



WHAT IS THE PLANT IN THE MARINA THAT IS HINDERING NAVIGATION ?

It is the twoleaf watermilfoil, which is an aquatic plant, not an algae. It is an invasive alien species.

IS THIS PLANT TOXIC?

No, twoleaf watermilfoil is not toxic in water or during its decomposition.

HOW DO WE CONTROL THIS PLANT?

For several years, managers have been conducting waterweed cutting operations (cutting the plant) so that the shipping can pass through. However, this is only a curative method. VNF has chosen St Jean-de-Losne as an experimental centre to test new waterweed control methods in partnership with the University of Lorraine, that is in charge of the scientific monitoring.

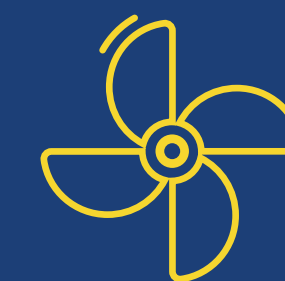
A plant is taking over our canals and rivers

L'ESSENTIEL



How do you identify twoleaf watermilfoil ?

It forms thick green beds in shallow areas. It is difficult to differentiate from its non-invasive cousin, the whorl-leaf watermilfoil.



What are the consequences on nautical activities ?

Twoleaf watermilfoil clogs the filters of boat engines and water intakes, leading to breakages. VNF, the EIG and the economic agents of the marina keep it contained in order to avoid these problems and maintain navigation.



What is its favoured habitat?

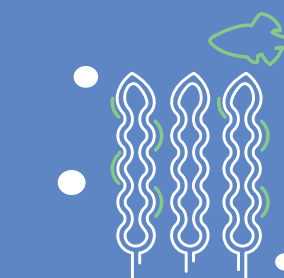
Stagnant and clear water – it likes light and water that is rich in nutrients.

However, the twoleaf watermilfoil can acclimatise to water that is not so rich in nutrients. It has the incredible ability to filter the water around it so that light can pass through more easily.



Where does this plant come from ?

Twoleaf watermilfoil is an invasive alien species that comes from the south-eastern United States, and was probably introduced by the aquarium trade. Like any species that has been introduced, it creates an imbalance in the natural environment. This is one of the main threats to biodiversity.





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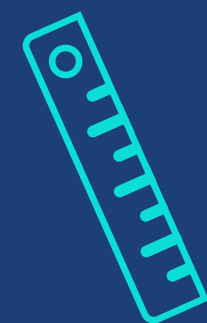
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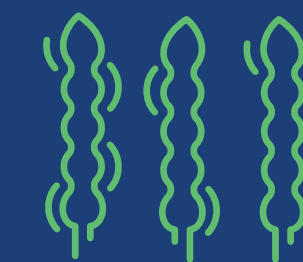
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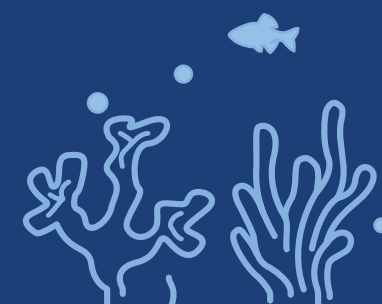
How quickly does twoleaf watermilfoil develop?

Extremely quickly, i.e. up to 30 cm per week, which makes it difficult to keep up the pace!



How does this plant develop/spread?

Mainly in a «vegetative» way, i.e. a single small fragment is enough to develop a new plant. That's why it's crucial to prevent the fragments from dispersing during cleaning operations, and they **MUST** be removed from the water



What are the consequences on biodiversity?

Like all invasive alien species, the development of twoleaf watermilfoil leads to a loss of biodiversity. As it replaces local species, it modifies the environment.



Does temperature have an affect on its growth?

Twoleaf watermilfoil is relatively insensitive to the heat or the cold. The optimum temperature for its growth is 20°C. Bright light promotes its growth.

At the St-Jean-de-Losne marina, an experiment is being conducted over several years to test new methods of controlling the watermilfoil. It started with a biological technique to reduce the level of nutrients in the water in order to weaken the plant and slow down its spread.



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ACTIONS IMPLEMENTED



How do we control twoleaf watermilfoil?

The most effective tried and tested solutions are uprooting operations in the autumn and waterweed cutting operations to open up the waterways to navigation.



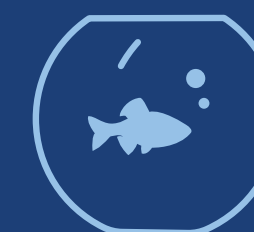
Who is working on this issue?

VNF gets help from the Invasive Alien Species Resource Centre and the University of Lorraine that runs the scientific monitoring of the experiment. In addition, VNF relies on local partners: the EIG, boaters' associations, local authorities, regional authorities, the Water Agency, the Côte d'Or department and the Bourgogne-Franche-Comté region.



Is this a local phenomenon?

VNF as well as other managers in France and Europe are experiencing the same problem. The problem of invasive alien species is global and affects every type of environment. It is one of the greatest threats of our century on biodiversity



What are the goals of the experiment at St Jean-de-Losne?

- Working out the precise conditions of the plant's growth
- Defining the optimal treatment solution(s) over the long term, to supplement waterweed cutting
- Studying and considering ways of repurposing the plant (methanisation, cultivation, etc.)



Rives de Saône
Communauté de Communes

Green cut

VNF works on a daily basis with local authorities and the economic agents to control twoleaf watermilfoil. A steering committee chaired by the sub-prefecture of Beaune has been in operation since the beginning of 2020. A territory charter was also signed on 23 April 2020.