

**HOLD  
DANMARK  
RENT**

# Sea Bins

**Collection of voluntarily hand-picked  
marine litter on the Danish coastline**



**Evaluation report 2020**



# Thats why!

The term, marine litter has gradually moved into our Danish vocabulary, but there are still many of us who cannot imagine our local waters containing litter. Most people think that it is something found far away and under more exotic skies. However, this is far from the case. Marine litter has been washed up on our coasts for



many decades and it is primarily the coasts by West and North Jutland who gets the largest quantities. Depending on the weather and wind, up to 1000 tons come in annually with the waves, and it is subsequently the task of the different municipalities to have it removed and brought for

processing.

For the past 3 years, Hold Danmark Rent has carried out the Nordic Coastal Cleanup Day, which is a joint Nordic campaign with participation from all over the Nordic region. The purpose of the campaign is to highlight the challenge of marine litter and to motivate a voluntary effort on the cleaning the coasts. Over the years, more

than 200,000 volunteers have participated across the Nordic countries.

As part of the campaign, Hold Danmark Rent was allowed in 2018 to continue working on an idea that originally arose in the municipality, Ringkøbing Skjern. Here an attempt had been made to place Sea Bins on the beaches, so that the guests of the beach could easily get rid of the marine litter that they had to find on their way. The idea was not only good – it's brilliant!

In an intuitive and at the same time discreet way, the beach's many guests are invited to participate in a co-creation with the municipalities for a cleaner beach environment, as the Sea Bins, by their mere presence on the coasts, sends a signal that there is a system that handles this issue and everyone can easily contribute to, exactly when it suits them.

Ringkøbing Skjern is not the only municipality that welcomes the success of the Sea Bins! Now there are Sea Bins in Jutland from Esbjerg in the south all the way up to Skagen, in the north and on the coasts of the Great Belt in the municipalities Slagelse.

In this report, we take a closer look at the concept – supplemented by the operating results from 2020.

## Marine litter

**In 2015, Hold Danmark Rent published the report "Littering – strategy and tools". In this report, Anders Zorn, Master in Science in Marine Biology, participated with an article. Here is an excerpt from that article:**

Marine litter is the waste found in the ocean. Approx. 80% of all marine litter is plastic and it is said that 80% of this plastic litter found in the world's oceans comes from land.

It constitutes enormous quantities that, among other things, accumulate in two "Islands" of plastic floating around the Pacific and Atlantic Oceans. Their scope has grown so much that they today correspond to almost 700 times the size of Denmark – and they pollute our air, drinking water and food.

The Atlantic segment is believed to be approx. 2,000 km in length, which corresponds to the distance between Copenhagen and Madrid, in a straight line.

If it seems incomprehensible, then know that the Pacific Ocean segment, whose area is believed to correspond to Africa – meaning the plastic island in the Pacific Ocean, whose total area corresponds to over 30.000.000 km<sup>2</sup>, or almost 700 times the area of Denmark. It will take 300 – 400 ships approx. 20 years non-stop 24 hours a day to remove this plastic soup.

The sources of plastic pollution are many, and occur quite impractically also in our everyday lives, without us necessarily knowing about it. Plastic fibers are used extensively in the textile industry and you will also find plastic in skin lotion and shampoo. A Treatment Plant to retain micro plastic fibers in sewage has yet not been built. The result is billions of microscopic plastic fibers are discharges unhindered into our marine ecosystems.

Other sources of plastic pollution are shipping and drilling rigs. However, 80% of plastic pollution comes from terrestrial ecosystems, especially large cities.

Millions of disposable bottles with colorful screw caps are disposed of, all over the globe, and where the plastic bottle may end up in subtropical Gyro (ocean current) in the Pacific Ocean, the screw cap – due to its size, color and shape – risks ending up in the digestive system of marine mammals and birds.



