

Matt Dennis

Murray/Calloway County Park Clean-up

Introduction

Parks are found in communities of all sizes across the United States. These parks are land set aside by the government for leisure use and recreation by the community. By protecting the land from development, the government helps to maintain the habitat of the area, and offers residence the opportunity to enjoy nature.

The Murray-Calloway County Park consists of five parks that total 144 acres of land within Murray, Kentucky. The Murray City Park was established in 1963, and grew to its current size with increased purchasing of land, and the merged with the Calloway County Park in 1975. Murray-Calloway County Parks and Recreation mission is to provide opportunities in leisure and recreational activities in safe and educational environments; to conserve natural resources; and to provide facilities, services and parks that enhance the quality of life of individuals, families and the community, while preserving aesthetic values in our community and maintaining a commitment to excellence in customer service and satisfaction. As the city of Murray has grown in past decades, the parks have faced increased use by the growing residential and college population. The two parks that have attracted the most visitors are the Chestnut Park and the Central Park. The Chestnut Park is located south of Chestnut Street with Payne Street going through the center of the park. The park is bordered on the east by 8th Street and on the west by 10th Street. Chestnut Park is the most popular community park and is surrounded by residences on three sides and Chestnut St. on the remaining side. Central Park is the county park and contains the largest acreage and the most development of park facilities. Central Park offers baseball fields, swimming pools, a soccer complex, amphitheater, playhouse, walking trails, and an 18 hole disk golf course. The southern entrance to the park is off Arcadia Circle, and the access to the Bee Creek Soccer Complex on the

northern end is off Fourth Street. This area is located in the northern portion of Murray. Bee Creek runs through the park starting at the southern end by the baseball fields and continuing through the park to the soccer fields. Central Park receives the highest volume of visitors and in recent years has begun to be surrounded by commercial development. The disk golf course was built two years ago and has become very popular. The trails for this course go deep into the woods of the park which were once much harder to access.

Over recent years these parks have been facing a problem with littering. Many trails, creeks, facilities, and back areas of the park have accumulated large amounts of garbage. This garbage not only decreases the aesthetic beauty of the park, but also hurts the environment and endangers the plants and animals that live in the park. Many sections of the park get routinely cleaned by park employees, but due to funding there are no employees to keep litter continually picked up. The litter was most observed most in more remote locations of the park such as on the disk golf course. These areas contained small trash such as aluminum cans, plastic bottles, glass bottles, wrappers and paper bag. A major area of pollution was found along Bee creek where it borders local businesses. Large areas of trash ranging from steel pipes, pallets, plastic covering, and broken shopping carts littered the creek, and even continued deep into the park.

The park supervisor, Matt Martin, and I discussed these issues facing the park and solutions that could be implemented. I agreed to clean up the litter and try to make a long lasting result on the litter problem.

Methods

My area for trash collection was along the walking trails of Chestnut Park and Central Park, the disk golf course of Central Park, along Bee Creek, and surrounding the baseball fields

and picnic pavilions of Chestnut and Central Park. All these areas except for Bee Creek I could clean by myself. Mr. Martin provided me with trash bags, gloves and a litter stick. I decided I would clean the trails at three separate intervals through out the semester and record the volume of trash picked up and trash accumulation after each clean up. This data would allow me to make a better decision on areas to focus on for litter reduction. I walked the parks every other weekend over a five week period starting in September and ending the last weekend of October. The first weekend I stayed along the trails and in the immediate area I was cleaning. The following weekend I spread out my search to the areas around the trails which greatly increased my area, and resulted in a much larger collection of trash. Due to the increased area, and increased amount of trash collected, I modified my search to span over two days for the last two pick ups.

Bee Creek contained far more pollution than the rest of the park, and I could not extract many of the larger items from the creek by myself. For this project, I enlisted the help of four members of my fraternity Phi Kappa Tau, and the help of Kyle Brown, a park employee. Most of the trash in the creek was piled deep on itself, and much of the trash was partially embedded in mud. Over the course of three days, we dug out the large objects and bagged up the smaller trash. Mr. Bowers drove a park truck and trailer along an old trail to the creek so we were able to take the trash to the park's dumpster for collection.

