



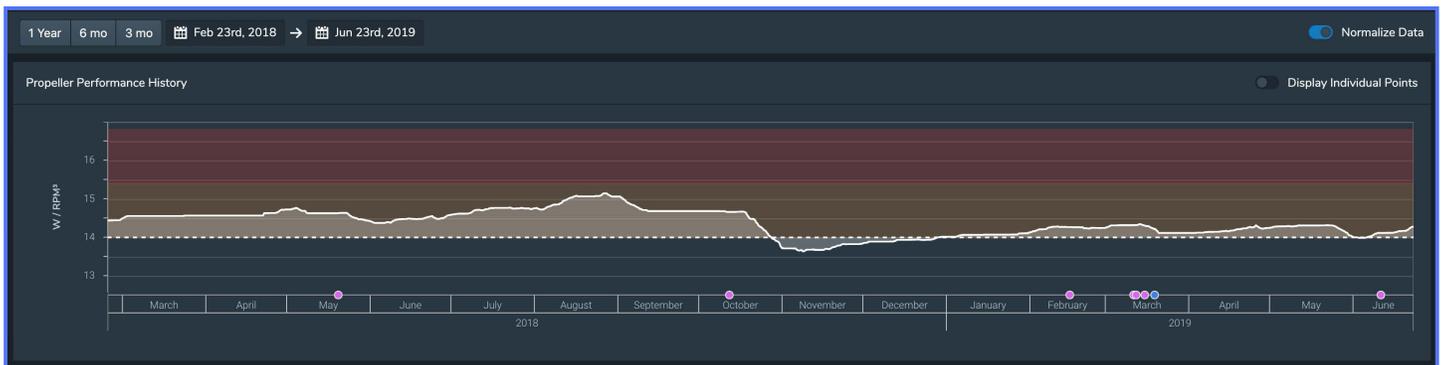
Condition-Based Propeller Maintenance

Identify, alert, and schedule propeller polishings based on the actual condition of the vessel

Historically, owner/operators have used deviations in slip to understand vessel performance degradation over time. However, these assessments are typically based on manual data, via noon reports,

that don't contextualize or account for variable influences like weather—resulting in maintenance decisions that are retroactive, less profitable, and indifferent to the true cause of degradation.

Accurately assess real-time propeller performance in any condition, regardless of existing weather events—to better determine maintenance at the vessel and fleet levels.



By using high frequency data taken directly from shaft torque meters, Nautilus Platform can identify, alert, and predict timing for propeller polishings (outside of manual slip calculations)—for optimal cleaning and bunkering.

Nautilus Platform translates the relationship between shaft power and shaft speed into a real-time view of propeller health. And with models that continuously update, Platform users can receive alerts as fouling accumulates.



Condition-Based Propeller Maintenance

Since noon reports are infrequent, averaged, and uncontextualized, it's impossible to recognize or discern the source of performance changes, as they happen. Nautilus Platform ingests and visualizes high frequency data, so that owner/operators can make better decisions on propeller health—in real time.

With Nautilus Platform:

- Understand your vessel's calm water performance in any weather condition
- Accurately determine the cause of performance degradation over time
- Determine which vessels need immediate attention
- Create and receive alerts for maintenance events



Nautilus Platform implements advanced machine learning techniques that quantify the relationship between shaft speed and shaft power—based on each vessel's historical performance. By stripping and reapplying a ship's range of potential weather and draft

conditions, the Platform converts these unique models into a “calm water performance” view, so that owner/operators can clearly see degradations in performance due to fouling—or improvements after a propeller has been cleaned and polished.