Eastern Groundsel bush

(Baccharis halimifolia)

Managing a small population of Groundsel bush located in the south of Corsica

National botanical Conservancy of Corsica

■ A department of the Office of the Environment of Corsica, in 2008 the Botanical Conservancy of Corsica obtained the approval of the ministry in charge of ecology allowing it to become the 11th national botanical conservancy.
Its remit is:
- to identify and contribute to the conservation of the wild flora and natural and semi-natural habitats of Corsica;
- to provide information and technical assistance to the State, public institutions and local authorities to implement national and regional policies for nature protection and land-use planning;
- to inform and educate the public about the conservation of plant diversity.

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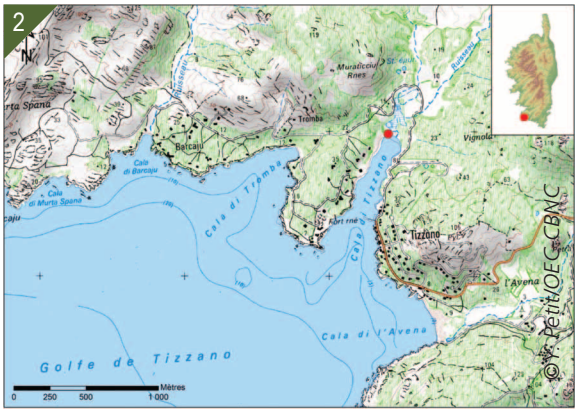
Intervention site

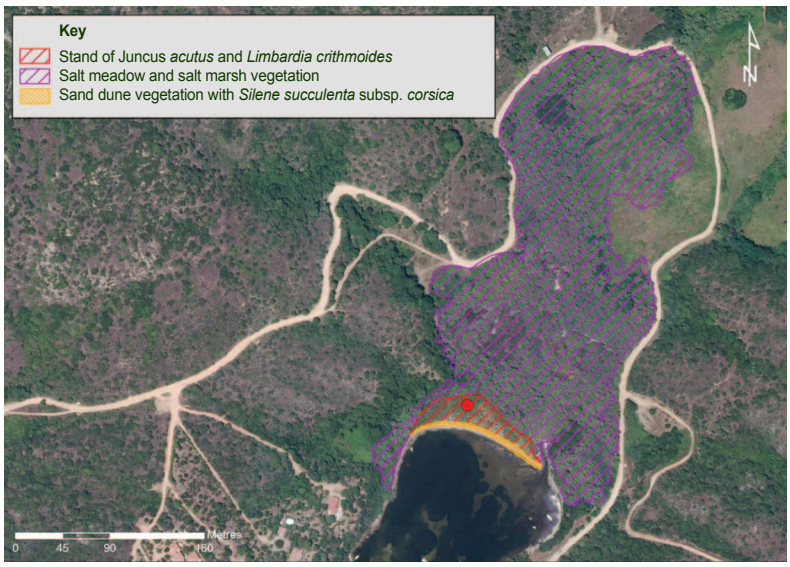
■ In Corsica, Groundsel bush was observed for the first time in the wild on 22 September 2015 in the commune of Tizzano (2A), south of Sartène, in Southern Corsica (G. Paradis, pers. comm.). To date, this is the only known mention of this species in Corsica, and the vector of this introduction has not been identified.

■ The north end of the Bay of Tizzano has a marsh with the same name. This marsh is located between a narrow, low-lying barrier beach and fluvial deposits carried by short streams, the longest of which is nearly 3.5 kilometres long. The barrier beach has the particular feature of being covered throughout the year by deep layers of Posidonia seagrass debris brought by the sea, particularly during winter storms. The Tizzano marsh and its surroundings, although not classified as a natural area of ecological, faunistic and floristic interest (ZNIEFF), are of great phyto-ecological interest. Numerous rare (R), very rare (RR) or protected (P) species have been identified, namely *Heliotropium supinum* (R), *Ranunculus sceleratusor* even *Tamarix africana* (P). This sector also has a broad diversity of vegetation groups some of which are rare in Corsica.

■ In 2015, the stand harboured 6 individuals forming a tangled thicket amongst *Tamarix africana*.



1 - Baccharis halimifolia *individuals in a tangled thicket amongst* Tamaris africana.
2 –Siting map of the stand of Baccharis halimifolia *in Corsica.*



Vegetation in the direct vicinity of the Baccharis halimifolia *stand.*

3 - Banding the trunks of an old individual.
4 and 5 - Baccharis halimifolia *shoots before the second banding operation carried out in 2017.*

Harmful effects and issues

The few Groundsel bush individuals currently present cannot cause any significant impact on the site. However, in view of the local environmental conditions which are very favourable to the rapid development of a population, the management of this species, which is known to have a very high capacity for colonisation, was considered essential to conserve the ecological diversity of the site.

Possible effects on the ecosystem

B. halimifolia can form very dense thickets impacting the structure of local plant communities and the proper functioning of ecosystems, causing in particular a decrease in access to light for native species, thus limiting the growth of heliophilous species, changes and impoverishment in the diversity of the colonised community, the closure of habitats and the reduction of the areas occupied by herbaceous species. These thickets can also increase the fire risk.

