Yellow skunk cabbage

(*Lysichiton americanus*)

Managing yellow skunk cabbage in Saint-Léonard-de-Noblat (Haute-Vienne department)

Pays Monts et Barrages Centre for territorial development

■ The Pays Monts et Barrages Centre is a grouping of three local governments in the Haute-Vienne department, namely the Noblat, Portes-de-Vassivière and Briance-Combade intermunicipal boards.

■ In the framework of its policy to preserve and develop its environmental resources and enhance the attractiveness of the territory, the centre has launched efforts to set up a management strategy for invasive alien species.

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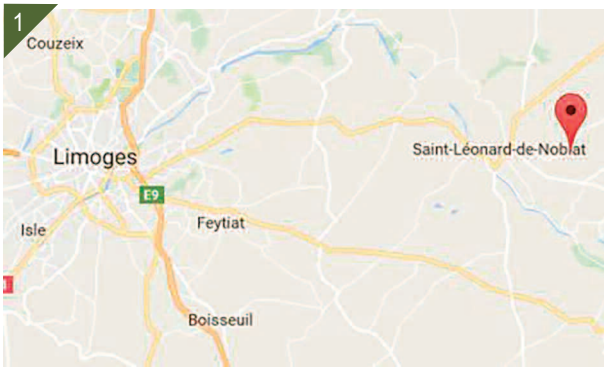


© Google Maps

1. Map showing the position of the site.

Intervention site

■ Yellow skunk cabbage has been listed as a species of Union concern by the EU, however it is currently present in only two places in France, namely the Haute-Vienne and the Vosges departments.

■ In the Haute-Vienne, four plants were discovered in 2005 by Alexis Lebreton (National agency for hunting and wildlife, ONCFS) in a stand of willow trees on the banks of a pond connected to the hydraulic network.

■ The plants are located in the town of Saint-Léonard-de-Noblat, at a place called the Ancien Moulin du Repaire, at the bottom end of a pond and on the Nouhaud Stream (part of the Loire River basin).

■ Since the discovery, the site has been monitored annually. In April 2017, approximately one hundred adult plants were counted. A large number of young plants were also present, but not counted.

Disturbances and issues involved

■ The species has a high invasive potential and can form dense populations covering large areas. As such, it is detrimental for native plant species. It can also modify the animal communities, notably the insects.

Interventions

■ Since the discovery in 2005, no plants have been uprooted, however work was done each year from 2008 to 2010 to destroy the spadices (the seeds) in order to limit the plant's development.

■ The objective of the work in 2017 was to eradicate the plant from the site.

■ Meetings had first been held with the various stakeholders and partners, in particular the National botanical conservatory in the Massif Central and the ONCFS. During the monitoring visit in April 2017, two adult plants were uprooted in a test to determine the best method.

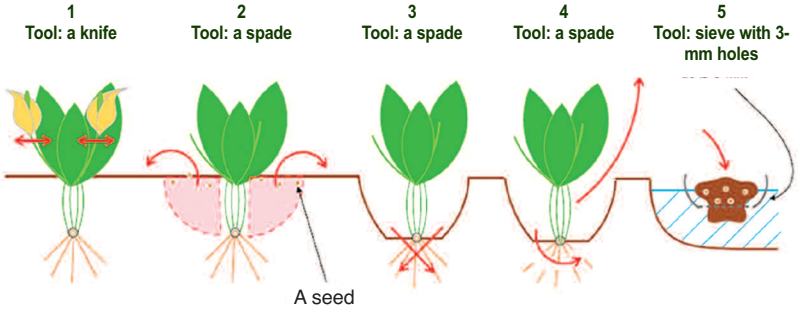
■ Subsequently, two half-day sessions of work were carried out, one in the beginning of May and the other in the beginning of July.

■ Entire plants, with the rhizomes, were uprooted manually using spades and knives (see the figure below). The inflorescences of the adult plants not uprooted in May were cut to avoid their flowering until they were uprooted in July.

■ The resulting green waste was deposited near the work site to avoid any risk of dispersing the plants during the transport. It was placed in the hole left by an uprooted tree a few metres from the site and blocked with a bund. The hole was a very dry spot where the plants had no chance of regrowing and will rot. The rhizome of each plant was split in two to weaken it further and make sure it did not sprout.

■ During the work in May, the soil was sifted to sort out any seeds that might have fallen to the ground, but no seeds were found.

Uprooting method for Lysichiton americanus.



