SHIPPING POLLUTION

BalticSea2020

THE BALTIC SEA & MARITIME TRANSPORTATION - LESSONS TO LEARN

STUDY GUIDE FOR THE DOCUMENTARY SHIPPING POLLUTION

STUDENT COMPENDIUM

ULLA ARNBY
© OUR BALTIC SEA MEDIA PROJECT

Since 2007, film maker and freelance journalist Folke Rydén and photographer Mattias Klum have been working on the ten-year Baltic Sea Media Project, one of the longest-term journalistic film and media investments yet in Sweden.

In an innovative, entertaining and informative manner, 90 million people around the Baltic Sea will be made more aware of the threats and opportunities facing this Mediterranean Sea. *Shipping Pollution* is the fourth of five documentaries that will be created during the project.

The work will conclude in 2017 with a film that depicts the Baltic Sea, its inhabitants and ecology, over a ten-year period.

More information about the project is available at **www.saveourbalticsea.com**

BalticSea2020

BalticSea2020 is a private foundation that aims to turn developments in the Baltic Sea in a positive direction by 2020. This will be achieved through using a donation of SEK 500 million on concrete measures in research, opinion building and active involvement in projects.

It's needed. Otherwise, the quality of life for the 90 million or so people who live in the Baltic area will dramatically decline. And it can be done. Björn Carlson, who started the foundation, is convinced. He wants his donation to create a player that takes initiatives, regardless of politics and bureaucracy; one that can take rapid action and ensure that action that makes a difference to the Baltic is really taken.

BalticSea2020 is financing the Baltic Sea Media Project.

Read more about BalticSea2020 on: **www.balticsea2020.org**

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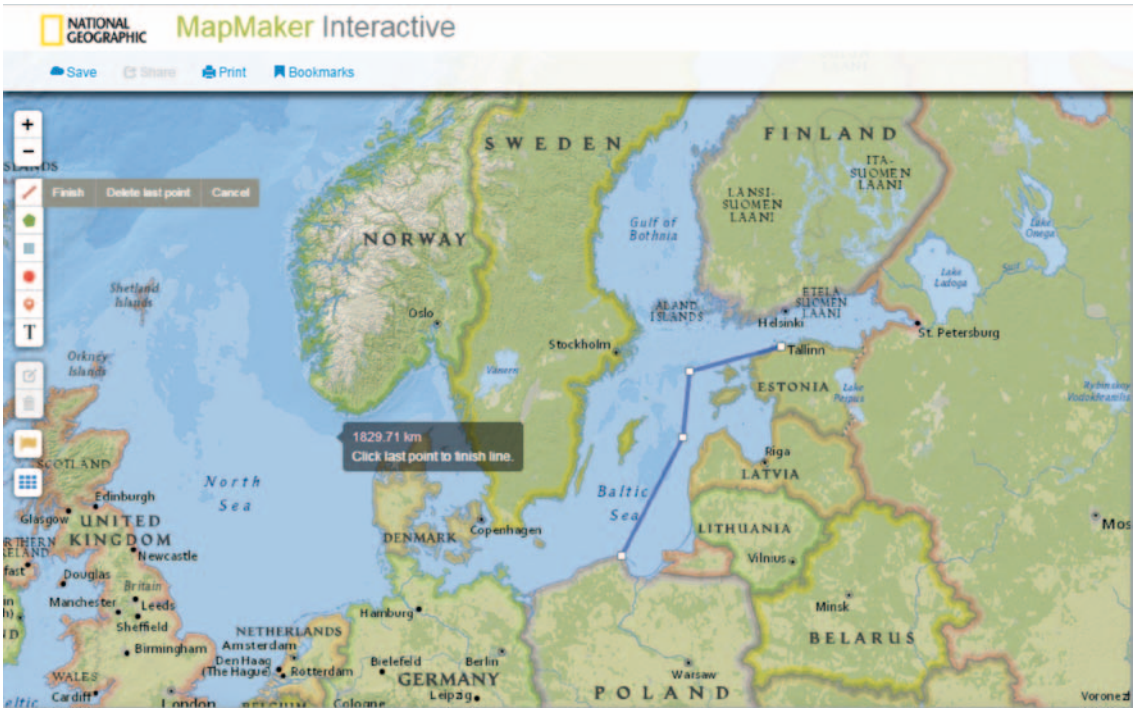
Working materials for the film Shipping Pollution, 2015, Baltic Sea Media Project, Ulla Arnby
"With knowing comes caring" – Sylvia Earle

BEFORE YOU WATCH THE FILM

ROUTES ON THE BALTIC SEA

**Look for the shipping lanes with ferry traffic on Baltic Sea. Draw them on a map.
Work in small groups, then share the routes you found with each other.
Collect them all on one map.**



Use maps from: http://mapmaker.education.nationalgeographic.com/#
Print out a map or work interactively...

