



MIKKEL NOE

Welcome to Denmark



We have more than 7,300km (4,536mi) of coastline here in Denmark, so no matter where you are in our country, the sea is not far away.

We have it all—well, almost everything—when it comes to diving in and around Denmark. We have dives from the shore almost everywhere, and we have a huge number of wrecks dating back more than 200 years. It is even still possible to see some remains left from the wars against Britain that took place in the early 1800s. We have wrecks from WWI and WWII, and many of them are still in rather good condition. We also have vessels that were sunk to create artificial reefs, after having been prepared and made safe for divers.

We have more than 150 local dive clubs, and most of them not only support scuba diving but also spearfishing, freediving (apnea), underwater rugby and snorkel training for kids—there are many activities, all driven by volunteers and people with a great passion for all that goes on under the water's surface.

I am quite confident that if you bring your own gear and contact a local dive club, they will help you with good advice on where to go, and maybe even bring you along on their next dive trip. However, if you and your dive buddy are here for a few days and just want to dive on your own, we also have

quite a few dive centres that offer gear rental and will help you go diving.

Please be advised that the water temperatures around Denmark are on the cold side. In the summer, we might reach 20°C at the surface, and some people may immediately say that this is too cold.

Indeed, this is what we often hear from Danish divers who get their dive certifications in crystal-clear tropical waters. They ask, "Can you dive in Denmark?" Yes, you most certainly can, and it's amazing! Especially when the visibility is good, the sea is calm, and the sun is shining, there is a very good chance that you will see a wide range of diverse marine life.

Even though we have a lot of coastline, it is not always the case that we can shore dive in certain places along the coast where there are some restrictions in place, either by nature itself, or because of harbours, or other installations, and not least because of the water depth. As you probably know, we have no mountains in Denmark—only a couple of hills—and it is the same for the surrounding coastline. It is flat, and one must often walk or swim some distance, in very shallow waters, to get to a depth in which one can call it a dive. That is why many dives are done by boat.

Fortunately, we have some very good spots that are reachable from the coast. On a good day, there are often many people at these sites, and Danish divers are normally quite happy and more than willing to help you find a good diving experience when you are here.

So, if you are going to Denmark—whether it is for a holiday, studying, working or something else—then bring your dive gear, join a local club and get some great experiences underwater as well as above. Divers are normally a very social lot, and it is rare that a good dive—or a day of diving—is not ended with a nice chat over a cup of coffee, or maybe something stronger. But the most important thing is that we all come out of the water safe and sound—and if the visibility is bad on one day, then we just go and try again on another day.

Welcome to Denmark. We hope that you will have a great time here—stay safe and enjoy the diving.

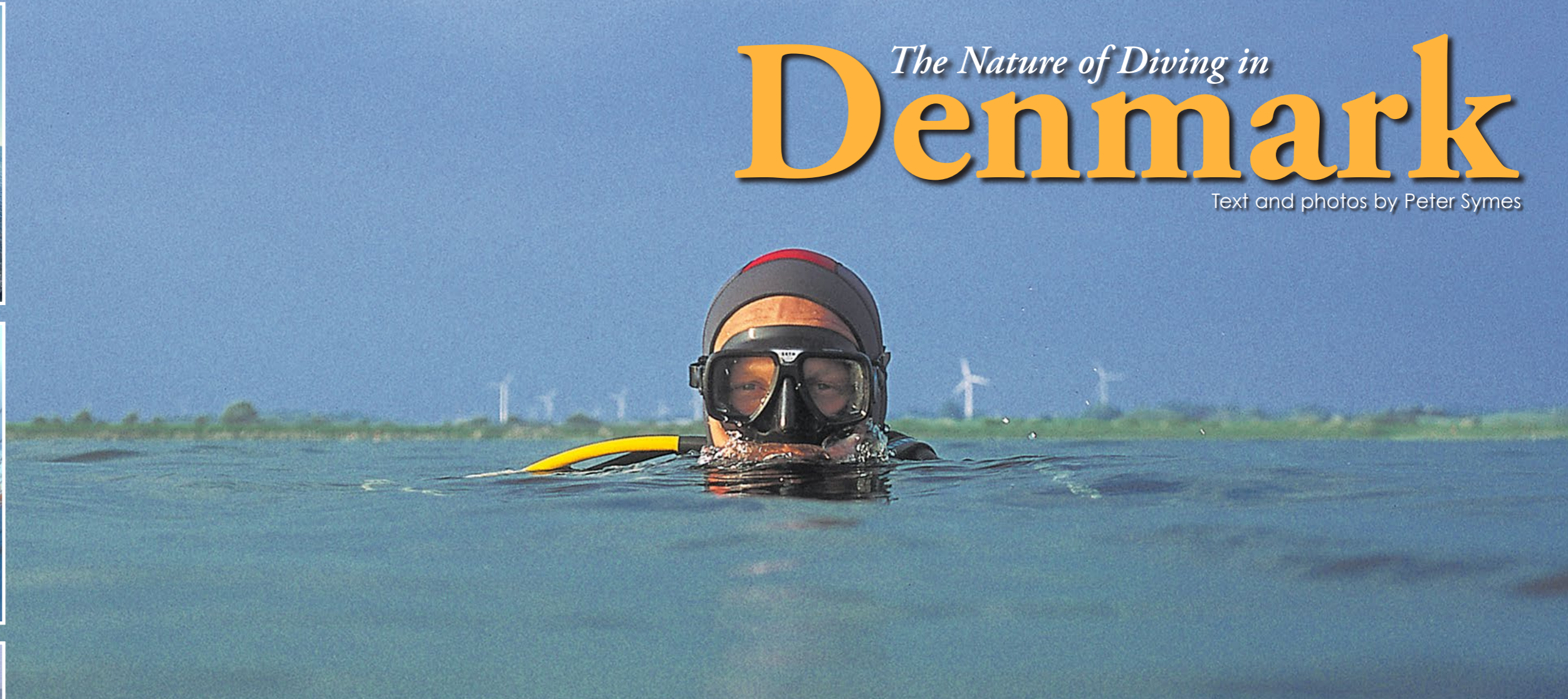


Best regards,

Jesper Risløv
President of the
Danish Sportdiving
Federation

The Nature of Diving in Denmark

Text and photos by Peter Symes



Much more than the Little Mermaid, Hans Christian Andersen & Lego...

