Evaluation of dongtan wetland park in terms of sustainable wetland management

Science, Computer Science

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Introduction and Background

On the 19 of September, Wednesday, 2018 Dulwich College Shanghai, Year 9 took a field trip to the Dongtan wetland park on Chongming Island in Shanghai. The wetland park is open from 9: 00 AM to 5: 00/17: 00 PM. They have both a service and emergency number for the park. A wetland is an area that is seasonally or permanently saturated. Ramsar Convention: The Ramsar Convention is an international treaty for the conservation and sustainable utilization of wetlands i. e. to stem the progressive encroachment on and recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. It is named after the town Ramsar in Iran. Chongming island is located to the north east of Dulwich College Shanghai.

The Average temperature of Shanghai in September is 23. 9 C with an average precipitation of 133mm. Shanghai is also in the temperate zone. One of the most difficult things to control in sustainable wetland

development is the population, biodiversity and access rights. The population is especially difficult with things like fish, birds and most notably alligators. The biodiversity is easier but still difficult. If even the smallest of worm species the park isn't technically sustainable. An example of this happening is the goats in the middle of the park. The goats aren't a natural inhabitant of a wetland so they are classed as an invasive or alien species. Because of the goat's presence in the wetland it instantly means that it isn't sustainable. The park also uses a variety of management strategies including fences, cameras, signs and more.

Methodology and Data Collection

We collected our data by recoding data in collection booklets. We filled out climate factors, biodiversity counts, questionnaires, soundscapes, environmental quality surveys and management strategies for the park. For example; in the questionnaire we asked the tourists visiting the park what their age category and gender is, where they are from, how they got here, was their time traveled over 15 minutes, are they local residents or tourists, why they're visiting, how often they visit, whether or not they spent over 100 RMB this visit and if they knew that the park is protected by the international law. One of the other data charts we filled out is an environmental quality survey. We rated different areas on a scale of 1-5 of how attractive, interesting, quiet/peaceful, clean/tidy and the number of plants or animals. For health and safety, I made sure that I always walked at a slow speed, so I didn't trip or slip on wet ground, I always stayed on path, so that I Wouldn't

get lost or hurt, I wore proper clothing (close toe shoes, etc.) so I wouldn't hurt myself.

Analysis

For a wetland park to be sustainable, FIGURE 1 states that population is a factor in wetland sustainability. The environmental surveys FIGURE 3 show that the amount of plants and animals in a given location are on average a 3. This shows sustainability because there is neither too many or not enough wildlife. Another factor is the biodiversity of these animals/plants. According to FIGURE 4, the park has a lot of types of flowers, birds and grass, however it is lacking in the other two areas, which are dragonflies and amphibians. The day we went to the park it was overcast, and not sunny, so that may have affected the biodiversity count results. One way to make these test results and the ones from FIGURE 3 more accurate is to do the test over an average of days, and/or have multiple students do it, averaging the whole thing. Another factor of wetland sustainability is access rights; (FIGURE 1) you have to pay 30 RMB to enter the park, and that doesn't include bikes fees, water/drinks, ponchos or other products/services they sell. The price of entry, while covering maintenance costs, service fees, etc. limits the number of locals that visit the park. This was proven because Another thing is the quality of the facilities because even though the main entrance is a greenhouse and that's pretty nice, the further you get into the park, the worse it gets, for example, the observation deck was falling apart, had nests in it and, trees had grown so you couldn't see much. In FIGURE 5 the Quality of the boardwalks is not very good, and they are worn, however, they are

made of wood. Since wood is a renewable material, and they look like they've been there quite a while, so they don't cut down too many trees. If you look at FIGURE 6 you can see that they produce sustainable energy because of the wind turbines.

Conclusion

Overall, I have come to a conclusion that the Dongtan Wetland Park on Chongming Island, Shanghai, China, Is 70% sustainable. This is because while the park does have reasonable biodiversity count, such things as the goats and state of the facilities are not very sustainable. The park also uses a variety of successful management strategies such as fences, cameras, signs and paths. The problems with the park are that over the whole trip, none of any of our group saw a single alligator, and they claim to have 18 alligators, so we don't know if that claim is true or false. The other value of a wetland is hydrology; wetlands naturally clean and de-toxify water. This leads me to the conclusion that Dongtan wetland park isn't fully 100% sustainable. Even though the park is a good example of a sustainable wetland park.

Evaluation

My research shows the sustainability of the Dongtan wetland park, however I could have done better if I averaged the class's results so that I could get more accurate tables/graphs. Sustainability focuses on meeting the needs of the present without compromising those of the future generation's. On this definition I can conclude that Dongtan wetland park is (70%) sustainable.