PORTS AROUND THE BALTIC SEA, WITH BALTICSEA2020

Now you are going to learn more about the ports around the Baltic Sea's coastline. Mark the ports around the Baltic Sea on the map. What are they called and how many people live in each port city? What type of port is in which place? Tourism or freight transport? Use a traditional atlas and the internet.

More information is available about the Baltic Sea and its environment in the *Svenska hamnar* (Swedish Ports) series, which you can stream via BalticSea2020's website*.

The series has eight episodes (around 8 minutes long), in which the last is a summary of the seven first ones, each of which reflects one subject and area. Each programme is based in one of the ports around the Baltic Sea.

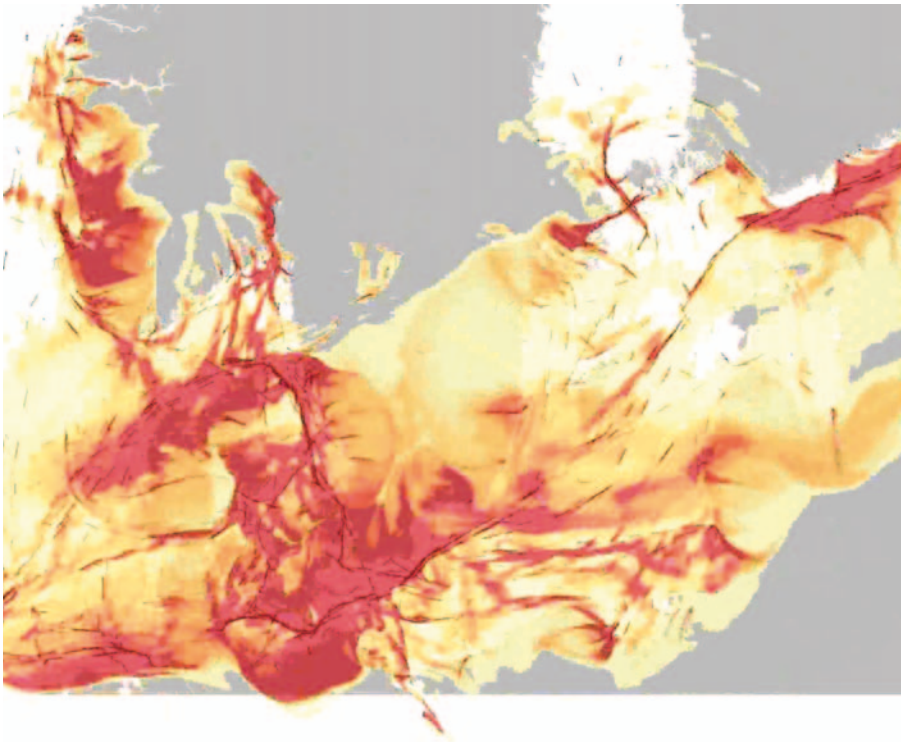
PURPOSE AND AIMS

The purpose of the programmes is to promote sustainable work on the environment, by providing information and thus being able to support ongoing projects around the Swedish coastline. The aim is to contribute to positive developments in the marine environment around our coasts and to improve and disseminate knowledge about the Baltic Sea.

* http://www.balticsea2020.se/alla-projekt/information/26-2information-avslutade-projekt/364-film-svenska-hamnar

WHAT CAN YOU SEE IN THE PHOTO?

This is an image that you will see in the film you are going to watch in class, *Shipping Pollution*. What can you see in the photo? Think about it, and write down the questions it raises.