Along the coasts and in the seas around Denmark, a wide variety of species and types of habitats can be found. Most of the Danish waters are shallow, with only a few areas beyond the reach of recreational divers.

Technical diving skills can add range and bottom time, as well as provide added margins of safety, but they are not a requirement for most dives. Essentially, the seas are a submerged landscape that stretches from the brackish waters of the Baltic, over the straits between the main islands to Kattegat and Skagerrak, and on to the North Sea, which has almost the same salinity as the oceans.

Most parts of the seabed are soft, composed of sand or mud, but there are also extensive areas with a hard bottom made of gravel and pebbles, and what are locally called stone reefs, as well as some unique "bubbling reefs," which are vertical sandstone structures formed by bacteria utilising methane gasses seeping up from deposits deep underground.

Due to the marked differences in salinity, which is significantly lower south of the Danish straits, there is also a pronounced difference in habitats and species across the waters, most notably along the north-south axis, which is the direction of water flows and the overall salinity gradient. Biodiversity is generally the highest in areas with the biggest salt content, whereas wrecks are much better preserved in areas where salinity is low. Once

past the Danish straits and into the Baltic, the salinity drops and steadily decreases, eventually transitioning into brackish water with low biodiversity.

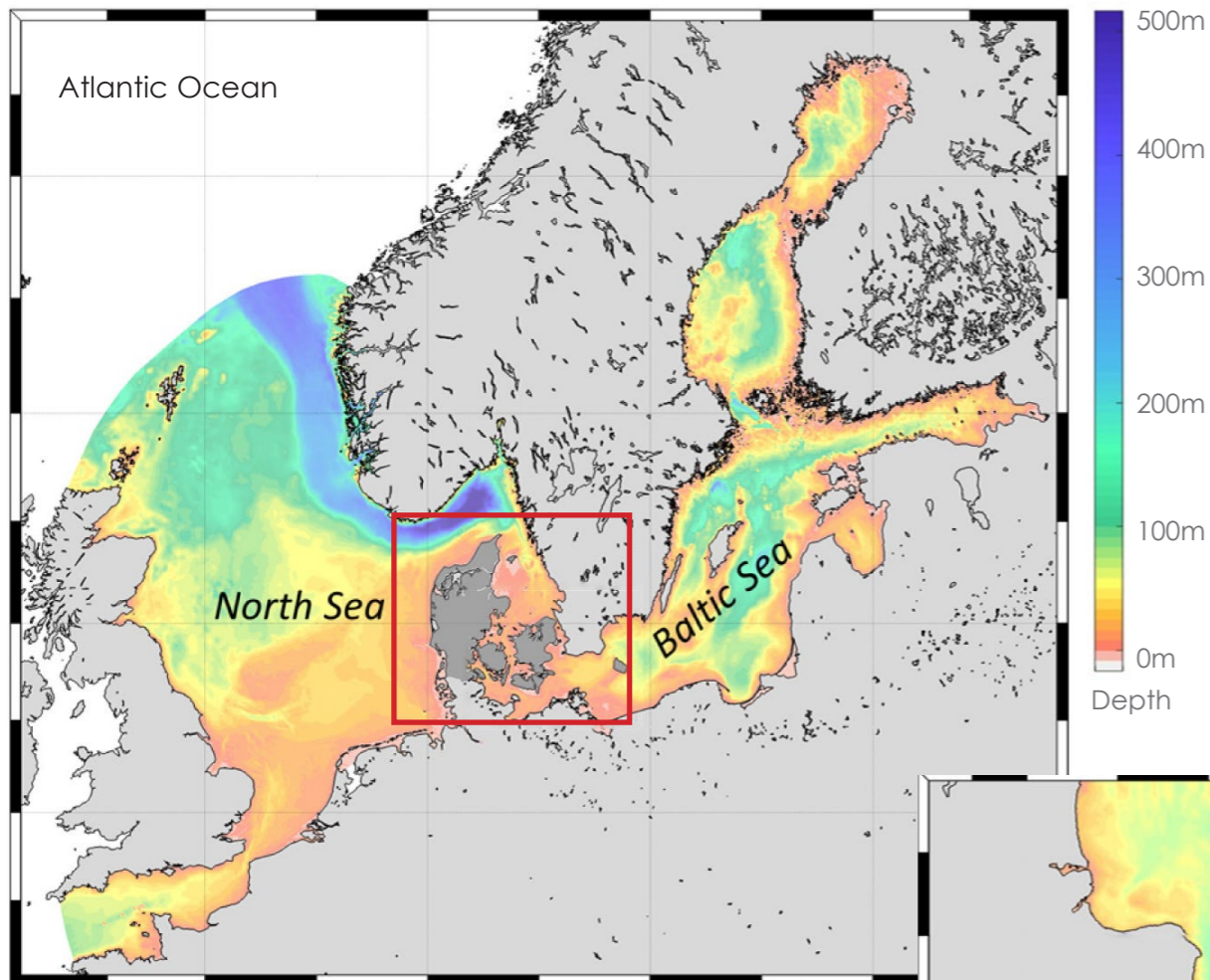
The Danish archipelago is a convoluted mosaic of islands, fjords, bays, inlets, estuaries and straits connecting the main bodies of water. Despite being only 368km (229mi) from the northernmost point to the southernmost, the country's coastline is officially 8,754km long. There are 443 named islands and 1,419 islands bigger than 100m². In other words, one can nearly always find an alternate dive location nearby if the first one blows out.

Denmark does not offer much of an integrated hospitality-and-dive industry in which accommodation, meals and diving are offered as a combined package by an operator, but many of the larger

dive centres will coordinate or have deals with nearby hotels, holiday homes or summerhouse rental bureaus. And fine dining, including 25 Michelin-star restaurants, can be found not far away in cities and towns across the country.

