



PROJECT BJÖRKSKÄR

ANNUAL REPORT

2024

MARINE
BIODIVERSITY
TAKES SPACE!



FOREWORD

When you don't know exactly where to start, perhaps the best thing is to just start. At Björkskär, we started by putting objects in the sea and seeing what happened. We learned through mistakes, experimentation and constant adjustment - a method that has proven effective when exploring uncharted territory. After two years, we have gathered invaluable lessons and made mistakes that have led us to new insights and ways of working.

However, the most important thing has been to get others to think together with us. Demonstrating something in practice brings understanding, engagement and ideas from others that help us think in new ways. Solving new problems requires new ways of thinking; otherwise we just end up in old patterns.

A key insight for me, after decades of working on nature issues, is that we are approaching a point where increased biodiversity can become a commodity through, for example, biodiversity credits. This does not diminish the intrinsic value of nature, but gives us new resources and tools to halt biodiversity loss and perhaps even reach out to those who understand the value through the euro better than through species indexes.

So, can we now build a nature-positive wind farm north of Åland? I do not know. But we are much closer to a solution now than two years ago. We know what questions remain, what we need to understand and test. We are on the right track, even if we do not yet have all the answers.


Lotta Nummelin - OX2 Åland



“We must plant the sea and herd its animals using the sea as farmers instead of hunters. That is what civilization is all about - farming replacing hunting.”

- Jacques Yves Cousteau

HIGHLIGHTS 2024



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LOCAL INNOVATION

“Solution-oriented problem solving characterizes our work when we are out on the waters around Björkskär. The results of 2023 provided insights into how we can improve our pilots to achieve even better results for the future. Thus, 2024 has been marked by deeper innovation and modifications of previous tests. In 2024, Björkskär's algae cultivation rig saw the light of day, we improved our natural propagation boxes, and prototypes for our very own underwater marker buoys were developed. Innovation continues to move forward.” - Joel, Under Ytan



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PROJECT BIOBUZ

“At the beginning of the summer we launched a new project “Nordic BioBuz”. The project is funded by Nordic Innovation with the main aim to develop biodiversity credits and frameworks for an integrated business model for offshore wind. We are excited to bring in complementary and new expertise from the Research Institute of Sweden (RISE) and the Swedish University of Agricultural Sciences (SLU), all enthusiastic to explore synergies between offshore wind, low-trophic aquaculture and ecosystem enhancement services in the Baltic Sea.” - Magnus, Nemo Seafarms



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BJÖRSKÄR ON STAGE

“2024 was our first year on tour and we participated in a number of conferences during the year, and even made a digital stage performance in Riga from the 'research cabin' on Björkskär. The right perspective was chosen when we set out to test as many small pilots as possible in 2023. This has meant that the learning curve has been high and broad, which in turn has been appreciated by many actors in the blue economy around the Nordic region and Europe.” - Lotta, OX2

BIODIVERSITY ENHANCING SERVICES

Biodiversity establishment with ropes and nets

Ropes and nets are one of our main allies when working to increase biodiversity. Because they are cost-effective, low-tech and easy to scale up, we have tested a range of biodiversity enhancement methods. Their different shapes, sizes, materials and flexibility make them easy to work with and we have the opportunity to work with natural materials for the future. Ropes and nets can also be adapted to a range of structures with simple modifications, and in combination with wooden structures we build local solutions.

Biodiversity credits for the Baltic Sea ecosystem

In line with international commitments, we want to explore opportunities to channel investments to ecosystem and biodiversity enhancement measures within wind farms. Biodiversity credits are an exciting opportunity that we see as an important part of the future marine multi-use areas. Can team Nordic Biobuz together with Nordic Innovation create the first biodiversity credits in the Baltic Sea? We are aiming for it.

BJÖRKSKÄR FACTS



Our nature-based solutions help increase biodiversity and increase the resilience of the Baltic Sea to climate change. In this way, we also support the UN Global Biodiversity Framework.



The EU Nature Restoration Law entered into force on August 18, 2024, requiring 20% of all marine areas to be restored by 2030. Offshore wind energy and coexistence will have a key role in this law as well.



Biodiversity and ecosystem services will be relevant in the spatial planning of marine wind farms. By actively testing services now, we are creating a toolbox for the future.

