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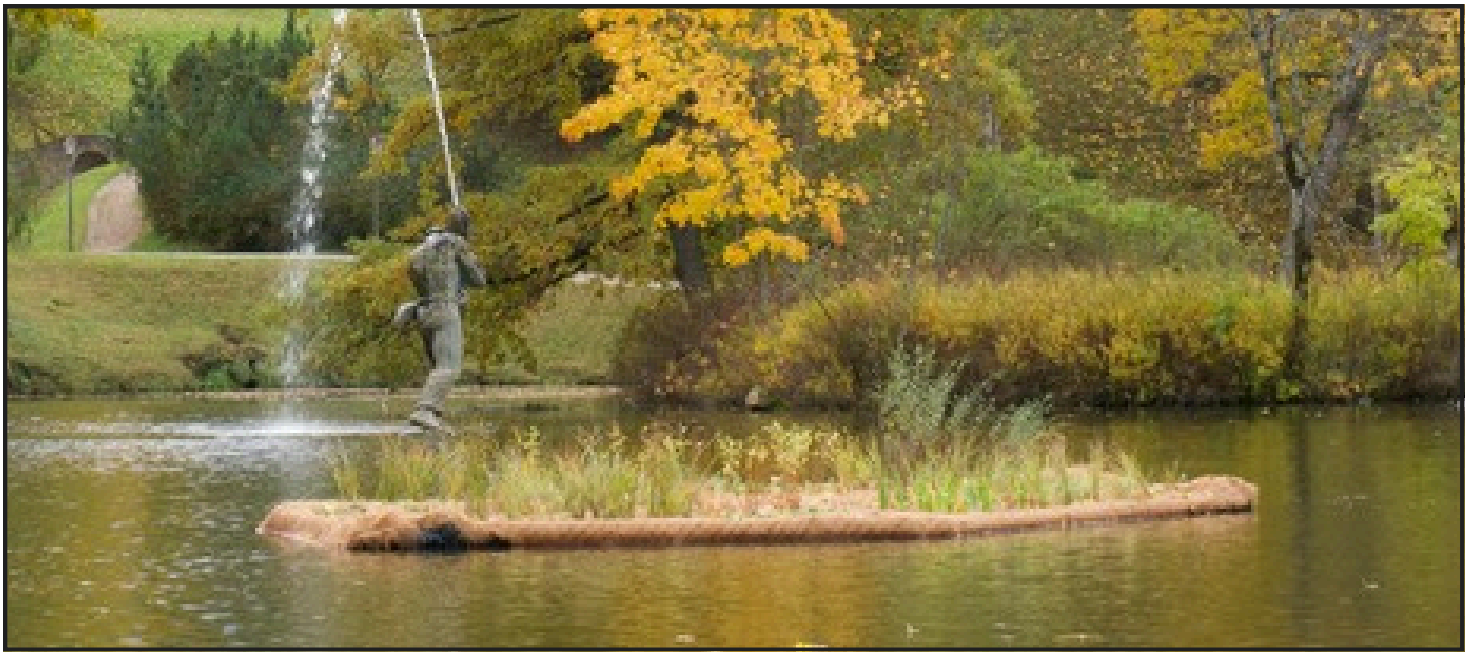
NEWSLETTER

BIOFLOAT



Top Story

Floating islands now installed at three water bodies

Floating islands are a practical, nature-based solution: they can absorb pollutants, dampen waves, increase biodiversity and add greenery to city ponds and lakes. BioFloat is developing a ready-to-use concept and clear guidance so local governments can procure solutions suited to each water body.

Now all three islands has been installed into water bodies - two in Latvia and one in Estonia.

The islands will overwinter in place. In spring, partners will continue monitoring to see how well the pilots reduce pollution and support biodiversity, and they will share user-friendly guidance with other towns in the programme area.

Lake Põrmujärv (Võru County, Estonia)

Launched in September 2025, this pilot site brings together community partners and researchers to test how floating islands can improve water clarity and support aquatic habitats.

