

The Baltic Sea Youth Expedition



Baltic Sea Youth Dialogue 2021 project by Ilja Belovolovs, Zuzanna Burzec & Justina Jemeljanovaite

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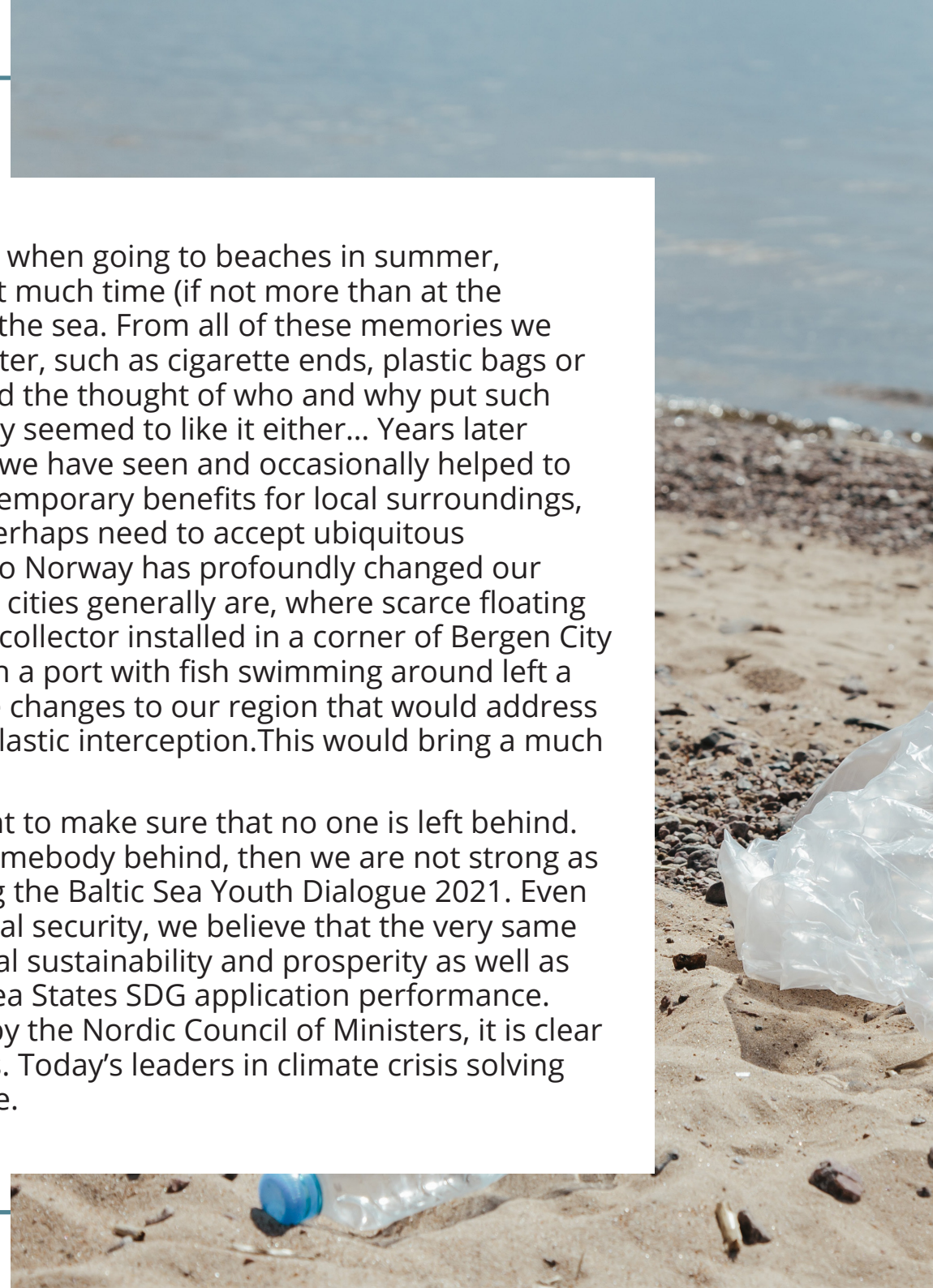
We believe that Baltic Sea region's prosperity and sustainability, especially in the future, depends on collaboration among the youth. But we've spent enough time talking. Now it's time to put the words into action. That is why we propose to organise a youth expedition where the young people would get theoretical and practical knowledge as well as hands-on experience with marine pollution reduction in various Baltic Sea region countries. Our wider ambition is to make sure the vast majority of plastic litter found in rivers is removed before it reaches the Baltic Sea. This is what The Baltic Sea Youth Expedition stands for.