# The ingenious idea was shared

Knowledge and experience is a good thing, but even better when shared with others. In this context, the ingenuity of an attentive operations manager became the basis for a new concept that all year round creates an environmental benefit and human enthusiasm along many hundreds of kilometers of coastline in Denmark. It all started in 2015 and there are many indications that the concept will continue its development in the years to come.



## The idea started in Ringkøbing Skjern

Experience shows that for many years there have been guests along the west coast of Jutland who have been concerned about the marine litter that was washed ashore. Larger and smaller piles of litter were often observed left by local citizens and tourist enjoying nature. But in 2015, the operations manager in Ringkøbing Skjern municipality, Leif Steen Andersen, chose to take action of good intentions. He placed recycled plastic bins in places where piles of litter often occurred. The bins were welcomed and quickly filled as intended. After Leif retired, his successor chose to continue the line of work, which led to the current and more environmentally proven variant produced from recycled wood, which also fits better into the wild nature.





### Distribution to other municipalities

The different municipalities are obligated to keep their beaches and coasts free of litter, as already mentioned. But even though the obligation and responsibility is the same for all, the methods very diverse. Among other things, it has to do with how the coastline behaves, whether it is flat and sandy or rocky and hilly. The same for everyone however, is that the coasts are publicly accessible and visited by many thousands of people all year. That's why it's a good reason to share the very positive experience from Ringkøbing Skjern with the surrounding municipalities. Hold Danmark Rent got the chance to take on this assignment, and in 2018 the concept became part of the already existing collaboration on the Nordic Coastal Cleaner Day, which in addition to the Sea Bins, also includes events, shared communication and knowledge on the subject.



### Dispensation from the Coastal Directorate

The Coastal Directorate writes the following on their website: "Denmark's beaches and coasts are unique, and many recreational interests are linked to them. In some places, the coasts contain animal and plant life that must be taken into account. The coastal areas in Denmark are protected by the regulations, concerning beach and cliff protection, of the Nature Conservation and Protection Law. With this legislation in mind, it was necessary to obtain a permit for the setting up the Sea Bins, as most of them are placed within the conservation and protection line. In 2018, Hold Danmark Rent began the coordinated application on behalf of all participating municipalities and in the autumn of 2019, a dispensation was granted. At the time of writing, a complaint is being submitted by Frederikshavn municipality, as several of their Sea Bins did not receive necessary dispensation.



### A sponsor was involved

The Sea Bins are owned and operated by the municipalities, which therefore are responsible for the operation and maintenance of the concept locally. Hold Danmark Rent coordinates the joint investments and communication that is needed. In 2019, the local company WestWind spotted the concept and wanted to support it with the revenue from shopping bag sales in their 26 stores along the west coast. To open up to for a commercial collaboration was a joint decision made by the municipalities and Hold Danmark Rent and in 2020 WestWind was invited to join the concept. The company is visible on the Sea Bins with a QR code, which upon scanning opens an information page that partly tells about the concept, but also informs about the partners involved.

# A wodden box, - that simply!

There is a great potential for volunteering in Denmark when it comes to the green environment agenda. A lot of citizens want to help make a difference and the more concrete and local the deed is the better. But when it comes to co-creation between systems and people, the best effort is to make the elements and process as simple and intuitive as possible.

If the project becomes too complicated and difficult, people will back away from participation and lose interest. The Sea Bins on the coastlines have never been marketed. Neither the municipalities nor Hold Danmark Rent have yet made a purposefully marketed campaign to spread knowledge of the concept. And still the Sea Bins are filled daily with tons of litter!

The reason must be found in the fact that the Sea Bins are the answer to an immediate need that arises spontaneously in the individual beach guest, who intuitively follows an urge to pick up litter and subsequently dispose of it. So it's not crucial whether the Sea Bin is green or blue or whether it tells the story, what's important is it's there and easy to find.

So the fact is that a simple Sea Bin in recycled wood can mobilize thousands of Danes and tourist to take personal part in a joint effort toward a clean and litter-free mother nature.