Possible health effects

The abundant production of *B. halimifolia* flowers with recognised allergenic potential could induce an aggravation of hay fever among the users of the site.

The habitat being colonised by the species is a favourable area for mosquito larvae development. The dense vegetation cover that could be offered by its development could protect the larval sites from environmental pressures and the effects of possible anti-mosquito treatments carried out.

Interventions

The first surveys were carried out in October 2015 around the individuals identified to specify the distribution of the species. Surveys were extended to all the habitats favourable to the species in the vicinity of Cala di Barcaju, Cala di Tromba, Cala di Tizzano and Cala dil'Avena.

In order to react quickly, work on these individuals was carried out as soon as they were discovered. The objective was to stop the spread of the species and, given that they were located on an island and the small number of individuals, to try to eradicate this small population. The action was continued in 2017 and then in 2019.

■ During the works, particular care was taken to avoid the dispersion and fragmentation of plants. The same care was taken to avoid any excessive disturbance of the habitat and the soil that could be caused by trampling and the works.
■ The 2015 works involved 1 female individual nearly 3 meters tall and 5 young individuals less than 2 meters tall, results of root suckering no more than 1 meter from the mother plant. The young individuals as well as the tracer roots produced by the mother plant were extracted manually with a pickaxe.
■ The stump removal method was not chosen for managing the old individual because of its entanglement with a thicket of *Tamarix africana* (a nationally protected taxon). In this case, the banding method was applied. Below the first branches, on nearly 90% of the trunk perimeters, the bark was removed with pruning shears down to the sapwood on a 4 to 5 cm wide strip. The individual, being at the start of fructification, was pruned beforehand to avoid all risks of production and dissemination of viable seeds.
■ The operation was renewed in 2017 under the offshoots located directly under the first banding.
■ Monitoring every 2 years was set up.

■ Transportation, storage and removal of waste

■ To avoid the dispersal of propagules, waste was stored and transported in airtight bags before being incinerated.

Results and assessment

■ Results

■ The equivalent of three 100L bags were extracted during the works in 2015 compared to less than a quarter of a 100L bag in 2017.
■ In 2017, no new individuals were identified, and the banded trunks had largely dried up and started to deteriorate.These observations showed the effectiveness of the management measures put in placein 2015.
■ On the aged individual, it is worth mentioning the presence of shoots on 2 trunks (less than 5 per trunk) located above (quite rare) and below the banding (more frequent). The management operation was therefore renewed in 2017.
■ The 2019 observations found that all of the Groundsel bush trunks were dead. The dead wood remaining in place was in the process of decomposing.
■ However, monitoring is still required to confirm this positive result.

■ Costs of human and financial aspects

Equipment required and estimated costs.

Equipment	Quantity	Characteristics	Unit price (€)
Pickaxe	1	Forged steel pickaxe, wooden handle	20
Shears	1	Garden shears	25
Gloves	1	Gardening	15
Plastic bags	10	100 Litres, 65 microns	10
TOTAL	-	-	**70**

6 and 7 - Baccharis halimifolia *stand before the first works operation in 2015.*
8 and 9 - Baccharis halimifolia *stand before the second works operation in 2017.*

■ The operations were carried out by an officer of the National Botanical Conservancy of Corsica. The stump removal and the banding of the individuals present required 4 hours in total from 2015 to 2019, and the complementary surveys around Tizzano totalled 8 hours, i.e., 12 of work in total.

■ The banding technique is quick, easy and inexpensive to apply. It also has the advantage of causing very little disturbance to the site and the death of individuals by exhaustion with little or no root suckering offshoots.

10 - Decomposing groundsel bush stump (2019).

Information on the project

■ Although started before the beginning of the project, these operations were included in the Interreg ALIEM project and presented during the international workshop on invasive alien species in the Mediterranean at Alghero, 25 October 2017.http://interreg-maritime.eu/fr/web/aliem/-/evento-futuro-2

Outlook

■ Monitoring of the site over 5 years is planned to attest to the disappearance of the species.

■ In Corsica, the species has not been identified in private gardens, although a new "wanted"notice will be launched in 2020 on the social networks and in observer networks to identify the possible presence of other Groundsel bush stands.

Editors: Yohan Petit, National Botanical Conservancy of Corsica and Doriane Blottière, IUCN French Committee.

This management report fills out the collection already published in the second and third volumes of the book titled "Invasive alien species in aquatic environments, Practical knowledge and management insights", in the Knowledge for action series published by the French Biodiversity Agency.

(http://especes-exotiques-envahissantes.fr/best-practices-guide/?lang=en)

For more information...

■ Sarat E., Petit Y., Dutartre A. et Blottière B. 2019. Les espèces exotiques envahissantes. Zoom sur deux espèces végétales des milieux lagunaires.
Training on IAS, Life Marha,Corte, Corsica, 26 June 2019.
https://pole-lagunes.org/wp-content/uploads/sites/4/2019/07/CO_SARAT_EVEE_26Juin2019.pdf