A. Lebreton and J. Charon, April 2017

Step 1. *As a precautionary measure, cut the inflorescences before uprooting the plant.*
Step 2. *With a spade, dig around the base of the plant to remove the soil until the rhizome is visible.*
Step 3. *With the spade, cut the roots under the rhizome.*
Step 4. *Slide the spade under the rhizome and use it as a lever to extract the entire plant. The plants should be deposited nearby, in a dry place, where they will rot.*
Step 5. (test) : *In the river, sieve the first 5 centimetres of soil (from Step 2) from around the plant to remove a maximum number of seeds before filling in the holes. The purpose of this step is to deplete the grain bank more quickly.*

Results and costs

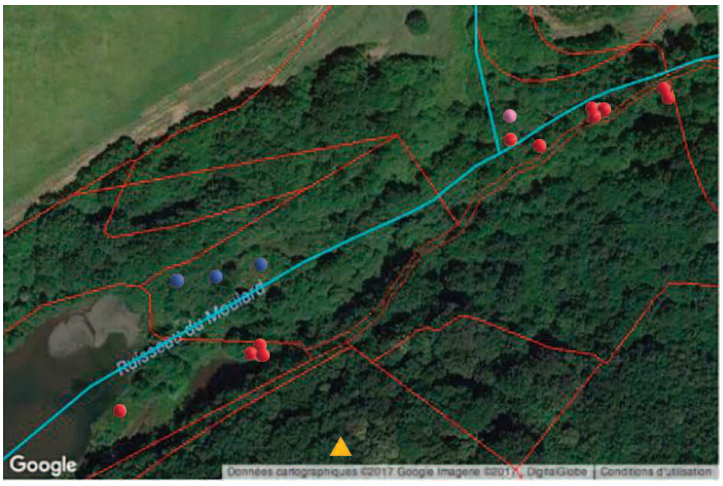
■ Results

■ A total of 102 yellow skunk cabbage plants were uprooted in 2017, including 75 during the work in May (representing approximately 0.6 cubic metres of green waste) and 27 during the work in July.

■ Five juvenile plants were not uprooted due to the lack of time, plus one adult plant that was difficult to reach (located under a pile of branches). They will be uprooted in 2018, during the monitoring visit.

■ Assessment

■ Only the sieve (11 euros) was purchased for the project, all the other equipment was already available.



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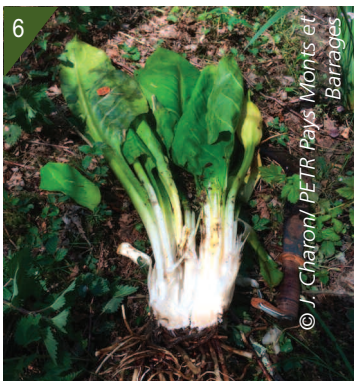
Distribution of Lysichiton americanus *following the work in July.*

- Hydrographic network
- Plants uprooted in July
- Juvenile plants remaining
- Adult plant remaining
- Deposition zone



2. One part of the yellow skunk cabbage plants on the work site.
3. An adult plant.
4, 5, 6. Uprooting the plants.

■ Five people were involved, including two technicians from the Pays Monts et Barrage Centre, an intern (funded by the LEADER programme) and two volunteers.

Information on the project

■ Information on the project was published in the bulletin of the National botanical conservatory (Massif Central) and on the internet site of the Pays Monts et Barrage Centre.

■ An article for a scientific journal is currently being drafted.

Outlook

■ The site will be monitored once per year in the spring for ten years in the framework of a partnership between the Pays Monts et Barrage Centre and the ONCFS. Any regrowth from rhizome fragments or the seed bank will be uprooted for as long as necessary during the monitoring visits.

Authors: Jennifer Charon, Pays Monts et Barrages Centre, and Doriane Blottière, IUCN French committee.

7. Deposit site for the yellow skunk cabbage.

For more information

■ Klingenstein F, Alberternst B. 2010. NOBANIS – Invasive Alien Species Fact Sheet – *Lysichiton americanus*. Online Database of the European Network on Invasive Alien Species - NOBANIS www.nobanis.org.

■ Lebreton A. 2007. Présence du Lysichite jaune ou Faux arum, *Lysichiton americanus* Hultén & St John (*Araceae*), en France. Symbioses, nouvelle série, n° 20 : 60– 64

■ Lebreton A, Gibernau M. 2015. Lysichite jaune : *Lysichiton americanus* Hultén & St John, 1931. Espèces exotiques envahissantes des milieux aquatiques et associés en France métropolitaine: recueil de fiches d'identification. Onema : pp. 25-26.

■ Organisation Européenne et Méditerranéenne pour la Protection des Plantes. 2006. *Lysichiton americanus*. Data sheets on quarantine pests. Bulletin OEPP/EPPO Bulletin 36, 7–9.

This management report was drafted in January 2018 by the work group for biological invasions in aquatic environments, set up by the French biodiversity agency and IUCN France, in addition to those already presented in the second volume 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://www.onema.fr/sites/default/files/EN/EV/cat7a-EEE-vol2.html).

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