

Project Update: February 2022

During this last year, we have made significant progress to achieve the goals of the project. Up to now, we have set up the enclosure experiment (Photos 1 and 2), and after a year of experimentation we satisfactorily evaluated several ecosystem functions (bare ground cover, diversity and abundance of flower resources, litter accumulation, green biomass production) and started evaluating others (decomposition and forage quality). From this experiment and different sampling, data shows that, contrary to our expectations, after a few months, wild boar disturbances enhance plant alpha and beta diversity (goal # 4). This likely occurred because salt marshes and the surrounding grasslands are dominated by a few plant species. Thus, opening a gap in the vegetation provides an opportunity for subordinate species. This is particularly important in the Mar Chiquita grassland which is strongly invaded by *Festuca rubra* an exotic plant species that reduced the diversity of native species.

We also started estimating the rate of appearance and disappearance of wild boar disturbances (goal #2) with a combination of transects, permanent plots and drone images where it was impossible to walk through. Because of two unpredicted COVID-19 outbreaks that led to temporal lockdowns and movement restrictions we were not able to travel to the field bimonthly. To tackle this unexpected difficulty, we increased the research effort on each field trip (more people, longer field trips), which allowed us to gather information not only for salt marshes but also for grasslands, which are the neighbouring ecosystem upwards. Overall, we believe that more field trips are needed to have a more comprehensive estimation. Nevertheless, preliminary results show that wild boar impacts are not homogeneous throughout the year in the studied areas, being associated to soil humidity. We found that, during summer (when soil humidity is lowest), new disturbances concentrate near water bodies, while in winter disturbances occur in higher areas, although more seasonal samplings are needed to corroborate this hypothesis.

To achieve the objective of evaluating how wild boar affect other vertebrates (goal #3), we had bought the camera traps on time, but the supplier took several months to deliver them due to import restrictions. After initial adjustments and preliminary observations, the cameras are deployed in the field now, and first results will be available soon. We are very enthusiastic with this data; in the coming 6 months we expect to have data to understand potential impacts/interactions of wild boar with other vertebrates.

Unfortunately, due to an economic crisis that led to currency depreciation and import limitations, we had to reconsider one of our initial goals (#1). It was planned to buy a thermographic camera for the drone to estimate wild boar populations but its price rose more than 50 % and hence we will not be able to perform this sampling. However, to overcome this limitation we decided to adapt the original plan, now focused on understanding habitat use (saltmarsh vs. grassland). Therefore, we are estimating wild boar habitat use from disturbance dynamics several field samplings. Rather than obtaining their absolute abundances, we will obtain indirect measurements of their relative abundance on two ecosystems.

Finally, we would like to highlight that we are constantly interacting with local park rangers, communicating our results and discussing different projects. This interaction

drives new sampling to reach common objectives (for example, samplings within non-managed areas and managed areas for a native species, the Pampas deer, *Ozotoceros bezoarticus*, in Campos del Tuyú National Park). Moreover, their comments and observation always drive into interesting questions to answer. Finally, I would like to mention that the plan for this year is to continue all samplings for at least the coming 6 months, when we hope to finish gathering all data.



Photo 1. Juan Alberti, Pedro Daleo and Jesús Pascual setting up the experiment at the Mar Chiquita site.

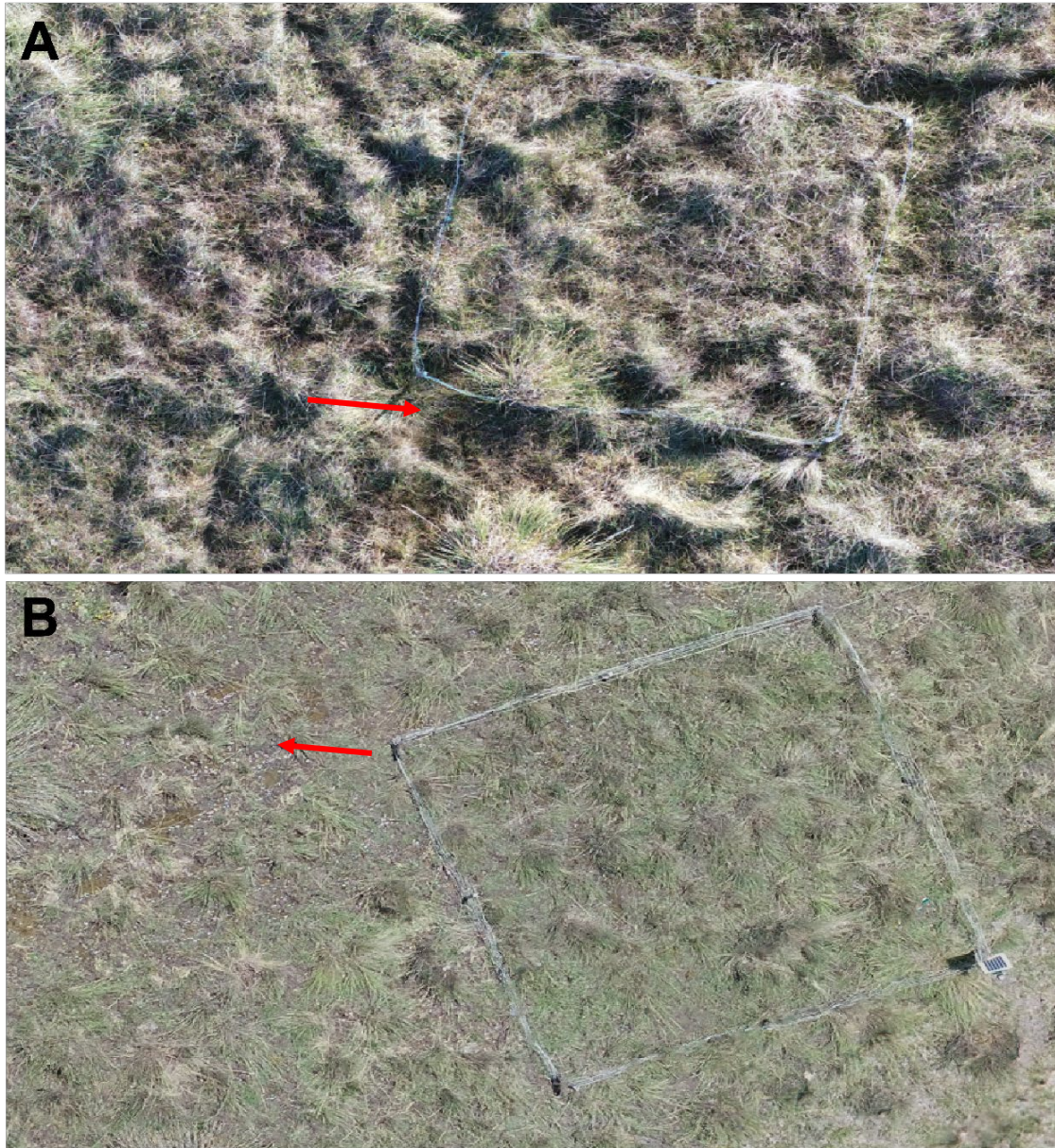


Photo 2. Drone image of enclosures at A- Mar Chiquita site, and B- Bahia Samborombón site. Wild boar disturbances around the enclosures can be observed in both cases (red arrows).