries, uploaded the images it had taken while disconnected. This suggests that its batteries were not dead, but that the webcam was disconnected, which required it to be turned on manually. Like all other cameras, the Link-Micro disconnected for a period due to the cellular plan ending and like the other cameras later successfully uploaded the images taken during the lapse in connectivity. In the fourth location, the Link-Micro maintained full battery life the whole time and had no incidents affecting cellular connectivity. At the fifth location, the Link-Micro had one incident where the battery level rapidly dropped by a few percent but otherwise had no problems with battery life. The cellular connectivity was relatively stable but fluctuated at somewhat regular intervals. The graph depicting the cellular connectivity of the Link-Micro throughout all 5 locations can be seen in Figure 26. The graph of the battery can be found in Figure 27.

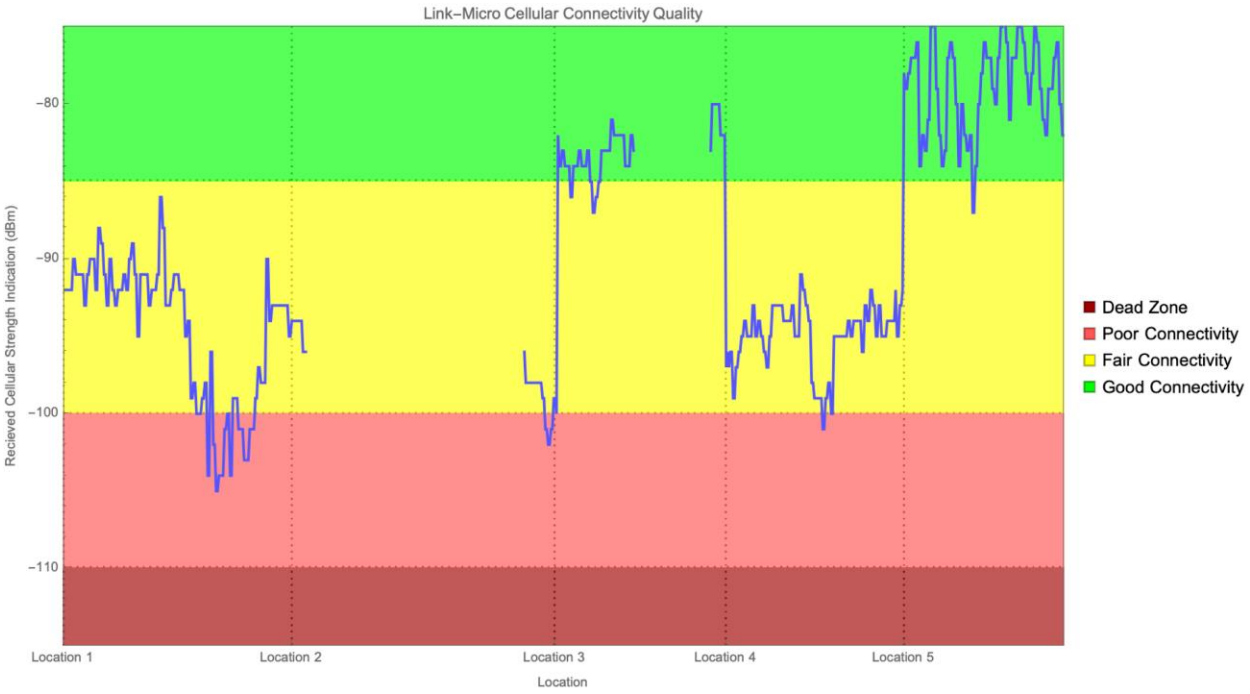


Figure 26: Link-Micro Cellular Connectivity Through All Locations

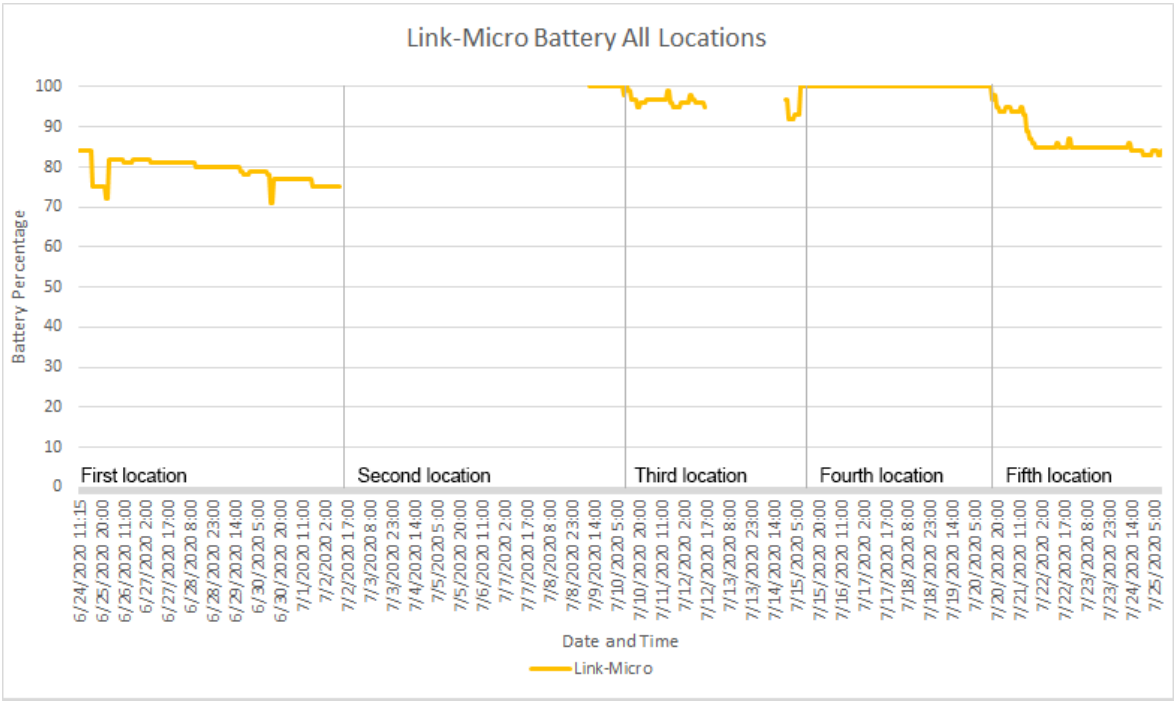


Figure 27: Battery of Link-Micro Through All Locations

4.1.4 Overall Comparison

After testing our webcams on Schoodic, we realized that the cellular connectivity environment on the Peninsula was barely sufficient for enabling successful communication with the webcams. While we were still able to receive images, they did not always upload at the end of the hour they were taken, which was the settings the webcams were in. Had the connectivity been better, we would have reliably received the images on the hour they were taken, as well as been able to change webcam settings and have the webcams instantly recognize this. Also, the lack of connectivity forced the webcams to expend battery life searching for a connection, draining their batteries at a faster rate than if there had been better connectivity. When discussing systems that communicate through cellular means, it is important to keep in mind that, for the various types of cellular connectivity, there are minimum signal strengths required to enable communication with a cell tower. For cellular networks, it is generally regarded that the Received Signal Strength Indicator, or the RSSI, must be greater than -100 dBm in order to achieve communications on a 3G network, and greater than -120 dBm to achieve communications on a 4G/LTE network. As seen in Figures 21, 23, and 26, the cellular signal strength encountered throughout our tests was often at or below these minimum values, leading to intermittent connections and large power requirements by the cellular transmitters of the cameras in order to reach the tower. The figures above depict the RSSI of each camera in blue and the bands of signal strength for each cellular protocol, either 3G/4G, or LTE.

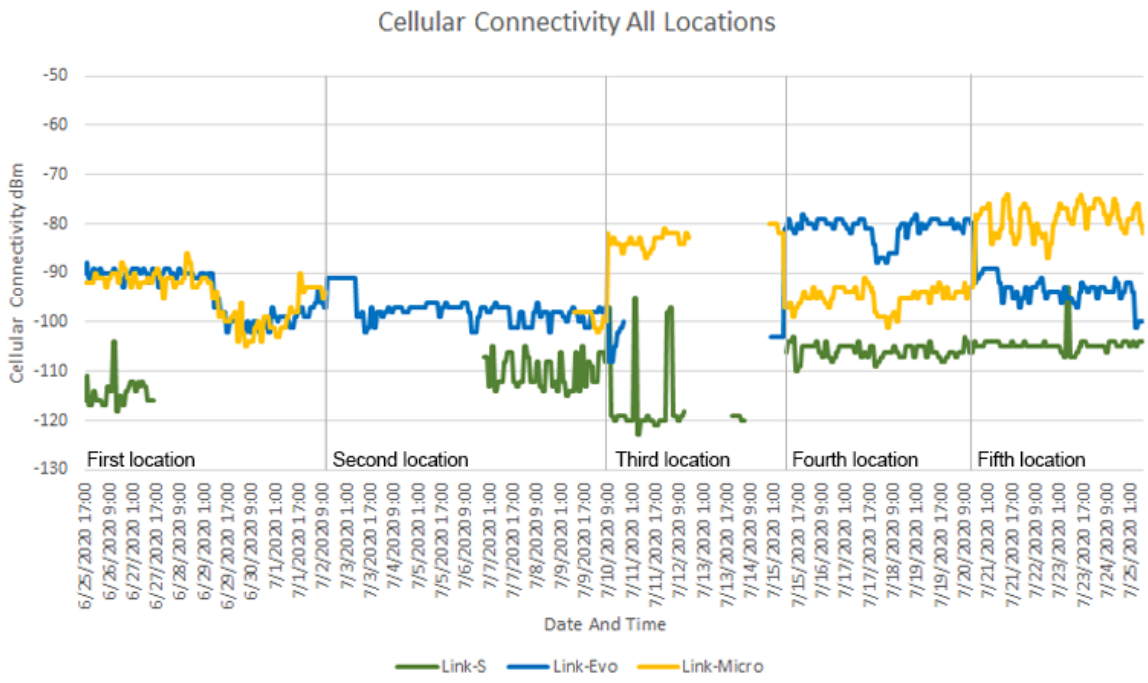


Figure 28: Cellular Connectivity of Webcams in All Locations

As the images above show, the locations we were operating at on Schoodic were often at or slightly above the threshold for a viable cell connection, and as such the recurring cellular connection issues encountered are unsurprising. Even with the additional 20 dBm of allowed loss brought forth by LTE, the Link-S was unable to receive the same quality of connection as its 3G counterparts. This was despite its equipment with an external antenna that should have resulted in slight improvement to the received signal's quality. Figure 28 shows the connectivity of each camera throughout the whole testing period. Overall, the connectivity on Schoodic was just enough to enable successful transmission of images. Implementing it, with some effort, into improved modelling of the cellular environment on Schoodic, along with better cellular antennas, should allow for more battery life in the cameras and less disconnection.

Figure 29 shows the battery of each webcam throughout the whole testing period. Gaps in the data reflect when the affected camera was not working due to lack of communication with

the server, which was subsequently due to no cellular connection or battery depletion.

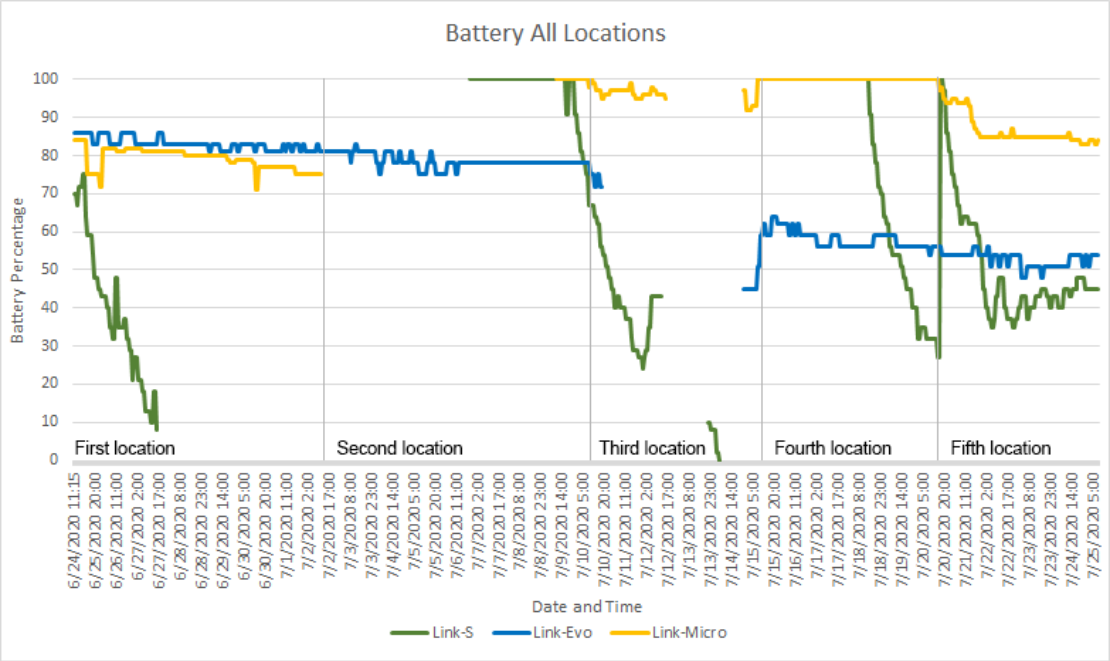


Figure 29: Battery of Webcams in All Locations

4.1.5 Optimal Webcam

Of the three cameras placed into the field, the Link-Evo was the strongest in terms of both battery and cellular connectivity when compared to the Link-S and Link-Micro. The battery of the Link-Evo and Link-Micro experienced little depletion when compared to the Link-S, which experienced frequent depletion. While both the Link-Evo and Link-Micro experienced primarily fair to good connectivity, the Link-Evo was superior in this regard due to fewer moments of disconnection. The Link-S, on the other hand, ended up being the worst in terms of connectivity due to experiencing a substantial amount of poor connectivity and disconnecting the most of the three. This was likely due to the nationwide plan used by the Link-Evo and Link-Micro, whereas the Link-S was on AT&T, which restricted the towers this webcam could utilize connectivity from. The minimal connectivity the Link-S experienced may have drained the battery, as the webcam had to use more battery life searching for a cellular signal compared to if it had better connectivity. As such, the Link-Evo demonstrated the strongest technical capabilities and the fewest limitations simultaneously.

