Munitions At Sea

A Guide for Commercial Maritime Industries

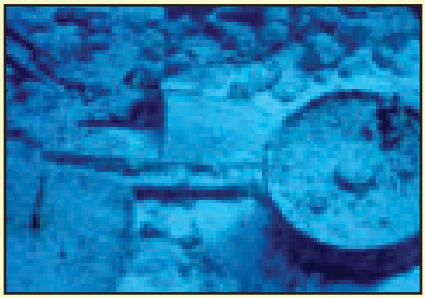
A Munition Caught in a Net

During commercial fishing, clamming, or dredging operations, nets, bottom-tending gear, and dredges may catch or dredge up munitions from the ocean. These munitions should be considered as presenting a serious danger to a vessel and its crew.

Many vessel crews tell sea stories about catching suspicious items in their nets or dredging gear.

Bombs on the Seabed

The lucky crews live to spin their own tales, while others become the subject of tragic sea stories.



Depth Charge on the Seabed[1]

In July 1965, such a tragedy took place aboard the fishing vessel *Snoopy*. The *Snoopy* was trawling for scallops off the coast of North Carolina when it caught a large cylinder-shaped item in its net. A witness said he could clearly see a long round object swaying in the net amidships over the *Snoopy*.

Recovered WWII Depth Charge[1]

What happened next is unclear; but an explosion occurred that caused the loss of the *Snoopy* and eight members of the crew.

What went wrong? Was it preventable? Could something have been done to save the crew? While all these questions were asked, no one but the crew aboard the *Snoopy* knows what actually happened that day. However, the tale of the *Snoopy* is meaningful if others learn from this tragedy.

(Note: Divers, both commercial and sport, should also be aware of the hazards munitions present).

Here are some tips on how to respond if you suspect you have encountered munitions at sea. Remember the 3Rs (Recognize, Retreat, Report).

Recognize

The military has conducted training and combat operations at sea for centuries. Prior to 1970, the military also sea disposed of excess, obsolete or unserviceable munitions en route to port or as part of planned disposals. In the 1970s, our military stopped sea disposal of munitions and now only allows it in an emergency. Mariners are cautioned they could encounter munitions anywhere during commercial operations, such as fishing or dredging. Using common sense and basic knowledge, you can spin your own story rather than becoming a character in a tragic sea tale.

Various Projectiles Recovered from the Water

Munitions can be encountered anywhere, not just in charted hazard areas, at sea. Munitions that crews may encounter include mines, torpedoes, depth charges, artillery shells, bombs and missiles. These munitions can contain high explosives or chemical agents that present a serious danger to a vessel and its crew.

- Munitions, to include those that have been lying dormant in sea or fresh water for many years, are extremely **DANGEROUS.** In some cases, munitions that have been in water for long periods may be more sensitive. It is best to avoid handling any suspected or actual munitions recovered from the sea.
- Often, munitions that are discovered on land or recovered from the sea are referred to as "duds" or "UXO" (unexploded ordnance), and such munitions can explode when handled.
- Munitions submerged in sea or fresh water for any length of time may be:
  - o Like new and easy to identify;
  - o Heavily encrusted with sea growth and difficult to identify.

MUNITIONS ARE DESIGNED TO BE DANGEROUS

Munitions are designed to injure, maim, or kill people, or to destroy a vessel or other equipment. The best protection from the hazards associated with munitions is to heed the warnings on nautical charts, avoid known disposal areas and learn the 3Rs (Recognize, Retreat, Report).

Aerial Bomb on Seabed

This guide includes drawings representative of various munitions that may be encountered. Drawings may help people recognize suspect munitions.

CHEMICAL MUNITIONS AND CHEMICAL AGENTS

Beginning in World War I, the Department of Defense (then, the Department of War) designed chemical agents to kill, seriously injure, or incapacitate an enemy. In the past, the United States and other countries sea-dumped both munitions with chemical agent fills and chemical agents in bulk, such as 55-gallon drums filled with chemical agents. As a result, some munitions or drums recovered from the sea may contain chemical agents.

Recovered Chemical Projectile

CHEMICAL AGENTS PRESENT A SERIOUS DANGER TO A VESSEL AND ITS CREW

Vessel crews should be alert for abnormal conditions that may indicate the presence of chemical agents:

- Unusual smells to tackle or fish;
- A stinging sensation in the eyes or burning, irritated skin;
- Corroded containers or suspicious clay-like lumps.