Introduction

Our connection to the Baltic Sea originated in early childhood when going to beaches in summer, swimming and building sandcastles there. We have also spent much time (if not more than at the seaside) exploring river banks near home, further away from the sea. From all of these memories we recall that we often hated encountering any anthropogenic litter, such as cigarette ends, plastic bags or glasses. From an early age, we could not get our heads around the thought of who and why put such rubbish in huge amounts everywhere, especially when nobody seemed to like it either... Years later we still have not fully resolved this logical dilemma, however, we have seen and occasionally helped to remove some of this debris from our shores, which brought temporary benefits for local surroundings, until the next storm... For years, we believed that we would perhaps need to accept ubiquitous environmental pollution, but our team member's recent trip to Norway has profoundly changed our position, because he saw how disciplined locals and clean the cities generally are, where scarce floating plastic debris was being intercepted by a small portable litter collector installed in a corner of Bergen City Centre Harbour. Seeing almost pristine-looking clear waters in a port with fish swimming around left a long-lasting impression and drove our desire to bring positive changes to our region that would address the root of the problem, being societal attitude and riverine plastic interception. This would bring a much greater benefit than just regular beach clean-ups.

When strengthening Baltic Sea regional identity, it is important to make sure that no one is left behind. "Society is only as strong as its weakest link and if we leave somebody behind, then we are not strong as a society" – was an idea expressed by Stephanie Young during the Baltic Sea Youth Dialogue 2021. Even though this was said in a context of youth involvement in social security, we believe that the very same approach can be applied both in youth involvement in regional sustainability and prosperity as well as Baltic Sea states. The latter is critical in the context of Baltic Sea States SDG application performance. Looking at the "Baltic 2030: Bumps on the Road" publication by the Nordic Council of Ministers, it is clear that countries in the region have different performance levels. Today's leaders in climate crisis solving are emphasising on the importance of collaboration. So do we.



Problem definition

Due to the increasing consumption of plastic products across the globe, macroplastic pollution contributes to approximately 60-80% of all marine litter (Maximenko et al., 2019; Themistocleous et al., 2020). Macroplastic pollution, which comprises of plastics greater than 5mm, poses serious threats to marine environment. There is evidence that plastic patches alter ecosystem processes as well as having serious implications for marine **animal health** and, in the instance of seafood consumption, **people**. Furthermore, macroplastics are subsequently sinking and being broken down by environmental processes (UV, storms, plastic object friction) into potentially hazardous microplastics, which **release toxic chemicals**, such as colourants, plasticisers and stabilisers (Maximenko et al., 2019; Steer and Thompson, 2020). Therefore, ocean plastic is increasingly projected to be stored as micro and nanoplastics, which are difficult to detect and **practically impossible to remove** from the ocean (Steer and Thompson, 2020). As only 15% of total marine plastic litter is found at marine water surface, with **most plastic stored in the water column** or on the ocean floor **where it is inaccessible** for large-scale removal, it is imperative to remove floating debris even **before it reaches the sea** (and spreads out) as it would make such process as cost-efficient as possible (Maximenko et al., 2019). If not, progressively more plastic will remain on

the ocean floor or would be washed onto the beaches and buried in the sand for centuries and will gradually decay into finer particles thus contaminating vulnerable ecosystems. (Themistocleous et al., 2020).

