

Vessel Loss of Propulsion Trends (2021-2025)

Spill Prevention, Preparedness, and Response

The Washington State Department of Ecology collects information on loss of propulsion (LOP) incidents on deep draft vessels in local waters. Deep draft vessels are the largest commercial cargo vessels that visit our state, and include container ships, bulk carriers, general cargo vessels, and tank ships. An LOP is the failure of the propulsion system to propel the vessel as designed.

This focus sheet examines trends associated with the 227 LOP incidents reported by deep draft vessels locally between 2021 and 2025.

Loss of propulsion trends over the last five years

Ecology receives around 30-60 loss of propulsion reports per year. Over the last five years, there was a slight downward trend in the number of reports per year (Figure 1).

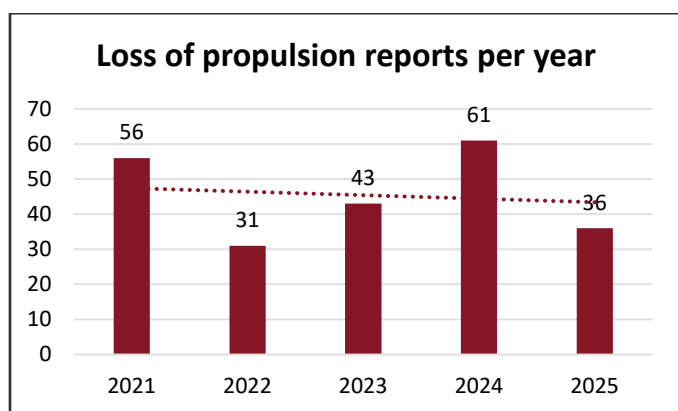


Figure 1: Reported loss of propulsion incidents per year (2021-2025).

Different vessel types experience LOPs at different frequencies. Bulk carriers and general cargo vessels report them at the highest rate (Table 1).

Vessel Type	Average rate of LOP
Bulker/General Cargo	1 in 55 transits
Container	1 in 225 transits
Vehicle Carrier	1 in 244 transits
Tank Ship	1 in 322 transits
Cruise Ship	1 in 1,277 transits

Table 1: Average transits per loss of propulsion incident (2021-2025)

On average, there is around one LOP per 126 transits. Figure 2 shows the rate of LOPs per transit, which also declined slightly over the last five years.

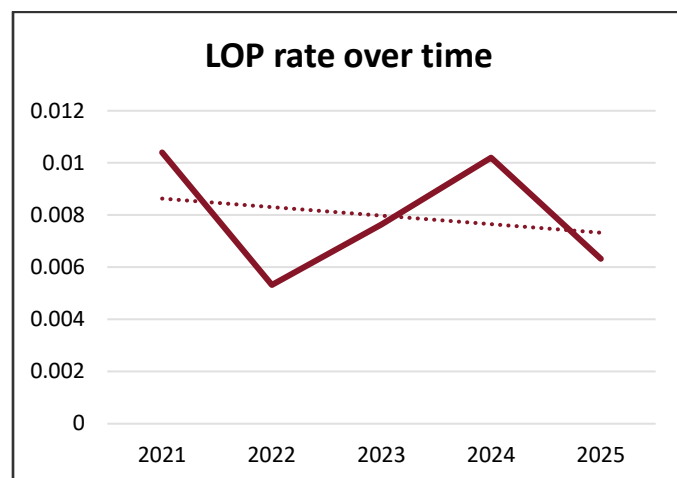


Figure 2: Loss of propulsion incidents per transit in local waters (2021-2025).

Loss of propulsion locations

Just under half of LOPs reported to Ecology occur in the Columbia River system. Another 37 percent of reported LOPs occur in the Strait of Juan de Fuca and the Puget Sound. The remainder take place off the Washington Coast (11 percent) and in Grays Harbor (3 percent) (Figure 3).

