WWII shipwrecks could threaten US coast

17 July 2011, By Frank D. Roylance, The Baltimore Sun

On the evening of Feb. 2, 1942, an unarmed tanker with 66,000 barrels of crude oil on board was steaming in the Atlantic, about 90 miles off Ocean City, Md. Without warning, it was struck by German torpedoes. The attack set the W.L. Steed ablaze, and sank it; only a handful of the crew of 38 survived.

As World War II unfolded, the Germans had moved part of their sub pack west to attack shipping along the coast. By the time the Nazis withdrew the subs in July to focus on convoys crossing the North Atlantic, they had sunk 397 ships in U.S. coastal waters.

That wartime legacy has become a new environmental problem, raising concern about leaks from the W.L. Steed's sunken fuel bunkers and cargo - and from many others like it.

The National Oceanic and Atmospheric Administration is taking an inventory of more than 30,000 coastal shipwrecks - some of them casualties of the 1942 Battle of the Atlantic - and identifying those that pose the most significant threat.

"We're starting to see significant corrosion. Vessels that weren't totally torpedoed didn't break apart and may have intact fuel tanks," NOAA's Lisa C. Symons said.

It's not just the ship's own fuel bunkers, either. Many, like the W.L. Steed, sank with holds filled with crude oil, fuel oil, diesel fuel and explosives. Leaks of those products "could devastate coastal communities and coastal environments," Symons said.

So far, the worst-threat list has been narrowed to 233 vessels, said Symons, damage assessment and resource protection coordinator for NOAA's National Marine Sanctuaries office in Silver Spring.

The final list will be submitted by year's end to the Coast Guard. Once priorities are established, efforts to remove the oil from the wrecks could begin, paid through the Oil Spill Liability Trust Fund, which is supported by the oil industry.

While NOAA's risk assessments are not complete, Symons did identify five sunken ships - four within 60 miles of the coast - that could make the list as environmental threats to Maryland. They include:

-John Morgan, a Liberty ship built in 1943 at the Bethlehem-Fairfield Shipyards in Baltimore. In June 1943, on its maiden voyage, it collided with another vessel off Cape Henry and sank with a cargo of fighter planes, tanks, arms and ammunition. Sixty-seven crew members and armed guards perished.

-Marine Electric, a coal carrier out of Norfolk, Va. With 3,600 barrels of fuel oil in its bunkers, it foundered in heavy seas and sank 30 miles east of Chincoteague Inlet in February 1983. Thirty-one of the 34 crew members died in the frigid water.

-Varanger, a Norwegian tanker. It was torpedoed on Jan. 25, 1942, while carrying 12,750 tons of fuel oil. As the crew took to lifeboats, the Germans fired three more torpedoes. The ship sank 28 miles southeast of Atlantic City, N.J., but the lifeboats were spotted and fishing boats towed them to shore.

-India Arrow, an oil tanker. On Feb. 5, 1942, the tanker, carrying 88,369 barrels of diesel fuel, was torpedoed 20 miles southeast of Cape May, N.J. Nine officers and 29 crew abandoned ship, but only 12 survived.

Spills from wrecks are a global threat, with the highest concentration of ships lying in the western Pacific. But the U.S. coastline, too, is littered with vessels sunk by Japanese and German submarines, in collisions or storms.

NOAA is using a $1 million appropriation secured last year by Maryland Sen. Barbara A. Mikulski and Rep. Elijah E. Cummings, both Democrats, to inventory wrecks and identify environmental

threats. Part of NOAA's task has been to comb through ship manifests, naval records, reports of sinkings, insurance documents and survivors' accounts to determine which ships burned and which probably went down with their fuel and cargo.

From that, the agency can work to identify those posing the greatest risk of leaking, and those offering opportunities for salvage operations to recover the oil or other cargo before it becomes a costly spill.

Some are already leaking. The most famous example is the 608-foot battleship USS Arizona at Pearl Harbor, Hawaii. Sunk Dec. 7, 1941, during the Japanese attack, it went down with 1,177 sailors on board, and 1.1 million gallons of fuel. About half of that fuel remains on board and continues to leak into the harbor.

At a Baltimore conference last month, David L. Conlin of the National Park Service said his study of the leak found that previously intact fuel compartments are still corroding, rupturing and releasing their contents.

While Conlin's study concluded there is "no pressing need" for "invasive" procedures to enter the ship - which is a war grave - to recover the fuel, it also suggests how long these 70-year-old wrecks may remain environmental concerns.

"Three hundred sixty years from now, in the core part of the USS Arizona, the oil bunkers here will still have significant structural integrity," he said.

Another example is the SS Jacob Luckenbach. A freighter carrying military supplies, it left San Francisco in July 1953, headed for Korea, when it struck another vessel in fog. It sank just 17 miles off the coast, settling in 180 feet of water with 457,000 gallons of bunker fuel on board.

In the early 1990s, Californians began to notice mysterious, intermittent oil spills on their beaches. Over the next decade, more than 51,000 shorebirds were covered with oil and died. Oil and tar balls floated onto the beaches.

Investigators sampled the goo and tried to match it to fuel in the bunkers of passing ships. "But we couldn't figure out where it was coming from," Symons said.

It wasn't until 2002 that the state's technical dive community - recreational divers who used advanced technologies to reach more challenging sites - came forward and said they knew a shipwreck in the area that had been leaking oil for years, Symons said. It was the Luckenbach.

Cleanup and wildlife rehabilitation cost $2 million. Salvage of 100,000 gallons of the ship's oil eventually cost another $20 million, said Dagmar Schmidt-Etkin of Environmental Research Consulting. The rest remains on board.

Identifying wrecks that pose a serious risk of leaks and extracting the fuel before an incident occurs is costly, she said. But there is a cost to doing nothing, too: the economic losses to fisheries and tourism; monitoring wrecks for signs of spills; maintaining the personnel, equipment and supplies needed to respond when needed; cleaning the shoreline and oiled wildlife; and disposing of the oil.

Her study estimated the costs of dealing with an oil spill from a shipwreck at $1 million to $5 million for a small spill at a protected location, to $20 million to $100 million for a big, complex spill recovery in a difficult, or open-water location.

Symons said there are many more ships like the Luckenbach off North Carolina, Virginia and Maryland, "and all the way up the seaboard, with the potential for having significant pollutants on board. We can wait until one of these vessels breaks apart, or we can try to be proactive."

Scott Wahl, public information officer for the New Jersey beach town of Avalon, said at the conference that his town has just 2,000 year-round residents. But its beach economy is dependent on clean and healthy beaches.

"Every job along the beach is dependent on clean beaches," he said. "Without that sand on the beach, we don't have an economy. Without a clean environment, we don't have an economy." Preventing spills from shipwrecks, he said, "is not a

cost; it's an investment."