



# Groundsel bush

*(Baccharis halimifolia)*

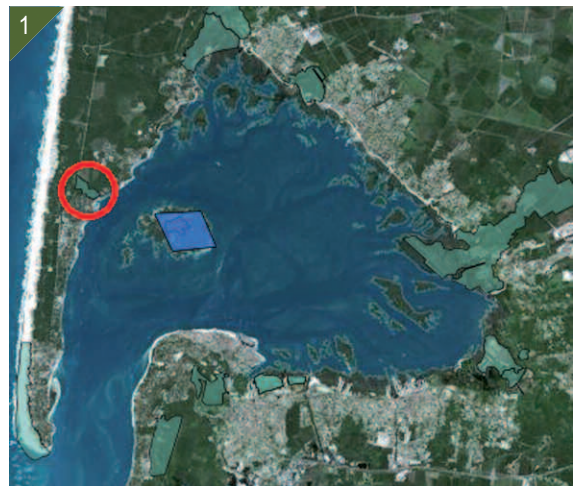
## Managing groundsel bushes at the Pirailan reservoirs

### Pirailan reservoirs

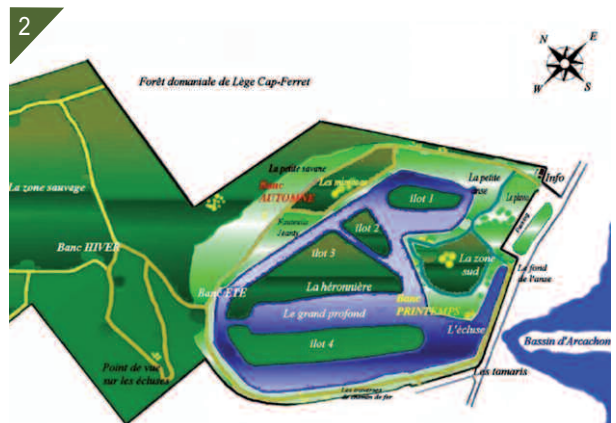
- The reservoirs are a protected, natural site in the town of Lège-Cap Ferret (Gironde department), that have belonged to the Seaside and Lake Conservation Trust since 1997.
- The site is managed and monitored by municipal personnel from Lège-Cap Ferret.
- A management plan, proposed by the environmental research and study group, was launched in January 1999 and one objective is to control groundsel bushes.
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### Intervention site

- The Pirailan reservoirs are located in the town of Lège-Cap Ferret, along the coast of the Arcachon basin. The town manages the site in a partnership with the departmental council.
- The site covers a total of just over 39 hectares and is made up of:
  - a reservoir (6 hectares) with a bed of sand and mud, supplied via a lock. The vegetation on the banks consists of salt-meadow species;
  - four small islands within the reservoir, with cover comprising woody plants and bushes, with dead trees standing or fallen (3 hectares);
  - a stand of pine trees covering most of the site, including a more or less open understorey and more dense sections with thickets and fallen dead trees;
  - small hills rising up to 30 metres above sea level.
- Due to the management work on groundsel bushes, it was decided, in conjunction with the National botanical conservatory for South-west France, to make the Pirailan reservoirs a pilot site for monitoring plant dynamics.



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1. 2. Site of the Pirailan reservoirs.

### Disturbances and issues involved

- The presence of groundsel bushes around the Arcachon basin was mentioned for the first time in 1891. The species has been present on the Pirailan site since the 1960s, primarily around the reservoir and on the islands. It covered a significant percentage of the surface area with individual bushes exceeding heights of 2 metres.
- The plants had a considerable impact on the site:
  - competition with native plant species resulting in the disappearance of emblematic species;
  - greater environmental uniformity;
  - closing of the landscape along the reservoir;
  - a reduction in nesting waterfowl.

## Interventions

■ In the framework of a management plan set up in 1997, the site manager has regularly organised interventions to eliminate groundsel bushes.

■ Different techniques have been employed:

- manual uprooting of young plants;
- cutting the plants using a saw, shears, a brushcutter or a chainsaw, depending on the size of the bushes and the density of the cover;
- elimination of new growth and removal of stumps using a hatchet.

■ The work was done:

- on a few areas of the site each year, but primarily on the islands and around the reservoir;
- by one or two persons.