Diving takes place all year, but activities are markedly lower during winter for obvious reasons; it is much colder, and the days are short and often murky. That said, winter and spring diving often rewards those who choose to venture out while the water is cool and therefore has very little or no algae, resulting in excellent visibility. Summers tend to be quite lovely, with pleasant temperatures above and under water, as well as long days and evenings with white nights around mid-summer. During summer, there is no other place I would rather be.





Denmark sits at a choke point between the Baltic and the Atlantic, and the Danish straits are major shipping lanes.



Denmark's waters, or Exclusive Economic Zone (EEZ), comprise two separate areas; The smaller one in the Baltic surrounds the island of Bornholm.

The key to appreciating the nature and distinct qualities of Danish dive sites and diving is understanding how the bottom profile forms a saddle point going across the Danish straits in an east-west direction. This ridge or shallow plateau divides the seas into waters of significantly different salinity, and as a result, also into different types of biotopes.

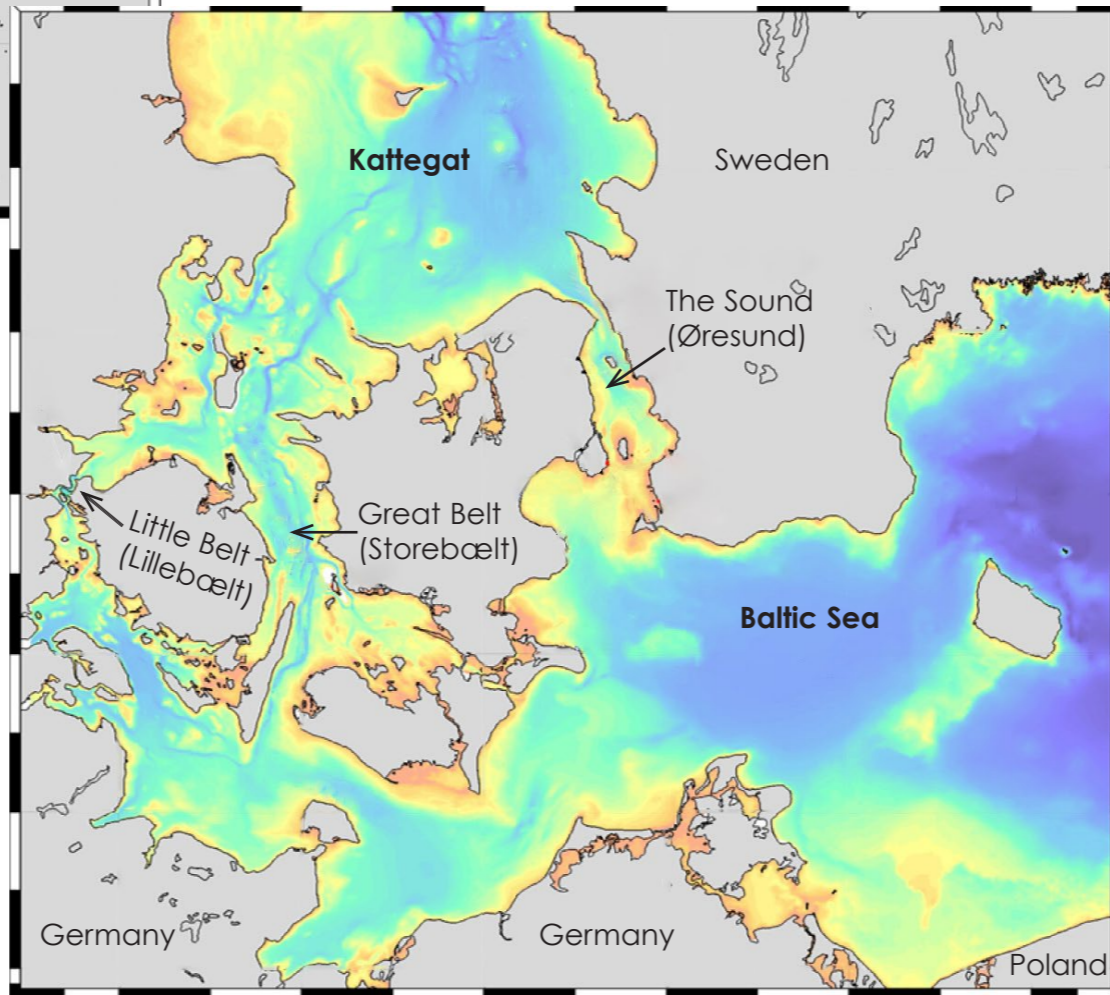
The three straits are named Øresund, Store Bælt and Lille Bælt (The Sound, Great Belt and Little Belt, respectively). The former two are busy shipping lanes connecting the Baltic Sea to the North Sea and Atlantic Ocean.

South of the straits

South of the straits, we find the Baltic Sea, which is brackish. It was a freshwater lake, called the Ancylus Lake, only 8,000 years ago, and there is a continuous inflow of freshwater from groundwater, rivers and streams in its catchment area in Northeast Europe. The Baltic discharges through the Danish straits adjoining the North Sea; however, the flow is stratified and complex.

Because fresh and brackish water is less dense than oceanic seawater, as the Baltic water flows out, northwards, it does so on top of the saltier oceanic water, which creeps along the bottom in the opposite direction, wedging underneath in a southbound direction.

