



Groundsel bush

(*Baccharis halimifolia*)

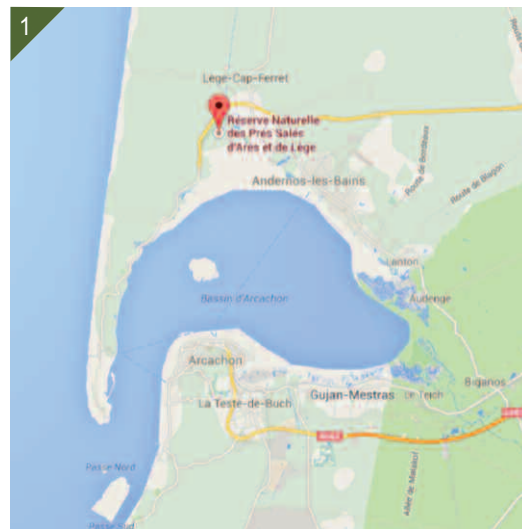
Managing groundsel bushes in the Arès - Lège-Cap-Ferret National salt-meadow nature reserve

Arès - Lège-Cap-Ferret National salt-meadow nature reserve

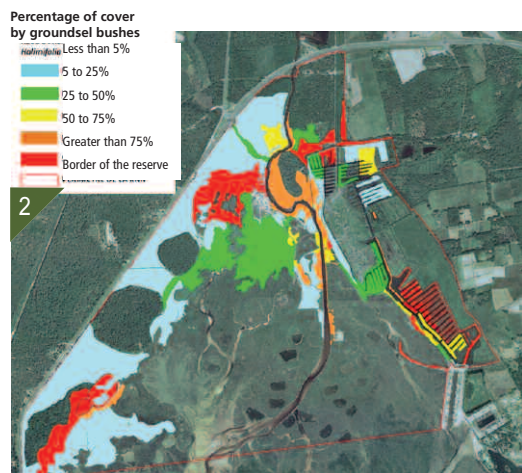
- The area was acknowledged as a national nature reserve by the Ecology ministry in 1983.
- It has been managed by the National agency for hunting and wildlife (ONCFS) since 2007 as part of the ONCFS network of reserves, in collaboration with the French national network of nature reserves.
- The management work was set up in the framework of the Rational management of groundsel bushes (*Baccharis halimifolia*) technical project, part of the 2010-2014 management plan for the nature reserve in order to:
 - counter the significant loss of natural habitats (an estimated 35 hectares in 2007);
 - preserve the plots for protected species (enclosures, etc.);
 - win back potential habitats for emblematic species;
 - preserve EU-listed natural habitats and/or those of value for migratory waterfowl and European pond turtles.
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Intervention site

- The Arès-Lège salt-meadow nature reserve covers 380 hectares and is located at the northern end of the Arcachon basin in the towns of Arès and Lège-Cap-Ferret (Gironde department). The presence in the largest salt meadows of the Aquitaine region of rare plant species that are typically found in salt meadows or Mediterranean regions justified the classification of the site as a nature reserve on 7 September 1983.
- Its geographic position at the outlet of the canal from the ponds means it serves as an ecological corridor between the Arcachon basin (150 square kilometres) and the catchment basin comprising the Médoc ponds (1 000 square kilometres), an important area for animals (migratory birds and fish, European otter and European pond turtles). In addition, the reserve contains a patchwork of natural habitats of which some are rare in France.
- From 2007 to 2012, the management work on groundsel bushes, coordinated by ONCFS, targeted 21 sites spread from the diked section (banks and former fish reservoirs) to the tidal section.



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1. Site of the Arès nature reserve.
2. Position and percentage of cover by groundsel bushes in the Arès reserve in 2007 (prior to launching management work).
3. Management of groundsel bushes in the Arès reserve in 2012.



■ The reserve comprises many types of environments including marshes, reed ponds, meadows, contact zones between salt meadows and dunes, low areas among the dunes, banks of water bodies, wetlands in the diked section and salt-cedar hedges.

Disturbances and issues involved

■ The presence of groundsel bushes around the Arcachon basin was mentioned for the first time in 1891 and it was first observed in the reserve in 1975, though older observations signalled its establishment as early as the 1960s. A study conducted on the reserve in 2010 (Dusfour) revealed a major increase in the species since 1985. It was estimated that the plant progressed 11.21 hectares from 1985 to 2007, i.e. an annual increase of 0.34 hectares between 1985 and 2007, and of 1.25 hectares between 2005 and 2007. The colonisation dynamics of groundsel bushes would seem to have accelerated by a factor of four over the 20-year period.

* The colonisation by the species produced observable ecological impacts in the nature reserve, e.g.:

- loss of habitats for emblematic species and/or EU-listed habitats;
- a reduction in plant biodiversity (interspecific competition);
- more uniform landscapes;
- erosion of banks (groundsel bushes stabilise banks less than native species);
- increased accretion under the bushes.

Interventions

■ Since 2007, ONCFS has set up different projects to manage groundsel bushes. Two types of work have been carried out, restoration work where the adult bushes (2 to 4 metres high) are eliminated and maintenance work to clear new growth and shoots. Different techniques were used depending on the sensitivity of the area to be restored (presence of protected plant species, spawning grounds for European pond turtles, natural habitats with fragile topsoil, etc.) and taking into account various practical aspects (access and feasibility of the technique in the area).

■ All the restoration and maintenance work in important conservation areas was done by volunteers (local people and non-profits) in the framework of the anticipatory management project set up by ONCFS, by external suppliers with funding from ONCFS, the Aquitaine regional environmental directorate and the Aquitaine regional council, and by the technical departments of the towns of Arès and Lège-Cap Ferret (clearing using a rotary cutter, waste transport).

