

Environmental Case Study

Project Title: Naturalization and Habitat Creation
ACSP Property Name: Bangor Municipal Golf Course
Location (City/State): Bangor, Maine
Project Coordinator (name and title): Rob Jarvis, PGA; Head PGA Professional
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Type of Course (public/private): Public - Municipal

PROJECT DESCRIPTION

Give an overview of the project. Why did you choose it? What were conditions like before and after implementing the project?

Bangor Municipal Golf Course is a very large property built partially on farm land in 1964. As a result, there were many areas that were being maintained (mowed and treated) that did not or should not have been. In some cases these areas are within the bounds of play and in some instances they are not. We felt we could make the largest impact on the facility by slowly letting these areas return to their natural state. Not only would our carbon emissions be reduced, but it would add some texture and dimension to parts of the property that were too wide open. We also felt that these areas could become potential wildlife habitats and increase the amount of bird and mammal activity we see on the course. Since we have implemented this project we have certainly increase the sighting of several animals, reduced our overall herbicide application, reduced our fuel consumption, and created some of the most beautiful areas on the golf course. It has been a welcome change from the golfers and neighbors alike.

GOALS

Please list your goals for the project:

Our primary or initial goal, for this project was to eliminate the maintenance of certain areas. Parts of our property used to have wide open spaces that were mowed and treated on a weekly basis. These areas may come into play with an errant shot, but are not specifically in play. Our hopes were to reduce fuel consumption by not mowing and reduce chemical application by not applying herbicide and fertilizers to these areas.

Our second goal was to create new habitats. It took some time, but we have over achieved our own expectations and the project is a total success as a result.

IMPLEMENTATION & MAINTENANCE

What specific steps did you take to implement it? What kind of on-going maintenance will it require? Please give sufficient detail so that someone interested in duplicating this project could do so.

This was a fairly simple project to implement. In order to let the areas return to their natural state we simply needed to mark them appropriately so our grounds crew would know to discontinue mowing them. We never

spray herbicides in any natural or fescue type areas so there was no required communication to ensure that process ceased.

The most difficult part of the process was to choose the actual locations. All of these areas were being maintained at "rough" height and most were in areas in which a golfer could hit their ball during the course of play. It was imperative that we sized the areas correctly and made sure that when they indeed were natural height (3 feet or more) that they would not slow the pace of play. We spent a lot of time watching golfers through these areas and asking them "How often do you land in this area?" In most cases we undersized the areas to begin with and expanded them over time as we found that they truly were not in play.

The only maintenance these areas will require in the long term is to ensure that invasive species do not arise. Currently, these areas are very new and we have not had any infiltration of the kind but it is something we will need to watch for sure. We also need to watch any potential nesting species as well. Two years ago wild turkeys made a nest, and produced offspring, in one of our newly naturalized areas. As a result, that area was marked as an environmental hazard and golfers were prohibited from entering.

RESULTS

Describe the results you achieved. What were the environmental benefits? Please be as specific as possible about any tangible results, e.g., number of acres naturalized, new species observed, increase in habitat acreage, number of birds fledged from nest boxes, number of gallons of water saved, acres taken out of intensive management, increase or decrease in man-hours needed to maintain, increase or decrease in equipment wear and tear .

There were many tangible results achieved with this ongoing project. First and foremost we stopped mowing 6.5 acres of rough that did not need to be manicured. Not only are we saving significant amounts of diesel fuel, but the unit that typically mowed these areas is a large tractor with a pull behind mower that creates a lot of noise as well. The wear and tear on this unit is minimal but any time you decrease mowing hours, wear and tear is certainly decreased to some degree. Course irrigation does not reach most of these areas so there is no real saving in water output as a result. These newly naturalized 6.5 acres are never treated for pests and weeds. Our herbicide output fluctuates from year to year due to weather conditions but overtime, records will certainly show a reduction in chemicals applied.

The biggest benefit has been the new species that we have seen. Mammals that were either never seen, or rarely seen, are more common place. We now see more deer, fox, coyotes, and last summer we even had fisher cats build a den on site. Fisher cats had never before been seen on the property until last summer and we were very enthusiastic to see them as we know it is a result of more rodents and small animals living in our new habitats creating a food source for them.

In addition to these mammals, bird sightings have increased. Our eastern bluebirds are thriving in their houses that are mostly all located in these naturalized areas. It was a rare occurrence to see a red tail hawk on property but now we see them multiple times in the course of a season. Every two or three years a bald eagle would appear on the property. In the fall of 2018, we had 3 bald eagles that were seen every day and we have photographed them as recently as February 26, 2019 which indicates they maybe local to our property now. In 2017 we had a pair of wild turkeys nest in a naturalized area and they successfully produced offspring. The golfers really enjoyed watching the baby turkeys grow and roam around the course. They were not shy at all and were often photographed alongside golfers throughout the day. Lastly, and most exciting is the fact that on 3 occasions, golf staff spotted a peregrine falcon on the course! Peregrine falcons are endangered in Maine so to see one frequent our golf course is truly monumental.

The last species to appear with frequency is actually an insect. We noticed that during the summer months dragon flies would appear near the clubhouse in massive quantities. It just happens that one of our newest natural areas

is 50 yards away and the dragon flies seemed to come from that area. Not only were they enjoyable to watch in the hundreds, but they certainly kept the black fly and midge population down.

GOLFER/EMPLOYEE RESPONSE

How did golfers respond to the project? How did you communicate about your actions?

Our golfers were very supportive of this ongoing project. In some instances, they were initially concerned that the applicable naturalized area may slow play, but that was quickly alleviated when it proved to not be the case. They certainly liked the fact that by not maintain these areas, we were able to transfer the labor hours and resources for other needs of the facility. Our players have also seen the results. They enjoy seeing more wildlife on their urban golf course and have even given us some ideas of other areas we may be able to naturalize.

Our communication was primarily done in our clubhouse on our Audubon bulletin board. Then of course, golfer to golfer and staff to golfer discussions helped spread the word very quickly. Once we initially began the process, they knew what was going on when we began to let additional areas turn wild as well. It was a very seamless process.

PERSPECTIVE AND RECOMMENDATIONS

What, if anything, would you do differently if you were to do the project again? What would you recommend to others implementing this project?

I do not know of anything we would have done differently. We communicated the project from the beginning so our golfers were aware of the initiative. We also took it slow. Where we have naturalized 6.5 acres, it was done over a period of years so the impact was subtle. As a result, we did not “close in” the playing areas all in one shot. I would probably have taken more pictures of the before and after though. There are some areas that we do not have good photos of the before and that I regret. I would certainly recommend this project to any course that has the opportunity to do this. It has actually made our course more scenic and given more texture to the feel of it. The ability to see more wildlife than ever before has been a huge plus for our patrons.

ECONOMIC COSTS AND BENEFITS

How much did it cost to implement this project?

There were no monetary costs to implement this project. The only measureable cost would be for staff to choose the designated areas, but that is very hard to measure as the employees that conducted the research, Head Professional and Head Superintendent, are salaried workers.

What are your anticipated or actual financial savings?

We estimate this will only save the facility \$2,000.00 per year. We did not take on this project to save money so that figure is not disappointing at all.

We are happy to field calls from other facilities desiring to implement a similar project and we do have several photos we are willing and able to share.