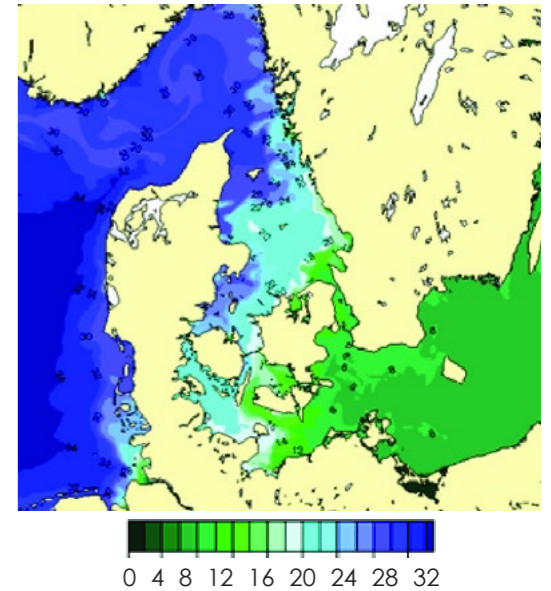
The straits are not just horizontal constrictions, they are also shallow, except for some winding deep-water channels, which serve as shipping lanes. This is where land bridges, not too long ago, separated the freshwater lake from the ocean and made southern Sweden contiguous with Central Europe.



Depth chart showing the straits, lower Kattegat and the Western Baltic. Most of the seabed within Danish waters lies within reach of recreational diving. Deeper locations are mainly found in the Baltic, and there are some in the middle of Kattegat.

As a result, the bottom profile of the straits constitutes thresholds, akin to a tall doorstep on the seabed, which obstructs deeper layers from flowing over and into the Baltic—not entirely, but to quite a limited extent. The significance of this inflow of salty water is, among other things, that it brings oxygen to the deeper layers of the Baltic, which are otherwise quite depleted.

Denmark



Salinity profile in promille salt content. Salinity drops markedly south of the Danish straits, which act as thresholds over which the salty and denser water from the north, only to a lesser degree, is able to creep over. See figure below.



South of the straits, biodiversity drops significantly because far less species live, or can even survive, in brackish water than in fresh or saltwater.

On the other hand, because salinity is low, wrecks are much better preserved, which is also due in part because shipworm, which devours timber, cannot thrive here. So, old wooden wrecks, often many centuries old, remain well preserved on the bottom.

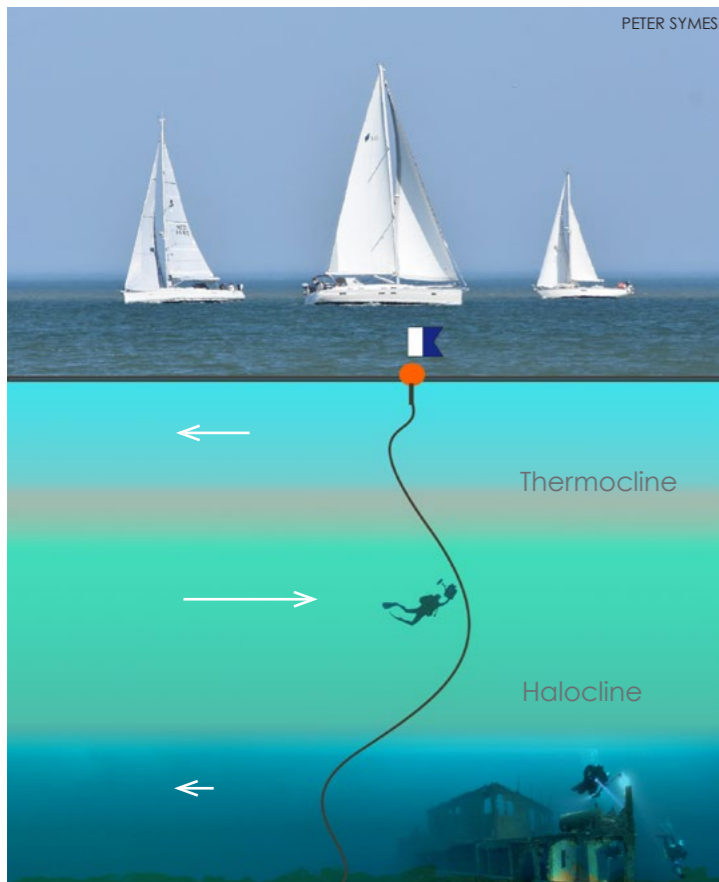
Bottom topography, salinity & currents

travel

In recent years, often when transects are done prior to laying down cables or pipelines, several medieval shipwrecks have been discovered with their rigging still intact. The *Vasa*, now on display in its own museum in Stockholm, is arguably the most famous example of a perfectly preserved warship from the 17th century. Steel ships also suffer much less corrosion and remain intact for a much longer time thanks to the same low salinity as well as lack of oxygen in the Baltic Sea.

North of the straits

North of the straits, in between the peninsular part of Denmark called Jutland, and the Swedish west coast, we have a body of water known as Kattegat, which is saline, just slightly less than the ocean.



Hold on to the downline, and your camera! At times, divers may have to descend and ascend through a water column that is stratified into three layers separated by a thermocline and a halocline. Each layer may have currents that run in different directions and strengths. Below the halocline, the visibility is often much better because the water is cool and devoid of algae.