If chemical agents are suspected, immediate action is necessary to protect the crew and vessel.

- Close all doors and hatches;
- Shut down all ventilation systems;
- Steam into the wind to carry contaminants away from the crew;
- Move all crewmembers up wind;
- Contact the US Coast Guard for assistance.

In case of contact with chemical agents, immediately rinse with large amounts of water (if possible, warm soapy water), even if no effects are felt. Crewmembers should not work in a contaminated area and every effort should be made to prevent the spreading of contaminants.

Chemical Filled Projectile Recovered from Clam Beds

Fishing vessels that have come into contact with chemical agents must not bring their catch ashore until it has been checked and released by the appropriate state's Department of Environmental Health. Sea life contaminated by chemical agents is unsuitable for human or animal consumption.

A clean torpedo (top) and a recovered torpedo (bottom)

Retreat

The specific action required will depend on the circumstances. However, if possible, crews should avoid bringing munitions (or suspect munitions) onboard. If a munition is found, a decision must be made whether to retreat by carefully jettisoning the munition, cutting away the gear, if necessary or, as a last resort, securing the munition onboard and moving the crew away. Great care should be taken to avoid bumping the munition; each action carries risk.

NEVER BRING ACTUAL OR SUSPECT MUNITIONS INTO A PORT

MUNITIONS NOT ONBOARD

If an actual or suspect munition is recovered:

- Immediately stop all operations;
- Do not bring the munition or gear containing it onboard, if possible;
- Do not allow the munition to come or remain along side the vessel where wave action may cause contact with the hull;
- If a munition is in the gear and has not been brought onboard, try to safely lower it back into the water and, as indicated below, note the position and report it to the U.S. Coast Guard.
- If in shallow water (less than 130 feet), lower the munition to the bottom, buoy off the net or dredge recovery lines (remain in the immediate area).
- If in deep water, stream the munition as far aft as possible and maintain steerageway as necessary. Remain in the area while awaiting assistance.

A clean Aerial Bomb (top), a recovered Aerial Bomb (bottom)

MUNITIONS ONBOARD

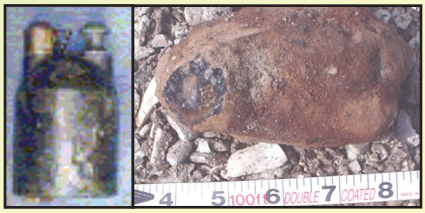
If an actual or suspected munition in the gear is brought over the deck, but remains suspended and can continue to be safely suspended in place or nearby, immediately:

- Secure the munition with guy lines to prevent further movement;
- Keep the crew away from that area.

If a suspect munition is brought onboard:

- Keep unneeded crew members as far away as possible.
- Decide whether to do one of the following:
  - o Carefully jettison it, or
  - o Retain it onboard.
- If jettisoned, note position and report it.

- If retained onboard:
  - Limit handling and avoid hitting or bending any part of the munition;
  - Stow the munition on deck as far away as possible from heat sources, vibration and the crew, but limit handling;
  - Firmly chock and lash the munition to prevent movement;
  - Cover and/or wet to minimize the potential for:
    - Deterioration of metal parts and release of any fill;
    - Explosives to dry out and become sensitive to shock.
  - Keep crew away from item.
  - Request assistance. (Channel 16--156. 800 MHz)



French Rifle Grenade in good condition (left) and a recovered grenade (right)

If within 2 or 3 hours of land, the safest measure is to notify the US Coast Guard and move to a rendezvous area offshore.

Report

*C*areful observation is necessary prior to reporting, so that proper instructions and assistance can be provided. The information you provide may also be combined with other reports to produce new warnings to mariners and update nautical charts.

When actual or suspect munitions are encountered at sea, the vessel's captain should ensure the US Coast Guard is notified and provided the below information, as soon as possible. (Note: If a munition is encountered while in port [e.g., during off loading or processing] call 911.)

