

Protocol for Hottentot fig (*Carpobrotus edulis*) Control using shading sheets ("mulching sheets")

The island of Barreta/Deserta is one of the five barrier islands within the Natural Park of Ria Formosa and falls under the scope of habitat intervention and recovery under the [LIFE18 NAT/PT/000927](#) project. The Barrier Islands are dynamic dune systems where the priority habitat 2130* "Grey Dunes" - Fixed dunes with herbaceous vegetation predominates. The dune plant communities in these types of ecosystems are very specific and highly dynamic, with open spaces that allow the rapid establishment of some invasive species. Under the LIFE project, a survey of the main invasive species was conducted, and control methodologies were tested. A document titled "Invasive Plants in the Barrier Islands: Situation and Proposal for Removal" was also prepared.

The Hottentot fig, native to South Africa, is considered an invasive plant in Portugal. In the Barrier Islands, it is one of the main invasive species and is controlled under the LIFE project using manual methods. The use of "mulching sheets," plastic shading screens, has also been tested for controlling this species. Below, we describe the required materials, installation protocol, and advantages and disadvantages of using this technique.

Materials:

1. – Black plastic shading sheets;
2. – Stakes for fixation and/or sandbags.

Installation Protocol:

Stretch the black plastic shading sheets over uniform patches of *Carpobrotus edulis* where native vegetation is not dominant. Secure the edges with soil to prevent the sheet from being blown away by the wind. In the center, fasten the sheet using stakes or sandbags, as shown in the photo below.



Figure n.º1 – shading sheets used on Barreta Island, Ria Formosa.

The sheets should be applied before the hottest months to accelerate the degradation/destruction process of the plants and their root systems.

Advantages:

- Low maintenance costs.
- Recommended for extensive and flat patches exceeding 20 meters;
- High degradation of plant material and the entire root system;
- Reduced sprouting of shoots from the root system;
- Minimal soil/substrate disturbance compared to manual removal.

Disadvantages:

- Limitation in installing in windy locations;
- Limitation in installation on slopes and rocky terrain;
- High costs for extensive areas;
- Limitation in installing in areas with a lot of shrub/tree vegetation.

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