■ Manual cutting

- The groundsel bushes are cut manually, using sickles, billhooks, etc., taking care to avoid native species.
- The bushes are temporarily stored in piles near the managed areas.

■ Rotary cutters

- The work is done using a machine mounted on wide tracks and equipped with a blade, a tracked tractor or a forestry shredder
- This technique makes for rapid progress in areas with dense stands of groundsel bushes.
- The shredded organic matter does not need to be transported.

■ Mechanical uprooting

- An excavator is used.



4. An area colonised by groundsel bushes.
5. Manual cutting.
6. Rotary cutter in action.

■ Transport and elimination of the plants

■ This work (shredding and transport to a landfill or burning) was done by the technical departments of the towns of Arès and Lège-Cap-Ferret.

■ Work periods

■ The work was done from mid-August to the end of February, outside of the reproduction periods of animals.

Results and assessment

■ Results

■ By the end of 2012, just over 13 hectares of salt meadows had been restored, including 8.5 ha by manual cutting, 4.5 ha by mechanical shredding and 0.1 ha by mechanical uprooting.

■ This work made it possible to:

- restore the "open fringe effect" along the banks of the reservoirs and wet meadows that encourages the presence of many birds (Anatidae, waders and large waders);
- restore the contact zones between salt meadows and dunes, the habitats of emblematic plant species and EU-listed natural habitats (salt-cedar hedges, sedge land and reed beds).

■ The restored areas are regularly maintained to perpetuate their conservation status.

■ Assessment

■ Participatory management:

- in 2012, 128 people participated (7 different organisations and a worksite open to the general public);
- the work serves to create social ties and bridge generation gaps between participants (young people encountering problems, the unemployed, hunters, managers, the public, etc.).



7. Fish reservoir prior to manual cutting (November 2009).

8. Fish reservoir after manual cutting (November 2009).

Breakdown of man-days supplied by the organisations from 2010 to 2012.

Organisation	2010	2011	2012
Arès municipal hunting association (ACCA)	11	37	11
Lège-Cap-Ferret ACCA	-	17	-
Maritime hunting association for the Arcachon basin	6	6	6
Cap Termer	5	3.5	5
Surf Insertion	24	12	24
Arès tourist office	-	-	-
TOTAL	46	65.5	46

Total cost of restoration and maintenance work of all types (2010 to 2012)

Year	External suppliers (funding by ONCFS, Envir. Dir. and Aquitaine RC)	Municipal departments of Arès and Lège-Cap-Ferret	Volunteers (costed)	Total
2010	8 602.73 €	4 390.00 €	7 958.00 €	20 950.73 €
2011	9 568.00 €	9 222.50 €	13 061.50 €	31 852.00 €
2012	10 677.00 €	16 155.60 €	12 915.60 €	39 748.20 €
Total	28 847.73 €	29 777.10 €	33 935.10 €	92 559.93 €

Advantages and disadvantages of management methods.

Management method	Advantages	Disadvantages
Manual cutting	<p>Minimum disturbances (damage to soil and noise).</p> <p>Work in sectors that are sensitive or difficult to access.</p> <p>Low carbon footprint.</p> <p>Ideal technique for maintenance work (5 to 6 times less time consuming and less tiresome than restoration work).</p> <p>Can be done by anyone.</p> <p>Contributes to social ties and connections.</p>	<p>Long, physical work.</p> <p>Irregular results depending on the worker (volunteers, personnel from the reserve).</p> <p>Involves large amounts of labour.</p> <p>Difficulty in planning and executing work over the long term (depends on the number of volunteers each year).</p>
Mechanical shredding	<p>Rapid work in heavily colonised areas.</p>	<p>Environmental disturbances (soil and fauna).</p> <p>Accessibility for machines.</p> <p>Non-selective technique.</p>
Mechanical uprooting	<p>None</p>	<p>Major disturbances to soil.</p> <p>Expensive (time and money).</p> <p>Wrong technique for the site.</p>

Information on the project

- Information on the management of groundsel bushes is provided to the volunteers when they work on the site and to the general public visiting the nature reserve in welcome stations (ONCFS and partners for environmental education on the site).
- A conference on management of groundsel bushes was organised for the general public, in conjunction with the National botanical conservatory for South-west France, on 6 October 2012.
- Feedback from the management project for groundsel bushes was presented at the Meeting of ONCFS reserves in October 2012 and during the Médoc lakes SBMP meeting devoted to invasive species in February 2013.
- Annual reports are uploaded to the internet site of the national nature reserve.

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For more information

- Internet site of the Arès - Lège-Cap-Ferret National salt-meadow nature reserve:
<http://reserve-naturelle-pres-sales.org/>
- Dusfour G. 2010. Caractérisation des dynamiques des espèces végétales envahissantes dans la zone tidale de la Réserve naturelle nationale des prés salés d'Arès-Lège : le cas particulier de *Baccharis halimifolia*. Rapport de Stage Master 1 « Dynamique des écosystèmes aquatiques ».
- Managing groundsel bushes in the Arès - Lège-Cap-Ferret National salt-meadow nature reserve. Report for the year 2010. Arès - Lège-Cap-Ferret National salt-meadow nature reserve and ONCFS, January 2011.
- Presentation on managing and monitoring groundsel bushes (*Baccharis halimifolia*) in the Arès - Lège-Cap-Ferret National salt-meadow nature reserve. Meeting of ONCFS reserves, 16 October 2012.
- Gestion du *Baccharis*. Projet 2012-13. RNN des prés salés d'Arès et de Lège-Cap-Ferret/ONCFS, juillet 2012.