4.2 Wildlife Detected by Webcams

Over the five weeks our webcams were in the field at different locations, we were able to capture images of numerous different species. The following section depicts the results from objective 2, the wildlife captured by the webcams.

4.2.1 Deer

During the testing period, deer were captured in multiple different locations, and each webcam caught a deer at least once.

Figure 30 & 31: Deer in a Clearing Captured by the Link-Micro

The Link-Micro captured deer in the first location walking through brush towards a trail as shown in Figures 30 and 31. Given that its head was pointing downwards in both images, it could be assumed that the deer was foraging.

Figure 32 & 33: Images taken by the Link-Micro of Deer at Night

The Link-Micro also photographed a deer walking in front of the camera at night, heading from the brush to the trail made by the power lines, shown in Figures 32 and 33.

Figure 34 & 35: Image of White-Tailed Deer Without Antlers

The Link-S also took images of a deer near the roadside. In Figure 34, the deer's ears are standing up and, while cautious of its surroundings, it took an interest in the camera and gazed at it for nearly a minute. Two minutes later, a deer appeared further away from the camera in Figure 35. This deer may have been the same individual as seen before or another that was nearby.

In the second set of locations, the Link-Evo photographed a deer at night with its head held low to the ground, obscured by brush. The actions of the deer in this photo are likely indicative of foraging behavior, shown in Figure 36.

Figure 36: Image taken by the Link-Evo of Deer at Night Using Infrared Technology

Figure 37 & 38: Image of White-Tailed Deer with Antlers taken on the Link-Evo

Figure 39 & 40: Images of Two Deer Captured within Same Minute with the Link-Evo

The Link-Evo was able to capture two deer walking together. In the first images, a deer with antlers is walking through for two minutes, shown in Figures 37 and 38. In the same minute the deer with antlers leaves the view of the webcam in Figure 39, and a doe enters the view shown in Figure 40. The webcam took a total of 15 images, with 13 being of the buck and 2 of the doe.

Figure 41 & 42: Images taken by the Link-S of Deer at Night Using IR Technology

The Link-S also captured a deer at night. The deer looked into the camera before walking away a minute later.

Figure 43: Deer Captured by the Link-Evo at Dawn

Figure 44: Deer Captured by the Link-Evo at Dusk

The Link-Evo also captured multiple deer in the fifth location, they were seen at dusk and dawn, with the exception of one deer seen past dusk. Also, many of the deer can be seen with their faces pointed toward the ground, a behavior that may indicate foraging. We also found the deer primarily near roads, shorter trails and paths with tall vegetation. It can be seen that wild deer forage across a wide area with little discrimination concerning where specifically they do so, only that the path they take to do so is navigable, as can be seen in Figures 37-40 where they walk through high vegetation, and Figures 41 & 42 where the deer is in taller grass.

4.2.2 Rabbits

Figure 45: Image taken by Link-Micro of Unknown Smaller Wildlife on Left

In the third location, the webcams were able to capture some smaller wildlife compared to the deer captured in the first two locations. The Link-Micro took an image where there is a very obvious shadow in the lower left corner, shown in Figure 45. Upon closer inspection, one can see that it does belong to an animal. Though the identity of that animal remains ambiguous, it was likely a rabbit or another smaller animal.

Figure 46: Nighttime Image of a Rabbit on the Left

Figure 47: Image of a Rabbit Standing Still at Night Captured by the Link-Micro

The Link-Evo captured an image of a rabbit at night. This image is very clearly a rabbit, as the entire body is visible, shown in Figure 46. In the fifth location, the webcams were also able to detect a rabbit. The Link-Micro captured a rabbit, as shown in Figure 47 above. Four minutes later, what was likely the same rabbit was captured moving by the Link-Micro in that same location, as shown in Figure 48 below.

Figure 48: Image of a Rabbit at Night Captured by the Link-Micro

All 3 images where the rabbit can be clearly identified are taken at night. Also, the image with the unidentified small wildlife that may be a rabbit was taken at night. We found the rabbits are hopping in the images taken, as the back legs are above the ground and in motion in all of the images.

4.2.3 Heron

Figure 49 & 50: Image of a Heron Captured at Dusk

In the fourth location, the Link-Micro captured a heron landing in the coastal inlet of water, shown in Figure 49, then flying away in the same minute in Figure 50. These images were taken at dusk.

4.2.4 Bobcat

Figure 51: Nighttime Image of Bobcat

The Link-Evo took an image of a bobcat walking past the webcam in Figure 51. This image of the bobcat has a high exposure due to the leaf in front of the webcam reflecting the infrared light off of it. However, the bobcat is still identifiable due to its facial shape that can be seen above the leaf. This image was taken at night.

4.2.5 Overall Feasibility of Capturing Wildlife

Based on all the images that were captured, we determined that placing the webcam 3 feet above the ground was effective for capturing images of deer, as well as that for relatively

smaller or larger wildlife, including the rabbit, bobcats, and herons. While we were not able to capture species larger than deer, the deer images we currently have suggest that relatively larger and smaller wildlife could be captured on these webcams if they were to appear in these same locations. The findings regarding wildlife captured show these webcams used in this way are feasible for wildlife monitoring, as we were able to capture a variety of sizes of mammals, from deer to rabbits, as well as a heron throughout Schoodic Peninsula.

4.3 Possible Future Applications

The following 3 possible applications are all feasible using the webcam system we deployed and fit with the goals expressed to us by representatives of Acadia National Park.

Application #1: Wildlife Corridor

Our first suggested application for the remote webcams targets the Schoodic Peninsula. Upon examining the observations gathered under the Downeast and Acadia Project on iNaturalist, it was found that some areas of Maine were not as well documented as others. For example, the map of Figure 52 shows that the central and northern regions of the Schoodic Peninsula have been subject to significantly fewer observations than the southern region (Spring 2020 Citizen Science Challenge, 2020; Downeast and Acadia, n.d.; Observations, n.d.; Schoodic Peninsula, 2019; Maps, 2020; Protecting the Wild Nature of the Schoodic Region, 2016; Wildlife Corridor, n.d.; Population, n.d.).

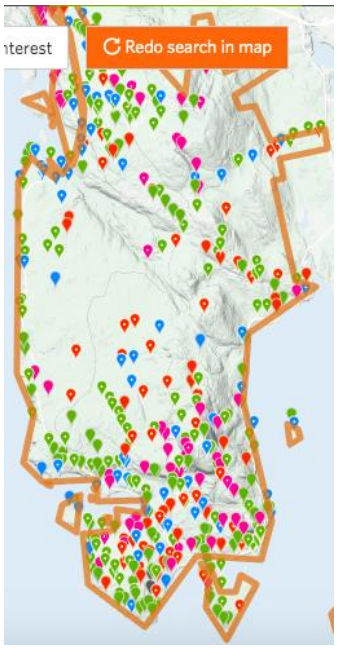


Figure 52: Current Observations of Schoodic Peninsula (Observations, n.d.)

The discrepancy found between both Northern and Central Schoodic and Southern Schoodic is problematic, because it indicated a lack of consistency concerning observations. However, what compounds the issue is that both regions comprise a substantial portion of Acadia National Park's property on the Peninsula. The fact that there is much less known about the central and northern regions' wildlife than there is about the southern region's wildlife needs to be corrected. Such knowledge can aid comprehension of the Peninsula's wildlife corridor, pictured in Figure 3 below, that being a means by which wildlife groups that would generally be isolated from each other are linked (Spring 2020 Citizen Science Challenge, 2020; Downeast and Acadia, n.d.; Observations, n.d.; Schoodic Peninsula, 2019; Maps, 2020; Protecting the Wild Nature of the Schoodic Region, 2016; Wildlife Corridor, n.d.; Population, n.d.). The existence of a wildlife corridor on the Schoodic Peninsula makes the lack of documentation in the northern and central regions of the Peninsula an issue. Through camera use in these locations, this issue may be resolved (Spring 2020 Citizen Science Challenge, 2020; Downeast and Acadia, n.d.; Observations, n.d.; Camping, 2020; Maps, 2020; Protecting the Wild Nature of the Schoodic Region, 2016).

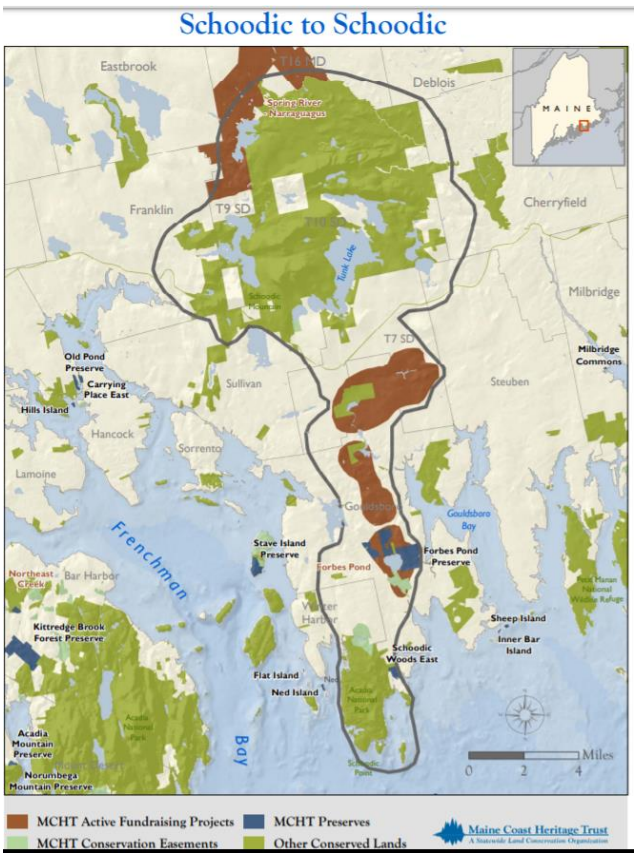


Figure 53: Schoodic Peninsula Wildlife Corridor (The Schoodic to Schoodic Initiative, n.d.)

For this application, motion sensitive webcams should be set up along the wildlife corridor on the Schoodic Peninsula, shown in Figure 53. Specific areas will be targeted where species are expected to be active based on previous studies and wildlife sightings, shown in Figures 8 through 11. We also recommend targeting locations with little to no known wildlife activity, as certain areas seem underrepresented in terms of wildlife sightings. We suggest staying away from areas that are heavily trafficked by people, as those are overrepresented in the data for reported wildlife sightings and may not represent the wildlife in areas with less human interaction. This would allow for a broader knowledge of what wildlife exists in specific areas of the park beyond what is seen in places where visitors and park personnel often travel. We suggest targeting locations with a variety of conditions. For example, on trails, off of trails, with sparse vegetation, with dense vegetation, and near food and water sources to ensure a wide range of wildlife is being monitored. The webcams will be secured to a tree using a tree strap. Camera heights and angles will be determined based on the species being targeted by researchers, with a

height of 2 feet being optimal for smaller wildlife like bunnies and bobcats, and a height of 3 feet being ideal for larger wildlife like deer and bears as well as capturing smaller wildlife. We recommend this project take advantage of citizen science, which for this application means using webcams to collect data and uploading the images to a citizen science crowdsourcing website where volunteers identify the wildlife in the images. In addition to helping to process data for research, this will help increase park interaction and provide a source of education. We suggest automatically uploading these images to the citizen science website iNaturalist using a Ruby program that connects to the Spypoint and iNaturalist APIs (application programming interfaces). The code for this program is written in Appendix H. We also suggest running the images through ResNet-152, a state-of-the-art neural network for the identification of images, to perform rough sorting of the images by the animals contained. Based on the data we collected, we recommend using the Link-Evo model from the Spypoint line. We also suggest using the external 12-volt battery and solar panel to extend the battery life and reduce the amount of maintenance required.

The approximate cost for the deployment and maintenance of one Link-Evo is $250 for the camera itself, $90 for an external battery and solar panel, and a yearly $120 transmission plan. If multiple cameras are to be deployed under the same account, Spypoint requires that a scouting package be purchased. There are two scouting packages, one which costs $40 per year and allows for 5 cameras, and an $80 per year plan that includes support for 10 cameras, but the camera count can be increased indefinitely at a cost of $20 per year per 5 cameras. Overall, an initial cost of $400 plus $150 per year is a reasonable way to estimate the costs of deploying one camera.

This setup could be economized by using non-cellular webcams in some of the locations, with manual retrieval of the memory cards from those cameras required in order to view their data. This lowers the cost per camera to approximately $250 per camera with no yearly service fees. Furthermore, since the northern areas of the Schoodic Peninsula have much better cell coverage than the southern sections, it would be possible to forgo external batteries at these locations, since the power consumed by image transmission should be lower due to the less challenging radio environment. This would lower the per camera cost of the cellular loadout to $300 plus $150 per year.

Application #2: Hard to Reach Locations

An efficient way to monitor wildlife in the hard to reach locations would be to utilize cellular webcams. We recommend deploying these webcams in places that require considerable time or effort to access. This may be done as a replacement for some or all existing unconnected webcams in these areas, as it would significantly reduce labor and time used by researchers or park staff. Isle au Haut is accessible from Stonington through a ferry ride, and the quickest way to its destination requires weaving through multiple smaller islands, as shown in Figure 54 below. Furthermore, the boat docks at the Town Landing, which is located outside of Acadia National Park's property on the island, and it only docks directly on Acadia property during less than approximately one third of the year. Overall, in order to do wildlife monitoring for Acadia National Park on Isle au Haut, one must take a tedious boat ride and then walk south before any work can be accomplished (What is Problem Solving?, n.d.; Isle au Haut, 2020).