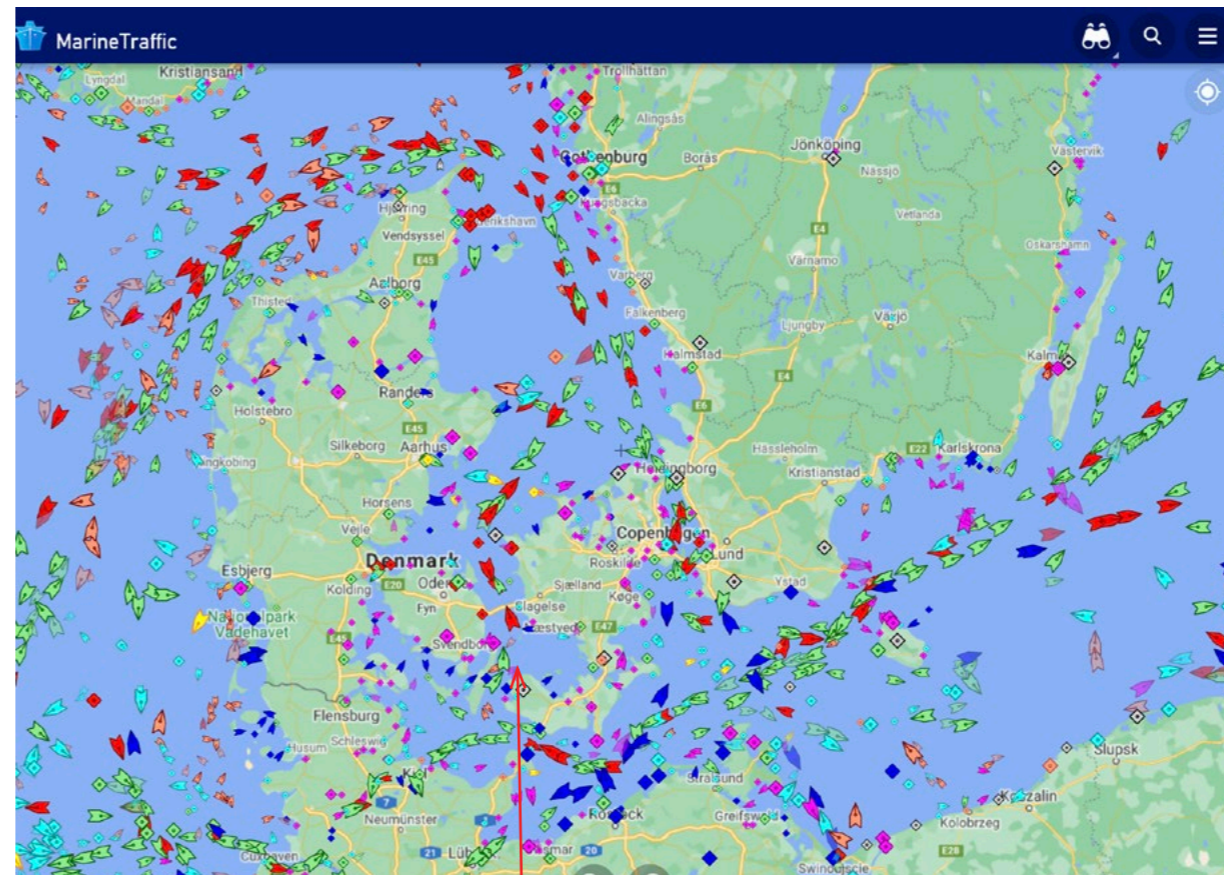
Here, we find the usual complement of saltwater flora and fauna.

This salty water, being denser than the water in the Baltic, flows south along the bottom, underneath the outflowing brackish water from the Baltic, often resulting in a strata of currents going in different directions at different depths.

It is predominantly in the three straits that we find the best and most diverse dive sites, and surely the most popular. This is down to two main factors. Firstly, the straits have been the main shipping lanes between the Baltic and the Atlantic for centuries, if not millennia, so this is obviously also where many shipwrecks have occurred. The Danish waters are littered with them, including modern vessels, warships and planes from WWII, warships from WWI and earlier, tall ships and cargo vessels, Hanseatic kogges and Dutch flutes, Viking ships and canoes from all the way back to the Stone Age. There are tens of thousands of registered locations, but, granted, that count includes wrecks of which there is now barely anything left to see.

The second reason is the current, which in places—most notably in Lille Bælt (Little Belt), which is arguably the area with the best dive sites in the country—carves out steep banks and drop-offs close enough to the beach that you can just walk out from the coast and dive to, say, a depth 40m without much of a swim. We will get back to that in more detail in the following stories.

Where there are currents, there are also nutrients, and consequently, thriving life, and the banks along the straits or stone reefs often display prolific life. ■



Screenshot from the app MarineTraffic (available for both Android and iOS), showing shipping traffic moving through Danish waters



Mind heavy shipping in the southern part of the Great Belt. Large ships travel in the deep-water channel, which is quite narrow in some places. Divers head out to one of the many wrecks that lie along this channel, and in some cases, right in the middle of it—such as the WWII German destroyer *M36*, which is described later in a following story. This location is one of the more extreme, in regard to shipping. In most cases, dive sites are not so close to shipping lanes.

Free app forecasts currents

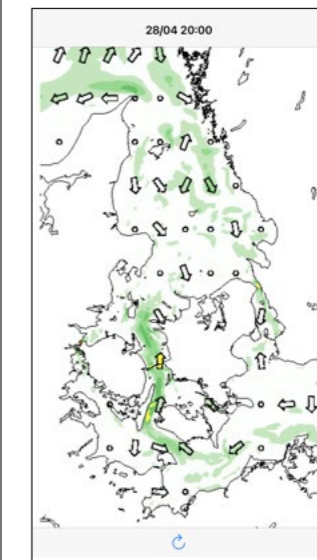
The Danish Maritime Authority has created an app that is simply a brilliant tool for divers.

It is called *Sejladssigt*, which roughly translates into “Forecast for Sailing.” It is available for iPhone, iPad and Android.



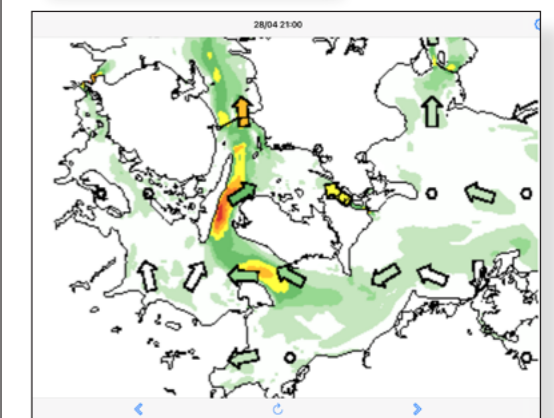
It comes with a fascinating and most useful feature forecasting the currents, even at different depths. The screenshots below show you how it looks.

The interface and menu system are also in English. All one has to do is select a region and pick a depth, and then the app displays colour-coded graphs depicting the predicted strength and direction of currents, which may be different at different depths.