## Dimensions and Materials

The Sea Bins are produced from recycled wood that has previously been used for freight pallets. The wood is therefore already impregnated and has a good durability and resistance to wind and weather.

The dimensions of a Sea Bin are: H 90 x L 120 x W 100 cm. It has a double bottom of 2 freight pallets, which makes it easy to lift of the sand with a pallet lifter when emptied. The future design will be complemented by fine-threaded net in the bottom of the Bins that will ensure no small pieces of litter falling out. However, it is still important that the sand can pass and not accumulate in the Bin.

## Signage and communication

On the Sea Bins you will find a sign that communicates "Strandingsaffald" in Danish, German and English, in addition a pictogram and pictures of marine litter. The signs are made of weather-resistant material that takes into account water, wind, sun and sand. The signs also show the municipalities and Hold Danmark Rent's logo, as well as a QR code that leads to information about the concept.



## Operation and Maintenance

The Sea Bins are owned and operated by the individual municipality, and therefore they are responsible for ensuring that the bins are in good condition at all times and most of all are emptied. Many of the Sea Bins are located on the coasts all year, as the collection of marine litter is not seasonal.

The Sea Bins placements are very important, both in terms of flow of people but also due to wind and weather. A winter storm can easily take a Sea Bin to sea. The Sea Bins are inspected by the municipality on a weekly basis, and in the high season it is not unusual the Sea Bins has to be emptied several times a week. Some Sea Bins are emptied by hand, while others are emptied with a tractor, pallet lifter and wagon.

## The location of the Sea Bins, in Denmark

To get a good picture of how many Sea Bins the municipalities have and the collected amounts of marine waste, both through the Sea Bins, but also the total collected from the municipalities' coastline, in the period April 1 to September 30 2020.

Municipality	Number of Bins	Litter in Bins (tons)	Litter in total (tons)
Slagelse	6	1,3	4,5
Esbjerg	6	0,5	4
Varde	5	8*	110,5
Ringkøbing Skjern	59	86,6	145,3
Holstebro	14	22,5	25
Lemvig	11	45	50
Thisted	20	10	30
Jammerbugt	8	5,5	12
Frederikshavn	22	22	30
<b>Total</b>	<b>151</b>	<b>201,4</b>	<b>411,3**</b>

\*The Sea Bins in Varde municipality are not placed on the coastline during the summer. The stated quantities are therefor from the period January to March 2020\*\* 411 tons of marine litter in just one period is less than normal. Weather and wind conditions play a big part in this.



**The Sea Bins have removed 49% of the marine litter from the coastlines in 2020.**



**A Sea Bin collects an average of 1,3 tons of marine litter in one season.**

**See the location of the Sea Bins on the map of Denmark via this [link](#)**



## Types of litter collected in the Sea Bins in 2020

The majority of the litter collected in the Sea Bins is marine litter, meaning litter that has been washed in with the sea. This type of litter is characterized by being relatively dirty and damaged and therefore a challenge to both sort and recycle.

However, important and exciting developments are taking place on this subject, which now are beginning to open up new possibilities, so this type of litter can also be part of a sustainable cycle. You will find a list below that shows what litter is commonly found in a Sea Bin.

A fraction that is not shown is "Other Litter". For example, renovation litters. This represents an average numerically 6% and 5% by weight of the contents of the Sea Bin.



### Hard Plastic

Facts: by number **40%** and by weight **27%** of the total contents in a Sea Bin.



### Soft Plastic

Facts: by number **23%** and by weight **23%** of the total contents in a Sea Bin.



### Metal

Facts: by number **1%** and by weight **3%** of the total contents in a Sea Bin.



### Glass

Facts: by number **1%** and by weight **5%** of the total contents in a Sea Bin.



### Rope

Facts: by number **27%** and by weight **10%** of the total contents in a Sea Bin.



### Wood

Facts: by number **2%** and by weight **27%** of the total contents of a Sea Bin.

