



## Coast Guard Sector Houston-Galveston Marine Safety Information Bulletin 02-17

### Loss of Vessel Propulsion and Maneuverability Due to Clogged Sea Strainers

Gulf Menhaden, small fish common to Galveston Bay and coastal waters, present a seasonal threat to ships transiting Galveston Bay and the Houston Ship Channel (HSC). These small fish are commonly ingested into sea strainers causing transiting ships to lose propulsion or experience reduced propulsion; which could hazard affected vessels, other vessels in proximity and waterfront facilities. The Menhaden hazard is highest between the months of May through October although incidents of sea strainers clogged with Menhaden have been reported between November and April. Gulf Menhaden are most commonly found in coastal and inland tidal waters. They form large surface schools, typically in Gulf near-shore waters. The fish, attracted to the sea chest of transiting ships, become trapped in sea strainers. This, in turn, restricts cooling water available to propulsion machinery and results in high water and lube oil temperatures. In some instances Menhaden have entirely clogged the coolant systems aboard affected vessels and caused engines to overheat. The result is often automatic engine shutdown or slow down. The risk in 2017 is increased as the Texas Department of Parks and Wildlife anticipates greater than normal Menhaden concentrations in Galveston Bay and coastal waters.

In 2016, the Lone Star Harbor Safety Committee (LSHSC) developed a feedback form (*Vessel Questionnaire on Cooling Water Impacts by Menhaden Fish*) and requested that transiting deep-draft vessels provide feedback on the problem. This information aided efforts to determine how these fish are being ingested, which lead to identification of best practices to mitigate the potential impact on transiting vessels. In 2017, the LSHSC will again request feedback to continue its analysis and development of effective strategies to counter this seasonal threat.

#### **Recommended Best Practices:**

1. Filter strainers should be in place whenever sea chests are in operation. Isolation valves should be closed and switched to a sea chest equipped with a clean filter strainer.
2. Sea strainers should be cleaned regularly and procedures for cleaning established. These procedures may include back-flushing by opening the strainer outlet valve from upstream to prevent fish carryover into the pumps, and closing the valves on either side of the strainer to isolate the strainer prior to accessing it for cleaning.
3. Inspect and clean the service sea chest prior to transit. Ensure filters and coolers are clean prior to entry into U.S. waters. Implement a preventative maintenance system that requires frequent cleaning and exchange between sea strainers.
4. Monitor the pump pressure and filters. If reduced performance is observed, initiate immediate cleaning of sea strainers.
5. Develop a contingency plan and ensure all engineering personnel are familiar with the plan. Consider posting a double watch in the engine room while in pilotage waters. Have personnel ready to access and clean sea strainers during transit.

6. All tools and equipment necessary to access the sea chest and clean the strainer should be on hand and ready for immediate use.
7. Consider maintaining spare, clean filter strainers onboard, to facilitate quick exchange of strainers.
8. Consider implementation of an engineering-designed approach, such as using the aft peak tank for seawater cooling purposes. Internal cooling, for example, is commonly used aboard vessels that operate in extreme cold weather conditions such as the Baltic Sea and Great Lakes during the winter months.



This bulletin shall remain in effect until April 10, 2018.

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