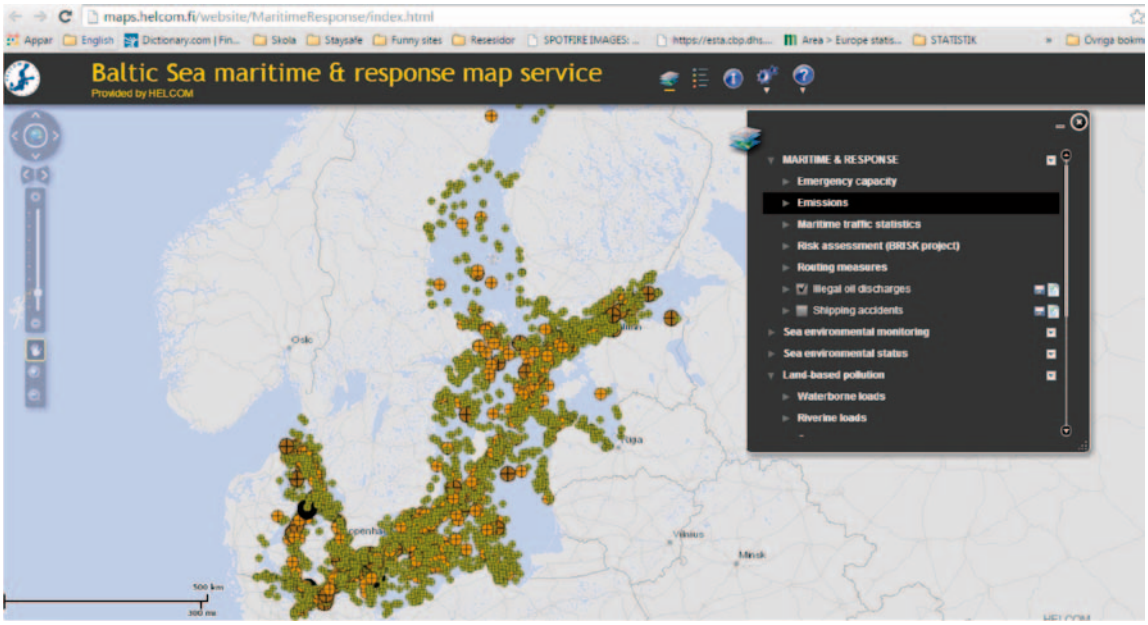


Then discuss your thoughts with a classmate.

Reflect on the photo again after watching the film!

HELCOM IMAGE OF THE BALTIC SEA

The following website allows you to explore everything from illegal dumping of oil and how different areas are loaded with nitrogen, to the status and condition of ecosystems. Study the website in pairs or small groups, and choose one or a few areas that you want to study and analyse using the information you can find in the image.



http://maps.helcom.fi/website/MaritimeResponse/index.html

How do you interpret the biological diversity in the Baltic Sea region?

What about the occurrence of illegal oil dumping?

Where do cod reproduce and where are the young born?

Where are there nuclear reactors? Oil platforms? Wind farms? Etc.

All the data on the website may be used if the source is credited.

TERMINOLOGY THAT NEEDS EXPLAINING?!

The below terms are ones you will come across in the film *Shipping Pollution*. You may already know what a number of them mean. Work in a small group and solve the task together. Find the right explanation for the words. Good luck!

Greywater / Blackwater / Shipping lane / Idle / Cruise industry
Welfare / Mediterranean / Settlement / Commercial / Refinery
Tankers / Crude oil / Heavy fuel oil / Refine

Charges money for the purpose of making income.	
Processing to make a more advanced form.	
Facilities for extracting (refining) a product from a raw material.	
Waste water from toilets.	
The engine is running but is not being used for propulsion.	
Individual security during childhood, illness, etc.	
Shipping fuel.	
Water from showering and washing dishes.	
Tourist traffic on the sea.	
An area of sea that is bordered by coastlines or archipelagos.	
Traffic route on the sea.	
General recognition.	
Bulk carrier for liquid loads, e.g. crude oil, water, chemicals and liquid foodstuffs *(Bulk carriers are vessels that transport freight unpackaged, straight in the hull).*	
Fossil fuel that comes from plants and marine animals.	

WHILE WATCHING THE FILM

THE FILM'S MESSAGE – WHAT IS IT?

Read through the below questions before watching the film *Shipping Pollution*, and focus on what you think is most important when you see the film.

1. What didn't you know about before watching this film?
2. What did you think about the film as a whole?
3. What is the film's main message?
4. What do you think the people who made the film want us to think?
5. How did the film affect you?
6. What do you think is the most important thing in the film to tell others about?
7. How can you spread this knowledge more widely?

WHEN VESSELS IDLE!

