Partial Report

I forward this partial report to inform the progress of this project. The data collection in the field, on Sustainable Development Reserve Piagaçu Purus (SDR-PP), hereafter referred to as the reserve, is in progress. Activities strictly followed the project's original schedule. I listed below what was achieved in each of the proposed goals coupled with some photos of activities:

- **Quantify the production of fruit and seeds of açaí as a subsidy for both ecological models as to rationalise extraction by local people.**

This step (interviews with local residents) will be held next year, according to schedule.

- **Map the spatial and temporal variability of açaí's vital rates in explored and unexplored areas.**

We conducted the participatory mapping of the areas of use of açai in "várzea" and "terra firme" forests at the Uauaçú and Ayapuá sectors in the reserve (Figure 1). We held meetings in the following communities: Uixi, Pinheiros, São João Fortaleza and Tambaqui. The meetings were attended by approximately 15 local residents in each. They gave us information about the areas in which they collect açai. The residents of these communities for the most part live in the region for decades, but most were born there, and basically lives on natural resource extraction and have great knowledge about the species and the region's landscape. During this stage, we observed that it was necessary to slightly change the sample design, since we found that the use of the species occurs along the entire landscape, although with varying intensity. The information provided by local residents was key to a better study design. This information will also be complemented with data from interviews (to be held next year) and then enable ourselves to prepare the maps showing the distribution of açai areas and the use of areas by the local population.

Figure 1. Participatory mapping of areas of use for extraction of acai in local communities (between September 28 and October 3, 2015).

- **Assess the population viability of the species (population growth rates) in explored and unexplored areas.**

To achieve this goal, we are carrying out the marking and measuring of açai individuals in plots already installed. This step is the most important and will allow us to reach all other proposed goals. We intend to complete the marking of individuals until March 2016, and then begin monitoring the plants from November 2016, and repeat this step for over 3 years. Instead of installing 80 plots of 20 x 20 m, as originally proposed, we have established a sampling design into blocks, and distribute five blocks in "terra firme" and five blocks in the "várzea", each block containing 20 plots of 20 x 20 m (totaling 200 plots in total). Each block contains five plots distributed in four treatments: near the river and with a high density of açai; near the river and with low density of açai; distant from the river and with a high density of açai; and distant from the river and low density of açai.

Up to now, we marked and measured 3664 individuals of açai in 120 plots (2722 individuals in "terra firme" and 942 in "várzea"), and mapped a total of 1153 trees, to evaluate the forest structure (940 in "terra firme" and 212 in the "várzea").

Figure 2. The species (*Euterpe precatoria* - açai) and markings and measurements on individuals within the sample plots.

- **Evaluate population growth rates sensitivity to the different vital rates (sensitivity analysis). This will enable us to discern which vital rates should be targeted in management plans.**

This step will be carried out after 3 years of monitoring of plants.

- **Develop a mathematical model of the species' population dynamics including key environmental influences as well as density-dependent regulatory mechanisms.**

This step will be carried out after 3 years of monitoring of plants.

- **Use the above mentioned model to simulate the effects of different intensities and spatial schemes of fruit extraction in order to determine which management strategies would have greater potential for sustainability from both ecological and economic points of view.**

This step will be carried out after 3 years of monitoring of plants.