SEAWEED AND MUSSELS



With a focus on propagation

The work on propagating macroalgae in both natural and laboratory environments is progressing. We have developed new tools and methods with a continued focus on gutweed, bladderwrack and sea lace. At the same time, we keep our eyes open for new potential species. Compared to the open seas, the Baltic Sea has far fewer species of algae, but even here hidden gems can be found. In true Björkskär spirit, we continue our open collaboration with various partners to develop propagation protocols for Baltic Sea species.

The blue mussel as a keystone species

Blue mussels never cease to amaze us in our work. Either they appear or they are absent. What we have learned after two years is that they will show up, it's just a matter of time. Once they are in place, there is almost an explosion of mussels on the tests and pilots we conduct. We have taken advantage of this knowledge and today we can say that mussels are and remain a key species in our measures to strengthen the biodiversity of the Baltic Sea on everything from foundations, underwater cables and free-standing artificial reefs.

BJÖRKSKÄR FACTS



During the breeding period in early summer, bladderwrack can attach to a variety of 'substrates', hard surfaces or materials. In August this year, we finally got to see baby bladderwrack on our rope coils.



The cultivation of bladderwrack and gutweed in the Baltic Sea is being tested. But have we overlooked two fast-growing species, cladophora and sea lace? Being able to cultivate these is also important in the Baltic Sea.



A lot of focus has been put on the cultivation of blue mussels in the Baltic Sea as a raw material. But it also fulfills an important ecological role for most of the Baltic Sea's species and here lies our focus, in strengthening the population.

COMMUNICATION AND PARTNERSHIPS



Project Björkskär on tour

Throughout the year, we have regularly participated in conferences around Europe as panelists, speakers and with information material about our work. Our biggest participation took place during Mission Restore Our Oceans in Brussels where we had the opportunity to influence our decision makers in the EU Parliament on the importance of the blue economy. We have constantly highlighted the role of the Baltic Sea and the work we do as one of the key actions to meet our common biodiversity and climate goals through coexistence.

The Baltic Sea Partnership is growing

Project Björkskär is creating a bigger ripple effect and thanks to our strong communication efforts, the Björkskär concept has found its way into ever wider networks. The feedback we receive is positive and interest is growing. These factors culminated in the start of a new project, Nordic BioBuz, and thus new partnerships with RISE and SLU from Sweden. Right from the start, Project Björkskär has advocated open collaboration between business, the public sector and research, all to benefit the development of a sustainable blue economy.

BJÖRKSKÄR FACTS



This year we have presented at Cool Blue events, Mission Restore our Oceans and Waters, Blue Mission Banos Riga & Amsterdam, Deep tech Riga, Almedalen Gotland, Submariner Network Berlin and others.



We are constantly looking for new project partners who can contribute to deepen our development of marine coexistence areas. If you have something in mind, do not hesitate to contact us!



Join us on our journey!



