

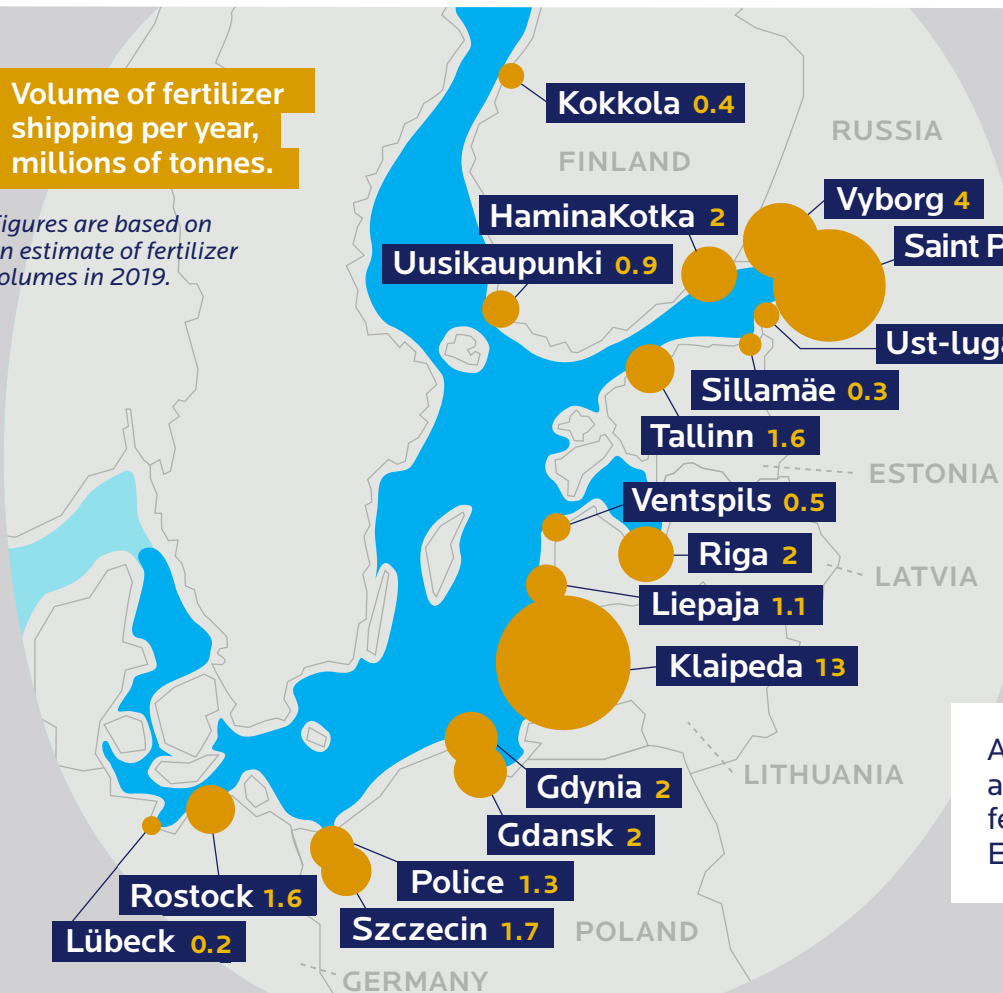
SEA TRANSPORT OF FERTILIZERS

poses a significant nutrient discharge risk in the Baltic Sea

Each year, more than 44 million tonnes of fertilizer pass through the ports of the Baltic Sea

Volume of fertilizer shipping per year, millions of tonnes.

Figures are based on an estimate of fertilizer volumes in 2019.



5,000 t
a ship's cargo of phosphorus fertilizer



2.5 t
lost to spillage, which is why

125 kg
of phosphorus end up in the sea, causing

125 t
of algae blooms to grow



A spillage of at least 0.5% is often permitted for fertilizer shipments. If even a tenth of this ends up in the environment, this would equal 2.5 tonnes of fertilizer for a 5,000 tonne ship, containing on average 125 kg of phosphorus. Ending up in the sea, this is enough to generate 125 tonnes of algae.

FERTILIZER SHIPPING PROJECT

www.johnnurmisenfaat.io



SEA TRANSPORT OF FERTILIZERS

poses a significant nutrient discharge risk in the Baltic Sea

Fertilizer can end up in the sea because of dusting, spillage during loading and unloading or washing of holds



Fertilizer will scatter in the air and fall off from a clamshell grab if the grab is in a bad condition, packed too tightly or opened too high up.



Fertilizer that is left on quays or loading area is carried away with rainwater to storm sewers and from there directly to the sea.



From uncovered conveyor belts, the wind can spread the fertilizer cargo to the environment.



If ports do not have adequate reception facilities for hold washing waters that contain fertilizers, they can end up in the sea.

Several tons of phosphorus and hundreds of tons of nitrogen in a year have been measured going to the Baltic Sea through the stormwater of a port. That equals the annual wastewater treatment discharges of a large city.

FERTILIZER SHIPPING PROJECT

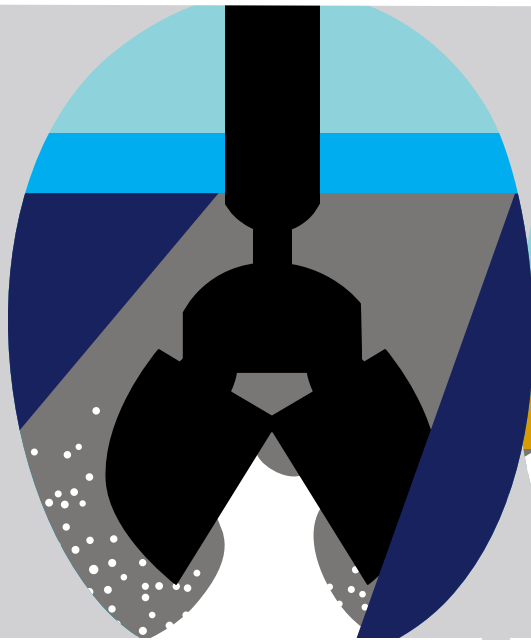
www.johnnurmisenfaat.io.fi



SEA TRANSPORT OF FERTILIZERS

poses a significant nutrient discharge risk in the Baltic Sea

Fertilizer discharges can be prevented with simple measures



The clamshell grab must be in a good condition. The grab should be closed tightly and opened as low as possible. It should not be overloaded.



When scattered fertilizer is cleaned up from the quayside and the loading area immediately after loading or unloading, the nutrients will not end up in the stormwaters.



In a closed loading system, fertilizers do not spread to the environment. The need for cleaning will reduce and loading can be completed even in hard wind.



If the holds are carefully cleaned for cargo residues before they are washed, far less nutrients will end up in hold washing waters.

*With these measures, a Swedish port was successful in reducing the nutrients that end up in stormwaters by **-65%***

FERTILIZER SHIPPING PROJECT

www.johnnurmisenfaat.io.fi