The information is also available on a website: <https://ifm.fc00.dk>

So, now one can know what to expect in advance and prepare accordingly for a planned dive. ■



Denmark: General Overview

Skagerak

The Skagerrak is between 80 and 140km wide. It deepens towards the Norwegian coast, reaching over 700m at the Norwegian Trench. Near the Danish coast, a belt up to 50km wide comprises sandy, gravelly or stony bottom at up to 50m depth. This sea is much exposed to wind and wave action. The most famous wreck here is the ferry M/S Skagerak, which went down in 1966 without loss of life. Now it lies upside down at a depth of 25m.



North Sea

The Danish west coast slopes very gently; For every kilometre, it only gets 1m deeper. Lots of tall ships have foundered here by being blown toward shore in storms and grounding on sand bars. Little remains of these wrecks because the surf grinds them down. Wide beaches with surf make entry challenging. Farther out, however, there are mighty warships from the **Battle of Jutland** the largest naval battle of WWI.



Lillebælt (Little Belt)

is the narrowest of the three straits. It is generally

considered the best area to dive because locations have lots of biodiversity and can easily be accessed from the beach.

Sydfynske Øhav

(South Funen Archipelago) is a picturesque area with many small islands and plenty of marinas, making it a favourite among boaters. The area is relatively shallow and easy to dive. There are some good wrecks, including the artificial reef M/F *Ærø sund*, as well as Stone Age settlements.

Skagen

At the tip of Denmark, where Kattegat and Skagerak meet, currents clash and shoals keep shifting. Exposed to storms and waves from the North Sea and the Atlantic, these treacherous waters have caused a lot of shipwrecks over time and now offer some of the best wreck diving in the country. The prevalence of choppy seas makes planning uncertain and diving often challenging.

Kattegat

Parts in the middle are deep. It has assorted wrecks and reefs with life. Areas around the islands of Læsø and Anholt are shallow with shoals. Both islands are quite a way out. Big seal colonies can be seen on the islands' beaches.

Øresund

The Sound is the second busiest shipping lane. With low to moderate depths, it has many good wrecks, including a number of tall ships stemming from 16th, 17th and 18th century naval battles, some still with cannons present.

Østersøen

a.k.a. **The Baltic Sea**, or more specifically, the southwestern part of it. Because of the low salinity, wrecks are much better preserved in these waters. It is also here we find the greatest depths, which technical divers can explore. The island of Bornholm sits by itself, east of the rest of Denmark and south of Sweden. It is the only part of the country that has rocks, which makes for a different type of diving. The island is a popular holiday destination.

Fehmarn Sound

Moderate depth; many good wrecks.

Storebælt

The Great Belt and its southern extension, **Langeland's Belt**, are shipping lanes littered with wrecks. There are also nice patches with reefs and lots of sea life. Also, the bridge pillars, which are covered with sessile life, are popular dive sites. Currents can be ripping, so fun drift dives can be had.






Find dive buddies in Denmark - become a member of a local club

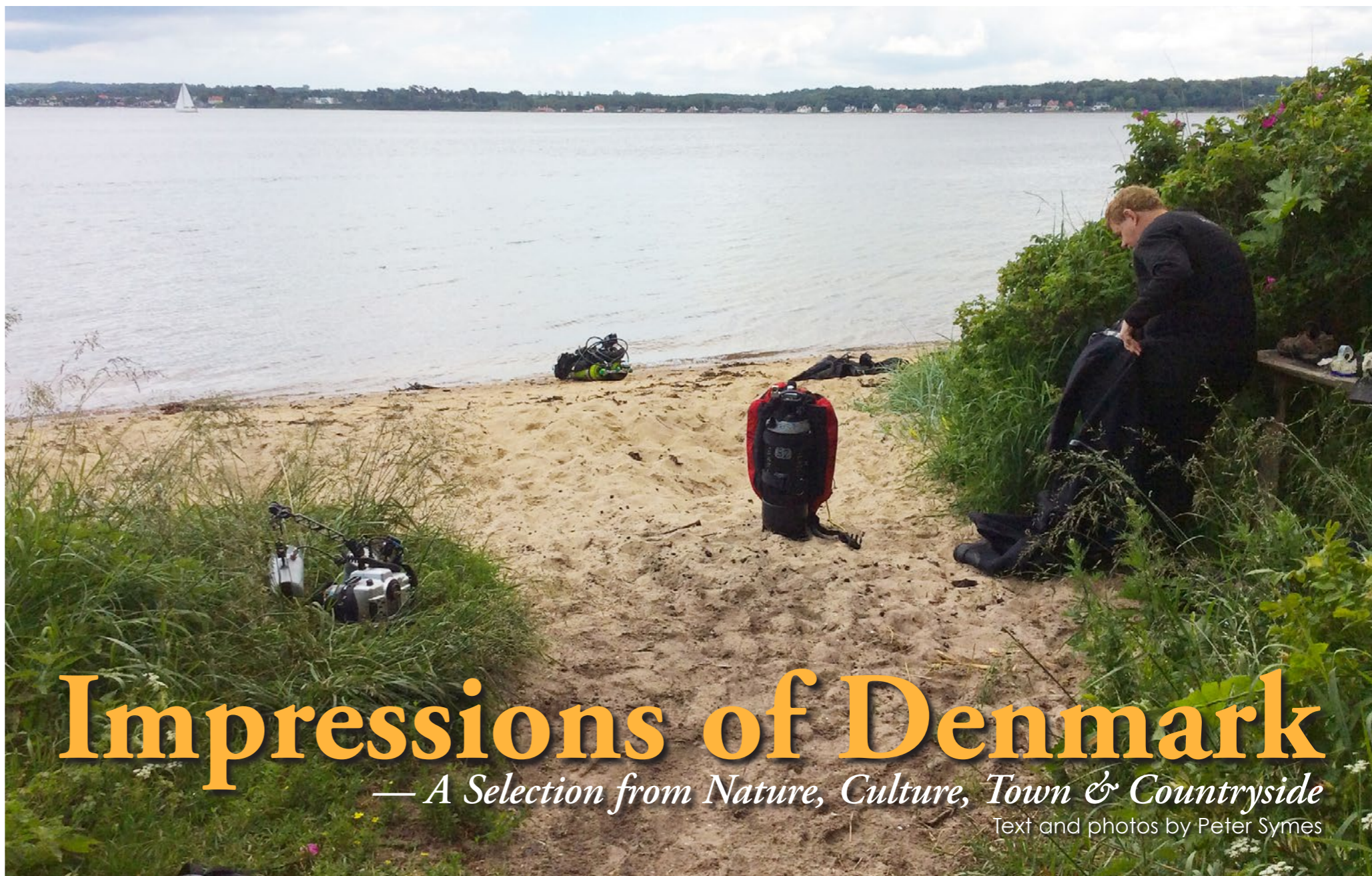
Do you want interesting diving in Denmark - join a local club and through them DSF (Danish Sportsdivers Federation - a voluntary member organization). There is about 160 local DSF dive-clubs in Denmark - join us and get the optimal conditions for you as a diver - before, during and after your dives.