Cēsis Castle Park Pond (Latvia)

Opened in October 2025, this installation aims to enhance the pond's food web. To celebrate, partners released young pike into the pond with the help of local stakeholders.

Dzirnavu Pond, Gulbene (Latvia)

Also launched in September 2025, this site showcased installation and anchoring demonstrations, adapting the island's design to local environmental conditions.

Public event

2 day public information event at Cēsis Park pond

The Cēsis Castle Park pond is an important part of the urban environment, unfortunately, its water quality over the years has become very bad - the high concentration of phosphorus and nitrogen promotes excessive algae growth, which makes the water feculent, creates an unpleasant odor and threatens biodiversity.

To address these issues, the Latvian Institute of Aquatic Ecology is implementing the BioFloat project, which will place floating islands in the pond. It's an innovative, environmentally friendly water purification method – into the Cēsis Castle Park pond. Plants growing on the artificial islands will absorb nutrients in the water, thereby reducing pollution, improving the health of the pond ecosystem and at the same time aesthetically complementing the Castle Park environment.

In the event

- Two children group from Cēsis "Brīvā skola"
- Microplastic sampling
- Biomanipulation
- Locals learn about the progress of the BioFloat project and floating island solutions
- learn more about the species living in the Cēsis pond and the existing environmental challenges

facebook.com/biofloat/

Education

School group visits

During the BioFloat informative event two school groups from Cēsis "Brīvā skola", which are currently learning about microplastic and water pollution visited the event.
Children already with their teacher had learned about pollution, microplastic influence on life species, nature and water quality. In the event they had a great opportunity to gather microplastic samples, which will later be sent to a scientific laboratory for further research. Children determined the pH level in the water and worked as real life scientists by catching zooplankton and seeing them through a microscope.

Public event

Biomanipulation method

A milestone for the restoration of the Cēsis Castle Park pond happened from May 6 to 9, one of the most ambitious fieldwork operations of the year took place: biomanipulation, an essential first step before installing innovative BioFloat floating islands.

Why Biomanipulation?
For many years, the pond has struggled with poor water quality. High levels of phosphorus and nitrogen have led to excessive algae growth, murky water, unpleasant odors, and declining biodiversity.

Research by the Latvian Institute of Aquatic Ecology shows that the pond is overwhelmingly dominated by Prussian carp, an invasive and extremely resilient species.

These fish stir up bottom sediments and release nutrients back into the water—making natural recovery nearly impossible.
To give the ecosystem a fighting chance, specialists carried out biomanipulation: **the partial removal of Prussian carp to help restore the pond's natural balance**. This method has been used in several countries showing very good results, but in Latvia this meth was used for the first time.

942.65 kg of fish were removed

932.18 kg Prussian carp

7.96 kg perch

2.52 kg roach, rudd, and bream

The largest Prussian carp measured 33 cm and 737 g

Average carp weight: 235 g

Average perch weight: only 63.7 g

This striking difference shows how strongly Prussian carp have overwhelmed the ecosystem. Most carp are too large for perch to eat and low oxygen levels further disadvantage perch while barely affecting carp.

Community Spotlight

Nothing in nature goes to waste.

In two days almost 1 ton of Prussian carp were removed and delivered to the Rīga Zoo. The first batch was already become a tasty meal for the seals. And they weren't the only ones who was delighted to have fresh fish on the menu and more was left frozen to benefit from this nutritious catch later.

THESE PRUSSIAN CARPS WENT TO LATVIAN ZOO - TO GET IN FOOD CHAIN FOR SEALS, TIGERS AND OTHER PREDATORS

Miniature floating model

BioFloat team had the incredible pleasure of visiting Lelde and Jānis Strazdiņi at their amazing Maquettica studio — a true wonderland where big dreams become tiny realities. This tiny Biofloat model represents the concept of floating islands. It's built at 1:10 scale compared to the prototype inspired by Cēsis Castle Park pond with the same plants that will be used in real life floating islands.

This miniature floating island was created by Luīze Zelmansone!