*Work schedule and methods used from 1997 to 2012.*

Year	Month	Methods
1997	09	Manual uprooting of young plants
1998	05-08	Manual uprooting of young plants and cutting
1999	05-11	Manual uprooting of young plants and brushcutting
2000	12	Brushcutting
2001	06-11	Manual uprooting of young plants, brushcutting of regrowth
2002	01-02, 04-05, 07-09, 12	Manual uprooting of young plants and brushcutting
2003	06-12	Manual uprooting of young plants and brushcutting
2004	03-04, 07-11	Manual uprooting of young plants and brushcutting
2005	01, 07-12	Manual uprooting, cutting and brushcutting
2006	02, 06, 08, 12	Manual uprooting of young plants and brushcutting
2007	01, 07, 09-11	Manual uprooting, cutting and brushcutting
2008	02, 05-12	Manual uprooting, cutting and brushcutting
2009	05-06, 08-10, 12	Manual uprooting and cutting
2010	01, 03-12	Cutting, tailing (removal of peduncle) and removal of stumps
2011	01, 04-10	Tailing and removal of stumps
2012	01, 08-10	Tailing and uprooting of young plants

## Results and costs

### ■ Results

■ The groundsel bushes were virtually eliminated thanks to regular work.

■ The landscape underwent changes:

- development of native herbaceous and shrub species on the banks and in the reservoir;

- in 1999, 94 different plant species were present on the site, in 2012 the number had risen to over 300 including some emblematic species (*Urospermum dalechampii*, *Rhagadiolus rhagadiolides*, *Papaver dubium*, *Ruppia cirrhosa*, *Sarcocornia*).

### ■ Assessment of management costs (examples)

■ The work is very physical and repetitive, and requires observational capabilities when the groundsel bushes are hidden by the vegetation. The results are however highly visible and constitute an encouragement to continue the management efforts.

■ In 2008, approximately 89 hours of work were devoted to the groundsel bushes and 9 hours to equipment maintenance. The total outlay amounted to 991 euros, including 775 euros for maintenance and 216 euros for fuel).

■ In 2012, 18 hours of work and 191 euros were invested in the management effort.



3. Island no. 4 in July 2007.

4. Island no. 4 in July 2013.

5. Overall view of the Pirailan reservoirs.

Monitoring of the islands following the work. Observations in 2011 and 2012.

Year	Month	Small islands	Observations
2011	January	1	10 sprouting trunks
		2	10 sprouting trunks
		3	35 sprouting trunks
		4	100 sprouting trunks
	October	1	1 sprouting trunk + 5 seedlings
		2	2 sprouting trunks + 1 adult bush + 2 basal shoots + 155 seedlings
		3	12 sprouting trunks + 5 basal shoots + 100 seedlings
		4	73 sprouting trunks + more than 200 seedlings
2012	January	1	0
		2	70 seedlings
		3	8 sprouting trunks + 3 basal shoots + 67 seedlings
		4	10 sprouting trunks + 14 basal shoots + 159 seedlings
	October	1	0
		2	0
		3	3 basal shoots + 1 seedling
		4	1 adult plant + 60 seedlings

## Outlook

- Regular work and monitoring to control groundsel bushes will be pursued over the entire site.
- Thanks to the partnership with the National botanical conservatory for South-west France in the framework of the DELTA programme (Plant biodiversity in the Arcachon basin and the Val de Leyre - LEADER project), following the elimination of the groundsel bushes, the Pirailan reservoirs were designated as a pilot site for monitoring plant dynamics. Regular monitoring of two plots was set up for a period of 10 years.
- The objectives of the monitoring programme are to:
  - understand, confirm or develop the hypotheses concerning plant dynamics during and after the work to eliminate groundsel bushes;
  - assess the impact and the effectiveness of the management work on the observed plant dynamics;
  - monitor the development of the groundsel bushes and of the vegetation in general;
  - assist the manager in monitoring the groundsel bushes;
  - monitor an alien species (e.g. *Viburnum tinus*) even outside of the plots;
  - monitor any new species colonising the plots (*Atriplex hastata*, *Suaeda maritima*, *Phragmites australis*, *Pucciniella maritima*, etc.).

## Information on the project

- The conservatory has taken on the task of informing and raising awareness among managers and the general public via meetings and brochures.
- During presentations by the site manager, the impact of invasive plants on biodiversity is discussed.
- Meetings among the littoral protection officers are an occasion for discussions between the people managing the species.

Authors: Sandra Fernandez, Irstea and Emmanuelle Sarat (IUCN French committee).



6. Aerial view of the Pirailan reservoirs.

### For more information

- [www.conservatoire-du-littoral.fr](http://www.conservatoire-du-littoral.fr)
- [www.cbnsa.fr](http://www.cbnsa.fr)
- DELTA programme (Plant biodiversity in the Arcachon basin and the Val de Leyre)
- Caillon A., Caze G., Pradel C. 2012. Plantes exotiques envahissantes : une menace pour la biodiversité... ensemble agissons ! CBNSA. 20 pp.
- Caillon A., Caze G, 2011. Notice méthodologique : suivi de la dynamique des végétations suite à la gestion des espèces exotiques envahissantes arbustive. CBNSA, 8 pp.