Moreover, as the **Baltic Sea** is only connected to the ocean via narrow and shallow Danish Straits, it is **prone to plastic debris accumulation** within it as plastic is unlikely to be exported through the Straits, at the same time this could be **turned into the advantage** because successful **plastics interception** at Baltic Sea basin **rivers**, which were found to be major plastic pollution sources (Schernewski et al., 2021; Schmidt et al., 2017) would result in significant sea cleanliness improvements regardless of the situation in the Atlantic Ocean.

Our proposal would enable us to efficiently remove plastics before it enters the Baltic Sea and hence the ocean, helping towards the achievement of the 14th Sustainable Development Goal, Life Below Water, which aims to prevent and significantly reduce marine debris by 2025 (UN, 2021). As the United Nations has proclaimed 2021-2030 the Decade of Ocean Science for Sustainable Development, the initiation of this mission is especially significant and important to reach the outlined goals (Intergovernmental Oceanographic Commission, 2018).

Concept

The Baltic Sea Youth Expedition is a long-term project that would gather the youth (18-30 years old) from across the region every summer for 8 days. The Baltic Sea Youth Expedition is going to welcome 25 participants, 2 from each CBSS member state (22 participants) with additional 3 places for the talents that deserve to attend the project regardless of which CBSS member state they come from. The project would take place in two different countries every year, with 4 days dedicated to each country.

To foster collaboration in the region, the two countries are going to be selected based on the issues regarding the Baltic Sea and their performance on SDG no. 14 – Life Below Water. This is going to enable knowledge and experience sharing.

As the Expedition aims to attract both people who are already aware of the sustainability issues and the ones that are yet to learn it, the project aims to both educate the youth and give a deeper insight into problems and solutions that the region is facing and give a hands-on experience.

Additionally, the Baltic Sea Youth Expedition is going to be a part of other CBSS youth-related projects such as The Baltic Sea Youth Platform, The Baltic Sea Youth Dialogue, The Baltic Sea Youth Camp and continue empowering the youth.

“Tell me and I forget, teach me and I remember, involve me and I learn.” – Benjamin Franklin

Education

To help the youth gain deeper insight into the issues in the Baltic Sea region, meetings with local organisations and businesses working with the prosperity of the region are going to be organised. This type of education would not just give participants information, but also put it into practical perspective, with a possibility to see real-life examples of problem-solving and get to talk to people working in the field.

Problem-solving

The problem-solving is going to consist of two parts – hackathon and hands-on action.

Hackathon

The hackathon is going to take place towards the end of the Expedition. The hackathon would empower young people to put the knowledge they gained during the project into innovative solutions and get the participants thinking. For instance, hackathon could develop plastics collector crowdfunding strategy or public outreach concept that would help modify peoples' littering behaviour. On top of that, it would foster the youth collaboration as the teams would be international, thus knowledge-sharing would be enabled.

Young people's visions are bold. And this is what we need to save the planet. Not to miss the great potential that can come out of the hackathon and to foster not

only international youth collaboration, but also cross-generational and cross-insititutional collaboration, the solutions would be evaluated by a jury consisting of people working with sustainability from different perspectives – non-governmental organisations, businesses, politicians, academia. This would enable great ideas to be noticed and potentially implemented.

Hands-on action

Although talking about solutions and developing them on a theoretical level is important and is helpful to understand the bigger picture of issues, talking alone is not enough. Therefore, the project would involve the youth in practical activities. It could be a lot of things based on the local situation – campaign, petition or declaration creation to bring awareness of local citizens or policy-makers, participating in environmental clean-ups, most importantly, around river banks and sea coast. And lastly, participating in plastic collectors (See Table 1) installation in urban river stretches.