Projekt Björkskär

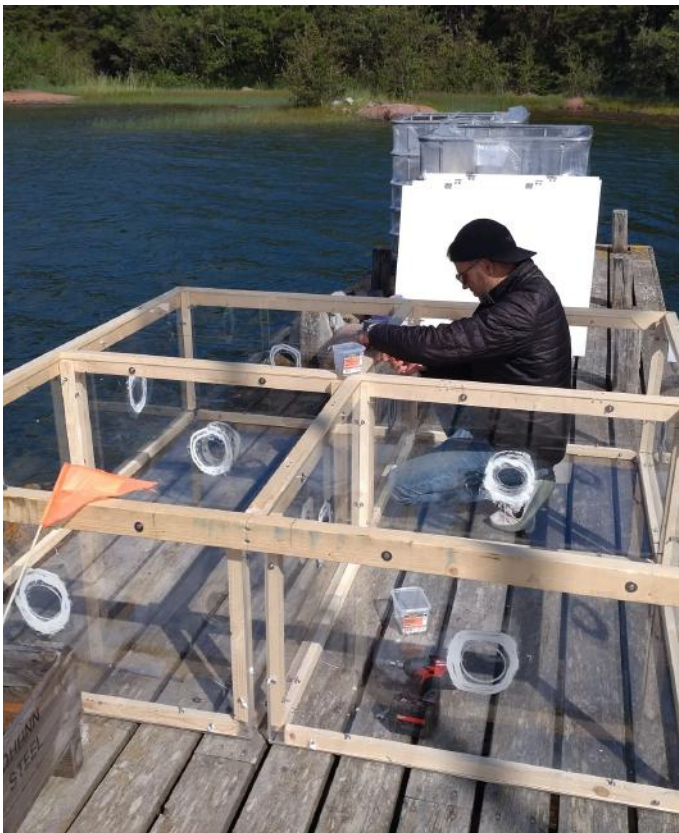
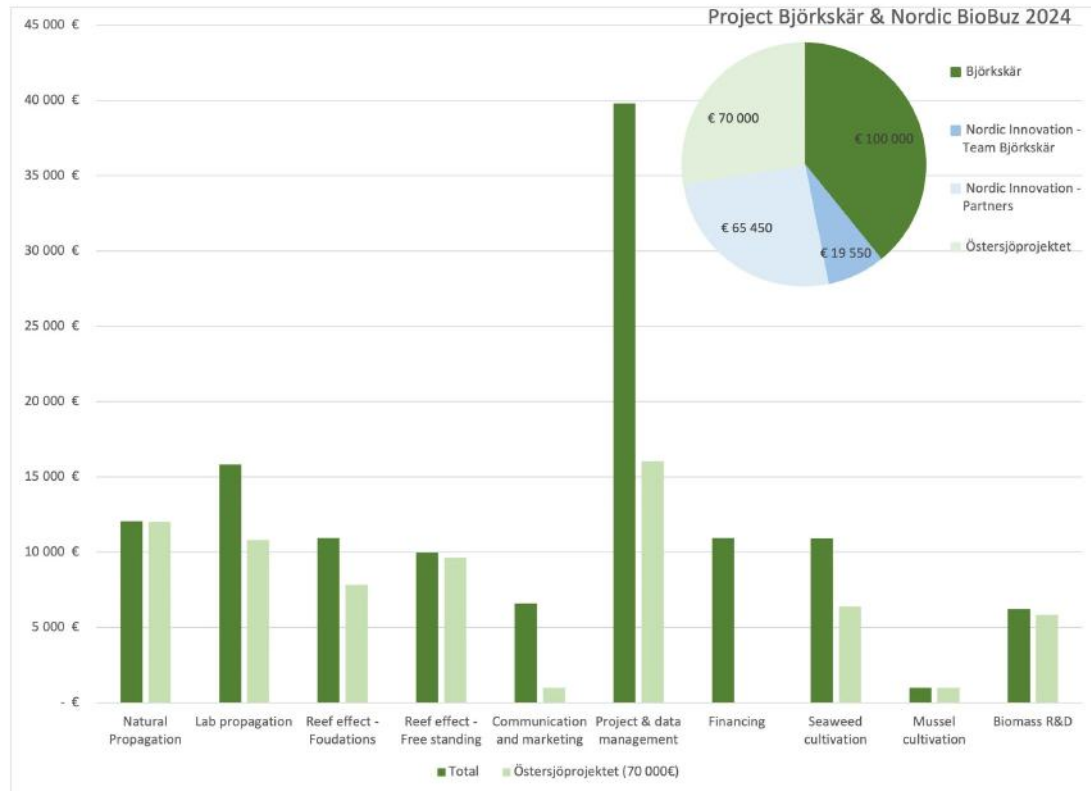


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2025 - ECOLOGY BECOMES ECONOMY

Implementation of innovation

The total budget for the umbrella Project Björkskär 2024 increased to 255 000€, compared to 120 000€ in 2023. Our work packages are divided into: Natural Propagation - Algae, Natural Propagation - Mussels, Lab Propagation, Reef Effect - Foundation, Reef Effect - Free Standing, Biomass R&D, Communication & Marketing, Project Management & Financing, and Seaweed & Mussel Cultivation. The chart on the right shows the budget for the different items.



TOTAL BUDGET 2024:

255 000 €*

**Of which 70 000 € was financed by the Baltic Sea Project
Of which 85 000 € was funded through Nordic Innovation

Implementation and innovation are the guiding principles for 2025. We are ready to build the business case based on the lessons learned from our two previous years. Biodiversity monitoring technologies and biodiversity credits are being developed together with our partners. Blue innovation, blue food and market introduction will be the core strategy for 2025 with a toolbox filled with tools for enhanced biodiversity through coexistence with offshore wind. Linking marine ecology to the economy will increase the opportunity for investments in Baltic Sea enhancement measures where incentives were previously lacking. **2025 gives us the opportunity to become a leader in our field in the entire Baltic Sea region.**

MANY THANKS TO OUR PARTNERS



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