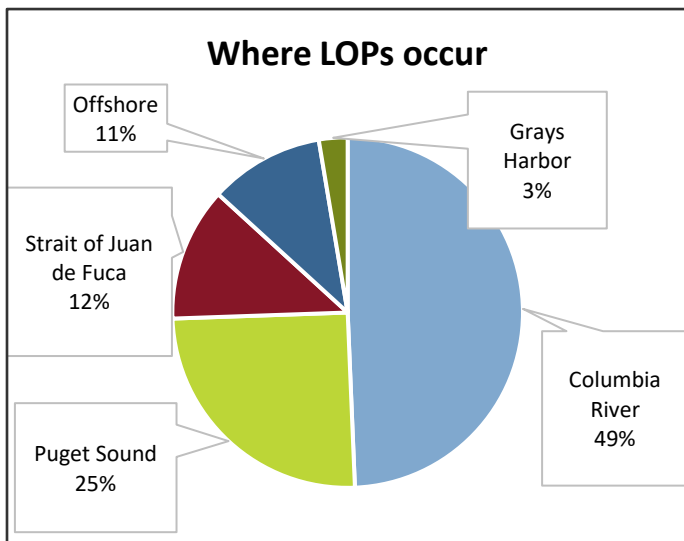


Figure 3: Geographic distribution of losses of propulsion (2021-2025).

What causes a loss of propulsion

Vessels most often cited their fuel system as the cause of loss of propulsion (32 percent), but there is a fairly wide distribution of causes described in the reports (Figure 4).

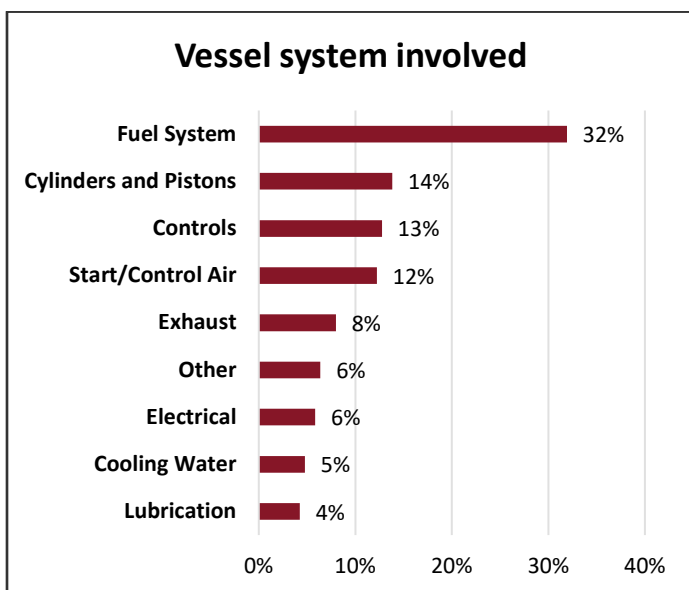


Figure 4: Primary system involved in recent loss of propulsion incidents in local waters (2021-2025).

Preventing loss of propulsion incidents

Recommendations for LOP prevention are available in the Propulsion Loss Prevention section of the Puget Sound Harbor Safety Plan.

The Puget Sound Harbor Safety Plan also includes prevention recommendations related to enhanced maintenance procedures and pre-arrival tests and recommended actions to take in the event of a propulsion or steering loss.

The Lower Columbia River Harbor Safety Plan contains a list of immediate recommended actions following a reduction of propulsion or steering.

Additional recommendations for LOP prevention can be found in the USCG Marine Safety Alert 13-15 on Ultra Low Sulfur Fuel Oil & Compliance.

Next Steps

We will continue to collect information associated with the propulsion losses in Washington waters and produce summaries like this one.

Our goal is to increase awareness of these events, monitor trends and develop recommendations for the prevention of future incidents.

Loss of propulsion resources

- [Focus on: Vessel loss of propulsion incidents \(December 2018\).](#)
- [Puget Sound Harbor Safety Plan Propulsion Loss Prevention Standard of Care](#)
- [Lower Columbia River Harbor Safety Plan Incident Management Guidelines](#)
- [US Coast Guard Marine Safety Alert 13-15 regarding ULSFO](#)
- [CG Safety Alert 01-11, Quick-Closing Valves, 31Jan2011](#)



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