Figure 54: Map of Isle au Haut and Surrounding Islands

These travel requirements alone make any form of in person wildlife monitoring impractical. What worsens the issue is that, as seen in Figure 55 below, the region of Isle au Haut owned by Acadia National Park is not well documented in terms of wildlife observations (Monitoring of Wildlife Populations, n.d.; In Situ, n.d.; Isle au Haut, 2020; Downeast and Acadia, n.d.; Observations, n.d.). As such, the use of remote camera monitoring would remedy both problems by reducing travel time such that more can be spent on the actual monitoring process and, subsequently, increasing the amount of wildlife documentation.

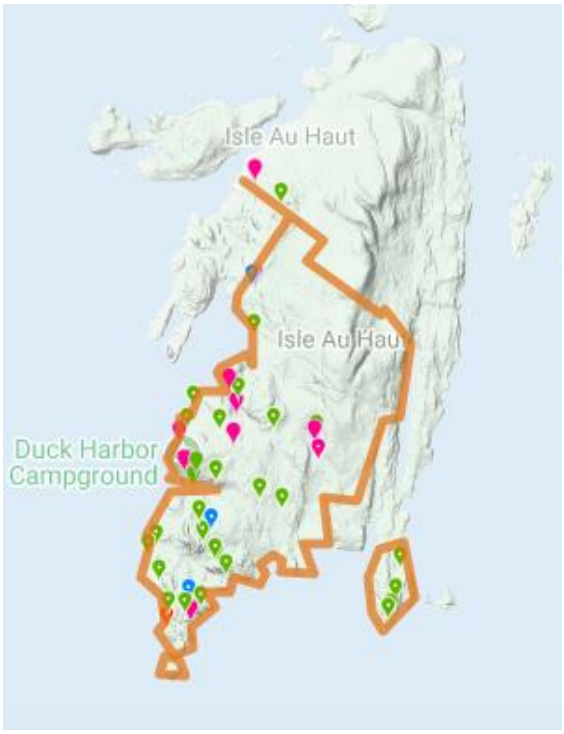


Figure 55: Wildlife Observations on Acadia's Isle au Haut Property (Observations, n.d.)

Both due to the lack of observations at this location and tedious travel impeding in person wildlife monitoring, it is apparent that there is a need to increase monitoring without physically being there. Cameras could be used to remedy this problem by providing constant monitoring and only requiring people to come to their location should they need maintenance. The cellular connection on Isle au Haut is said to be strong according to our Bik Wheeler, Becky Cole-Will, and Abe Miller-Rushing, as seen in Appendix B. As such, an antenna for cell strength boosting may not be necessary. The webcams will be placed in a variety of locations, including trails, near food and water sources, and locations with higher vegetation to ensure a large range of wildlife can be monitored.

These remote cellular webcams may also be placed in physically difficult to access areas such as cliffs, where accessing a standard webcam to retrieve data on a regular basis is both a major endeavor and a possible risk both to the person doing it and the equipment. There is also a need to monitor the population decline of seabirds on Schoodic Island, which is also a difficult place to access. Based on our findings, we recommend using the Link-Evo model from the Spypoint line. We also suggest using the external 12-volt battery and solar panel to extend the battery life and reduce the amount of maintenance required. We recommend the placement of the

webcams to be 3-4 feet off the ground to ensure they can capture images of wildlife both big and small as well as birds. A camera strap should be used to attach the webcams to trees.

As broken out in our first suggestion, the cost of deploying a singular Link-Evo with an external battery is about $400 plus an additional $150 per year. This would provide continuous, remote coverage of all the locations, easily accessible from any mobile device or PC. Due to the difficulty of access to these cameras, it may be worth acquiring a larger battery for these cameras, to lengthen their deployment time. As such, another option would be to purchase only the solar panel from Spypoint, and to utilize a larger 35Ah sealed lead acid battery in a weatherproof case. This would increase operational time greatly while increasing the cost per operational camera to approximately $650 plus $150 per year.

Application #3: Human-Wildlife Behavior

Our third suggestion is to use the webcams to track human-animal behaviors within the park. Not only has Acadia National Park experienced past instances of behavior between animals and campers, but the park staff has also expressed worry over possible food conditioning and habituation, specifically concerning Blackwoods (Wieczorek Hudenko, 2014; Wildlife Habituation, 2016; Camping, 2020; Downeast and Acadia, n.d.; Observations, n.d.). The fact that the concern has been directed toward Blackwoods is notable because, as seen on the map of Figure 6 below, there has been a significant lack of wildlife documentation in the surrounding area. While National Parks have utilized educational efforts to hinder such behaviors, there has been no consistent gauging of the efficacy of these activities. Additionally, there has been a general lack of information concerning habituation, especially considering the point habituation happens varies depending on multiple different factors (Wieczorek Hudenko, 2014; Wildlife Habituation, 2016; Camping, 2020; Downeast and Acadia, n.d.; Observations, n.d.).

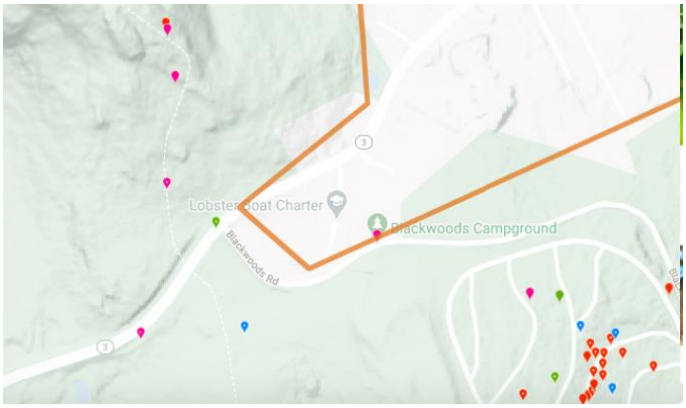


Figure 56: Wildlife Observations at Blackwoods Campground (Observations, n.d.)

The cameras would be set up near campsites targeting areas which may attract wildlife and increase possible interactions with humans. Places of interest include trash cans, water sources, parking areas, and storage lockers. Cameras could either be placed directly capturing these sites or such that they capture animals as they head to them, depending on privacy concerns. If cameras are set up directly on these sites, activity of people and wildlife can monitored. This can then be used to determine how willing park wildlife is to interact with areas trafficked by people, which can further be used to educate the public on proper safety measures and possible dangers. We also recommend using the Link-Evo model from the Spypoint line for this plan. We suggest using the external 12-volt battery and solar panel to extend the battery life and reduce the amount of maintenance required. The webcams should be secured to a tree using a tree strap 3 feet off of the ground to target a wider range of wildlife sizes.

These plans can be used to further the research and education in the park surrounding wildlife monitoring. These plans can also be used for other purposes such as monitoring the population decline of seabirds by monitoring Schoodic Island and monitoring the herbivoration that is killing large amounts of vegetation. The plan proposed for Isle au Haut would easily translate to the research that can be done on seabirds. Schoodic island is also difficult to access and could disrupt the birds that already have population declines. By setting up cellular webcams on this island, it will allow for efficient data collection without disrupting the birds and will be more time effective for researchers. The plan proposed for the wildlife corridor could be used for putting webcams around locations where vegetation is being reduced. Using a few cellular webcams in addition to less expensive static webcams will allow for cost efficient monitoring, where the cellular webcams relay data remotely and the static webcam data can be retrieved through an SD card to gather a larger range of data.

5.0 Recommendations

5.1 Connectivity Improvement Recommendations

Given that the connectivity on Schoodic was often intermittent and rarely reached any significant distance above the minimum viable values, improvements should be considered. Cellular signal boosters or especially high gain directional antennas are one option, in order to improve the quality of the cellular environment on Schoodic. We recommend that the cameras be equipped with directional Yagi antennas which should allow for improved connectivity over both the internal antennas of the cameras and the omnidirectional antenna sold by Spypoint. A cellular signal strength measurement device, such as the Wilson 460118 Pro Signal Meter (Ubersignal, n.d.) should be acquired in order to find the direction in which the Yagi antenna should be oriented to provide the best cellular link. Furthermore, all cameras used in the future should utilize the nationwide plan, to provide maximum possibilities for connectivity.

5.2 Battery Extension Recommendations

Our recommendations on how to address battery life depends heavily on the application of whatever given camera setup is being considered. In a short-term application in which the cameras are being utilized for their quick feedback, using internal disposable batteries may be perfectly fine. In a long-term application however, we recommend a solution that will extend battery life. All three models of webcams we tested could use both an external 12-volt battery and internal rechargeable lithium batteries, or a solar panel all of which are purchasable from Spypoint, the manufacturer of the cameras. In some medium to long term applications it may be sufficient to use just a camera in conjunction with the rechargeable lithium battery and the 12 volt to extend the life of the camera. For long term or indefinite length applications we recommend the installation of a solar panel in addition to the batteries. If a solar panel is used, it needs to be mounted securely and such that it has reliable sunlight. The angle it is mounted at should be such that the panel both receives direct sunlight and, if relevant to the location, does not end up covered in leaves or other debris which may obscure the solar panel. The use of external batteries and a solar panel will decrease the amount of maintenance needed, as there will not be a need to change the batteries frequently. The solar panel will recharge the batteries when

it has access to solar energy, but if not, then the webcam will begin using the external batteries. This solution will require minimal maintenance, but we recommend checking the webcam monthly to clear the solar panel of any debris and ensure smooth functioning. Since these webcams can be accessed remotely, they will state the last time they connected to the server. If they go longer periods of time without connecting to the server, we recommend checking on the webcam to determine if new batteries are needed or if the webcam just needs to be turned on manually.

5.3 Webcam Recommendations

The Link-Evo was the highest performing camera and in combination with an additional large solar panel and battery it offers greater field endurance than offered by a stock Link-S while still remaining at a far lower price point. Additionally, the Link-S performed worse in our tests, and the Link-Evo with an external solar panel and battery is still less expensive than the Link-S, which is why we fully recommend the Link-Evo. We suggest activating this webcam with the nationwide plan, as the webcams we tested with the nationwide plan yielded the best results as they were able to obtain a cellular signal from any tower within range. We recommend that these cameras be used in a variety of applications. The cameras are of course useful in difficult to service locations, but they are also useful as they give instant feedback on wildlife activity at a site. These cellular connected cameras with their increased cost make them unsuitable for wholesale replacement of traditional wildlife monitoring cameras. They do however appear to be an effective and useful tool to add to the arsenal of wildlife monitoring techniques available to park staff and researchers. Furthermore, they are capable of satisfying a niche not filled by other monitoring methods. Going forward these cameras should be used specifically in ways that best capitalize on their advantages over traditional wildlife cameras rather than as a wholesale replacement for non-cellular connected wildlife monitoring cameras. We recommend using the motion sensing feature to capture an image automatically when wildlife pass into view of the camera. By doing this, the webcams should only collect images with wildlife, assuming the webcams are in locations away from any other human traffic. We also recommend a measuring stick in view of the webcams. This will be to estimate the size of the wildlife seen by the webcams and help in identifying it. We also recommend using these cellular webcams as a way to access the data real time, but using them in combination with less

expensive static webcams to collect a larger range of data, with the cellular webcams relaying the important information back remotely.

For this project, we also created an informational pamphlet for use in educational settings and an informational pamphlet directed at researchers looking to implement cellular webcams. These pamphlets detail our recommendations and suggestions when using cellular webcams to monitor wildlife, whether it is for education or research, based on the data we collected and our findings. The pamphlets can be found in Appendix F & G.

Conclusion

Acadia National Park currently lacks an efficient method of remote wildlife monitoring. We investigated the feasibility of using cellular webcams to monitor wildlife in remote areas of Acadia National Park. In order to evaluate the feasibility, the team used 3 different models of webcams from Spypoint, the Link-S, the Link-Evo, and the Link-Micro. Hourly data was recorded from each webcam, including battery percentage and cellular connection.

After five weeks of testing at five different locations, we determined cellular webcams can be used as a tool to monitor wildlife remotely. The Link-Evo model had the best success in terms of battery usage as well as cellular connection and remaining connected to the server. In order to further boost these abilities, we recommend the external solar panel and 12-volt battery to decrease the amount of maintenance the webcam would require.

Acadia National Park and Schoodic Institute can benefit from placing these webcams along the wildlife corridor on Schoodic Peninsula, in difficult to access locations like Isle au Haut, and around the four campgrounds within Acadia. Each of these locations lack wildlife documentation and could provide valuable data surrounding the diversity of wildlife throughout Acadia and the wildlife corridor. Overall, we hope these webcams can be used to more efficiently monitor wildlife and protect the wildlife with the data collected.

References

12v 35Ah Deep Cycle AGM Battery. (n.d.). Retrieved July 24, 2020, from https://www.apexbattery.com/12v-35ah-deep-cycle-battery.html

About Schoodic Institute: Winter Harbor, Maine. (n.d.). Retrieved April 11, 2020, from https://schoodicinstitute.org/about-us/

Abraham Miller-Rushing, Ph.D. (n.d.). Retrieved April 1, 2020, from https://earthwatch.org/research/our-scientists/abraham-miller-rushing

Acadia's 'Triple Threat' Discussed. (2019, August 20). Retrieved April 11, 2020, from https://www.mdislander.com/living/acadias-triple-threat-discussed

Acadia National Park: SCHOODIC PENINSULA HIKING TRAILS. (2020, June 20). Retrieved July 02, 2020, from https://npplan.com/parks-by-state/maine-national-parks/acadia-national-park-park-at-a-glance/acadia-national-park-schoodic-peninsula/acadia-national-park-schoodic-peninsula-hiking-trails/

A Hike Along Acadia's Trails Shows Spring Arrives Early for Some Plants. (2019, March 11). Retrieved July 6, 2020, from https://schoodicinstitute.org/a-hike-along-acadias-trails-shows-spring-arrives-early-for-some-plants/

Baldassari, L. E., Conforte, M. L., Caputo, M. P., & Werner, C. M. (2005). Investigation of the Effects of the Built Environment on Patient Health Outcomes and Staff Satisfaction.

Bat Research in Acadia. (n.d.). Retrieved April 28, 2020, from https://www.nps.gov/acad/learn/news/bat-research-in-acadia.htm

Beebe, J. (2014). Data Collection - Multiple Data Sources and Triangulation. Rapid qualitative inquiry: a field guide to team-based assessment (pp 53-60). Lanham: Rowman & Littlefield.