The film you are about to see will take you on a fairly dirty trip on the Baltic Sea. This sea was once regarded as "endless", but of course it's not. It has had to withstand so much in terms of overfishing, eutrophication and chemicals (you can find out more about this in previous films that can be streamed via our website www.saveourbalticsea.com). Now we have arrived at vessels that ship "environmental destruction".

Think about the following statements. What other opinions could there be about shipping?

You can also watch the short film that was produced by Sveriges Hamnar on the internet: http://www.transportgruppen.se/ForbundContainer/Svenska-hamnar/*

What is your opinion after having watched both films? What supports your opinion? Is there anything else you should, want to or can investigate? Discuss in class!

* 15 March 2015, http://www.transportgruppen.se/ForbundContainer/Svenska-hamnar/ Sveriges Hamnar is an idustry and employer asociation that is part of TransportGruppen (The Transport Group). It has around 60 associated companies with a total of around 4,000 employees.

AFTER YOU HAVE WATCHED THE FILM

DIFFERENT TYPES OF VESSELS ON THE BALTIC SEA

Perhaps you've been a passenger on the Baltic Sea?

Which shipping company did you travel with? Find out which shipping companies traffic the Baltic Sea and for what purpose.

What types of ships do they use?

Choose one or two companies, find out what their business is like.
Which vessels are included in their fleets, what capacities, etc.

Examples of shipping companies that traffic the Baltic Sea:

Finnlink, Gotlandsbolaget, Polferries, RG line, Sea Wind Line, Scandlines, Silja line, Tallink, Styrsöbolaget, Viking Line...

Find more facts about shipping on the Internet!

YOU – A SHIPOWNER!

BACKGROUND: You have always liked the sea, ever since you were little, growing up in a port town. You have worked in shipping for a long time, working your way up, and now you're the captain's right hand. She is the one who is responsible for the ship's operations and safety, and reports directly to the owner of the company.

The same owner has ten luxury cruisers. The focus is cruises on the Baltic Sea, with visits to the biggest and grandest ports.

You know that the captain will soon be retiring and are looking forward to taking over as the next captain of the luxury cruiser. It will entail greater responsibility, but also more status and more money.

A researcher looking at the environmental impact of luxury cruisers has made you aware that not everything is okay with the way the shipping company manages its ships, in terms of the environment. To increase profits, there have been occasions when paying to empty the blackwater in the ports hasn't been done. It costs SEK 20 per passenger and, with your big ships, that's a lot of money, so instead the choice has been to empty it at sea.

What arguments do you have for getting involved or not, and what consequences can you see:

You don't get involved at all, instead you pretend that you don't know.
What would the consequences be?

You react and work for a change. What would the consequences be?

A CAN THEN – A CAN NOW?

In the film you can see that the authorities have made information available to the general public, i.e. all inhabitants and particularly people who spend time on the Baltic Sea, about efficient waste disposal.

That advice would be impossible to show today. What is it that has meant that our attitudes have changed?