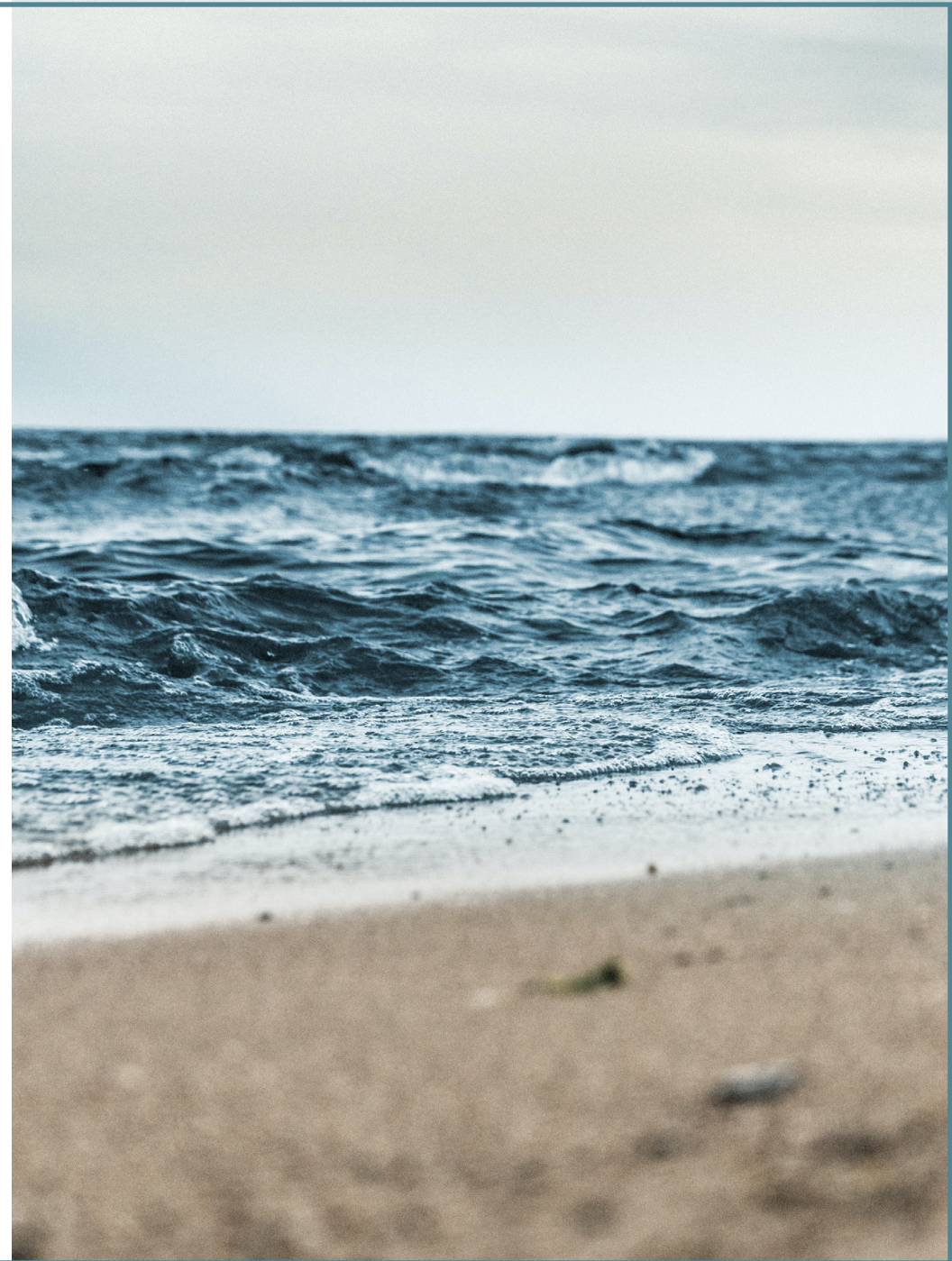
Estimated prices for transportation and contrivances

Transportation

One of the main ideas of our expedition is the possibility for participants to gain hands-on experience in numerous locations in the Baltic Sea Region. In order to achieve that, we want to introduce low-cost and quick means of transportation. Two solutions prepared and tested by us are buses and ferries. The second option creates additional opportunities, such as integrating or conducting lectures for participants. We created an example of an expedition route on board of a ferry: Stockholm - Turku - Mariehamn - Tallinn.