- The vessel's position (use World Geodetic System 1984 [WGS-84] for reporting).
- If the exact position is unknown, give approximate coordinates, or a range and bearing from a charted feature.
- The activity being conducted when the munition was encountered (e.g., fishing, dredging).
- A general description of the munition's key features (size, shape, fins, props, markings) and condition (Never attempt to clean the munition for identification purposes, open it, or tamper with it in any way).
- The action taken (e.g. stowed or jettisoned).
- If jettisoned, also provide:
  - The position of the release, water depth, and buoys or markings used;
  - A description of any entanglement (e.g. net, dredge) or other details.
- Any unusual odors, if noticed.
- Whether the munition was jettisoned:
  - In or near a charted munitions dump;
  - Near (within 1,000 yards of) any surface or sub-surface structures.

Recovered Hand Grenades

Recovered 60mm Mortars

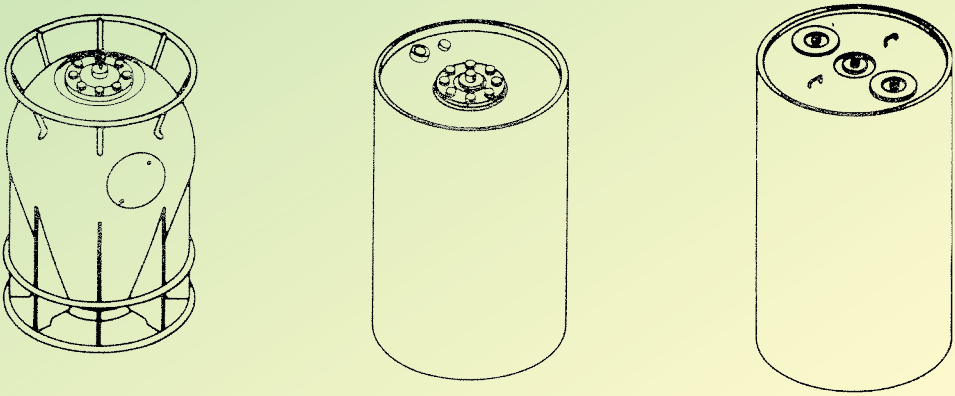
Recovered Fragmentation Bomb [1]

THE US COAST GUARD WILL NOTIFY THE APPROPRIATE MILITARY EXPLOSIVE ORDNANCE DISPOSAL UNIT TO ARRANGE FOR REQUIRED SUPPORT

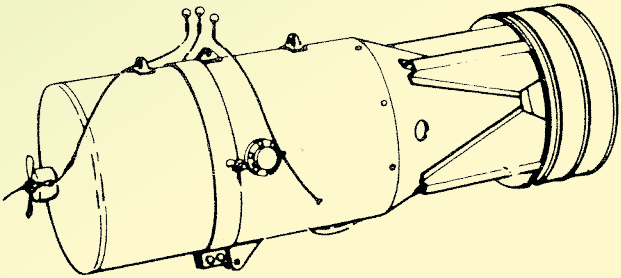
A clean 5-inch 38 Caliber Projectile (Left) and recovered 5-inch 38 Caliber Projectiles (Right)

[1] Photographs Courtesy of AMPRO Consultants.

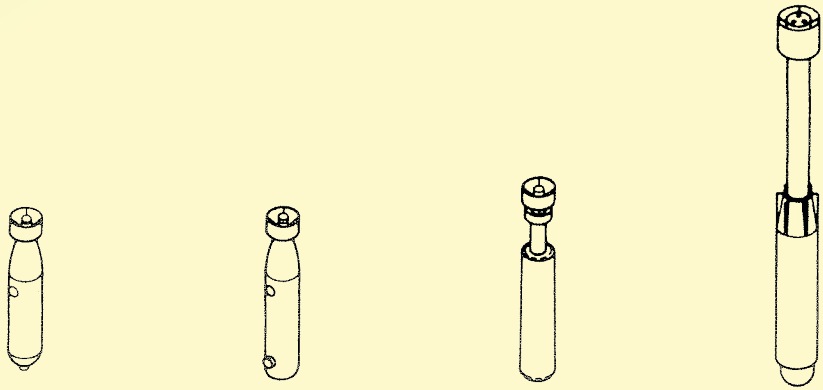
[2] *A Fisherman's Guide to Explosive Ordnance,* UNC Sea Grant College Publication UNC-SG-81-05, May 1981.