Bergquist, Z., Claudio Palacios, A., & Goklavent, S. (2018). Cellular Connectivity Status in Acadia National Park.

Bird Ecology. (n.d.). Retrieved July 04, 2020, from https://schoodicinstitute.org/science/bird-ecology-research/

Brotherton, D. K., Behler, J. L., & Cook, R. P. (2005, January). Acadia National Park Amphibian and Reptile Inventory: March – September 2001.

Bruce Connery Archives. (2020, January 11). Retrieved April 28, 2020, from https://acadiaonmymind.com/tag/bruce-connery/

Bruno, M., Cromwick, M., & Feng, Y. (2018). Feasibility of Webcam Implementation in Acadia.

B35 Waterproof Battery Enclosure Case Box. (n.d.). Retrieved July 24, 2020, from https://www.elephantcases.com/battery-case-b35.html

Camping. (2020, May 26). Retrieved June 17, 2020, from https://www.nps.gov/acad/planyourvisit/camping.htm

Citizen Science. (n.d.). Retrieved July 08, 2020, from https://www.lexico.com/definition/citizen_science

Citizen Science. (n.d.). Retrieved July 04, 2020, from https://schoodicinstitute.org/science/citizen-science/
Citizen Science Day. (2019, March 05). Retrieved July 07, 2020, from https://schoodicinstitute.org/citizen-science-day/
Cole-Will, B. (2008, August 18). Major New Ethnographic Study about Wabanaki Indians in Coastal Maine. Retrieved April 1, 2020, from https://www.nps.gov/acad/learn/news/ethnography.htm
Conservation Biology, 27(3), 501–508. Retrieved from https://www.jstor.org/stable/23525329
Church, A. (2011). *Conserving Wildlife Habitats with Landscape Corridors in the Schoodic Region of Maine, USA* (Document No. 11198) [Master Thesis, The Pennsylvania State University]. Electronic Theses and Dissertations for Graduate School.
Crown Jewel of the North Atlantic Coast. (2020, July 7). Retrieved July 13, 2020, from https://www.nps.gov/acad/index.htm
Documenting Rare and Recovering Wildlife. (n.d.). Retrieved April 13, 2020, from https://www.conservationnw.org/our-work/wildlife/wildlife-monitoring/
Downeast and Acadia. (n.d.). Retrieved June 25, 2020, from https://www.inaturalist.org/projects/downeast-and-acadia
Downeast Phenology Trail. (n.d.). Retrieved June 26, 2020, from https://schoodicinstitute.org/science/citizen-science/downeast-phenology-trail/
Early Detection of Invasive Species (U.S. National Park Service). (n.d.). Retrieved May 1, 2020, from https://www.nps.gov/im/netn/early-detection-of-invasive-species.htm
Economize. (n.d.). Retrieved July 17, 2020, from https://www.lexico.com/definition/economize
Eighty Citizen Scientists Trained This Summer. (2018, September 05). Retrieved July 07, 2020, from https://schoodicinstitute.org/eighty-citizen-scientists-trained-this-summer/
FCC (n.d.). Antenna Structure Registration. Retrieved July 30, 2020, from https://wireless2.fcc.gov/UlsApp/AsrSearch/asrRegistrationSearch.jsp
Gittleman, J. L. (1998a, July 20). Species. Retrieved July 20, 2020, from https://www.britannica.com/science/species-taxon
Grunin, L. (2014, July 2). Review: Sony Alpha 6000 mirrorless interchangeable-lens camera almost has it all. Retrieved April 19, 2020, from https://www.cnet.com/reviews/sony-alpha-a6000-review/
Hollander, N., Zhu, M., & Yang, Y. (2019). Implementation and Design of Wbcam Systems for Traffic Monitoring in Acadia National Park.
iNaturalist. (n.d.). Retrieved July 08, 2020, from https://www.inaturalist.org/
In Situ. (n.d.). Retrieved July 10, 2020, from https://www.merriam-webster.com/dictionary/in situ
Interviews - Research Methodology. (n.d.). Retrieved April 11, 2020, from https://research-methodology.net/research-methods/qualitative-research/interviews/
Interview with Abe Miller-Rushing - Signs of the Seasons: A New England Phenology Program - University of Maine Cooperative Extension. (n.d.). Retrieved April 11, 2020, from

https://extension.umaine.edu/signs-of-the-seasons/news-events/interview-with-abe-miller-rushing/
Isle au Haut. (2020, June 12). Retrieved June 17, 2020, from https://www.nps.gov/acad/isle-au-haut.htm
Jewell, Z. O. E. (2013). Effect of Monitoring Technique on Quality of Conservation Science.
Keefer, J. S., Wheeler, J. S., Manning, D. R., Marshall, M. R., Mitchell, B. R., & Dieffenbach, F. (2014, August). Early detection of invasive species–surveillance, monitoring, and rapid response: Version 2.0. Retrieved May 1, 2020, from https://irma.nps.gov/Datastore/Reference/Profile/2214573
Kelly, M. J., & Holub, E. L. (2008). Camera Trapping of Carnivores: Trap Success Among Camera Types and Across Species, and Habitat Selection by Species, on Salt Pond Mountain, Giles County, Virginia. Northeastern Naturalist, 15(2), 249-262. doi:10.1656/1092-6194(2008)15[249:ctocts]2.0.co;2
Kieley, J. F. (Ed.). (1940). A Brief History of the National Park Service. Washington, D.C.: U.S. Dept. of the Interior. Retrieved April 13, 2020, from https://www.nps.gov/parkhistory/online_books/kieley/kieley1.htm
Latest Projects in Bird Ecology. (n.d.). Retrieved July 04, 2020, from https://schoodicinstitute.org/science/bird-ecology-research/latest-projects/
LINK-EVO. (n.d.). Retrieved July 24, 2020, from https://www.spypoint.com/en/products/cellular-trail-camera/product-link-evo.html
Link-S. (n.d.). Retrieved July 24, 2020, from https://www.spypoint.com/en/products/solar-cellular-trail-camera/product-link-s.html
Mackenzie, C. M., Johnston, J., Miller-Rushing, A. J., Sheehan, W., Pinette, R., & Primack, R. (2019). Advancing Leaf-Out and Flowering Phenology is Not Matched by Migratory Bird Arrivals Recorded in Hunting Guide's Journal in Aroostook County, Maine. *Northeastern Naturalist, 26*(3), 561. doi:10.1656/045.026.0309
Marja Bakermans. (n.d.). Retrieved April 11, 2020, from https://www.wpi.edu/people/faculty/mbakermans
Maps. (2020, April 16). Retrieved April 2, 2020, from https://www.nps.gov/acad/planyourvisit/maps.htm
Martin, J., Kitchens, W. M., & Hines, J. E. (2007). Importance of Well-Designed Monitoring Programs for the Conservation of Endangered Species: Case Study of the Snail Kite. Conservation Biology, 21(2), 472–481. doi: 10.1111/j.1523-1739.2006.00613.x
Monitoring of Wildlife Populations. (n.d.). Retrieved April 13, 2020, from https://www.ufaw.org.uk/why-ufaws-work-is-important/monitoring-of-wildlife-populations
National Park Service, (2016). Acadia National Park Foundation Document. Retrieved April 1, 2020, from https://www.nps.gov/acad/learn/management/upload/ACAD_FD_2016_508-2017.pdf

National Park Service (2020). National Park Service Fiscal Year 2020 Budget Justifications. Retrieved April 2, 2020, from https://www.doi.gov/sites/doi.gov/files/fy2020-nps-justification.pdf

Natural Resource Monitoring at Acadia National Park (U.S. National Park Service). (n.d.). Retrieved April 28, 2020, from https://www.nps.gov/im/netn/acad.htm

Observations. (n.d.). Retrieved June 25, 2020, from https://www.inaturalist.org/observations?project_id=8616&place_id=any&verifiable=any&captive=any

Orcutt, L. (2018, December 19). A Successful Season for the Downeast Phenology Trail. Retrieved July 6, 2020, from https://schoodicinstitute.org/a-successful-season-for-the-downeast-phenology-trail/

Parks Canada Agency, & Government of Canada. (2019, October 16). Wildlife webcams and remote cameras. Retrieved April 4, 2020, from https://www.pc.gc.ca/en/nature/science/controle-monitoring/cameras

Partnership with Acadia National Park. (n.d.). Retrieved April 11, 2020, from https://schoodicinstitute.org/about-us/partnership-with-acadia-national-park/

Partnership with Friends of Acadia. (n.d.). Retrieved April 11, 2020, from https://schoodicinstitute.org/about-us/partnership-with-friends-of-acadia/

Protecting the Wild Nature of the Schoodic Region. (2016, October 12). Retrieved July 08, 2020, from https://www.mcht.org/story/protecting-the-wild-nature-of-the-schoodic-region/

Robinson, R. A., Morrison, C. A., & Baillie, S. R. (2014). Integrating demographic data: towards a framework for monitoring wildlife populations at large spatial scales. Methods in Ecology and Evolution, 5(12), 1361–1372. doi: 10.1111/2041-210X.12204

Spypoint App. (n.d.). Retrieved July 24, 2020, from https://www.spypoint.com/en/spypoint-experience/spypoint-app

Solar panel. (n.d.). Retrieved July 24, 2020, from https://www.spypoint.com/en/products/solar-panel/product-sp-12v.html

Sarah Hooper. (n.d.). Retrieved July 14, 2020, from https://schoodicinstitute.org/team/sarah-hooper/

Sarah Hooper appointed as Education Specialist. (2019, August 07). Retrieved July 14, 2020, from https://schoodicinstitute.org/sarah-hooper-appointed-as-education-specialist/

Schoodic Island - Acadia National Park. (n.d.). Retrieved July 10, 2020, from https://acadiamagic.com/schoodic/schoodic-island.htm

Schoodic Peninsula. (2019, July 11). Retrieved July 04, 2020, from https://www.nps.gov/acad/planyourvisit/schoodic.htm

Science & Research. (2017, October 3). Retrieved April 1, 2020, from https://www.nps.gov/acad/learn/nature/scienceresearch.htm

Spring 2020 Citizen Science Challenge. (2020, May 01). Retrieved June 24, 2020, from https://schoodicinstitute.org/spring-2020-citizen-science-challenge/

Spypoint. (n.d.). Retrieved April 11, 2020, from https://webapp.spypoint.com/

The 2019 field season has begun for staff, interns, and visiting researchers. (2019, June 25). Retrieved July 07, 2020, from https://schoodicinstitute.org/the-2019-field-season-has-begun-for-staff-interns-and-visiting-researchers/

The Editors of Encyclopaedia Britannica. (1998, July 20). Cost–benefit analysis. Retrieved July 14, 2020, from https://www.britannica.com/topic/cost-benefit-analysis

The Schoodic to Schoodic Initiative. (n.d.). Retrieved July 15, 2020, from https://www.mcht.org/conservation-work/initiative/the-schoodic-to-schoodic-initiative/

Trailcampro.com. (n.d.). Spypoint Link-S (AT&T). Retrieved July 24, 2020, from https://www.trailcampro.com/products/spypoint-link-s

Tips for Holding an Effective Online Focus Group. (2016). Nonprofit Communications Report, 14(4), 4–4. doi: 10.1002/npcr.30386

Truphone transforms SpyPoint's cameras into smart solutions using IoT. (2018, February 20). Retrieved July 24, 2020, from https://www.truphone.com/us/about/newsroom/spypoint/

Ubersignal. (n.d.). Retrieved July 24, 2020, from https://www.ubersignal.com/wilson-460118-pro-signal-meter.html

Visitation Numbers (U.S. National Park Service). (2020, March 10). Retrieved from https://www.nps.gov/aboutus/visitation-numbers.htm

Watching Wildlife Webcams. (2016, October 26). Retrieved April 13, 2020, from https://www.nps.gov/subjects/watchingwildlife/webcams.htm

Wearn, O. R., & Glover-Kapfer, P. (2017). Camera-trapping for conservation: A guide to best-practices. World Wildlife Fund. Retrieved from https://www.wwf.org.uk/sites/default/files/2019-04/CameraTraps-WWF-guidelines.pdf

Webcam (U.S. National Park Service). (n.d.). Retrieved April 5, 2020, from https://www.nps.gov/media/webcam/view.htm?id=D7E4CFC7-D5E9-A031-CDF4A30E8DE59E1C

Webcam Home. (n.d.). Retrieved April 4, 2020, from https://www.nps.gov/subjects/air/webcams.htm

Webcams. (n.d.). Retrieved April 13, 2020, from https://www.nps.gov/yell/learn/photosmultimedia/webcams.htm

What is Problem Solving? (n.d.). Retrieved July 25, 2020, from https://asq.org/quality-resources/problem-solving

What We Do. (n.d.). Retrieved April 11, 2020, from https://friendsofacadia.org/what-we-do/

White, E., & Krieg, T. (2014, April 12). Rebecca Cole-Will - MDIHS Local Oral Histories. Retrieved April 2, 2020, from https://sites.google.com/a/mdirss.org/mdihs-local-oral-histories/rebecca-cole-will

Wieczorek Hudenko, H. A. (2014). *Understanding Human-Wildlife Interactions In U.S. National Parks: The Role Of Emotion in Human Behaviors That Foster Habituation And Food Conditioning in Wildlife* (Unpublished doctoral dissertation). Cornell University. Retrieved July 7, 2020, from https://ecommons.cornell.edu/handle/1813/38820

Wild Acadia. (n.d.). Retrieved April 11, 2020, from https://friendsofacadia.org/programs/wild-acadia/
Wildlife Corridor. (n.d.). Retrieved July 08, 2020, from https://www.lexico.com/en/definition/wildlife_corridor
Wildlife Habituation. (2016, February 11). Retrieved July 08, 2020, from https://www.nps.gov/grca/learn/nature/wildlife-habituation.htm
Wildlife Tracking and Monitoring. (n.d.). Retrieved April 13, 2020, from https://wildlifeact.com/about-wildlife-act/wildlife-tracking-and-monitoring/
Winter Activities. (n.d.). Retrieved April 11, 2020, from https://www.nps.gov/acad/planyourvisit/winteractivities.htm
Work with Us. (2019, November 4). Retrieved April 19, 2020, from https://www.nps.gov/acad/learn/management/work-with-us.htm

Appendix A

Interview Notes with Professor Bakermans:

- What is your background?