The price for such a route for 27 persons is approximately 3,054 Euros, with no group nor child discounts taken into consideration. Naturally, the cost highly depends on the date, the number of participants, and destinations. Although, we believe that with help of experts in the field of logistics, the whole process of planning would be more accurate and easy to prepare.

On the other hand, hiring a bus could make the entire expedition more independent. The only limitation in comparison to ferries is the lack of possibility to travel across the sea. Nevertheless, both solutions complement each other and combined could provide many benefits, as it is impossible to change ferries' sailing schedules.



Contrivances

As part of the expedition is a direct involvement in reducing the concern of floating debris ***before sinking to the bottom*** of rivers or the Baltic Sea, our goal is to use floating collectors during the expedition and in the future, donate them to local environmental organisations to continue the cleaning process in certain areas. In order to achieve that, we were planning on introducing either of two floating debris collectors found during our research.

They are different in many aspects, and each can be used in various reservoirs to match the expedition's requirements.

The first debris collector is the ***Seabin V5*** designed by the Seabin Project. It is created to work in calm environments such as marinas, yacht clubs, and ports to collect floating debris, micro, and macro plastic. Moreover, the Seabin V5 is able to capture contaminated organic matter, including leaves or seaweed. It is made of recyclable materials, and the annual estimated amount of debris collected is ***1.4 tons***.

The diversity of this floating garbage bin would allow members of the expedition to not only use it in one place but, most importantly, transport it to various locations with the help of transport companies. The cost of the Seabin V5 equals approximately 3,300 Euros and the running costs are around 3 Euros per day.

The second trash skimmer we chose as an option for our project is the ***Versi-Cat Trash Skimmer Boat*** created by the Water Witch. It is a world leader in waterway cleanup operating across the world with some 100 vessels currently in use. The design and idea of Versi-Cat are completely different from the Seabin V5. It is able to move from one location to another in order to collect debris in larger quantities. Not only is it able to clean ***marinas and ports***, but also ***rivers, bays, and coastal areas***. It gives greater opportunities to areas strongly affected by water pollution. Moreover, a small draft is a significant factor for working in shallow areas where pollution is often drifting. The models of such boats vary in terms of, for instance, length or operating range which could be matched directly to demanded requirements. The average cost of a Versi-Cat Trash Skimmer Boat lies in a range from 23 to 64 thousand Euros per unit depending on the different technical specifications.

Both companies have long experience in the field of water waste reduction, as well as cooperating with successful projects around the world. One of the most important values of both of these designs is the most possible low carbon footprint, emissions operation, and running costs as well as maintenance.

See the next page for the table with the most important details are summarised.

Table 1. Plastic collector technical details (waterwitch.com, 2021); (seabinproject.com, 2021).

Technicalities → Trash skimmer models ↓	Price Range (€)	Suitable body of water	Debris storage capacity	Type of pollution collected
The Seabin V5	~ 3,300	Marinas, ports, yacht clubs, calm water environments	Up to 20kg	Micro and macro plastic, organic matter
The Versi-Car Trash Skimmer Boat	~ 23,000-64,000	Bays, ports, rivers, coastal areas	Up to 1,000kg	Small plastic items, organic waste

We are aware of the fact that it is not always easy to obtain such a budget. Although, there are many possibilities to acquire the amount that is needed. To address the issue of collecting money, we came up with the idea of fundraising in order to get the resources important for the Expedition.

Conclusion

We see the Baltic Sea Youth Expedition to be a long-term cooperation project benefitting the Baltic Sea Regions as well as the participants. The establishment of the Baltic Sea Expedition is the first, yet crucial step, to initiate large-scale societal and plastic pollution management shifts that would address the root of the plastic pollution crisis. This would result in profound plastic pollution reduction in the Baltic Sea once the initiative scales up.

The outcomes of the expedition are tremendous – not only would it enable international knowledge-sharing among the Baltic Sea region youth, but also educate them and empower to develop their own solutions as well as contribute to the reduction of the Baltic Sea region's pollution practically.



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2021