The above facts are calculated based on random samples taken at various Sea Bins. An average filled Sea Bin is calculated to contain 770 pieces of litter, which weigh a total of 60 kg.

# Sea Bins, Important Focus!

*"Far more small litter is collected. And most importantly perhaps – it is picked up in the areas where the Sea Bins are located. It is great value. Small litter on the beach and litter in the areas around the Sea Bins would never be collected by the municipality. Everything comes in the same pallet bin, but the employee sorts out large litter before emptying the Sea Bin. Cans neon tubes, plastic boxes ect."*

**Hanne Lauritsen, Outdoor Consultant,  
Frederikshavn Municipality**



## Special experience points from 2020

On the basis of a close dialogue with the municipalities' operations departments, some special points of experience have emerged that has shown to be central to the concept, see below. We all bring the experiences with us, - both in the daily operational optimization, but also in connection with the further development of the Sea Bins in general.



### The Sea Bins location on the coasts

There is broad agreement that the location of the Sea Bins are of great importance for their efficiency. Most of the Sea Bins are located at the entrance and descents to the beach - that is, where there is a large flow of people at all times. These Sea Bins are filled with higher frequency than other bins that are more desolate.

However, there is a tendency for these Sea Bins to also attract litter other than marine litter, overall that's not necessarily a bad thing. The municipalities have a big wish to utilize the Sea Bins flexible in relation to their location, so they are moved to where they are needed. Experiments show with great clarity that if a Sea Bin is placed somewhere on the coast where a storm has washed a lot of litter up, the litter will quickly find its way up into the Sea Bin. This is an immediate act.

### Operational and Environmental Benefits

There is no doubt that the Sea Bins are an operational gain for the municipalities. Even though resources are spent on inspecting and emptying the Sea Bins, there still is a profit in relation to the fact that the municipalities, would have to remove all litter from the beaches anyway. Not to mention the higher coastlines, which the municipality already does not have the resources to clean. The places where the municipalities have used beach cleaning machines, there is a positive gain in relation to the purity of the litter (read: filled with sand). When the litter is hand-picked, it is shaken free of sand, which overall has an influence on the municipality's settlement price to the waste companies. This may be marginal, but nonetheless also an environmental benefit.



### Co-creation locally

All municipalities report exclusively positive feedback from their local area in connection with setting up their Sea Bins. Landowners, local traders, business partners, tourist and citizens, all have the same positivity. The concept is generally perceived as a strong environmental signal to the outside world about responsibility and timely care. Half the municipalities have received direct inquiries from citizens and local businesses for more Sea Bins in their local area and an indication of where these can be set up with great advantage. Citizens also actively take part in letting the municipalities know if a Sea Bin is stuffed and in need of emptying. The tourists are enthusiastic and believe that the Sea Bins helps giving them an experience of a more sustainable holiday.

# Comments about the Sea Bins

"The short version: The Sea Bins are a big success!

I walk on the beach by Tannis Bay 3-4 km about 5 times a week, and have noticed how the easy access to bag, sack, as well as Sea Bins, have positively affected people's incentive to be a part in an ongoing effort against marine litter and active help clean the beaches. "

**Nils Holsko, a volunteer on the beaches.**

"The Bins works flawlessly! It has almost become a sport to get rid of the litter and fill up the Bins. I cannot remember that our local beaches have been this clean. But that's what happens when many people join a team effort. Each doing a little, can amount to a lot. Maybe it can spread to other parts of our local community?"

**Bruno Møller, owner of Skiveren Camping, Frederikshavn**





"The pallet bins project is an innovative concept and an example to follow. Hold Danmark rent has succeeded in developing an initiative that engages volunteers creates attitudes and is a source of knowledge about marine litter".