The small island shape is ideal for demonstration purposes at presentations, foreign visits and events. The Biofloat model has already been demonstrated at a Thailand student visit to Latvian Institute of Aquatic Ecology, the Latvian Scientists' Night, a partner meeting in Estonia, and at project publicity events.

Then and now

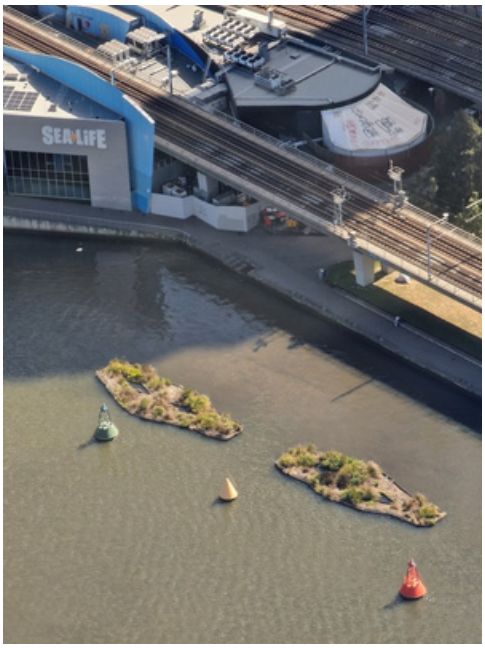
One year ago Skill Up and Mākslīgie mitrāji created a BioFloat island prototype: a floating island designed to purify water from agricultural runoff. What started as a bold concept became a living, floating reality — through countless calculations, creative iterations, and a balance of sustainability with high performance. Now, one year later we can see how this prototype is living its own life with plants rooted and the purification process is underway.

World experience

In Melbourne, Australia floating islands are already part of a water quality improvement system for lakes and gardens. Filtered stormwater flows into the Gardens' lake system through specially constructed wetlands. Water is circulated via natural features like Guilfoyle's Volcano, smaller lakes, and Fern Gully Creek.

Water pumped from the lake is specially treated to:

- Provide recycled water for irrigating lawns and gardens.
- Maintain high water quality to sustain healthy landscapes.



Floating islands are placed in the Dzirnavu pond

3 floating islands were prepared and floated in the Dzirnavu pond in Gulbene.
First the frames of the islands were made, and after some weeks the soil and plant parts were placed at the Dzirnavu pond itself. The company with which the contract was concluded informs that initially the islands were anchored at the edge of the pond to carry out general structural inspections, and then within a week they were all floated and anchored in their designated places in the central part of the pond.
The floating islands in the Dzirnavu pond are being installed with the aim of reducing pollution in the pond, as well as raising awareness of the Dzirnavu pond as one of the city's water reservoirs, and increasing understanding of green infrastructure as a biodiversity maker in the city.

In the late 1990s, a fairly large oil spill occurred in this pond, the oil products were washed into the pond and settled in the sludge. During this time, two ecological studies have been conducted, during which it was found that the total oil pollution has decreased over 30 years.
Currently, the pond still has problems with both wastewater and sewage water, which still flows into the pond. Speaking of floating islands, it's innovative, it's a pilot project and that means we don't know for sure how it will work, but that's why we got involved."
Biofloat technology is that these floating islands are planted with plants that are selected to absorb negative substances with their roots to the maximum and thus purify the water.
The structure, which was created by the landscape workshop "Alps", consists of floating pipes and screens. Then there is a layer of soil and a natural coconut fiber cover both at the bottom and on top, so that the soil does not slip into the water, then the plants themselves.

"We must take into account that nature will do its thing, and birds will also introduce their own changes and other plants will be brought here by them, but we hope that the flowering element will remain and they will also be visually beautiful and attractive. One of the goals of the project was to draw attention to this body of water, not just to clean it.."

— Elīna Strode Gulbene Municipality

Floating islands in Cēsis Castle Park pond

The floating island is now installed in Cēsis Castle Park pond! In the festive event, which brought together project partners, the Latvian Institute of Aquatic Ecology and the Latvian Ornithological Society attracted interested parties who wanted to get to know the solution, which will help improve the water quality of the Cēsis Castle Park pond and promote biodiversity.