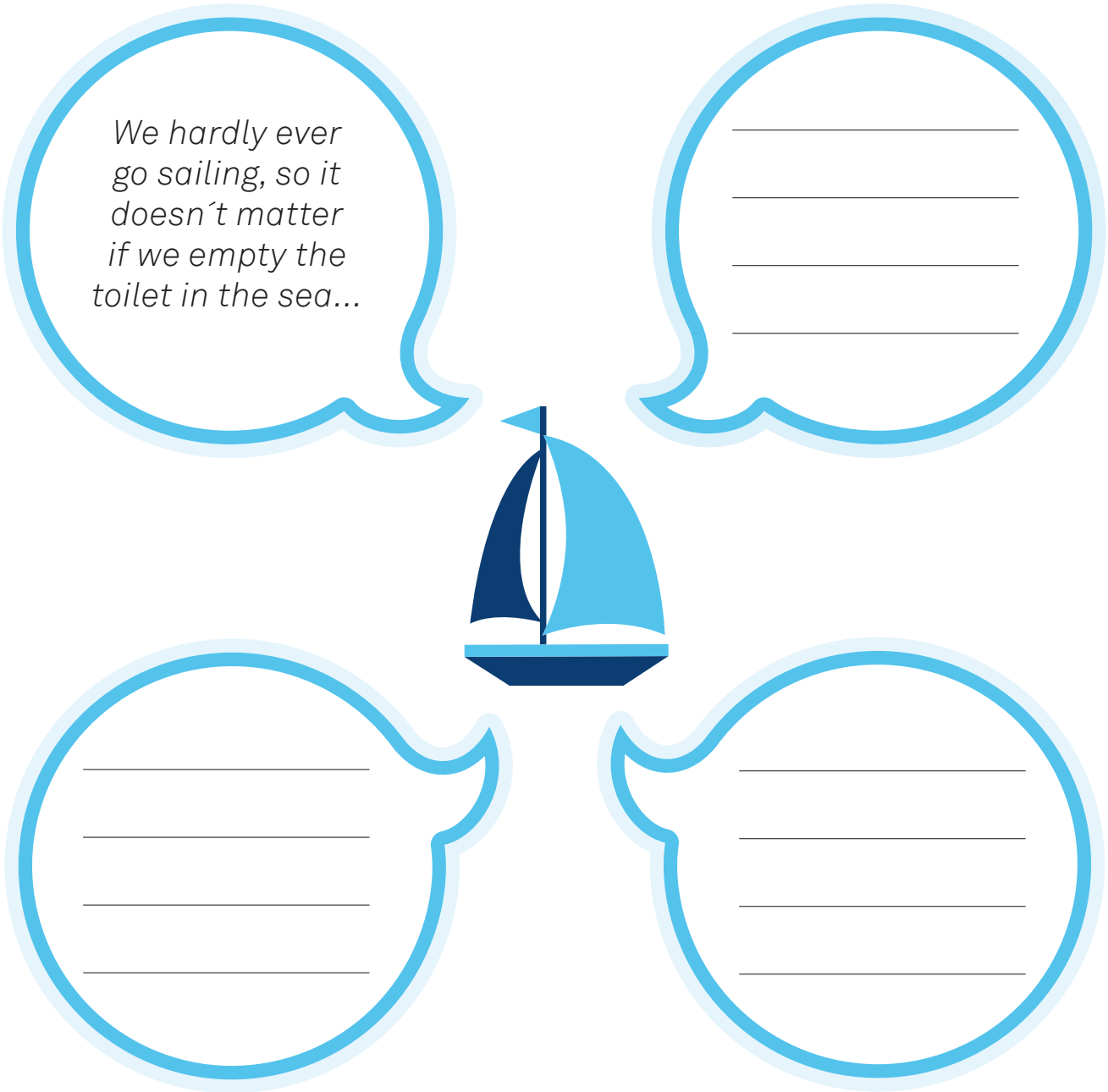
But still, cans are still thrown in the sea. Why?

What similar things do you think will happen in the future? What do we do today that is considered okay, but which might be entirely wrong tomorrow? What is it that changes our attitudes, our perceptions of things? Can you provide examples of any attitude changes in yourself? Have you believed something and then your attitude has changed? Why does that happen?

SEWAGE OVERBOARD – YOU'RE BREAKING THE LAW?

As of 1 April 2015, there is a prohibition on emptying blackwater on open water, seas or lakes. Find out more by visiting transportstyrelsen.se/toa and havochvatten.se. Which boats does this apply to? How can this information be spread?

What opinions could there be about emptying blackwater in the sea? How do you think owners of small boats reason about this? What could be a barrier to compliance with the new law? For whom is the law created?



2000 VESSELS

The film tells us that around 2000 vessels move along the shipping lanes on the Baltic Sea, every day. Many of these are carrying goods for onward transport to our cities. Almost everything we consume has been transported via the sea, as it is cheaper than land transport.

We also hear about cruise ships, which carry tourists for the sake of entertainment, several thousand on each ship. They cruise between different ports and enjoy the beautiful scenery, visiting the wonderful ports and cities. Despite the fact that the poor state of the Baltic Sea should be general knowledge, blackwater is still dumped at sea. Why do you think this is?

Think about it on your own for a while. Then discuss it with a classmate and, finally, take up the question in the entire group… What did you decide?

Have you found anything to support your opinions? What else do you need to find out?

We meet Anna Petersson in the film. She is fighting for a prohibition on emptying at sea and for all ports to have facilities for emptying blackwater. Support is needed from all the countries around the Baltic Sea. They don't all want to be part of this – why could that be?

