Lettuce Liverwort

*Petalophyllum preissii*

**A world first**

![Image: Lettuce liverwort]

**Quickfacts**

Small plant-like liverwort

Known only on one small bank near Kaikoura

Subject of world’s first liverwort conservation programme

**A world first in conservation, in Kaikoura**

Responding to a plea for help from Te Papa (Museum of New Zealand Te Papa Tongarewa), ESF has initiated a world first in conservation – a conservation project for a plant-like organism known as a liverwort. Dr Mike Thorsen of ESF says he cannot find a record of anyone anywhere in the world actively working to conserve a rare liverwort.

Te Papa alerted the ESF to the plight of lettuce liverwort through a blog post stating their population was down to 36 individuals, nearly half what had been present several years ago, and suggesting maybe they could help.

The thumbnail-sized liverwort, which resembles a tiny lettuce, is now only known from one small site in the Puhupuhu Range, near Kaikoura, where it was discovered in 1993.

Other populations of lettuce liverwort (*Petalophyllum preissii*) that were known elsewhere in New Zealand have completely disappeared, and it is not known why. At Kaikoura, Dr David Glenny of Landcare Research thinks the lettuce liverwort is being shaded-out by
introduced grasses.

This project has the support of Landcare Research and the Department of Conservation, and is being sponsored by an ecological consultancy with a long history of undertaking conservation projects on difficult species in various parts of the world. ESF’s senior technical advisor and principal ecologist at ERA Ecology NZ Ltd, Dr Thorsen, said they are taking on the project as they are fascinated by the conservation challenge. “Who knows what is the best way to save a liverwort? We know so little about their way of life,” he said.

The lettuce liverwort has Nationally Critical conservation status in New Zealand, and is also rare in Australia. However, Dr Glenny questions whether the Australian liverwort is the same species, as they are difficult to identify and there are few experts in this field.

Dr Thorsen said they plan to construct a shade canopy over part of the three-metre-square site, as a low-impact method of reducing competition on the liverwort from grasses. “We’ll trial this method for one to two years and then assess if it works. If successful, the liverwort will naturally spread at the site. We have two volunteers ready to monitor the population for us. Sam Rowland and Kelly Frogley have both been involved in liverwort survey work for the Department of Conservation,” said Dr Thorsen.

“We’ll also trial the breeding of a similar species to see how to do it and if it can be successful. Being a liverwort, it doesn’t produce seeds, it spreads only by spores, making propagation challenging,” added Dr Glenny.

The lettuce liverwort is one of three species of Petalophyllum in New Zealand, and all are Critically Endangered. Thirty two other liverworts in New Zealand are also Critically Endangered. If this project is successful for the lettuce liverwort then there is hope for the conservation of these other species.

POSTSCRIPT: It is not known how the 2016 Kaikoura earthquake has affected this species. Aerial photographs show the site where it occurs is intact. It is hoped that the site will be surveyed in 2017 to confirm its survival.

What next?

To protect lettuce liverwort, the following will really help.

1. Keep an eye out for other populations.
Lettuce liverwort appears to favour shaded banks formed on limestone that are neither wet nor very dry. It is possible that other populations exist, but because of its small size and rarity they have not been noticed. Next time you’re walking in a limestone area look in the shaded bare areas of banks for the thumbnail sized lettuce liverwort. If you think you have found it, take pictures of the plant, the place it is growing, and the surrounding area and note on a map where it is and let us know.

People keeping an eye open for lettuce liverwort will not cost anything.

2. Develop propagation methods for rare liverworts.

Some liverworts grow very well in cultivation, some to the extent that they cover the potting mix around plants. The cultivation of rare species, such as lettuce liverwort, has not previously been attempted, but theoretically is possible. If we can cultivate rare liverworts then their conservation becomes so much easier.

Developing cultivation techniques for rare liverworts is going to require encouraging someone with extensive horticultural experience to try different techniques. This is likely to cost around $250,000, but this could be reduced if the cultivator is willing.

More information

Website: New Zealand Plant Conservation Network - Petalophyllum preisii. [Link](#)
Website: Te Papa blog: Goodbye to the lettuce liverwort. [Link](#)
Website: Te Ara Encyclopedia of New Zealand: liverworts and hornworts. [Link](#)
Photos

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