Professor Bakermans is a wildlife biologist that specializes in birds. She worked with students on non-birds and her expertise in this field is with species experiencing population decline. Bakermans researches declining bird populations to understand how to reverse and, ultimately, stop the population decline. She has done graduate work in urban parks and human wildlife interactions, but also non-human animal based projects. Finally, she ran a project in environment biology.

- What work have you done with wildlife monitoring?

Professor Bakermans has worked in habitat management, namely what are the best and highest quality habitats. She has also worked in habitat restoration and forest harvesting.

- What has your experience been like with wildlife monitoring?

In addition to having a love of nature, Professor Bakermans explained that it is important to understand what is happening in the natural world and what we can do to help. Important aspects of this include biodiversity, the human centric approach, natural resources, which is critical for humans, over exploitation of wildlife, and transmission of diseases.

- What work have you done with webcams?

Professor Bakermans has supervised an MQP team that used webcams on Massachusetts beaches to monitor predator activity, including that of humans, and how it affects shorebirds. While considering the feasibility for this system, the time constraints faced by many National Parks were taken into consideration and Zooniverse was used as a reference. Overall, it was found that, while webcams can take in a lot of information, processing that information is very difficult. The second webcam-based project Professor Bakermans partook in was at parks around Chicago to survey human activity and the response to it by animals.

- What webcams have you used?

Professor Bakermans could not recall what type of cameras she used, and even then she indicated that the models were outdated. That being said, she directed us to look at what cameras were used in Zooniverse projects and to look for those on Bushnell.

- What are important things for us to know when setting up the webcams?

The important factors to know are the probability of cameras being stolen or destroyed, given they are not secured or concealed, that the cameras are a safe distance from wildlife that can destroy them, are hidden from wildlife overall, that as much of each camera is hidden as possible, and are protected from the elements.

- What is important for us to determine feasibility?

Professor Bakermans indicated that it was important to determine what level of cost is prohibitive to program implementation and to ensure that the benefits derived from the program outweigh the costs. This is especially true in terms of decreased maintenance and uptake requirements, and therefore less time and effort put in by the park's officials and researchers, compared to the increased cost per individual webcam setup. We also want to consider what data is being collected for a given application and what level of detail researchers require for their application. Also, we need to know how many cameras are necessary to be useful for webcam studies and, once the images, videos, or both, have been collected, how they will be processed into intelligible data.

- Have you had to manage a large amount of data? What software do you use?

Professor Bakermans used Excel for organization and statistical software R to process data.

- What do you feel is the importance of wildlife monitoring?

Professor Bakermans stated that it is important to understand how our actions affect wildlife populations and use those to address conservation concerns. We only know the extent of our actions through long term monitoring and cause and effect. Overall, wildlife are critical and setting up long term monitoring in the park would be beneficial.

Appendix B

Initial Meeting Notes with Liaisons Abe Miller-Rushing, Becky Cole-Will, and Bik Wheeler:

- An aim of this project is for Schoodic to gain more information as well as engage more in citizen science.
- Miller-Rushing, Cole-Will, and Wheeler want to begin incorporating commercially available technology into the project on bats, which is year round and faces weather-based hindrances in Winter and Summer.
- The liaisons also want to observe larger mammals, as there are no population estimates currently.
- Part of our project will be to determine Schoodic's connectivity, specifically whether images can be uploaded from there.
- The wildlife corridor may be a good location for our webcams.
- We will aim to test different webcam methods and connectivity to determine if long term, low maintenance webcams can be handled.
- Sarah Hooper works with students to track wildlife on the Schoodic Peninsula from the Schoodic Institute.
- The corridors and campground on Schoodic present high potential for human-wildlife interactions. Because monitoring wildlife movement in these two areas is also used for research, real time data would be a large benefit, especially for wildlife corridors and the beaver population located near the campground. Another good outcome may be obtained from setting up cameras on Isle Au Haut, as that location has the best connectivity in the entire park, including islands. Overall, we want to identify where the best camera placement would be connectivity-wise, specifically through proof of concept rather than implementation.
- The greater aspect of our project will be to collect data that can be used over time for studies. We also want to ensure optimal placement as well as the ability to withstand extreme conditions. It is more important to have data that can be collected and studied over time rather than focusing on having real time data.
- From our camera system, we want the ability to remotely access data, to use the system for citizen science, specifically crowdsourcing identification.
- An aspect to consider for our system is how frequently are pictures being taken.
- When analyzing our data, we need to know when or if our camera malfunctions. This means having park officials checking the webcams, as well as having the webcams take images on a time interval to understand when any issues occur, as there will not be

photos in that time range.

- It is not mandatory that the images be made available publicly, as there is too much technical difficulty in that.

Appendix C

Meeting Notes with Liaisons Abe Miller-Rushing and Bik Wheeler:

- We debriefed the work we have done on our project so far, including what locations we have tested, what wildlife we have captured and the cellular connection we have experienced so far on Schoodic Peninsula
- We then asked if there were any locations they feel would be good for us to test.
- Due to unknown connectivity, we will not be setting up webcams on Mount Desert Island during this project
- They recommended we choose a location above Schoodic Woods campground, as we may be able to capture larger wildlife like bears and moose
- They also suggested Little Moose Island, as the Park does not have much data regarding wildlife there
- They also recommended Schoodic Point to capture the birds that may be flying around the coast. They also noted we may have good connectivity there from Bar Harbor.
- We also discussed what possible future uses for the webcams could be. The liaisons felt a need for the webcams on Schoodic Peninsula, including the newly acquired land on Northern Schoodic, as Schoodic Institute is currently doing research surrounding wildlife movement on the peninsula. They also see a need for webcams in difficult to access locations, including Isle au Haut.
- We discussed the current suggestions we have, which target those specific needs, to which they expressed these ideas provide valuable solutions to current issues.
- They also mentioned other possible uses, including monitoring seabird populations, as they are rapidly decreasing. Also, tracking bats using radio telemetry has been difficult, so webcams may be a solution to this. Lastly, they are looking into herbivoration and tracking the vegetation in hopes for restoration due to herbivores eating and depleting vegetation within Acadia.

Appendix D

Meeting Notes with Sarah Hooper:

- In the future, we should set up our own project to upload data to iNaturalist within the range of the wildlife corridor.
- The hardest part about our future recommendations will be finding scientists willing to carry out our suggested work. Possibly direct it to Schoodic's forest ecologist (and marine ecologist?), as they are doing similar work to our own.
- Sarah wants to find ways to implement our suggestions into the current education programs at Schoodic Institute.
- The two pamphlets created by Ali could belong on the Schoodic Institute and Acadia website to attract the appropriate audience.
- Use the Research for Scientists and Citizen Science Webpages on the Schoodic Institute website to place the pamphlets.
- For Acadia National Park, place one pamphlet under Science and Research and another on Science Topics.
- Possibly contact Katherine Schmidt, who oversees science communications. She is responsible for posting information on the website.
- Write some paragraphs on our work for Schoodic Institute to post to their website in addition to the pamphlets themselves, giving them context.

Appendix E

```
require 'httparty'
require "google/apis/sheets_v4"
require "googleauth"
require "googleauth/stores/file_token_store"
require "fileutils"

ACCOUNT_USERNAME = ""
ACCOUNT_PASSWORD = ""
STORAGE_SHEET = ""
OOB_URI = "urn:ietf:wg:oauth:2.0:oob".freeze
APPLICATION_NAME = "Bar Harbor IQP Autologger".freeze
CREDENTIALS_PATH = "credentials.json".freeze
TOKEN_PATH = "token.yaml".freeze
SCOPE = Google::Apis::SheetsV4::AUTH_SPREADSHEETS

capttime = Time.now.iso8601
r1 = HTTParty.post('https://restapi.spypoint.com/api/v3/user/login',
                   body:
'{"username":ACCOUNT_USERNAME,"password":ACCOUNT_PASSWORD}',
                   headers: {'Content-Type' => 'application/json;charset=utf-8',
                             Origin: 'https://webapp.spypoint.com',
                             Referer: 'https://webapp.spypoint.com/'})
token = r1.parsed_response['token']
r2 = HTTParty.get('https://restapi.spypoint.com/api/v3/camera/all',
                   headers: { Authorization: "bearer #{token}",
                             'Content-Type' => 'application/json;charset=utf-8',
                             Origin: 'https://webapp.spypoint.com',
                             Referer: 'https://webapp.spypoint.com/'})
camera_info = r2.parsed_response.map { |camera|
                   { model: camera['status']['model'],
                   battery_percentage: camera['status']['batteries'][0],
                   cell_signal_type: camera['status']['signal']['type'],
                   cell_signal_dbm: camera['status']['signal']['dBm'],
                   temperature: camera['status']['temperature']['value'],
                   capture_time: capttime,
                   last_update_time: camera['status']['lastUpdate']}}

def authorize
  client_id = Google::Auth::ClientId.from_file CREDENTIALS_PATH
  token_store = Google::Auth::Stores::FileTokenStore.new file: TOKEN_PATH
  authorizer = Google::Auth::UserAuthorizer.new client_id, SCOPE, token_store
  user_id = "default"
```

```
  credentials = authorizer.get_credentials user_id
  if credentials.nil?
        url = authorizer.get_authorization_url base_url: OOB_URI
        puts "Open the following URL in the browser and enter the " \
        "resulting code after authorization:\n" + url
        code = gets
        credentials = authorizer.get_and_store_credentials_from_code(
        user_id: user_id, code: code, base_url: OOB_URI
        )
  end
  credentials
end

service = Google::Apis::SheetsV4::SheetsService.new
service.client_options.application_name = APPLICATION_NAME
service.authorization = authorize

spreadsheet_id = STORAGE_SHEET
range = 'PeriodicData!A2:G'
request_body = Google::Apis::SheetsV4::ValueRange.new
request_body.range = "PeriodicData!A2:G"
request_body.major_dimension = "ROWS"
request_body.values = camera_info.map(&:values)
service.append_spreadsheet_value(spreadsheet_id,range,request_body,
value_input_option:"USER_ENTERED")
```

Appendix F

Educational Pamphlet

Other Tips:

- If you see wildlife, make sure to keep a safe distance
- Look for footprints or other signs of wildlife and set up webcams
- Set up webcams in more remote areas, as there will be more wildlife and a smaller chance of the webcams being damaged or stolen
- Upload images to a crowd sourcing website to identify the wildlife in the images

This pamphlet was created by Ali Guthrie, a student at Worcester Polytechnic Institute.

Wildlife Monitoring with Cellular Webcams

A guide to using webcams to monitor wildlife for educational purposes

Cellular Webcams

Cellular webcams make for easy remote tracking, meaning you can have access to the images without having to retrieve them manually from the webcams SD card.

Spypoint Link-Evo

The Link Evo model has great image quality at night as well as during the day. With a nationwide cellular plan, the webcam will be able to connect to any cellular tower in range for optimal connectivity. It is also in the mid-price range for Spypoint webcams; however, it outperforms the Link S which is in the higher price range.

Using an external battery will allow for the webcams to last much longer, especially if they are taking many images. A solar panel would allow for the webcam to recharge its internal batteries on its own. A long-range antenna would allow the webcams to function better in areas with less cellular connection and require less battery in the locations with less connectivity.

It is important to understand the area you are monitoring wildlife in. Make sure you know what types of wildlife are present in the area you are in. For example, if you are in a wooded area, there may be deer, rabbits, and coyote.

Placement

If you are targeting smaller wildlife, like rabbits, the webcams should be placed on a tree using a strap 2 feet above the ground. For larger wildlife, like deer or moose, 3 feet is optimal.

Ideal Locations

When monitoring wildlife, there are more ideal locations including:

- Locations with known wildlife activity
- Near trails open areas where wildlife may pass through
- Places with taller vegetation where animals may forage

Cellular Connectivity

Webcams in locations with good connectivity will last longer as they will not use excess battery searching for a signal. This will also allow for images to be transmitted once motion is detected for real time data.

Disruption

When setting up the remote webcams, it is essential to ensure you are not disrupting the wildlife. Make sure the tree strap is not breaking the tree or any other plant life. Also, do not place any food near the webcam, as that may encourage wildlife to destroy the webcam if it is disturbed by its presence.

Appendix G

Research Pamphlet

Other Tips:

- Keep cameras a reasonable distance from trails animals are expected to follow such that animals will be in frame in images taken rather than right next to the camera.
- Keep camera away from foliage or other obstructions or the night vision will be very washed out in the foreground and dark elsewhere, as the images will be blocked, and night vision will be very washed out in the foreground and dark elsewhere
- Upload images to a crowd sourcing website to identify the wildlife in the images

WPI

This pamphlet was created by students at Worcester Polytechnic Institute, Ali Guthrie and Joshua Woodruff.

Wildlife Monitoring with Cellular Webcams

A guide to using webcams to monitor wildlife for research

Cellular Webcams

Cellular webcams make for easy remote tracking, meaning you can have access to the images without having to retrieve them manually from the webcams SD card.

Ease of Access

Cellular webcams can be used to detect wildlife and be updated remotely but used with less expensive webcams without cellular capabilities can cut costs while broadening the area of data coverage.

Spypoint webcams are all compatible with an external solar panel, battery, and long range antenna to improve the longevity the webcam can monitor wildlife before maintenance is required.

Using an external battery will allow for the webcams to last much longer, especially if they are taking many images. A solar panel would allow for the webcam to recharge its internal batteries on its own. A long-range antenna would allow the webcams to function better in areas with less cellular connection and require less battery in the locations with less connectivity.

Motion Sensing

If the webcams are placed into the motion sensing setting, they will capture an image when motion is detected. This setting is great for larger animals like deer and bobcats; however, it can also capture smaller wildlife like rabbits and herons.