Search on the Internet to see if you can find any answers…

Contact shipping companies and ask them your questions about how they manage blackwater and greywater! Find out how emptying takes place and what it costs. Make an estimate of how much blackwater and greywater is produced in a day on a large luxury cruiser, with all the passengers and crew…

CAREERS AT SEA

The film *Shipping Pollution* shows us a number of different careers. They include Stig Göransson, who started worked as the family's fifth generation of fishermen and then found work in the port; Anna Petersson, who works at the Swedish Transport Agency, and whose job includes fighting for a better marine environment; James Corbett, who is researching how environmental toxins linked to marine transportation affect humans; doctors who come into contact with patients with diseases related to a hazardous environment; and Linnea Jönsson, who does voluntary work to improve the environment for the people of her hometown of Trelleborg.

Now you're at school and have a number of years left to study, but perhaps you know what you'd like to do and what interests you, what role you will have in your future caree

We would like you to take a little while to think about which of these people and their jobs would most interest you. Decide on one of them, or another profession that is involved with shipping and the sea. Find out what qualifications are needed, what subjects you should study, where you can study, whether you can study abroad You can also contact someone who is already working in that field and ask them questions about their work. Look at job advertisements. Good luck!

Suggested links to start with:

http://allastudier.se/jobb-o-l%C3%B6n/yrken/

http://www.arbetsformedlingen.se/For-arbetssokande/Yrke-och-framtid/Yrken-A-O.html

http://sjoklar.se/yrke

http://www.skargardsredarna.se/jobba_i_skargardstrafiken/yrken_ombord.aspx

SAVING THE SEA FROM VESSEL HAZARDS

This cannot carry on, we cannot keep treating the Baltic Sea in this way! We must ensure we create a better environment, for ourselves and for coming generations. It's not for the sake of the sea that we need to understand this – it's for our own sakes! We need to survive - the sea can manage without us...

Work continues. Form an environmental group and give it a suitable name. You live in a municipality that has a Baltic Sea coastline, and you are very dependent on its condition...

Work on the following tasks:

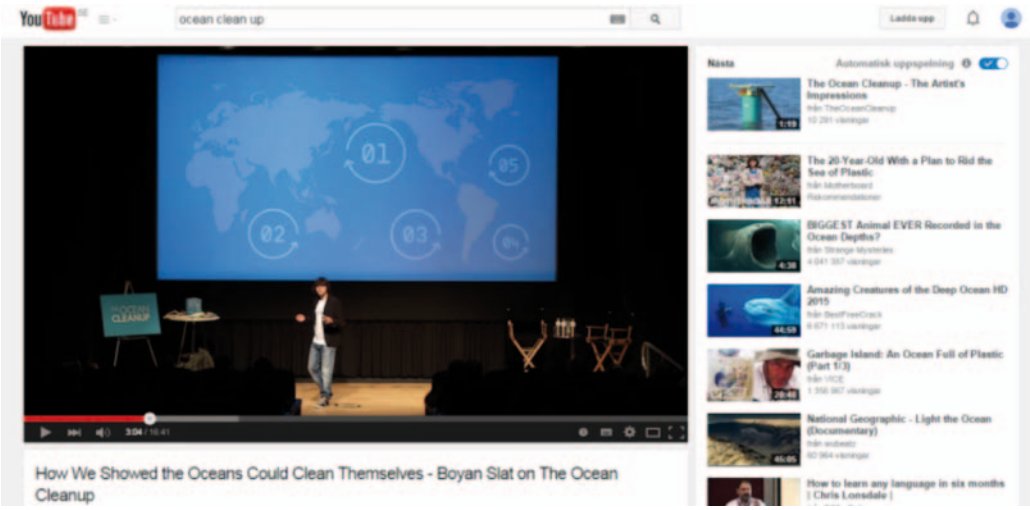
1. Define clear goals for how marine transportation will improve. This may involve legislating about what may be released into the sea. Limitations to traffic, etc., the size of the vessels that may enter the sea, etc., what it costs to anchor in your town. How can you monitor compliance with the law?

2. Which local stakeholders can you work with? How dependent are they on the health of the Baltic Sea and what projects can you create in partnership with agriculture, for example?

3. How can you cooperate across economic and geographic borders? Municipalities, higher education and business now need to work together. Look at the example of "Baltic Sea Challenge" (google) where towns and municipalities are cooperating to create concrete plans.