Membership benefits:

- You are welcome with us, no matter where you have obtained your diving education and what certification you have
- Participation in instructor and dive leader training
- The magazine "Sportsdykkeren"
- Access to divers' insurance and Falck's crisis help
- An active website
- A meeting point for diving in Denmark
- You automatically become member of CMAS, EUI and DIF

DSF - www.sportsdykning.dk Find your local club >



Impressions of Denmark

— A Selection from Nature, Culture, Town & Countryside

Text and photos by Peter Symes



CLOCKWISE FROM TOP LEFT: Heather fields by the beach in Rørvig on the island of Zealand; Winter evening at Nyhavn in Copenhagen; Wildflower; Supermoon and thatched-roof cottage, Rørvig; Preparing dive gear and underwater cameras for a dive in Little Belt, Jutland; Folks hang out on the

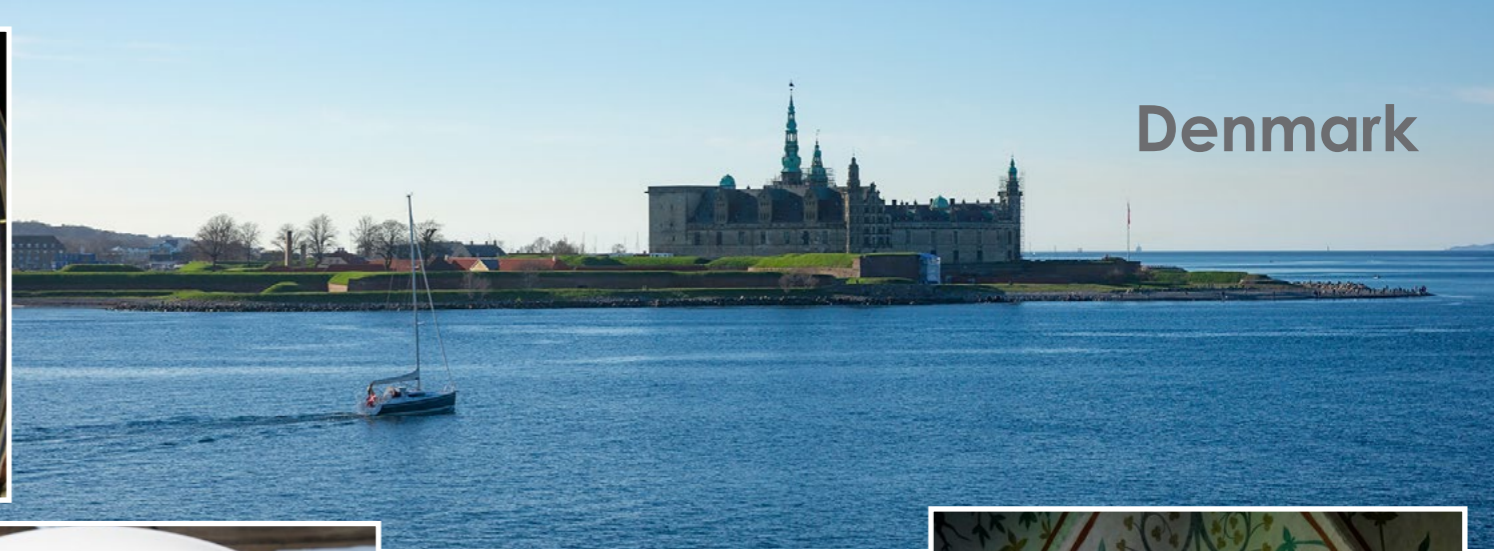
bridge that crosses the ring lakes in Copenhagen; A swan cygnet naps in the embrace of its mother; Wild anemone flowers, which only bloom for a couple weeks in springtime, creating carpets of flowers like snow in the forests around Zealand



METTE JOHNSEN / VISITDENMARK



NATIONAL MUSEET



Kronborg Castle guards the narrowest point of Øresund (above); Medieval frescos in a village church (right); Crown jewels on display at Rosenborg Castle (top center)



Nothing beats a great meal made from local produce after a day of diving, cycling or just walking the city. In recent years, countless good eateries have popped up everywhere.



Many Copenhageners commute by bicycle (above); The Sun Chariot, Early Bronze Age, ca. 1400 BC (above inset); Medieval ruins of Hammershus on the island of Bornholm in the Baltic Sea (below)



VISIT DENMARK



Jazzhouse Montmartre in Copenhagen is one of the best jazz venues in Europe (above); The northern tip of Denmark where two seas meet (center left); Copenhagen's old neighbourhoods have been restored (top left).

