

## 52 10 years of the UNESCO Biosphere Reserve of Berlengas: Challenges and pitfalls

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The protected areas, including UNESCO Biosphere Reserves, have been witnessing an increase in the number of visitors, resulting in periods of human overload, which can compromise the development strategy, conservation objectives, and the quality of the recreational experience. Information about visitors is therefore vital to create new management strategies, which also include education and environmental awareness.

Now, that in 2021 we are celebrating the 10th anniversary of the UNESCO Biosphere Reserve of Berlengas (Portugal), it is appropriate to assess the evolution in the last decade, mainly about visitation, and consider the challenges ahead.

The Berlengas Archipelago and the city of Peniche are classified as a UNESCO Biosphere Reserve since 2011. Besides the city, includes a small island surrounded by several islets and two other groups of islets located near the coast of Peniche, about 7 nautical miles from the mainland. The entire archipelago and the surrounding marine area (9,456 ha) are also classified as a nature reserve due to their remarkable importance, recognized as a bird sanctuary with flora and fauna species where several endemisms prevailing.

The honeypot of this UNESCO Biosphere Reserve is the Berlenga Island (Figure 1), the only island that can be visited is with circa 79 ha. The main attractions are, according to Gil (2018), the small pocket beach and the 17th-century Fortress. Off-trail is strictly forbidden according to the natural reserve zoning plan, which together with the island morphology limits the visitors' use to less than 10% of the island.

In the last years, visitation became quite popular, starting to be a serious problem that needed to be addressed by managers. Most of the visitation happens within the late spring and summer months due to harsh sea and weather conditions. During this period there are some support

infrastructures (a restaurant, a camping site, plus 60 ~ 70 touristic beds) and regular boat service.

The visitation season is split into two periods depending on the number of trips done by the regular boat service: in July and August there are two during the morning and a third one in the afternoon; from mid-May to June and during the first half of September there is only one trip. In addition to this regular service that can carry up to 180 passengers per trip, there are several companies operating tours to Berlenga Island in 25-30 small boats (each carrying between 12 and 32 passengers per boat).

Despite the limited access and the protected status, visitation was never systematically being monitored. Nevertheless, the management body of the nature reserve estimated around 25,000 visitors in 1998, 30,000 in 2000, and 40,000 in 2003 and 2004 (ICNB, 2007). In the following years, although no estimations have been made, there was a general perception of a dramatic increase in the number of visitors, far above the maximum allowed number of people that could be on the island at the same time (350 according to Regulation 270/90, of 10 April), which could endanger the natural values as well visitors' experience.

Project LIFE Berlengas (LIFE13 NAT / PT / 000458), under the Life Program of EU, took place between 2014 and 2019 with the main focus of recovering the natural values of the Berlenga island, under threat due to a continuous degradation thanks to the excess of visitation and proliferation of exotic species that compete with local fauna and flora.

The LIFE Berlengas project also developed a set of actions to test different techniques for collecting and monitoring information (quantitative and qualitative) about the Island's visitors to provide local managers and other involved stakeholders new insights regarding Berlengas' carrying capacity.

Among the problems detected, there was a significant increase in visitors, now more than 80000 per year, with safety implications, the rise of litter,

and a decrease in the quality of the recreational experience (Mendes et al 2020).

Several workshops took place with local stakeholders to create awareness of existing problems and also involve them in the proposal of solutions for greater sustainability of their activity, thus preserving the existing natural and human values, which is the reason for the attraction of so many visitors.

A recent survey also conducted among the stakeholders for the periodic review of the 10<sup>th</sup> anniversary of the UNESCO Biosphere Reserve, also shows a clear satisfaction with the implementation of the Reserve, e even if there is a clear contrast between the assessment of nature conservation and human development goals, that need to be addressed in the future.

The results achieved were crucial to assist in the monitoring and decision making of management measures, as well as in the awareness of visitors avoiding the several pitfalls ahead that jeopardize the area in the close future (Gil, 2018).

A new regulation is now being implemented to reduce the number of visitants but also increasing the value of recreational experience, namely with guided tours and local panels with information about natural and human values in presence.

A different code of conduct of tour operators, a interpretation center, and more recently the implementation of a process of co-management of the Natural Reserve with the

involvement of the local authorities seems to step in the right direction for the sustainability of the area.

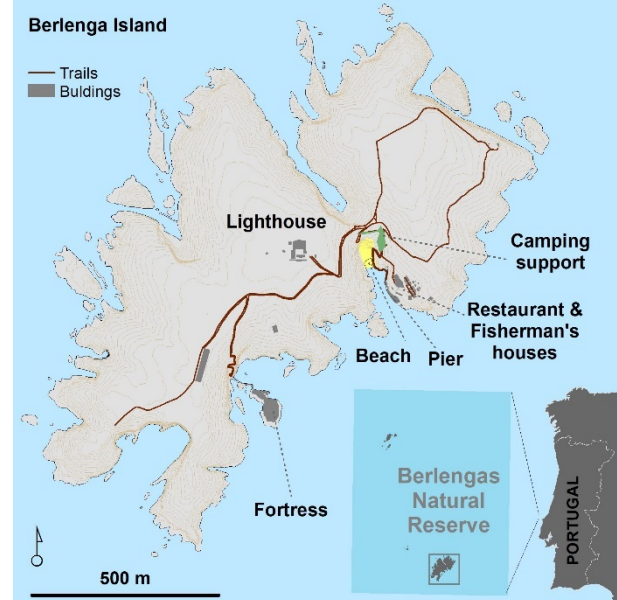


Figure 1 - Berlenga Island

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#### References

Gil, A., et al. 2018. <https://doi.org/10.33787/CEG20190003>. ICNB (2007). Relatório do Plano de Ordenamento da Reserva Natural das Berlengas. Lisboa, Portugal. Nogueira Mendes, et al. 2020. <https://doi.org/10.2112/SI95-024.1>.