Project Update: July 2017

Activities Development

- From October 2016 to April 2017, we started to build a database, considering the records and localities per species, from the following sources: national ornithological collections of Venezuela (including the Ornithological Collection Phelps, Museo de Historia Natural Fundación La Salle, Estación Biológica Rancho Grande, and Museo de Biología de la Universidad del Zulia), databases online (including the GBIF, ORNIS, and e-Birds), and fieldwork. This database was used firstly to produce one updated list of birds at Zulia state, and to reconstruct, secondly, the potential distributional patterns of species in the region (based on species distribution modelling; see below).

- From October 2016 to March 2017, we conducted workshops on environmental education in order to promote the local communities' participation. In particular, we focused on the topics about the biology of birds, their ecological importance, the effects of climate change and role of protected areas and local communities. Thus, we carried out three motivational talks, entitled: (1)"What is the Conservation Biology?", (2) "Threats and priorities for the biodiversity", and (3) "Global Climate Change: effects on biodiversity and role of protected areas". These motivational talks showed the need to address the problems about biodiversity conservation, mainly due the increasing evidence indicating that the distribution and survival of species, and the ecosystems they inhabit, are affected by climate change. It is important to note that these activities are being performed together with the Venezuelan' Environmental Ministry and the National Parks Institute of Venezuela (Zulia Regional Office). From this institutional collaboration resulted as valuable products, the Legal Agreements of Academic and Research Collaboration among the institutions for the development of future conservation and biodiversity projects.

- From November 2016 to March 2017, we developed the training courses for undergraduate and postgraduate students for the fieldwork activities (including inventories of birds species), and use of Geographic Information Systems. In these courses, the participants were trained in the uses of GPS, the spatial analysis of maps, as well as in the need of integrate the social, ecological and biological components in the development of their future conservation and biodiversity projects.

- From November 2016 to April 2017, we performed —in collaboration with the local communities, rangers of national parks, and students— the fieldwork in target areas (with limited biological information) to sample the bird communities and to improve the estimation of species richness patterns throughout the state. During these activities rangers of national parks were trained in the uses of GPS. However, it is important to note that this activity is planning to continue from May to June 2017.

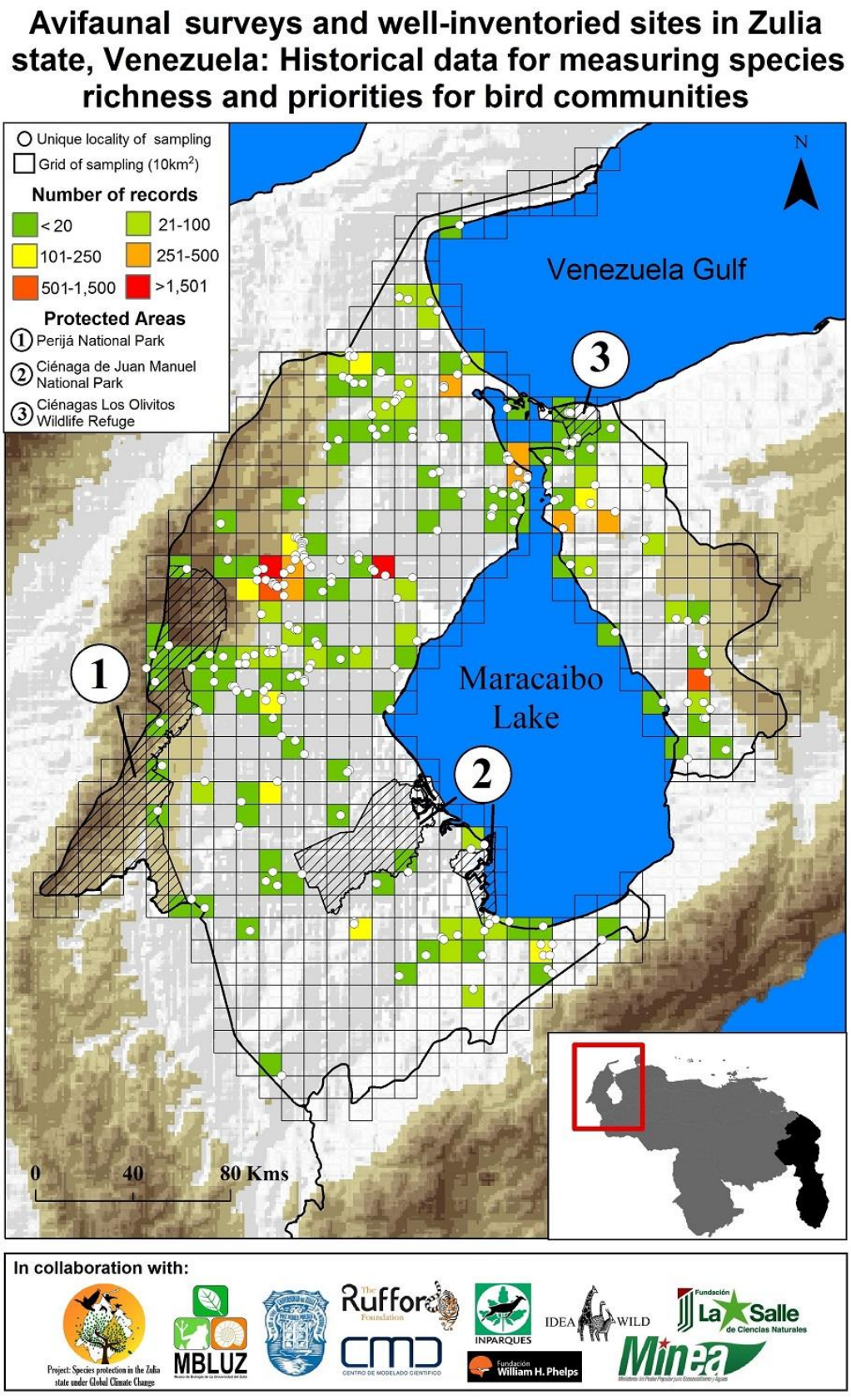
- From March 2017 to now, we are developing the reconstructions of distributional patterns of species, in the current and future scenarios (2050 and 2070). We are using the Maximum Entropy (MaxEnt) algorithm in order to obtain the species distribution models –based on the ecological niche– for birds reported to Zulia state. This information allow us to provide evidence of potential impacts by climatic fluctuation in the geographic patterns of species richness and to compute how many current protected areas matched with zones of great biodiversity.

Pictures:






Map:


Avifaunal surveys and well-inventoried sites in Zulia state, Venezuela: Historical data for measuring species richness and priorities for bird communities
Unique locality of sampling
Grid of sampling (10km²)
Number of records
< 20
21-100
101-250
251-500
501-1,500
>1,501
Protected Areas
1 Perijá National Park
2 Ciénaga de Juan Manuel National Park
3 Ciénagas Los Olivitos Wildlife Refuge
N
Venezuela Gulf
Maracaibo Lake
1
2
3
0
40
80 Kms
In collaboration with:
Project: Species protection in the Zulia state under Global Climate Change
MBLUZ
The Rufford Foundation
CMD
CENTRO DE MODELADO CIENTIFICO
INPARQUES
IDEA WILD
Fundación La Salle de Ciencias Naturales
Fundación William H. Phelps
Minea