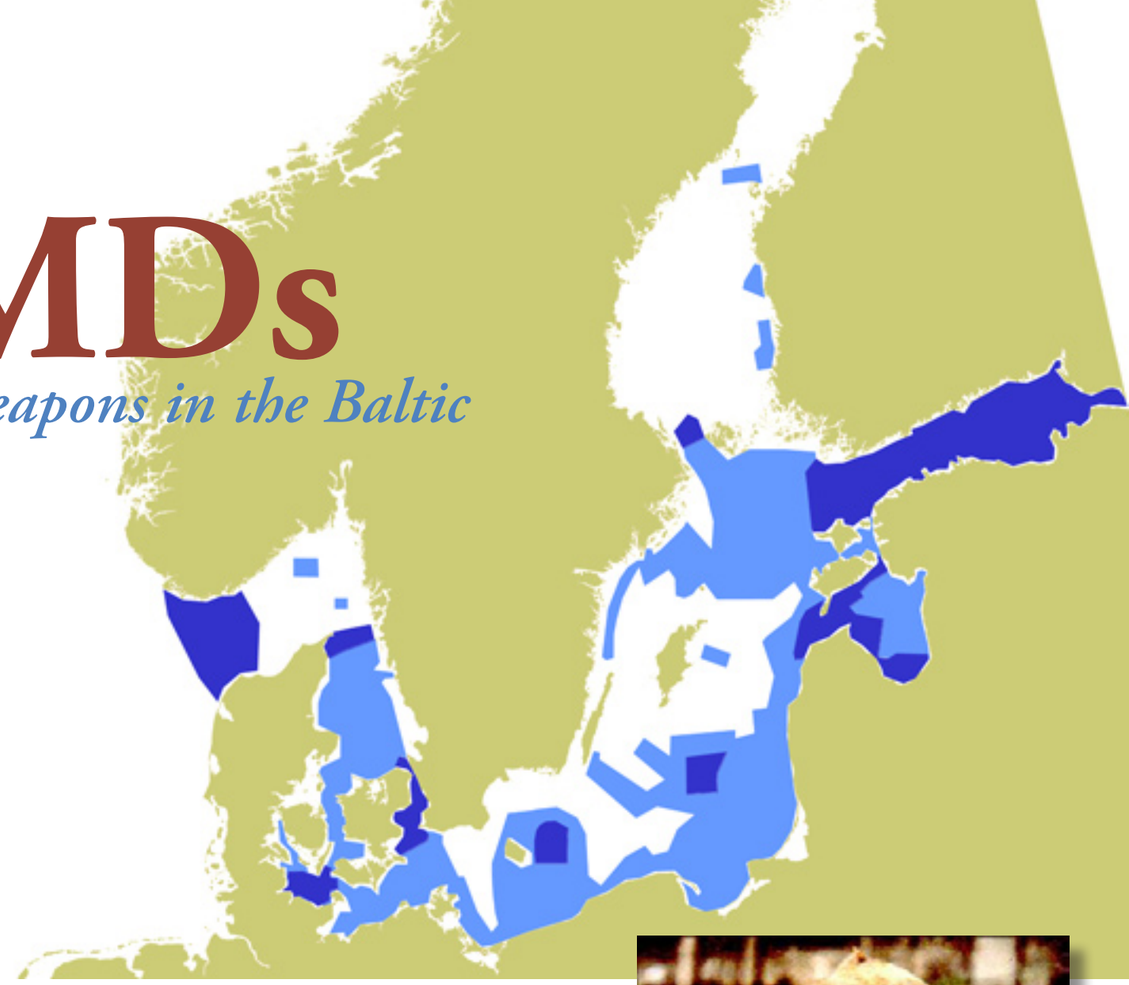
Diving with WMDs

Divers & dumped chemical weapons in the Baltic

Text by Commander Carl-Gustav von Konow
Photos courtesy of the Swedish Coast Guard



The Swedish Coast Guard is responsible for surveillance of and response to oil and other harmful substances at sea. Why do we have these problems today? While a complete history is beyond the scope of this article, I will discuss dumping at sea from German stores. Before and during the Second World War, the Germans produced a lot of different chemical weapon agents, and in December 1944, they had about 65,000 tons in storage. When the war was over, none of the chemical weapons had been used on the German side, so everything was still in stored. The large number of chemical weapons was a problem for the allied countries. According to the Potsdam agreement "all munitions shall be destroyed". The most functional way to get rid of them, was to dump them at sea.