Depth Charges
Length 28"
Diameter 18" to 25"

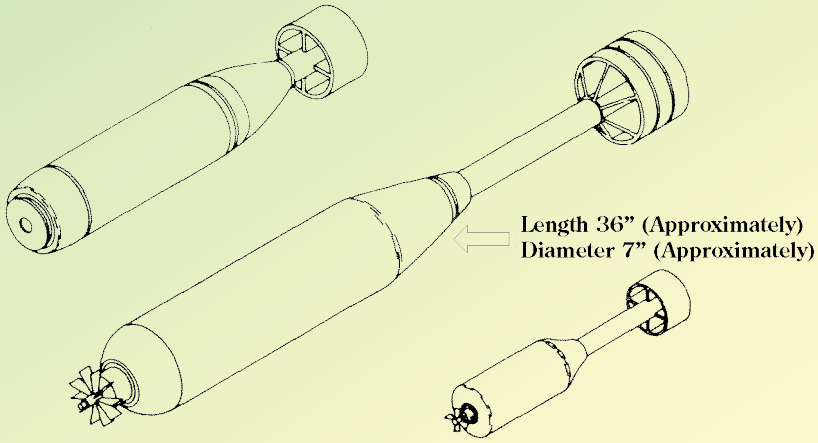


Depth Bomb
Length 50"to 59"
Diameter 15" to 18"

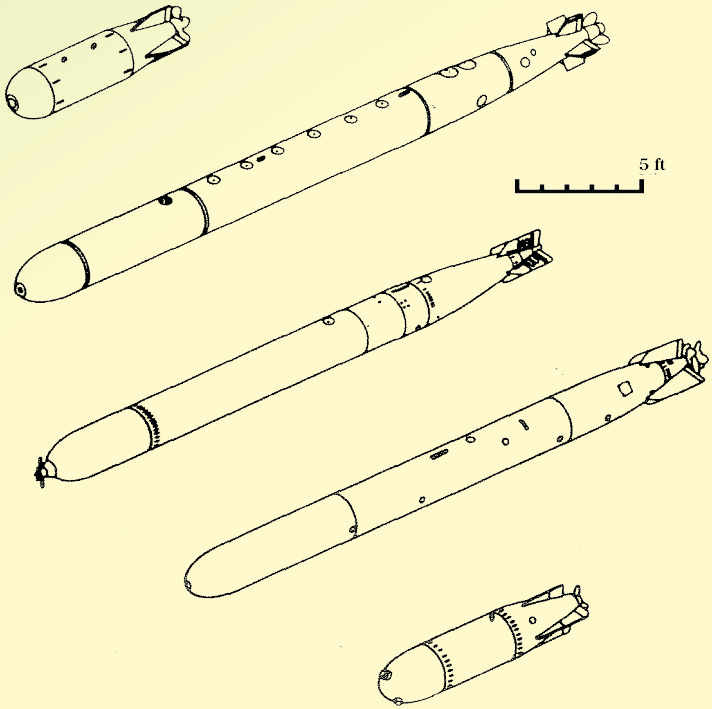


Practice Depth Charges

Diagrams from UNC Sea Grant College Publication UNC-SG-81-05, May1981[2]

