



Parrot-feather watermilfoil

(*Myriophyllum aquaticum*)

Managing parrot-feather watermilfoil and water primrose in the Jaunay and Gué-Gorand marshes

Board for the Vie, Ligneron and Jaunay marshes (SMMVLJ)

■ The public board was created by prefectural order in 1981 and has its headquarters in the town of Givrand (Vendée department).

Board members include the Vendée departmental council, 3 intermunicipal associations and 2 towns.

■ Six associations also have advisory status, namely the Soullans and Rouches marsh association, the Saint-Hilaire-de-Riez and Notre-Dame-de-Riez marsh association, the Vallées dam association, the Basse Vallée de la Vie marsh association, the Jaunay and Gué-Gorand marsh association and the Vie marsh association.

■ The main missions include:

- maintaining and restoring the marshes and rivers in the collective interest;
- providing water management and coordination;
- piloting the SBMP (sub-basin management plan) for the Vie and Jaunay basin;
- managing the marsh section of the Sauzaie dunes and Jaunay marshes Natura 2000 site.

■ Contact:

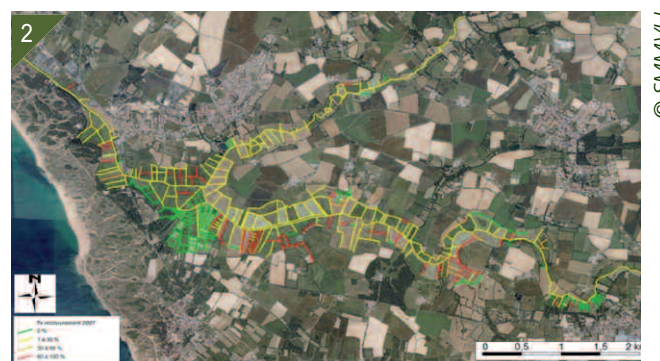
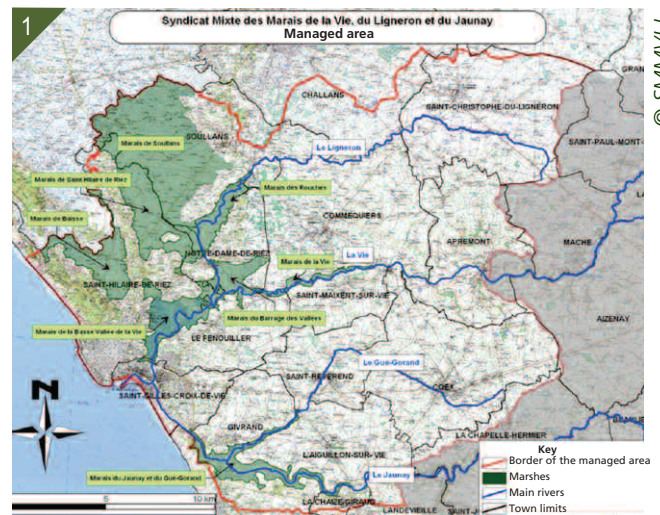
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Intervention site

■ The board manages an area spanning 310 square kilometres, with 5 500 hectares of marshes and 300 kilometres of rivers and tributaries. Since 1996, SMMVLJ has played an active role in managing invasive alien aquatic plants, primarily in two marshes under its responsibility:

- the Jaunay and Gué-Gorand marsh colonised by *Ludwigia* spp. and parrot-feather watermilfoil (*Myriophyllum aquaticum*) since 1994 over its entire surface area (570 ha);
- the Soullans and Rouches marsh invaded by parrot-feather watermilfoil (PFW) since 2002, in a section spanning 150 metres.

■ PFW is no longer present in the Soullans and Rouches marsh following management work conducted from 2006 to 2010. The marsh is nonetheless monitored yearly to detect any regrowth.



1. Intervention sites.

2. Percentage covered in 2007.

3. Percentage covered in 2012

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■ Since 2011, the work to limit the expansion of invasive alien aquatic plants has taken place exclusively in the Jaunay and Gué-Gorand marsh.

■ Where they meet, the Jaunay and Gué-Gorand Rivers flow into the Jaunay and Gué-Gorand marsh, which covers a total surface area of 570 hectares. The marsh is situated in the towns of Saint-Gilles-Croix-de-Vie, Brétignolles-sur-Mer, Givrand, l'Aiguillon-sur-Vie and Chaize-Giraud.

Disturbances and issues involved

■ *Ludwigia* spp. and PFW were first observed in the Jaunay and Gué-Gorand marshes in 1994. They have now colonised the entire marsh (570 hectares), i.e. a total of 64 kilometres of rivers and ditches. The percentage of covered surface area ranges from 1 to 90%.

■ Colonisation of the marsh by these species has had a number of significant impacts:

- accelerated sedimentation;
- lower water quality;
- reduced biodiversity due to competition for light and space with the native plant species;
- more difficult conditions for recreational activities such as hunting and fishing.

Interventions in 2012

■ Since 2006, SMMVLJ has carried out extensive work (manual and mechanical uprooting) on the rivers and ditches of the marsh.

■ This work is also listed in the document listing objectives (DOCOB) for the Sauzaie dunes and Jaunay marshes Natura 2000 site of which the Jaunay and Gué-Gorand marsh is a part.