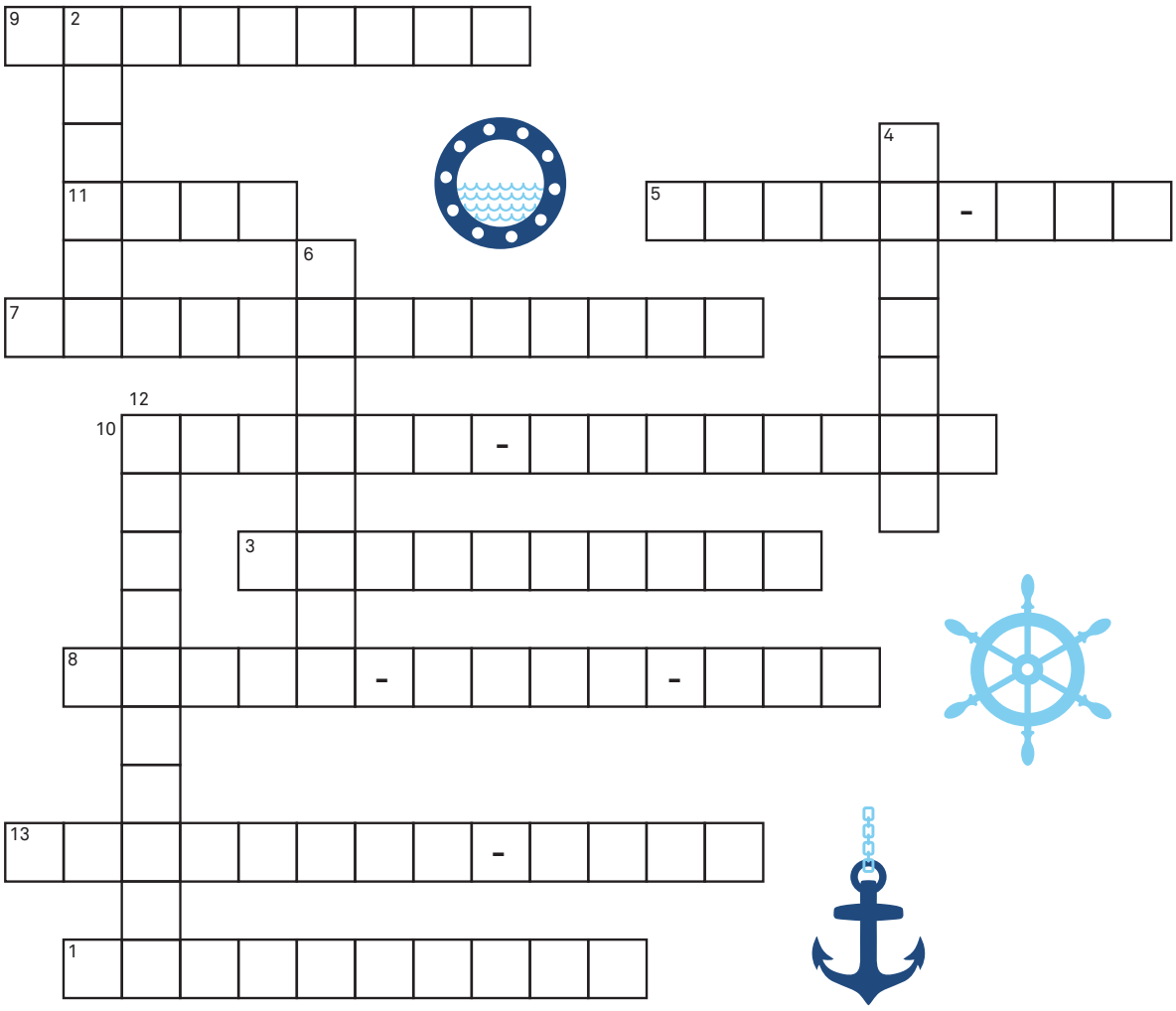
4. How can you get funding using various types of capital, e.g. loans, taxes, international grants and crowd funding (google). Can a city initiate taxation? E.g. a culture and tourism tax that is used to fund tourism, the arts and sports projects.

5. Prepare a clear message to politicians and other decision-makers in your municipality. The shipping industry, tourism and freight transports have been allowed too much freedom for too long in the Baltic Sea, and we have to take action!



Find inspiration from *The Ocean Cleanup* (google): "Human history is really a list of things that couldn't be done and which then have been done," Boyan Slat, founder of The Ocean Cleanup.