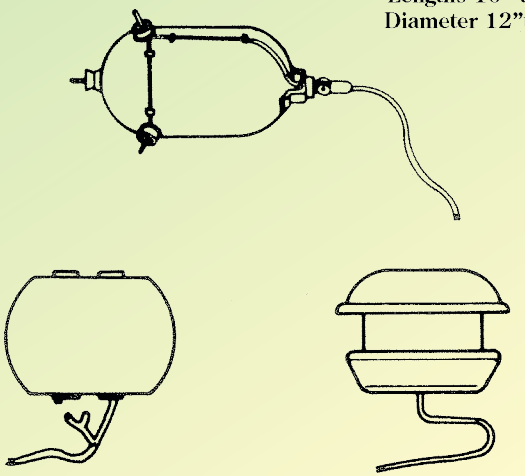


Projected Anti-Submarine-Warfare Weapons



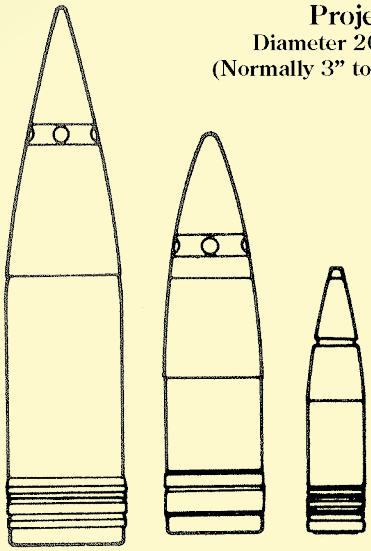
Representative Torpedoes

Miscellaneous Mine Floats
Lengths 10" to 24"
Diameter 12"to 18"

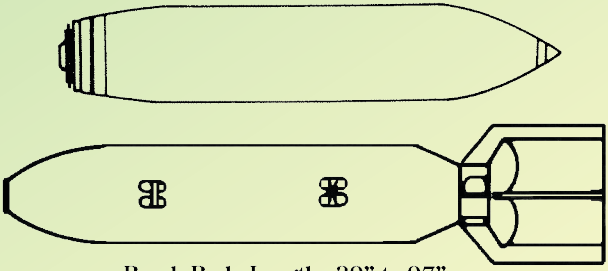


Miscellaneous Mine Floats

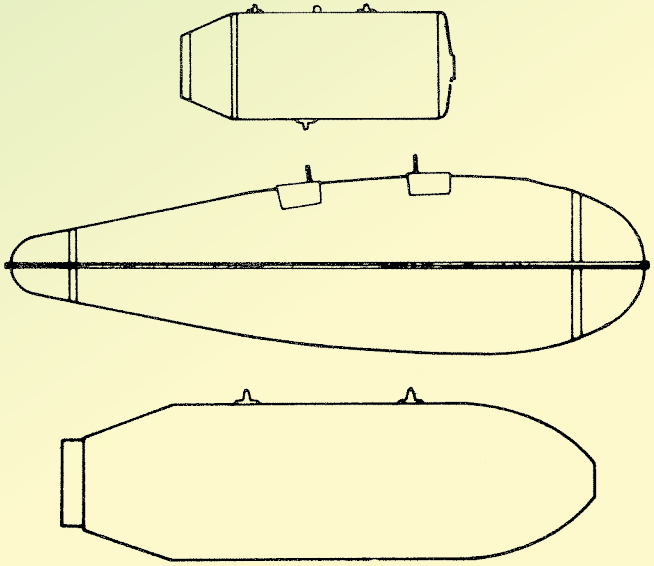
Projectiles
Diameter 20 mm to 16"
(Normally 3" to 5" in Diameter)



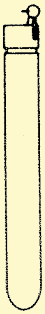
Projectiles



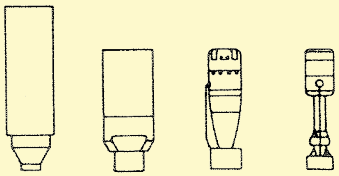
Bomb Body Lengths 39" to 97"
Diameter 7" to 19"

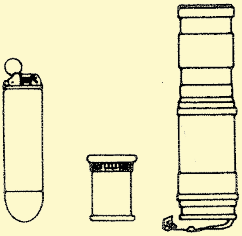


Aerial Bombs



Markers and Signals
Lengths 10" to 18" (Approximately)
Diameter 2" to 5" (Approximately)





Markers and Signals

Don't Forget

Munitions are dangerous, and may not be easily recognizable!

Avoid known explosives disposal areas!

Do not bring munitions on-board!

Avoid physical contact, if possible, but minimize handling to that needed to protect the vessel and crew!

Never bring a munition into port, unless directed to do so by USCG!

Remember the 3Rs

Recognize: Recognize when you may have encountered a munition.

Retreat: If you know or suspect you have encountered a munition, jettison it or secure it and keep the crew out of the immediate area.

Report: Immediately notify the US Coast Guard of the vessel's or munition's location and provide a description of the munition. Emergency contacts:

- In Port: Call 911
- At sea: Use Channel 16 (156.800 MHz)

For additional information on this and related issues see the US Army's UXO Safety Education Website www.denix.osd.mil/UXOSafety

Prepared by the Defense Ammunition Center
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