Spypoint Link-Evo

The Link Evo model has great image quality at night as well as during the day. With a nationwide cellular plan, the webcam will be able to connect to any cellular tower in range for optimal connectivity. It is also in the mid-price range for Spypoint webcams; however, it outperforms the Link S which is in the higher price range.

Cellular Connectivity

Webcams in locations with good connectivity will last longer as they will not use excess battery searching for a signal. This will also allow for images to be transmitted once motion is detected for real time data.

Time Lapse

Time lapse mode will be ideal for faster wildlife, like birds and bats, as the motion detection may not be fast enough to capture wildlife faster than the reaction speed. Time lapse mode can be used to see how many birds or bats fly past the webcam throughout the day.

Appendix H

```
require 'httparty'
require 'rest_client'
require 'open-uri'

r1 =
HTTParty.post('https://restapi.spypoint.com/api/v3/user/login',
                    body:
'{"username":SPYPOINT_USERNAME,"password":SPYPOINT_PASSWORD}',
                    headers: {'Content-Type' =>
'application/json;charset=utf-8',
                                Origin:
'https://webapp.spypoint.com',
                                Referer:
'https://webapp.spypoint.com/'})
spypoint_token = r1.parsed_response['token']

r2 =
HTTParty.get('https://restapi.spypoint.com/api/v3/camera/all',
                   headers: { Authorization: "bearer
#{spypoint_token}",
                                'Content-Type' =>
'application/json;charset=utf-8',
                                Origin:
'https://webapp.spypoint.com',
                                Referer:
'https://webapp.spypoint.com/'})

login_response =
RestClient.post("https://www.inaturalist.org/oauth/token", {
    :client_id => INATURALIST_CLIENT_ID,
    :client_secret => INATURALIST_CLIENT_SECRET,
    :grant_type => "password",
    :username => INATURALIST_USERNAME,
    :password => INATURALIST_PASSWORD
})
headers = {"Authorization" => "Bearer #{
JSON.parse(login_response)["access_token"]}","Content-Type"
=>"application/json"}
```

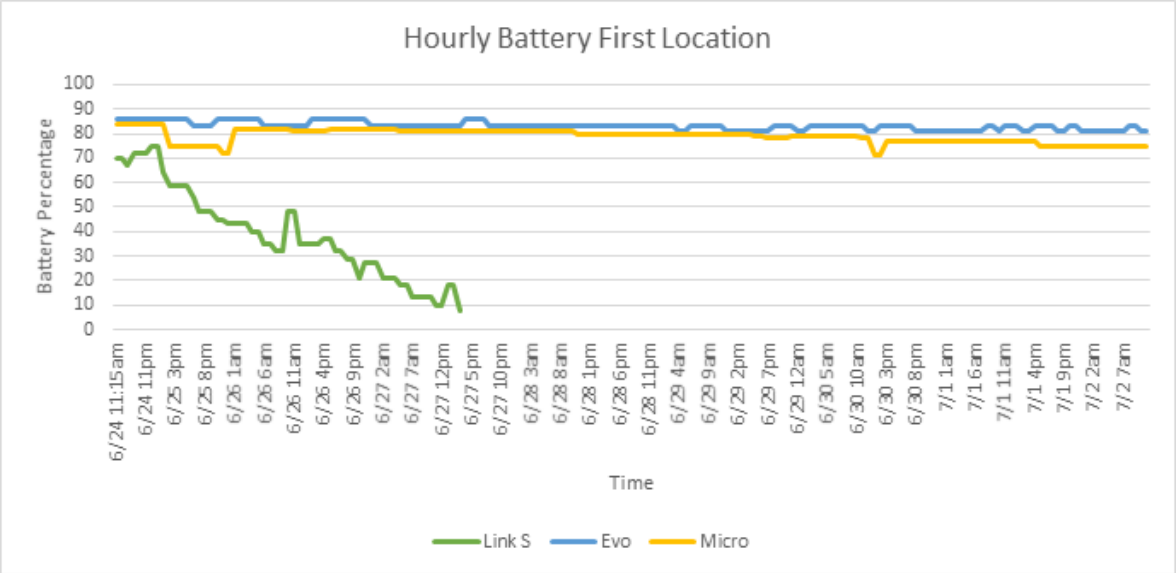
```
camera_image_urls = r2.parsed_response.map {|camera|
  r3 =
HTTParty.post('https://restapi.spypoint.com/api/v3/photo/all',
                      body:
'{"cameras":["'+camera['id']+'"],"dateEnd":"2100-01-
01T00:00:00.000Z","favorite":false,"hd":false,"limit":1000,"tag"
:[]}',
                      headers: { Authorization: "bearer
#{spypoint_token}",
                                 'Content-Type' =>
'application/json;charset=utf-8',
                                 Origin:
'https://webapp.spypoint.com',
                                 Referer:
'https://webapp.spypoint.com/'})
  r3.parsed_response["photos"].map {|image|
    image_id = image["id"]
    image_date = image["originDate"]
    image_url = "https://" + image["large"]["host"] +"/"+
image["large"]["path"]
    IO.copy_stream(open(image_url), 'temp.png')
    postreq =
RestClient.post("https://www.inaturalist.org/observations.json",
{
        "observation[observed_on_string]" => image_date,
        "observation[time_zone]" =>
"Eastern+Time+(US+%26+Canada)",
        "observation[description]" => "BH2020 Spypoint Image
#{image_id}",
        "observation[place_guess]" => "Bar Harbor,ME",
        "observation[latitude]" => "44.3386",
        "observation[longitude]" => "68.2733",
        "observation[location_is_exact]" => "false",
        "observation[positional_accuracy]" =>"10000",
        "observation[geoprivacy]" => "obscured"},
        headers)


RestClient.post("https://www.inaturalist.org/observation_photos.
json", {"observation_photo[observation_id]" =>
```

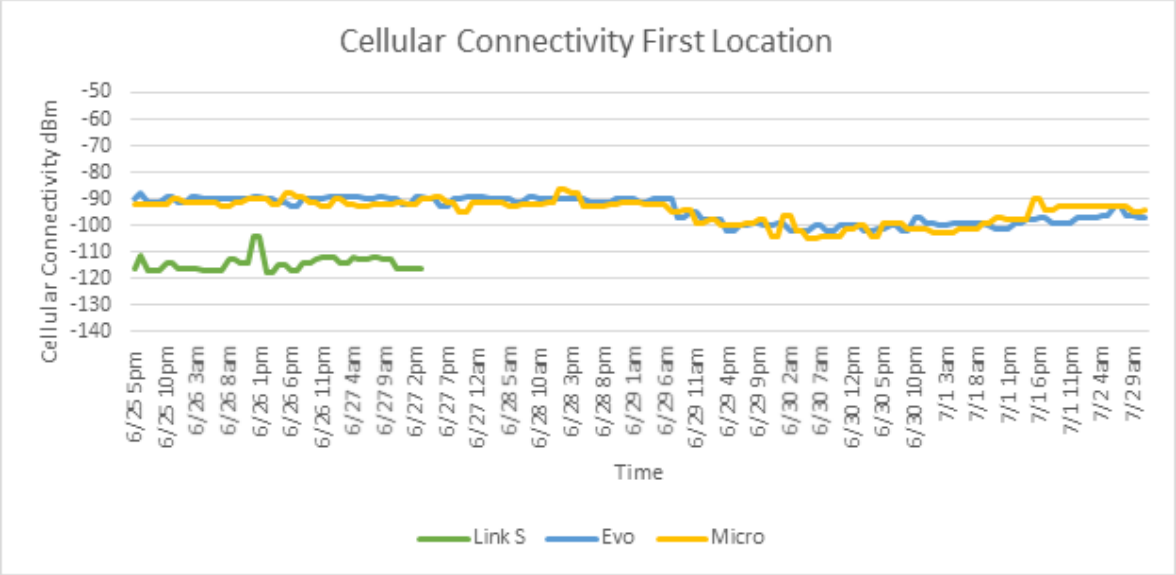
```
JSON.parse(postreq)[0]["id"], :file =>
File.new("temp.png","rb"), :multipart => true},headers)
  }
}
```

Appendix I

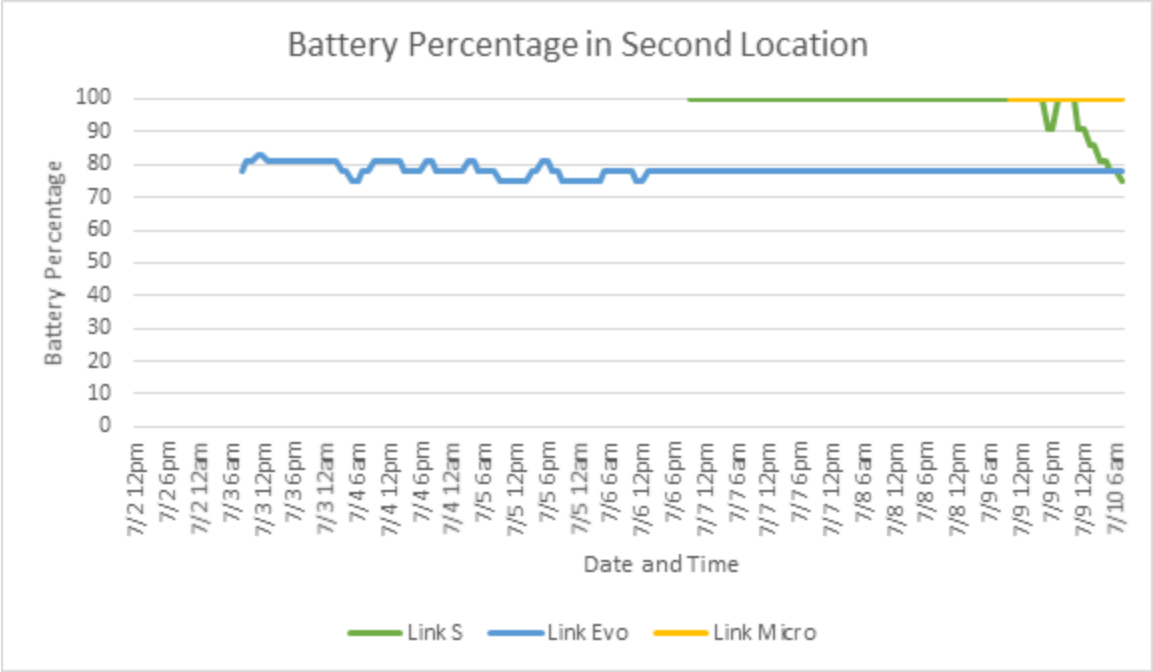
Hourly battery and connectivity graphs for each location



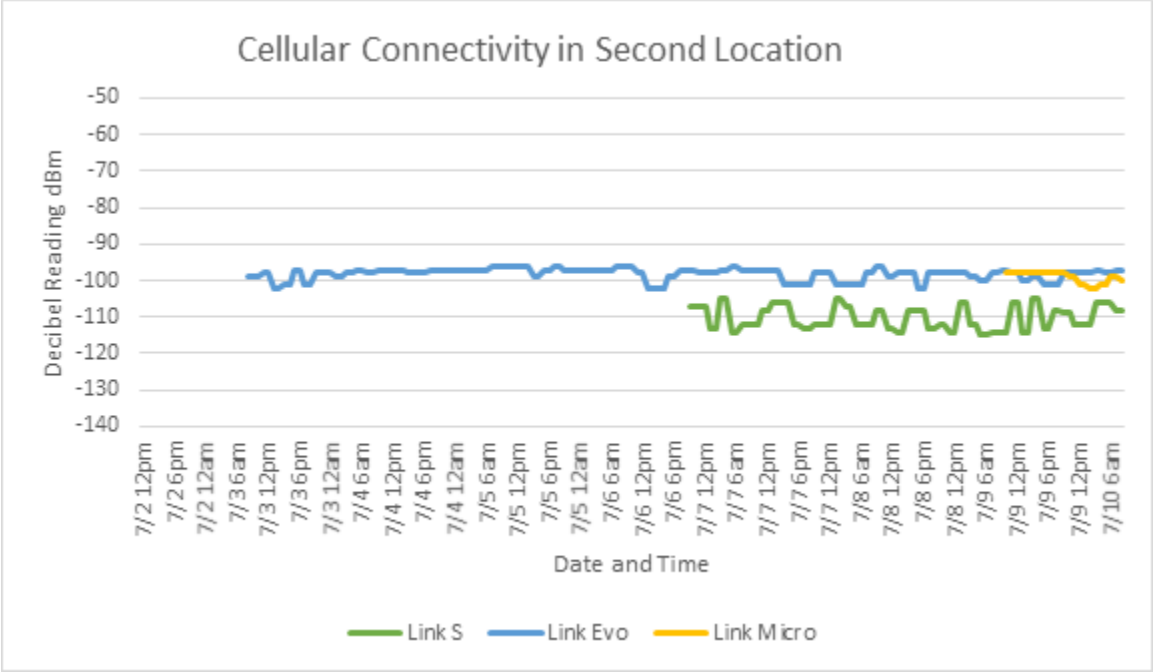
Battery of Webcams in First Location



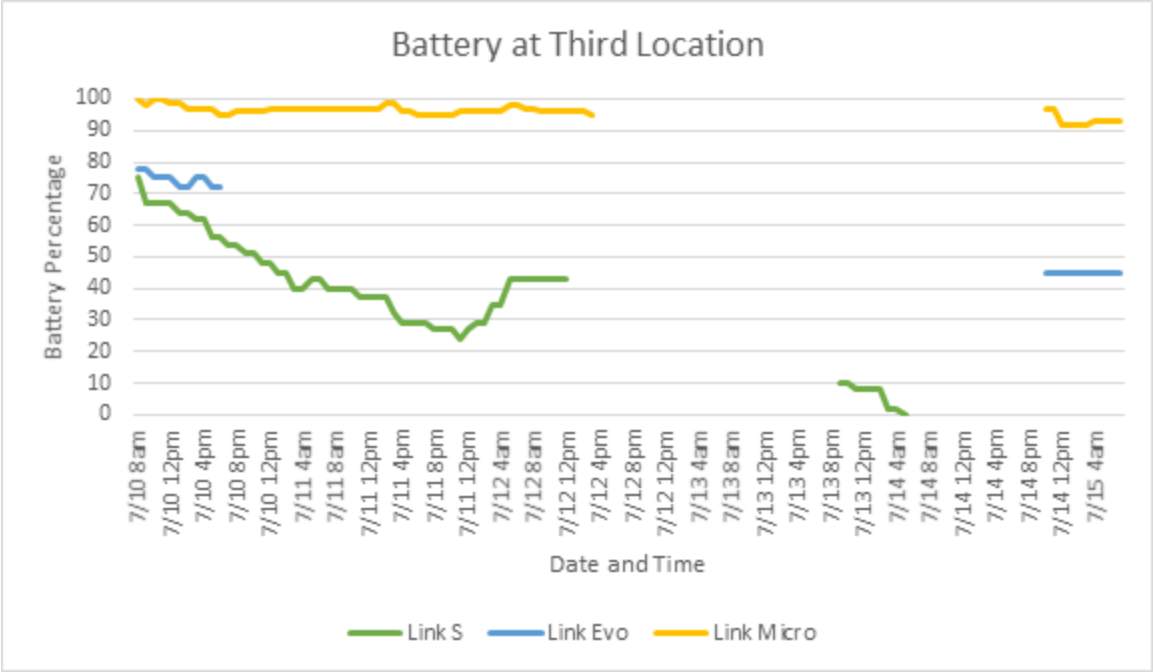
Cellular Connectivity of Webcams in First Location



