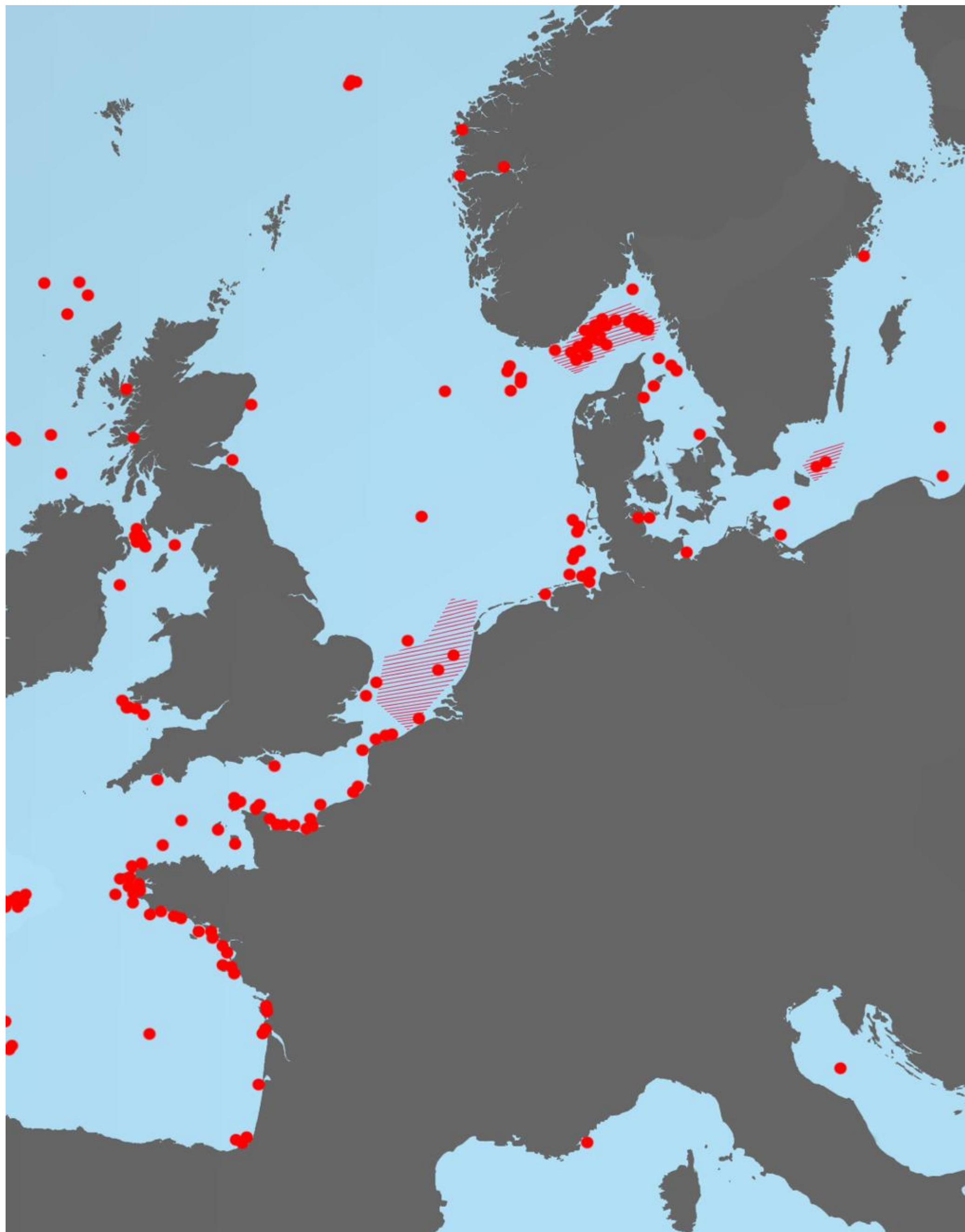


International Dialogue on Underwater Munitions: An Overview

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For more than 50 years, various nations have dumped and scuttled hundreds of thousands of both conventional and chemical weapons into our oceans. During this time, these munitions have begun to breakdown, releasing toxic chemicals into our oceans, threatening both the delicate ecosystem and those who depend on it. The International Dialogue on Underwater Munitions (IDUM) is dedicated to the creation of an internationally binding treaty on all classes of underwater munitions, allowing countries to meet and collaborate on underwater munitions research, science, and policy remediation in affected areas, with the overall goal of removing and destroying these dangerous munitions from our oceans.

Both these conventional and chemical weapons litter the bottom of our oceans. In many cases, munitions were simply thrown overboard leading to a wide area of munitions dispersal on the ocean floor. In other cases, entire ships full of conventional and chemical munitions were scuttled at sea, resulting in munitions being trapped within sunken shipwrecks. However, no matter where these munitions lay, their effects have been disastrous. The slow breakdown of these munitions has caused toxic materials to leak and disperse into our oceans, greatly impacting the delicate and fragile ocean ecosystem and those who depend on it.

Types of Underwater Munitions

Conventional Munitions	Chemical Munitions
Small arms	Sarin gas
Hand grenades	Tear gas
Mortar shells	Mustard bombs
Projectiles	Adamsite bombs
Submunitions	Nerve agents
Missiles	Blister agents
Rockets	Choking agents
Bombs	Industrial waste
Sea mines	Chemical waste
Depth charges	
Torpedos	

Recovery and Disposal Techniques

The current research on underwater munitions is in agreement that these munitions are ‘point source emitters of pollution’, meaning that in most cases, if the source is removed, the problem is removed. Thus, IDUM recommends that these munitions must be removed from the ocean floor and destroyed on land. There are several key ways of removing such munitions:

- Flotation bags
- Water jetting
- ROUMERS
- Ship lifting
- Dredging
- Mechanical manipulators
- EHDS
- Sarcophaging/burial

After the munitions are removed from the ocean floor, the munitions are placed into detonation chambers on land to be destroyed, thus removing a serious source of toxic pollution from our oceans.

Management Strategies

- **Monitoring**
Using sophisticated technology from both the public and private sector, IDUM recommends using equipment such as towed array sonar, AUVs, ROVs, and other to both survey, sample, and monitor underwater munition sites to provide an easier route to eventually remove and destroy these munitions.
- **Limiting Site Activities**
After the identification and monitoring of underwater munitions sites, IDUM recommends, due to the presence of toxic chemicals both in the water and fish stock, that both commercial and recreational activities be limited to ensure adequate safety. This includes the limiting of activities such as navigation, commercial fishing, tourism, construction (e.g. dredging), etc.