The floating island was created from a special base, on which soil is covered and plants are planted – some already this fall, while the rest will be installed in the spring to observe how they take root and overwinter. The root system of the plants will develop in the water and serve as an environment that will help determine the amount of algae and excess nutrients.

In addition to the creation of the floating island, 21 pikes were released into the pond to promote the balance of the ecosystem and help maintain the natural dynamics of the aquatic environment.

The leading partner of the project is the Latvian Institute of Aquatic Ecology, the design and selection of the most suitable plants were provided by SIA "ALPS ainavu darbnīca", and the construction is being carried out by SIA "Warss +".

"Our goal in Cēsis is not only to reduce pollution – the floating island also has the task of being aesthetically attractive, promoting biodiversity and serving as an educational example of how natural processes can help in the urban environment. The island will spend the winter in the pond, and in the spring we will conduct research to find out how effectively it can absorb pollutants and improve the ecological state of the water,"

– Inta Dimante-Deimantoviča, expert - hydrobiologist.

Lake Põrmujärv is now with not only smart bouy but also floating island

Lake Põrmujärv is currently in a very poor state. The lake has an extremely high nutrient content, the oxygen content fluctuates widely and blue-green algae is proliferating. The water is strikingly green and smells unpleasant. Locals living around the lake are concerned about the condition of the water body.

The 32-square-meter island, consisting of modules, was covered with a base fabric by EEC scientists, on which lake sediment was placed. The island was then planted with fast-growing local plant species such as wolfsbane, reed and parthenocarpus. As they grow, these plants bind excess nutrients from the water and thus help to clean the lake.

The unique floating island will remain in the lake for at least the next five years to enrich the living environment for microorganisms, insects, benthic animals, amphibians, fish and birds, which are currently suppressed by aquatic blooms. After the island is removed, the biodiversity created in the lake could contribute to achieving ecological balance.

All activities are carried out in cooperation with the Navi Järved foundation and the residents of Navi village. Locals are very interested in improving the condition of the lake. The residents of Navi have written project applications to receive funding to study the condition of the lake and are helping with lake observations with advice and strength. The BioFloat project and the floating island installed on Põrmujärv are an excellent example of how a science-based approach and community involvement contribute to improving the condition of the natural environment.

Publicity

Discussion festival LAMPA

The Latvian Institute of Aquatic Ecology is bringing science to the surface at the LAMPA conversation festival! For two full days, on a floating stage meaningful disscusions about water ecology were held, including "Academic Discussion on the Mysteries of Floating Islands and Wetlands" about BioFloat project.
Discussions were held on the stage as well as online.

LAMPA

2 days

1275 speakers and technical staff

285 organizers

376 discussions

20 000 visitors

International conference

13th International Conference on Toxic Cyanobacteria (ICTC13) in beautiful Chania, Crete, Greece!

Over five amazing days from May 4 to 8, I had the opportunity to showcase the BioFloat Project during the three-day poster presentations, followed by great discussions with colleagues from this amazing community. It was an honor to be part of a global gathering of experts and enthusiasts from the fascinating world of toxic cyanobacteria.

— Kristel Panksep
Researcher in Molecular Ecology
Estonian University of Life Sciences

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Experience exchange

The BioFloat project has moved from planning to action, with floating islands now installed at three water bodies to help clean water and create habitats for wildlife.
In early October, project partners and stakeholders met in Navi village near Lake Põrmujärv to share progress and see the new island up close. The gathering—hosted by the Navi Village Society and the Navi Lakes Foundation and organized by the Estonian University of Life Sciences—included results presentations, field visits and hands-on demonstrations on how the islands are built and installed.

During the project partners and stakeholder meeting in October in Navi, participants joined scientific fishing demonstrations and microplastic sampling. Partners also compared notes on installation techniques and maintenance so that municipalities can use the approach confidently.

https://www.facebook.com/BioFloat

https://estlat.eu/en

https://www.sei.org/projects/biofloat-eng/

Photo made by: Kristine Plinta, Inga Retiķe, Anette Parksepp