In Skagerrack (see map on next page) off the Swedish west coast, fully loaded ships were dumped and sunk in rather deep water, 200-700m. Today, the ammunition is still on the ships, or underneath in the clay on the sea bottom. The

LEFT TO RIGHT: Hulls of boats take a beating in the Baltic; Map of areas in the Baltic Sea at risk for chemical weapons agents and other dangerous objects; INSET: On the seabed in dumping zones, one can find artillery shells, a complete bomb, or a lump of mustard gas with a hard surface, but 'fresh' mustard gas inside

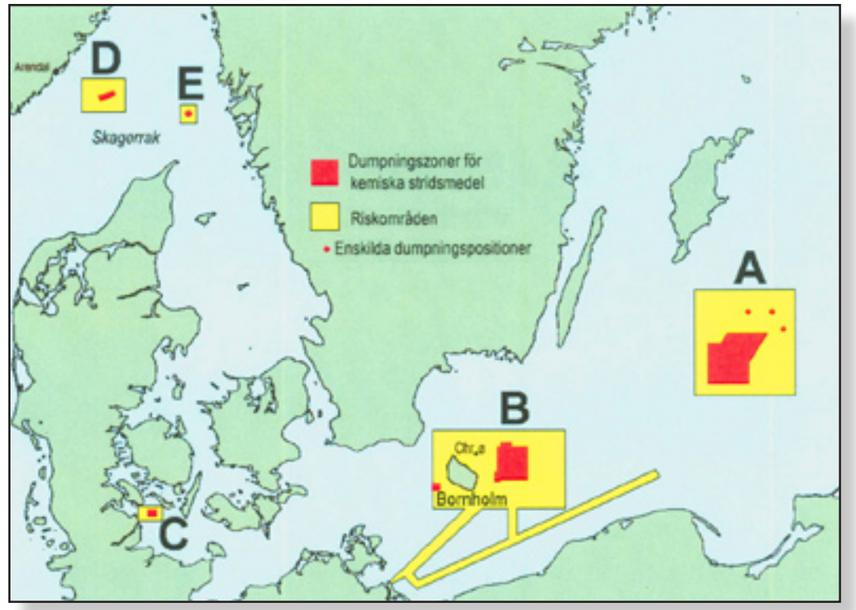
The total amount of dumped ammunition with and without chemical weapons agents was approximately 300,000 tons.

most problematic areas are in the Baltic where the dumping was in more shallow waters at an approximate depth of 30-90m. In the Baltic, chemical weapons were dumped as well as artillery shells, air-mines or bombs—either one by one, or in containers. Even containers with pure agent were dumped. They were even dumped by hand, mostly by war prisoners (Germans). The total amount of dumped ammunition with and without chemical weapons agents was approximately 300,000 tons.

ABOVE: The Swedish Coast Guard patrols the Baltic Sea. LEFT INSET: Rotting fish tainted with chemical weapons agents. TOP RIGHT: Map of dumping zones where there is a risk of finding chemical weapons agents

Please have a look at the map on the previous page.

Today the risks are:
• in the dark blue areas, where there is a high risk of finding dangerous objects like mines, oxa and chemical weapons agents;
• in the light blue areas, where there is a moderate risk of finding chemical weapons agents;
• in the white areas, where it is possible that one can find dangerous objects when exploring the seabed for laying cables, pipelines, drilling, building wind power stations or doing scientific research.



The explorer must be prepared to meet these threats.

Fishermen never know when they may catch war gas or a bomb. Today, the dumped ammunition is spread all over the southern Baltic.

The diver doesn't know if he or she will meet dangerous objects, especially when digging into the bottom sediment. Perhaps the diver does not see the object.

Divers taking samples risk contamination. Seabed ploughs, ROV, SONARS and their umbilical cables can be contaminated.

What can you find on the seabed?

• Artillery shells, a complete bomb. The bomb shells are made of thin material and are often completely corroded by now. The mustard gas has solidified (slow oxidation) but we don't know what it looks like on the inside. The dumped ammunition was normally not armed—it could have detonators— but the main charge is always there.

• A lump of thickened mustard gas. The surface is hard but can break, and then there is "fresh" mustard gas inside. Mustard gas does not react with water, so even after a rather long time in water, it will not be destroyed. It will only wash away slowly and oxidize. The same goes for findings of sneezing and tear gas. Approximately 90 percent of the findings in the southern Baltic is mustard gas.

Divers can't rely on help from the SCG or other rescue units for some hours. So, one has to take care of oneself. The surface crew and other personnel or divers must also be protected against the threat.

They have to build a decontamination station before diving. They must check that everything works beforehand, because in case of an accident, they will have a very short time for minimizing the injury—within 20 minutes, if it's mustard gas. The surface organisation must be protected. Don't think that water will minimize the threat from mustard gas.

The diver must have help with decontamination and must be 100 percent clean before he takes off his breathing device (helmet or diving mask). Other personnel have to wear protective clothing. Even very small amounts of mustard gas can give symptoms after 24 hours or more. If a diver is contaminated, check the diver with the use of indication equipment! It must be 100 percent clean before the diver can leave the decontamination line. Remember, if a contaminated diver goes indoors, there is a risk of contaminating other persons, too. Don't forget that when it's cold outdoors, some war gases will become more dangerous when reaching higher temperatures. Mustard gas starts gassing at approximately +14°C. The influence of temperature is important to know. Don't forget the diver could have contaminated the lift or ladder.

Indication equipment is simple and reliable. AP2C is a very good field instrument for this purpose. Common indicating paper is easy and cheap.

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