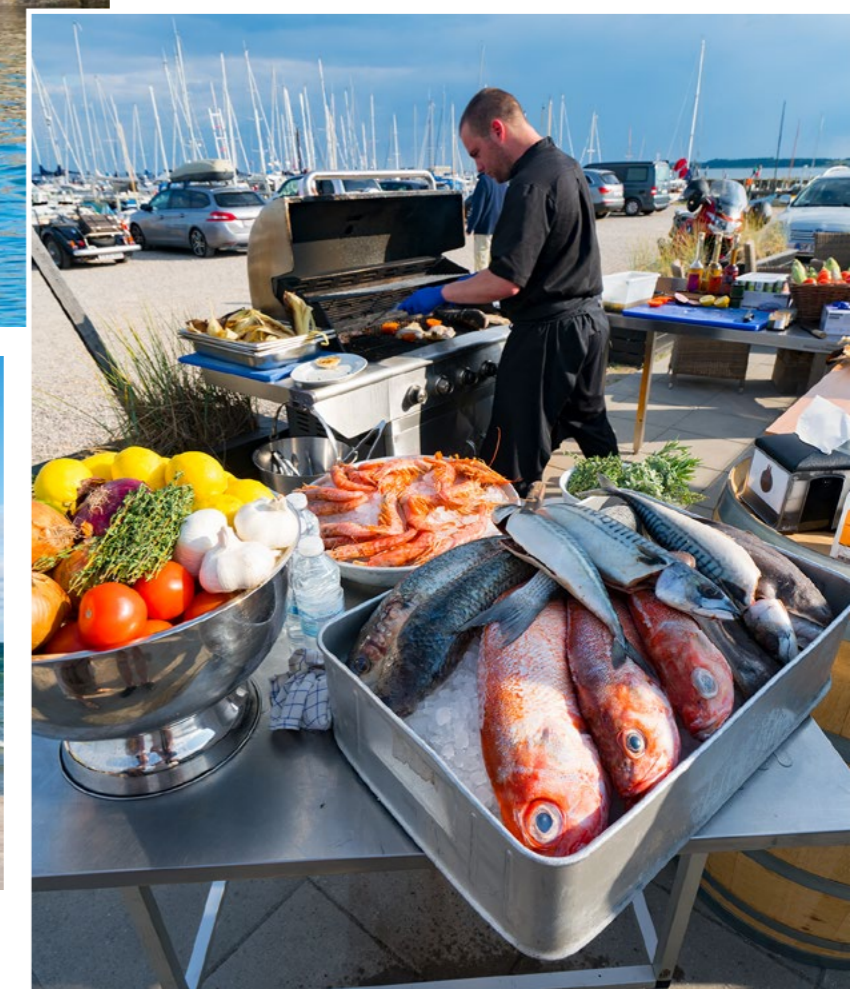
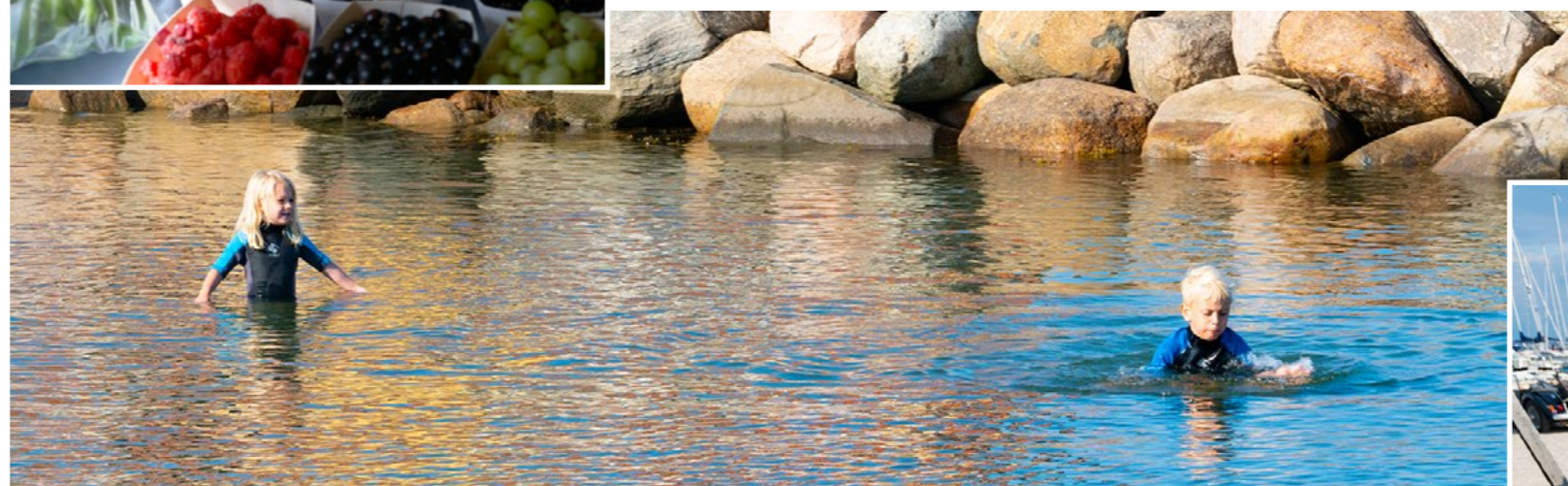


VISIT DENMARK



Frederiksborg Castle, noted for its towers and turrets, is one of the finest examples of Renaissance architecture. It is now a museum open to the general public.





On a large area of moorland, which is now protected, the "king stone" in Odsherred marks the spot where Harald Bluetooth was elected king of Denmark in 1076 (above); A good place for fossil hunting, Møns Klint is a stretch of chalk cliffs along the southern coast of Denmark (top left); The beach at Rørvig, on the northern coast of Zealand (right)

THIS PAGE: The many sheltered waters and bays in Denmark make it an optimal place to holiday with family. Fishing for crabs never gets old. The blue contraption (top) is a race track for crabs being released back into the sea. Even at mid-summer, one can find beautiful beaches and sand dunes, which are not one bit crowded. After a good day at the beach or in the marina, why not pick up some fresh local produce from a few of the roadside stalls or farms? Or you can hang out at the marina and enjoy seafood barbeque in the long summer evenings. During summer, many good concerts also take place in the recreational areas in the countryside and resorts along the coast.

Seafood barbeque in Rørvig Havn (harbour). The restaurant is right next to a shop with fresh and smoked fish; Beth Hart performs in Tivoli Gardens (top right).