CROSSWORD



ACROSS

1. Waste water from toilets.
3. General recognition.
5. Fossil fuel that comes from plants and marine animals.
7. An area of sea that is bordered by coastlines or archipelagos.
8. Shipping fuel.
9. Water from showering and washing dishes.
10. Tourist traffic on the sea.
11. The engine is running but is not being used for propulsion.
13. Traffic route on the sea.

DOWN

2. Processing to make a more advanced form.
4. Individual security during childhood, illness, etc.
6. Facilities for extracting (refining) a product from a raw material.
12. Charges money for the purpose of making income.

WHAT SHOULD BE IN THE AIR?

One of the world's most trafficked Mediterranean seas – the Baltic Sea – and the people around it, are greatly affected. On it, every day, there are 2000 vessels that release hazardous substances, forming layers of exhaust gases that are blown in towards land, influenced by winds and air currents; air that reaches millions of people in the countries around the Baltic Sea. Vessels in ports spew out fumes in the middle of cities. There is no prohibition on ferries idling, unlike traffic on land.

The fuel that is used on the vessels is called bunker or heavy fuel oil, which is cheap to use but costly for the environment in more ways than one.

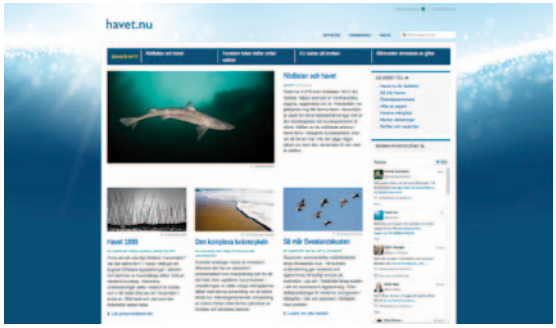
Nitric oxide is emitted. Most of it ends up in the water and contributes to eutrophication and acidification; some blows in over the land and contributes to acidification there. People with asthma and respiratory illnesses are made worse by the gas.

The smoke also contains microscopic particles. A lot fall into the sea, but a great number also reach land. The particles are hazardous to all living organisms. People with respiratory problems suffer particularly from long-term exposure, but also from low levels of exposure. They also increase the risk of cancer.

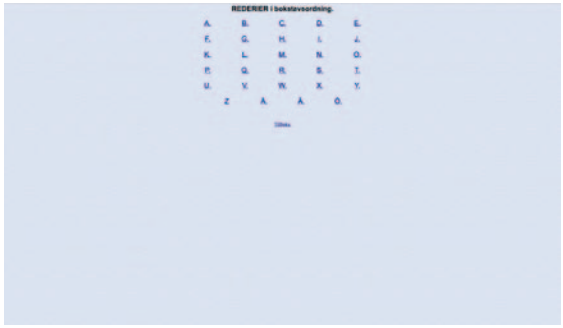
The vessels also spew out large amounts of sulphur dioxide. The sulphur acidifies the sea and the soil when it reaches land. It also causes direct damage to plants. In people, the sulphur attacks the respiratory organs.

James Corbett describes how people are affected by shipping. Why is Europe particularly affected and what are our challenges and opportunities in changing this? Discuss in class when you have seen the film!

SUGGESTED WEBSITES FOR REFERENCES



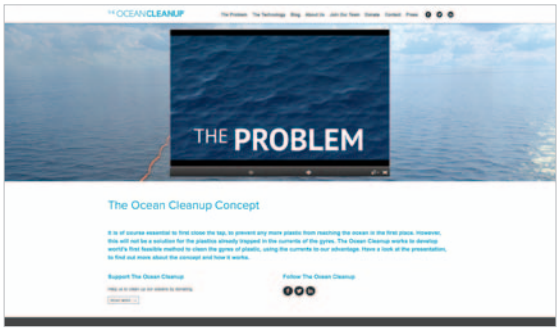
http://www.havet.nu



http://www.faktaomfartyg.se/rederier_lis.htm

http://www.svensktvatten.se/Vattenskolan

www.itamerihaaste.net/sv



http://www.theoceancleanup.com/prezi

http://mapmaker.education.nationalgeographic.com

http://www.balticsea2020.se/alla-projekt/information/26-2information-avslutade-projekt/364-film-svenska-hamnar

https://www.ted.com/talks/sylvia_earle_s_ted_prize_wish_to_protect_our_oceans#t-378946