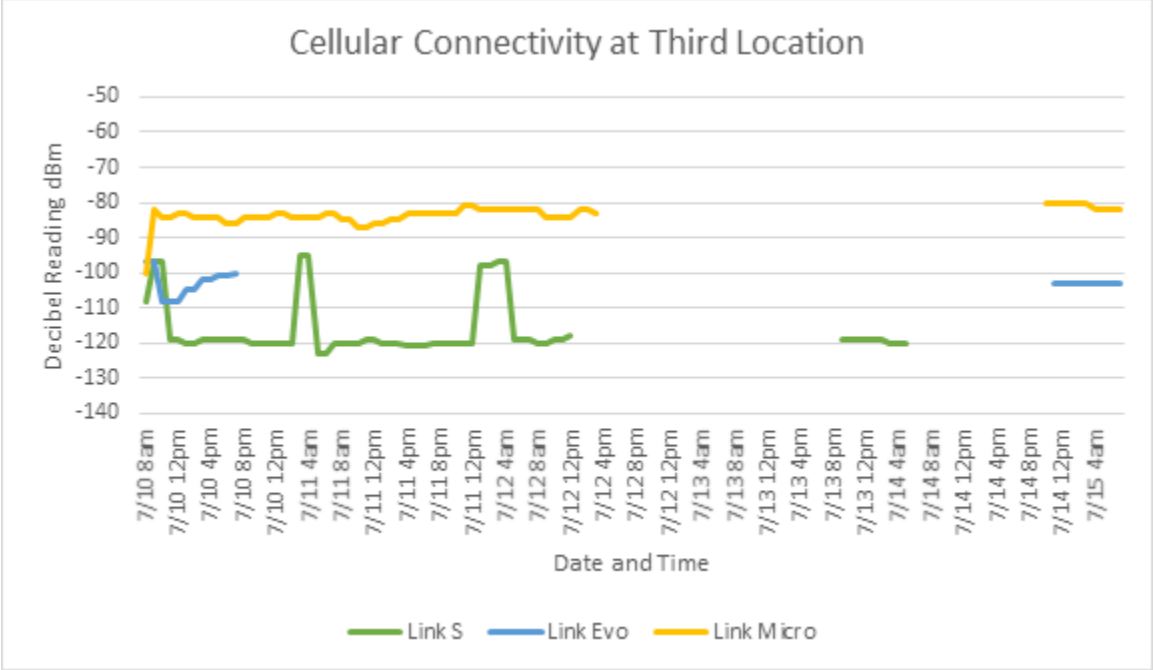
Battery of Webcams in Second Location



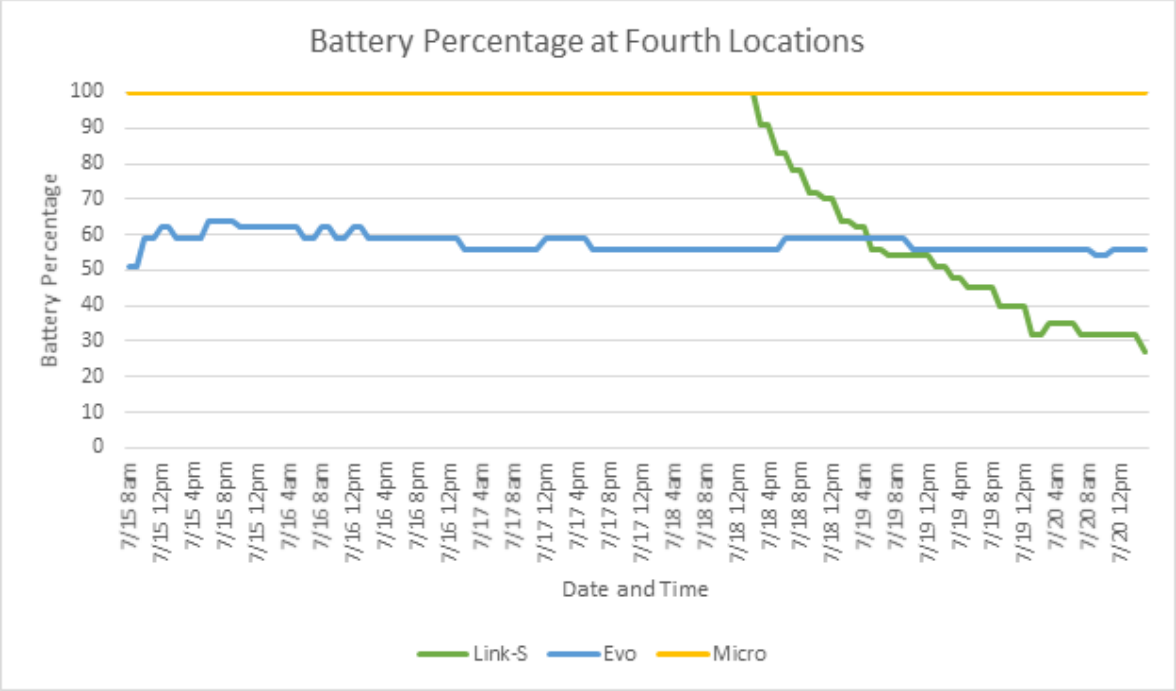
Cellular Connectivity of Webcams in Second Location



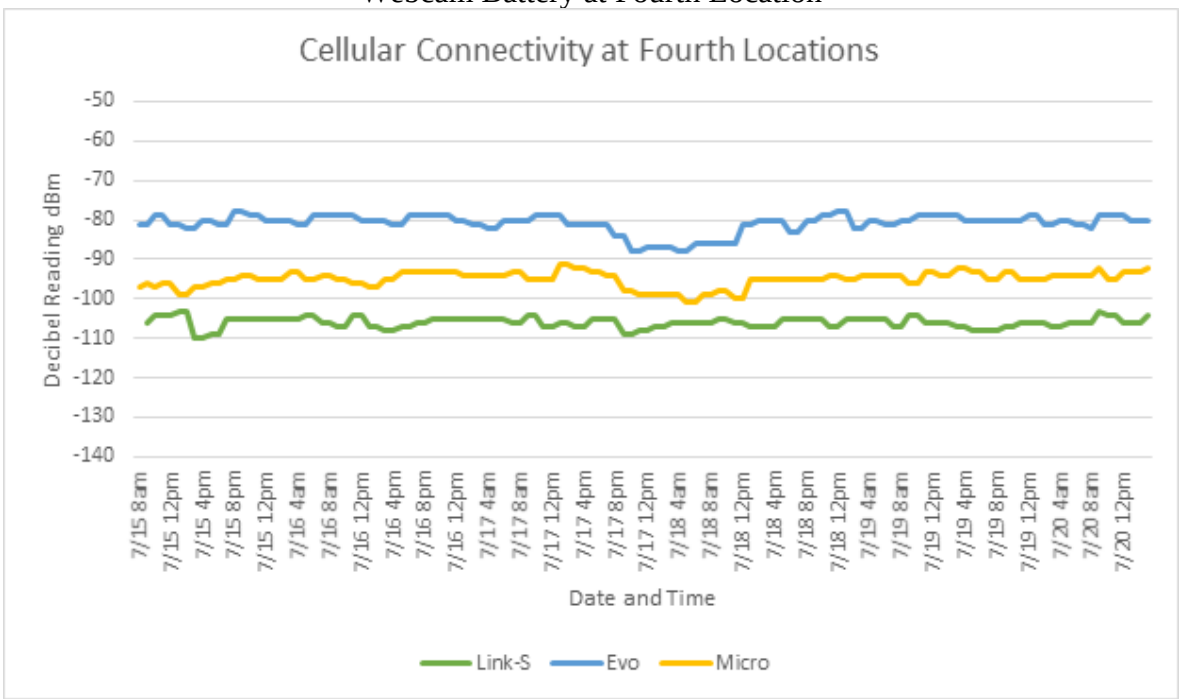
Webcam Battery at Third Location



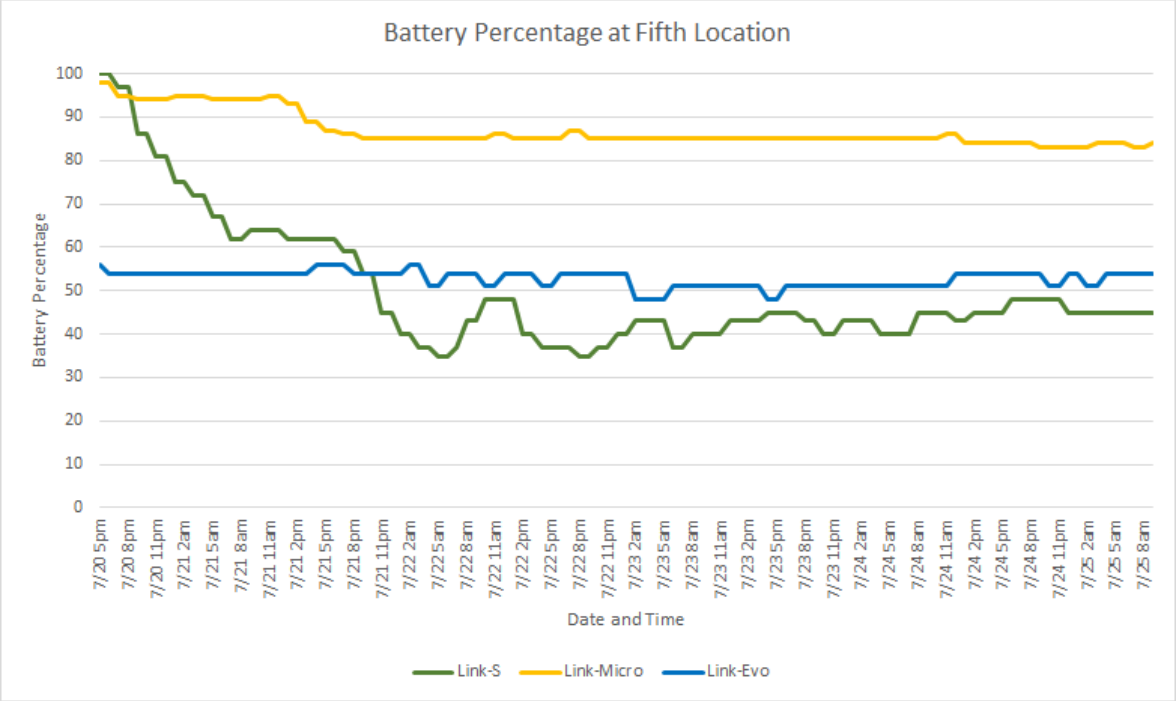
Webcam Cellular Connection at Third Location