**Lise Keilty Gulbrandsen, Director Hold Norge Rent & CEO, Clean Europe Network.**



"The Sea Bins are an excellent initiative that Hold Danmark Rent is implementing on the West Coast of Jutland. After a 3 - year period, in which they have been tested, we can state that the pallet bins are a great success. KIMO has previously calculated that the municipalities collect an average of approx. 1000 tons of washed-up litter, from the coast via municipal beach cleaning. With the Sea Bins, the municipalities, with help of volunteers, can collect even more litter. The bins are visible and the purpose cannot be misunderstood. They are frequently used by local seasoned enthusiasts, Danish beach guest and tourists. The municipalities observe that it is especially large object that are collected in the bins and it is a great help to municipal employees who cannot be present on the beaches at all times. The bins have also become a natural partner with KIMO's Coastal Lottery, as a delivery point for garbage bags filled with smaller pieces of washed-up litter. The Sea Bins create the opportunity for a win situation for all, the municipalities, citizens, tourist and nature".

**Ryan Metcalfe, Coordinator, KIMO Denmark**



"Blue Flag is a global labeling scheme for sustainable operation of beaches, marinas,

tour boats and school ships, where in addition to the environmental angle is a focus on water safety and a high level of services. Well-functioning litter solutions, litter sorting and a high level of cleanliness characterize Blue Flag beaches, just as nature and environmental dissemination activities are also an important aspect of the Blue Flag program. The concept of the pallet bins intuitively combines the two aforementioned parts of the Blue Flag program. As a beach guest, you intuitively want to fill litter in the pallet bin. In addition to being a practical solution, the pallet bins also provide knowledge about litter on the beach, just as it entails a change in the behavior of the beach guests. That's brilliant."

**Bjarke Lembrecht Frandsen, Project Manager, Our Nature, Danish Outdoor Council.**



OMHU Hvide Sande is an environmentally and socially conscious project, who wants to contribute to increased awareness of the beaches on the Danish West Coast and the importance of clean beaches for the environment, economy and welfare.

We want to be a part of cleaning the beaches through beach cleansing, as well as creating a workshop with production, information and awareness about marine plastic and the washed-up beach litter on the west coast, through dissemination and recycling.

"The future products we create will all be made from stranded plastic litter and old fish boxes. The idea is to recycle litter into new and valuable products for the individual consumers, but also for the local areas along the west coast. The Sean Bins make a huge difference to keep the beaches clean."

**Katrine Kock Frandsen, head of OMHU, newly started ApS in Hvide Sande, Western Jutland.**





# Sea Bins

## The next steps

The Sea Bins concept is perfect timing as the green environment is on many people's agenda, and where outside influences increase the attention to closeness and togetherness (..from a distance - Corona!)

Never has it been more important to seize

the idea and the initiative and allow ourselves to be inspired by each other to create the local environment that we all appreciate and are nurtured by.

And the weathered Sea Bins have a bright future ahead of them. Based on a solid concept, we are ready to take the next natural steps, in a joint effort to make it all even better.

The level of knowledge must be increased to ensure that future tourist, who visit the Danish coasts every year, know the concept in advance and that this becomes a positive add-on when choosing their holiday destination.

Also we will make an effort to pursue the litter collected into the next stage, the re-processing process, so that we help ensure

as high a recycling value as possible.

And finally, we will look into the need for a Sea Bin on all the coasts of the country. Slagelse Municipality has delivered a very positive feedback, after one season with 6 additional Sea Bins. They are the first – outside West and North Jutland, to establish the concept and it has been exciting and educational to hear what they gained. We will now pass on this experience to more municipalities on the east coastline.

One of the most interesting elements in the establishment process regarding the Sea Bins is the innovation itself. We all follow the same dream – beaches and coasts being completely free of litter of any kind. If the idea is as good as we believe it to be, then it carries itself forward with the help of all the diverse inputs and experiences that the partners involved offers.

We at Hold Danmark Rent are humble and ever so grateful to be a part of this journey of creation working with so many inspiring people.







**Rapporten er udarbejdet af:**

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