The large amount of trash being dumped on park property was a problem for the park and the environment. As a step to help stop this problem, Mr. Martin and I agreed that I should

notify the Environmental Protection Agency of the situation. I also made sure to obtain clear photos of the area, and the type of trash that was collected so as to help with any later investigation.

Results

The trash collection of the park not including Bee creek is shown in the following table. Week 1 represents a smaller search area due to a change in methods in Week 2. Week 2 and 3 represent the full search area including the trails and surrounding area, baseball fields, playhouse, and the disk golf course. As I expanded my search I found more trash especially along the disk golf course. The data has been separated by week and between the disk golf course and all other sections of the park excluding Bee Creek.

The Bee Creek clean up is divided into small and large trash sections. Large trash consists of anything that could not properly fit into a lawn size trash bag. The small trash consisted mostly of sheets of plastic, plastic bags, Styrofoam pieces, tiling, and miscellaneous other trash.

Discussion

My project was originally aimed at cleaning the trails and most heavily visited portions on the Murray/Calloway County Park. I believed this area would be the most heavily littered due to the high amount of human traffic. During my clean up I discovered a heavily littered portion of Bee Creek behind Big Lots. Through examination of the trash, and the loading area behind Big Lots, I was able to conclude that the

Table 1.

	Week 1 (Sept. 30)	Week 2 (Oct. 13-14)	Week 3 (Oct. 27-28)
Disk Golf Course	1/3 trash bag	1 1/2 trash bags	1/4 trash bag
Remainder of the park	1/2 trash bag	1/3 trash bag	Few pieces of trash

Table 2.

Large Trash	6 wooden pallets, 3 metal rods, 2 Big Lots shopping carts
Small Trash	10 lawn size trash bags filled the carts with small trash before dumping.

trash had come from Big Lots. During my time cleaning the creek I never observed any Big Lots employee or any other party dumping trash into the creek. The employees of the park were also unaware of the problem due to the out of the way location of this portion of Bee Creek. Some littered portions of the creek bordered the back lot of Big Lots, which contains the stores dumpsters. Trash in these locations could be explained by dumpster overflow or some other unintentional means. However, this trash is visible to anyone who uses the dumpster, so Big Lots employees had to know the trash was in the creek. As the creek's path reaches the end of its border with Big Lots, it curves back into the woods of the park. This area, which is approximately 15 yards from the dumpsters, contained the largest amount of trash, including much of the larger items like pallets and metal poles. Litter in this area could have come from no other source than intentional dumping. The trash in this area could be linked to Big Lots as well.

Mr. Matt Martin, the park director, and I discussed what should be done about this problem to ensure that my efforts would have a lasting effect. Together we came to the conclusion that I would report my finding to the Environmental Protection Agency and not directly confronting Big Lots about the dumping. I also believed that adding signs would be beneficial to stopping the dumping. Working with Mr. Martin I obtained two "No Dumping" signs which have been placed in clear

view around the creek. I believe these signs will let the perpetrators know that this portion of the creek is being watched. As of this paper being written, the EPA has not contacted Mr. Martin or myself regarding the report I filed on the EPA website.

The trash around the rest of the park was more moderate than what I had originally anticipated. After the initial clean up, and the expansion of my clean up area, little new litter was found around the park. The location that saw the most new litter over the five week period was the disk golf course. During my clean up I noticed that all the trash cans along the disk golf course were off the main trail. I predicted that if new trash cans were added to the trail in more convenient location the litter would be reduced. Also, I suggested adding friendly reminders to visitors not to litter along the course. After hearing my advice the park added two new trash cans along the disk golf course and placed several signs along the trail reminding visitors to not litter.

There is often a bandwagon effect to littering, making people more likely to litter where trash is already present. People are also more likely to litter in hidden areas where no one is watching and they do not believe they will get caught. Through my project I took a major step towards solving the littering problem at Central Park and Chestnut Park of the Murray/Calloway County Parks. I believe that the visitors, employees and neighbors of the park will now be more aware of litter on park property and will help fix the problem.