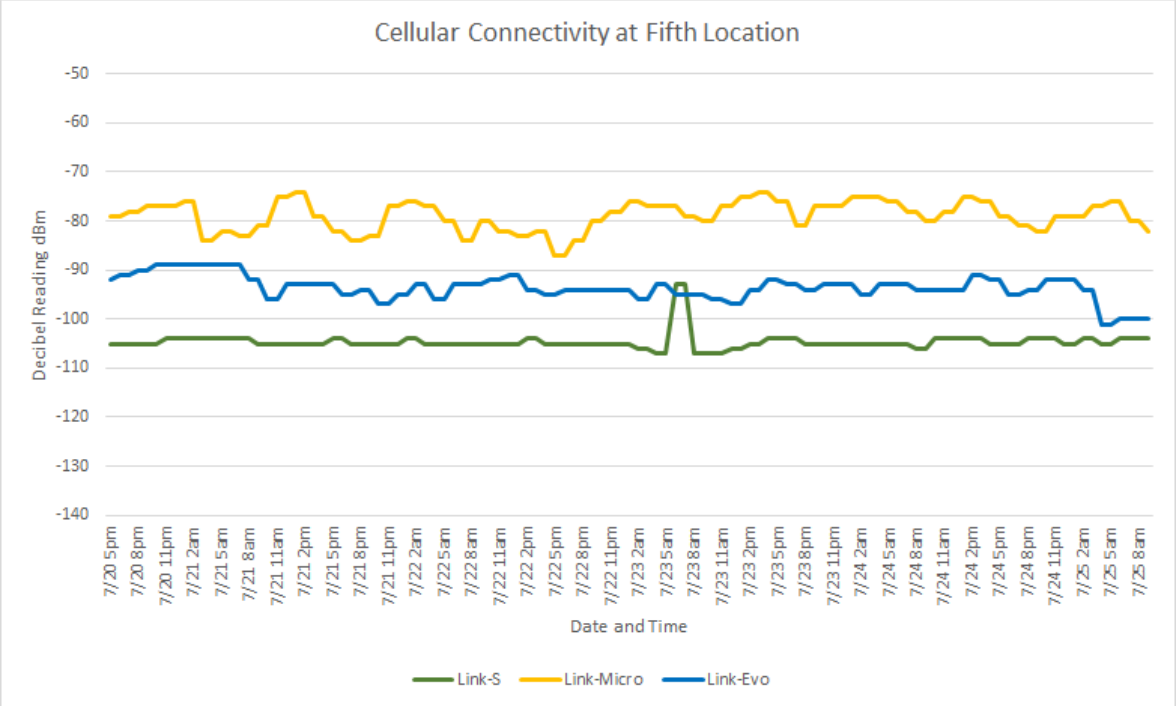
Webcam Battery at Fourth Location



Webcam Cellular Connection at Fourth Location



Webcam Battery at Fifth Location



Webcam Cellular Connection at Fifth Location

Appendix J

Raw Status Webcam Data

model serial no. battery cell signal type cell signal dbm cell signal bars temperature time
LINK-EVO 447334 86 3G -90 3 64 2020-06-25T14:01:23-07:00
LINK-S 3512498 59 LTE -116 2 78 2020-06-25T14:01:23-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T14:01:23-07:00
LINK-EVO 447334 83 3G -88 3 59 2020-06-25T15:37:16-07:00
LINK-S 3512498 54 LTE -111 2 68 2020-06-25T15:37:16-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T15:37:16-07:00
LINK-EVO 447334 83 3G -91 3 55 2020-06-25T16:10:31-07:00
LINK-S 3512498 48 LTE -117 1 64 2020-06-25T16:10:31-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T16:10:31-07:00
LINK-EVO 447334 83 3G -91 3 55 2020-06-25T17:00:03-07:00
LINK-S 3512498 48 LTE -117 1 64 2020-06-25T17:00:03-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T17:00:03-07:00
LINK-EVO 447334 83 3G -91 3 55 2020-06-25T18:00:03-07:00
LINK-S 3512498 48 LTE -117 1 64 2020-06-25T18:00:03-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T18:00:03-07:00
LINK-EVO 447334 86 3G -89 3 53 2020-06-25T19:00:03-07:00
LINK-S 3512498 45 LTE -114 2 60 2020-06-25T19:00:03-07:00
LINK-MICRO 0 75 3G -92 3 64 2020-06-25T19:00:03-07:00
LINK-EVO 447334 86 3G -89 3 53 2020-06-25T20:00:03-07:00
LINK-S 3512498 45 LTE -114 2 60 2020-06-25T20:00:03-07:00
LINK-MICRO 0 72 3G -90 3 53 2020-06-25T20:00:03-07:00
LINK-EVO 447334 86 3G -91 3 51 2020-06-25T21:00:02-07:00
LINK-S 3512498 43 LTE -116 2 60 2020-06-25T21:00:02-07:01
LINK-MICRO 0 72 3G -90 3 53 2020-06-25T21:00:02-07:02
LINK-EVO 447334 86 3G -91 3 51 2020-06-25T22:00:03-07:00
LINK-S 3512498 43 LTE -116 2 60 2020-06-25T22:00:03-07:00
LINK-MICRO 0 82 3G -91 3 46 2020-06-25T22:00:03-07:00
LINK-EVO 447334 86 3G -89 3 50 2020-06-25T23:00:03-07:00
LINK-S 3512498 43 LTE -116 2 59 2020-06-25T23:00:03-07:00
LINK-MICRO 0 82 3G -91 3 46 2020-06-25T23:00:03-07:00
LINK-EVO 447334 86 3G -89 3 50 2020-06-26T00:00:03-07:00
LINK-S 3512498 43 LTE -116 2 59 2020-06-26T00:00:03-07:00
LINK-MICRO 0 82 3G -91 3 46 2020-06-26T00:00:03-07:00
LINK-EVO 447334 86 3G -90 3 50 2020-06-26T01:00:02-07:00
LINK-S 3512498 40 LTE -117 1 59 2020-06-26T01:00:02-07:00
LINK-MICRO 0 82 3G -91 3 46 2020-06-26T01:00:02-07:00
LINK-EVO 447334 86 3G -90 3 50 2020-06-26T02:00:03-07:00
LINK-S 3512498 40 LTE -117 1 59 2020-06-26T02:00:03-07:00
LINK-MICRO 0 82 3G -91 3 44 2020-06-26T02:00:03-07:00
LINK-EVO 447334 83 3G -90 3 46 2020-06-26T03:00:03-07:00

LINK-S 3512498 35 LTE -117 1 55 2020-06-26T03:00:03-07:00
LINK-MICRO 0 82 3G -91 3 44 2020-06-26T03:00:03-07:00
LINK-EVO 447334 83 3G -90 3 46 2020-06-26T04:00:03-07:00
LINK-S 3512498 35 LTE -117 1 55 2020-06-26T04:00:03-07:00
LINK-MICRO 0 82 3G -93 2 42 2020-06-26T04:00:03-07:00
LINK-EVO 447334 83 3G -90 3 50 2020-06-26T05:00:03-07:00
LINK-S 3512498 32 LTE -113 2 57 2020-06-26T05:00:03-07:00
LINK-MICRO 0 82 3G -93 2 42 2020-06-26T05:00:03-07:00
LINK-EVO 447334 83 3G -90 3 50 2020-06-26T06:00:03-07:00
LINK-S 3512498 32 LTE -113 2 57 2020-06-26T06:00:03-07:00
LINK-MICRO 0 82 3G -91 3 48 2020-06-26T06:00:03-07:00
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LINK-MICRO 0 82 3G -91 3 48 2020-06-26T07:00:03-07:00
LINK-EVO 447334 83 3G -90 3 55 2020-06-26T08:00:03-07:00
LINK-S 3512498 48 LTE -114 2 60 2020-06-26T08:00:03-07:00
LINK-MICRO 0 81 3G -90 3 55 2020-06-26T08:00:03-07:00
LINK-EVO 447334 83 3G -89 3 82 2020-06-26T09:00:02-07:00
LINK-S 3512498 35 4G -104 1 69 2020-06-26T09:00:02-07:01
LINK-MICRO 0 81 3G -90 3 55 2020-06-26T09:00:02-07:02
LINK-EVO 447334 83 3G -89 3 82 2020-06-26T10:00:03-07:00
LINK-S 3512498 35 4G -104 1 69 2020-06-26T10:00:03-07:00
LINK-MICRO 0 81 3G -90 3 59 2020-06-26T10:00:03-07:00
LINK-EVO 447334 86 3G -90 3 64 2020-06-26T11:00:03-07:00
LINK-S 3512498 35 LTE -118 1 71 2020-06-26T11:00:03-07:00
LINK-MICRO 0 81 3G -90 3 59 2020-06-26T11:00:03-07:00
LINK-EVO 447334 86 3G -90 3 64 2020-06-26T12:00:02-07:00
LINK-S 3512498 35 LTE -118 1 71 2020-06-26T12:00:02-07:00
LINK-MICRO 0 81 3G -92 3 59 2020-06-26T12:00:02-07:00
LINK-EVO 447334 86 3G -91 3 62 2020-06-26T13:00:03-07:00
LINK-S 3512498 37 LTE -115 2 75 2020-06-26T13:00:03-07:00
LINK-MICRO 0 81 3G -92 3 59 2020-06-26T13:00:03-07:00
LINK-EVO 447334 86 3G -91 3 62 2020-06-26T14:00:03-07:00
LINK-S 3512498 37 LTE -115 2 75 2020-06-26T14:00:03-07:00
LINK-MICRO 0 82 3G -88 3 57 2020-06-26T14:00:03-07:00
LINK-EVO 447334 86 3G -93 2 59 2020-06-26T15:00:03-07:00
LINK-S 3512498 32 LTE -117 1 66 2020-06-26T15:00:03-07:00
LINK-MICRO 0 82 3G -88 3 57 2020-06-26T15:00:03-07:00
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LINK-S 3512498 32 LTE -117 1 66 2020-06-26T16:00:03-07:00
LINK-MICRO 0 82 3G -89 3 51 2020-06-26T16:00:03-07:00
LINK-EVO 447334 86 3G -90 3 53 2020-06-26T17:00:03-07:00
LINK-S 3512498 29 LTE -114 2 62 2020-06-26T17:00:03-07:00
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LINK-EVO 447334 86 3G -90 3 53 2020-06-26T18:00:03-07:00
LINK-S 3512498 29 LTE -114 2 62 2020-06-26T18:00:03-07:00
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LINK-EVO 447334 83 3G -89 3 50 2020-06-26T22:00:03-07:00
LINK-S 3512498 27 LTE -112 2 57 2020-06-26T22:00:03-07:00
LINK-MICRO 0 82 3G -90 3 44 2020-06-26T22:00:03-07:00
LINK-EVO 447334 83 3G -89 3 50 2020-06-26T23:00:03-07:00
LINK-S 3512498 21 LTE -114 2 57 2020-06-26T23:00:03-07:00
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LINK-S 3512498 21 LTE -114 2 57 2020-06-27T00:00:03-07:00
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LINK-S 3512498 18 LTE -113 2 55 2020-06-27T03:00:03-07:00
LINK-MICRO 0 81 3G -93 2 44 2020-06-27T03:00:03-07:00
LINK-EVO 447334 83 3G -90 3 48 2020-06-27T04:00:03-07:00
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LINK-S 3512498 13 LTE -112 2 57 2020-06-27T05:00:03-07:00
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LINK-EVO 447334 83 3G -92 3 77 2020-06-27T10:00:02-07:00
LINK-S 3512498 18 LTE -116 2 71 2020-06-27T10:00:02-07:00
LINK-MICRO 0 81 3G -92 3 57 2020-06-27T10:00:02-07:00
LINK-EVO 447334 83 3G -89 3 66 2020-06-27T11:00:03-07:00
LINK-S 3512498 18 LTE -116 2 71 2020-06-27T11:00:03-07:00
LINK-MICRO 0 81 3G -92 3 57 2020-06-27T11:00:03-07:00
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LINK-EVO 447334 86 3G -90 3 64 2020-06-27T13:00:02-07:00
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LINK-MICRO 0 81 3G -90 3 64 2020-06-27T13:00:02-07:00
LINK-EVO 447334 86 3G -90 3 64 2020-06-27T14:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T14:00:03-07:00
LINK-MICRO 0 81 3G -89 3 57 2020-06-27T14:00:03-07:00
LINK-EVO 447334 86 3G -93 2 59 2020-06-27T15:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T15:00:03-07:00
LINK-MICRO 0 81 3G -89 3 57 2020-06-27T15:00:03-07:00
LINK-EVO 447334 86 3G -93 2 59 2020-06-27T16:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T16:00:03-07:00
LINK-MICRO 0 81 3G -91 3 51 2020-06-27T16:00:03-07:00
LINK-EVO 447334 83 3G -90 3 55 2020-06-27T17:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T17:00:03-07:00
LINK-MICRO 0 81 3G -91 3 51 2020-06-27T17:00:03-07:00
LINK-EVO 447334 83 3G -90 3 55 2020-06-27T18:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T18:00:03-07:00
LINK-MICRO 0 81 3G -95 2 50 2020-06-27T18:00:03-07:00
LINK-EVO 447334 83 3G -89 3 53 2020-06-27T19:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T19:00:03-07:00
LINK-MICRO 0 81 3G -95 2 50 2020-06-27T19:00:03-07:00
LINK-EVO 447334 83 3G -89 3 53 2020-06-27T20:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T20:00:03-07:00
LINK-MICRO 0 81 3G -91 3 48 2020-06-27T20:00:03-07:00
LINK-EVO 447334 83 3G -89 3 50 2020-06-27T21:00:03-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T21:00:03-07:01
LINK-MICRO 0 81 3G -91 3 48 2020-06-27T21:00:03-07:02
LINK-EVO 447334 83 3G -89 3 50 2020-06-27T22:00:02-07:00
LINK-S 3512498 8 LTE -116 2 73 2020-06-27T22:00:02-07:00
LINK-MICRO 0 81 3G -91 3 46 2020-06-27T22:00:02-07:00
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LINK-MICRO 0 100 3G -92 3 57 2020-07-19T12:00:03-07:00
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LINK-EVO 447334 56 3G -80 4 69 2020-07-20T11:00:02-07:00
LINK-S 3512498 32 LTE -106 3 82 2020-07-20T11:00:02-07:00
LINK-MICRO 0 100 3G -93 2 59 2020-07-20T11:00:02-07:00
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LINK-EVO 447334 54 3G -91 3 59 2020-07-20T16:00:03-07:00
LINK-S 3512498 97 LTE -105 3 82 2020-07-20T16:00:03-07:00
LINK-MICRO 0 95 3G -78 4 60 2020-07-20T16:00:03-07:00
LINK-EVO 447334 54 3G -90 3 57 2020-07-20T17:00:02-07:00
LINK-S 3512498 97 LTE -105 3 82 2020-07-20T17:00:02-07:00
LINK-MICRO 0 95 3G -78 4 60 2020-07-20T17:00:02-07:00
LINK-EVO 447334 54 3G -90 3 57 2020-07-20T18:00:03-07:00
LINK-S 3512498 86 LTE -105 3 69 2020-07-20T18:00:03-07:00
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LINK-S 3512498 86 LTE -105 3 69 2020-07-20T19:00:03-07:00
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LINK-EVO 447334 54 3G -89 3 57 2020-07-20T20:00:03-07:00
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LINK-S 3512498 81 LTE -104 3 64 2020-07-20T21:00:02-07:00
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LINK-EVO 447334 54 3G -89 3 57 2020-07-20T22:00:03-07:00
LINK-S 3512498 75 LTE -104 3 62 2020-07-20T22:00:03-07:00
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LINK-EVO 447334 54 3G -89 3 57 2020-07-20T23:00:03-07:00
LINK-S 3512498 75 LTE -104 3 62 2020-07-20T23:00:03-07:00
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LINK-MICRO 0 84 3G -82 4 60 2020-07-25T19:00:03-07:00
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