

## Project Update: February 2015

Our project started in January 2014, making a total of 4 field trips to Copo National Park. The first field trip was in February 2014, where we conducted interview to local people in relation to plant species that are palatable to livestock and recognize the species that are consumed in the forest and grasslands. Also was conducted a preliminary vegetation sampling both inside and outside of the 5 forest enclosures, in order to estimate the abundance and richness of shrubs, grass and forbs. This data would then be used in next field trips for start with the estimation of Air Net Primary Productivity (ANPP). We also identified grassland areas with high and low stocking rate where cages of 2 m x 2 m for future estimates of ANPP were installed. In this field trip the team was composed, besides me, by local people who helped in the measurement of vegetation, a biologist, a biology student and the park ranger in charge of the National Park.



Between the first and second field trip (between March and July 2014) we were reviewing the most appropriate methodology to measure shrubs biomass and productivity, through literature search and consulting some experts on the area. This was due because in the literature there is no still standardized methodology for measuring ANPP of shrubs by harvesting methods for these kind of forests. The ANPP estimation for shrubs could not be performed in 2014 because to methodology adjustments. Also we handle manufacturing 4 enclosures of 2 m x 2 m of iron and wire that would be placed in grasslands in the next field trip. In addition, a student of Agronomy from Chaco province was joined to our team. He is doing his undergraduate thesis estimating the ANPP in grasslands.

The second field trip was in August 2014. In this opportunity we installed the cages mentioned above in two types of grasslands: with low and high livestock stoking rate (two cages in each grassland). In addition, were installed 5 enclosures inside the forests (adjacent to the 5 existing enclosures), in order to estimate biomass and ANPP for shrubs, grass and forbs. Within these new enclosures and within the existing ones we measured ground coverage and biomass (in order to estimate ANPP). In this field trip the team was composed, besides me, by the park ranger, the Agronomy student, a local person (who worked on the assembly of the new enclosures in forest) and two Biology students.



The third field trip was in October 2014, in which biomass was harvested the biomass in the grasslands exclosures. However, regrowth of herbaceous vegetation was practically zero within the forest exclosures. For this reason we could not estimate ANPP in forest during the dry season (actually ANPP was null). In this campaign the team was composed, besides me, my advisor (Dr. Andrés Tálamo), his two sons, the park ranger, and the agronomy student. Parts of our preliminary results were presented in the Forestry Conference NOA in October 2014.



The fourth field trip was in January 2015. In this campaign we harvested the biomass of grass and forbs both in forest and in grasslands (both low and high stocking rate). With this data and with the biomass collected in the previous field trip we will estimate the ANPP of grass and forbs in both landscape units (forest and grasslands). The harvest of biomass shrubs was not performed yet, because we must harvest it in the end of the wet season (we estimate it will be for March). In this field trip the team was composed, besides me, by the Agronomy student and 3 Engineers in Natural Resources who collaborated with my project.



All information collected is being analyzed at this time, and as soon as we get data from biomass of shrubs in March 2015, we will be able to perform a complete analysis of the data and submit the final report at the end of March 2015.