

Title *Grupo Jaragua* (BirdLife in the Dominican Republic) has just successfully finished their 18-month site-project entitled Mangroves in Laguna de Oviedo: conservation status and reforestation in areas used by local communities. The project focused on improving the conservation of mangrove ecosystems in Jaragua National Park (JNP) through monitoring, reforestation and awareness activities with the participation of local communities. Grupo Jaragua found that while there is no direct exploitation of mangroves around Laguna de Oviedo, a number of small-scale impacts were identified that could compromise JNP's mangrove ecosystems in the long-term. The project was part of a small grant scheme, funded by the MacArthur Foundation that has supported and built the capacity for locally-based mangrove conservation and education/awareness in the Insular Caribbean.

### Background



Red mangroves in Laguna de Oviedo. © Amelia Mateo

Laguna de Oviedo is a hyper-saline lagoon located on the north-east side of [Jaragua National Park](#) - an Important Bird and Biodiversity Area, and part of the unique Jaragua-Bahoruco-Enriquillo Biosphere Reserve. At 28,000 ha, [Laguna de Oviedo](#) is the largest saltwater lake within the park. This wetland supports mangrove forests (c. 1,573 ha) that provide critical habitat for a number of nesting waterbirds such as the Caribbean Flamingos *Phoenicopterus ruber*, Roseate Spoonbill *Platalea ajaja*, White Ibis *Eudocimus albus*, Brown Pelican *Pelicanus occidentalis*, Reddish Egret *Egretta rufescens* and Least Tern *Sternula antillarum*. The mangroves and adjacent mud flats are also used as feeding, roosting and stop-over grounds by migratory birds including Lesser Yellowlegs *Tringa flavipes*, Solitary Sandpiper *T. solitaria*, Semipalmated Sandpiper *Calidris pusilla*, Short-billed Dowitcher *Limnodromus griseus* and Prothonotary Warbler *Protonotaria citrea*. The Vulnerable West Indian Whistling-duck *Dendrocygna arborea* and Near Threatened White-crowned Pigeon *Patagioenas leucocephala* ? two species restricted to the Caribbean ? rely on the mangroves of Laguna de Oviedo during important parts of their life cycle. ?Residents from the surrounding community of El Cajuil have long used this wetland's mangrove resources for food, fuel wood and other extractive purposes?, said Mildred Dawaira Méndez, Project Coordinator. ?Also, impacts by tropical storms and hurricanes on the lagoon's natural ecosystems (including mangrove areas) have been reported by local folk. Furthermore, there is an increasing presence and usage of fast-growing, non-native invasive plants, such as Neem Tree *Azadirachta indica* for shade?, continued Méndez.



The values of mangroves were highlighted during World Wetlands Day 2013. © Grupo Jaragua

In order to improve the conservation status of Laguna de Oviedo's mangroves - and contribute to the overall conservation of mangrove ecosystems in JNP - Grupo Jaragua implemented the project *Mangroves in Laguna de Oviedo: conservation status and reforestation in areas used by local communities*. Since 2011, they have: carried out a mangrove ecosystem health assessment; implemented bird and site monitoring through the use of the [IBA monitoring framework](#); raised local awareness about the importance of mangroves during environmental celebrations (including the World Bird Festival and [World Wetlands Day](#)); and planted buttonwood mangroves. All project activities were conducted with the participation of [Local Conservation Groups](#) and communities.

#### **Main project achievements:**



Community-based mangrove monitoring. © Grupo Jaragua

- Four permanently marked vegetation study plots were established on site, on the banks of Laguna de Oviedo.
- Water salinity and tree girth were measured, and Global Positioning System (GPS) coordinates taken.
- Red mangrove (*Rhizophora mangle*), white mangrove (*Laguncularia racemosa*), black mangrove (*Avicennia germinans*) and buttonwood mangrove (*Conocarpus erectus*) were all found to be present, with red and black mangroves dominating.
- Seed collection was undertaken by the Local Conservation Group [Voluntarios Comunitarios de Jaragua](#).
- Capacity built and established in regards to mangrove fieldwork investigation techniques and use of equipment.
- Seeds were germinated in community plant nurseries. Unfortunately, many were attacked by insect larva and free ranging chickens. A better protected hatchery was more successful in the second year.
- IBA monitoring was conducted during two consecutive years by local field ornithologist with participation from local youths.
- Multiple mangrove awareness educational activities were undertaken (e.g. talks, birdwatching trips, drawing contests, production of mangrove related educational materials, poster exhibition, mural painting and mangrove tree planting near the lagoon). These activities were carried out during World Wetlands Day, Caribbean Endemic Bird Festival, [World Bird Festival](#) and [International Migratory Bird Day](#) celebrations.
- Project achievements were communicated and disseminate through traditional (i.e. television programs) and new media (e.g. social networks).

- Awareness of the importance of mangroves and mangrove conservation issues was increased through a range of communication, outreach materials, and news stories
- Information was shared through a website: <https://sites.google.com/site/manglareslagunaoviedo/home>

Throughout the project, Grupo Jaragua worked closely with Voluntarios Comunitarios de Jaragua ([Local Conservation Group](#)) and local eco-guides from the communities of El Cajuil and Oviedo. The communities of Juancho, La Colonia, Tres Charcos and Manuel Goya have also benefitted through the project's educational and awareness activities. All seven communities surround Jaragua National Park. **Key findings**



Clandestine cattle owners utilize mangrove wood to construct rudimentary paddocks. © Laura Perdomo

[Grupo Jaragua](#) found that while there is no direct exploitation of mangroves around Laguna de Oviedo, a number of small-scale impacts were identified that could compromise JNP's mangrove ecosystems in the long-term. These impacts include:

- Overgrazing by free-ranging cattle (i.e. cows, goats, horses, donkeys) accompanied by seasonal cutting of mangrove roots to construct rudimentary cattle paddocks.
- Sporadic exploitation and/or hunting of waterbirds, their fledglings or eggs.
- Seasonal harvest of land crabs (*Cardisoma guanhumi*) in mangrove areas.
- Non-degradable solid waste accumulation (of local and non-local origin brought by the sea).
- Some mangrove areas north of the lagoon (located within protected area limits) have recently been cleared with the intention of illegal land appropriation and subsequent sale from the park.

**Lessons learned** ?This project was implemented with local community members, identified and trained during years of community engagement by Grupo Jaragua?, said Mildred Dawaira Méndez. ?This pre-existing relationship and trust greatly facilitated local involvement around the theme of mangroves and allowed for successful achievement of all planned activities. Awareness raising activities (especially planting mangroves!) were very popular and helped generate interest in this project as well as opportunities to learn more about preserving natural resources?, concluded Méndez. The *Mangroves in Laguna de Oviedo* project was carried out by Grupo Jaragua as part of the [Mangrove Alliance](#): BirdLife's three-year initiative supporting and building the capacity of locally-based mangrove conservation and education/awareness activities in the Insular Caribbean. It was made possible thanks to the generous support from the [MacArthur Foundation](#).