Manual uprooting

■ The work was done by SMMVLJ and the ASFODEL social reintegration association.

■ Work periods:

- First period from 11 June to 17 July 2012;
- Second period from 29 August to 12 October 2012.

■ Work procedure:

- manual uprooting of the plants on the banks or from a boat (team of 2 people);
- temporary storage in 100-litre containers in the boat;
- any cuttings were removed using a dip net;
- pitch forks were used to pull up large clumps.

■ Storage and fate of the harvested plants:

- the plants were deposited and spread on land near the ditches;
- they decomposed naturally given the high summer temperatures.

Mechanical uprooting

■ The work was done by a private company and by SMMVLJ (collection of plant fragments following the mechanical uprooting).

■ The work took place from 23 July to 9 August 2012.



4. Canal colonised by PFW.

5. Manual uprooting using a boat.

6. Equipment used for manual uprooting (pitch fork in the centre).

7. Mechanical uprooting.



■ Equipment used:

- excavators to uproot the plants;
- pumps to clear the ditches of water;
- nets to avoid dispersal of stalk fragments;
- dip nets to collect stalk fragments.

■ Disposal of the uprooted plants and the mud:

- the waste was deposited and spread on land near the ditches;
- the mud was later reworked and seeded by farmers.

■ Annual monitoring:

- inspection reports for each sector of the marsh are drafted to monitor changes in the colonised areas;
- colonisation of each ditch is monitored and mapped.

Results and costs

■ Results for 2012

	Manual uprooting	Mechanical uprooting
Linear distance worked	129 km	4 km
Volume removed	58 m ³ (587 bags, 100 litres each)	10 067 m ³
Total time of interventions	~ 865 H	112 H

■ Certain ditches remained highly colonised (over 60% of the surface covered) due to the high initial level of colonisation (100% coverage), the shallow water and trampling by livestock which facilitates propagation of the plants.

■ Comparison between 2011 and 2012:

- larger area worked in 2012 than in 2011;
- reduction in the volume harvested by manual uprooting in 2012 (80 cubic metres in 2011);
- unusual weather conditions in 2012. The low temperatures during the summer may have slowed the growth of the aquatic plants and reduced quantities to be harvested.

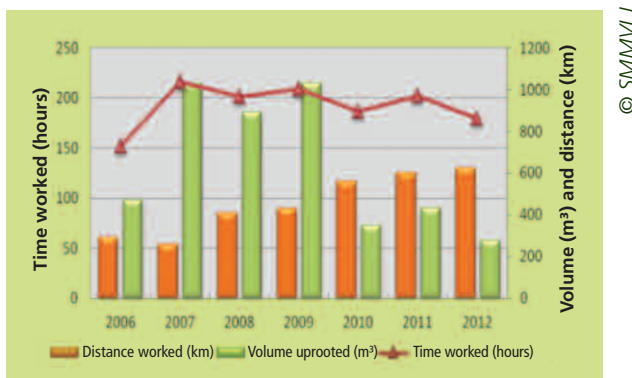
■ Significant reduction in the quantities of plants harvested manually since 2010.

■ The mapping done by the marsh board revealed that the percentage of surface area covered by invasive plants has decreased since 2010.

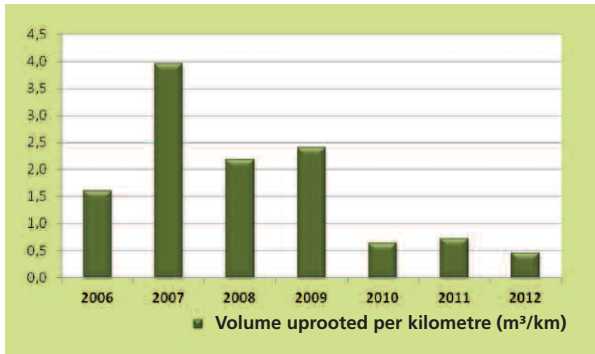


8. Ditch before manual uprooting.

9. Ditch after manual uprooting.



Results of manual uprooting from 2006 to 2012



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Average volume uprooted per kilometre worked from 2006 to 2012.

Human and financial aspects

Cost of work in 2012.

Manual uprooting	ASFODEL association (600 hours)	6 660.00 €
	Marsh board	10 575.15 €
	Subtotal	17 235.15€
Mechanical uprooting	Company	13 419.72 €
Total (incl. VAT)		30 654.87 €

Outlook

- Monitoring will be set up for particularly troublesome areas (trampling by livestock, heavily colonised ditches) in view of launching a new action programme.
- Manual uprooting (three periods) will be pursued in 2014.

Information on the project

- The annual technical report on work was sent to the Vendée federation for fishing and the protection of aquatic environments, the Vendée departmental council and the Loire-Bretagne water agency.
- A number of technical information sheets were drafted.
- Documents available on the SMMVLJ site:
 - a guide on invasive alien terrestrial plants, particularly the main plants found locally (pampa grass, groundsel bushes and Japanese knotweed);
 - the annual report on work carried out by the marsh board.

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

For more information

- SMMVLJ : www.vie-jaunay.com
- Syndicat Mixte des Marais de la Vie, du Ligneron et du Jaunay. 2013. Bilan de la lutte contre les plantes aquatiques exotiques envahissantes - année 2012. 28 pp.