BPS MARINE™
ULTRASONIC ANTIFOULING TECHNOLOGY

LEOPARD 42 CASE STUDY

BY BPS MARINE

INTRODUCTION

Maintaining the hydrodynamic efficiency of a Leopard 42 catamaran in the aggressive bio-growth environment of Charleston requires more than just standard bottom paint. Over a nine-month deployment, BPS Marine implemented a precision-engineered ultrasonic antifouling system tailored to protect the vessel's expansive wetted surface area.

This case study analyzes how our technology preserved the catamaran's sailing performance and fuel efficiency under motor by eliminating micro-fouling at the source—effectively bypassing the heavy drag and costly haul-out schedules typical of South Florida waters.



REPORT LOG 1

The installation was completed in May 2025 while the vessel remained in the water in Charleston, South Carolina. Because the equipment mounts internally, our technicians were able to seamlessly integrate the BPS Marine PRO-8 system into the Leopard 42 without the need for a costly and time-consuming haul-out. To ensure precision ultrasonic protection across the catamaran's twin-hull profile, eight transducers were strategically mapped and bonded to the inside of the hulls—four in each hull—providing true edge-to-edge coverage. The system's control module was then secured within a dry engineering space, ensuring clean integration with the vessel's 12V house bank while keeping it easily accessible for routine inspections.

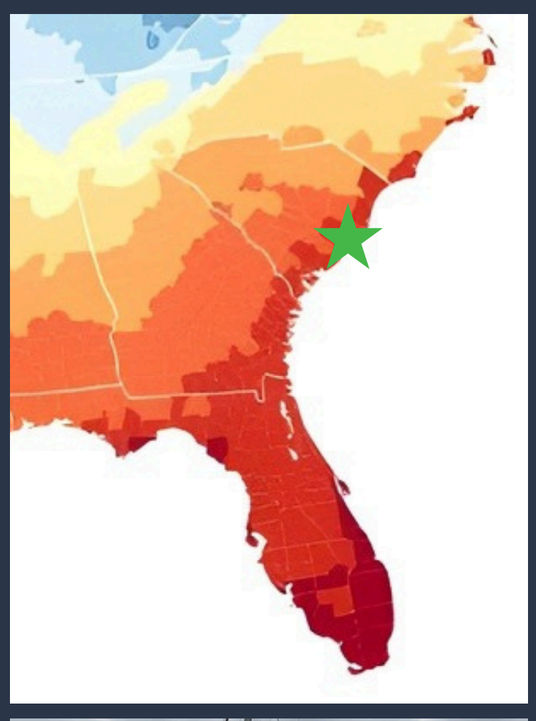






LOCATION: CHARLESTON SC

The study is being conducted in Charleston, South Carolina, a major destination for East Coast cruising and sailing. The region's subtropical climate drives warm water temperatures, while its complex network of nutrient-dense salt marshes and significant tidal swings create a highly active marine ecosystem. This brackish, estuarine environment makes Charleston a uniquely aggressive bio-fouling zone, resulting in rapid marine growth that poses a continuous challenge for vessel maintenance.





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PROJECT SUMMARY

This report details a 1-year field study of the BPS Marine ultrasonic antifouling system aboard a Leopard 42. Conducted in Charleston, South Carolina, the vessel was subjected to the region's notoriously aggressive bio-fouling, driven by nutrient-rich salt marshes and strong tidal flows. Activated immediately after an in-water installation, the system ran continuously for 12 months without the need for any supplemental hull cleaning or maintenance.

This full-year test was designed to isolate the PRO-8's ability to protect expansive fiberglass hulls from severe marine growth. Upon its scheduled haul-out and inspection, the Leopard 42’s twin hulls were completely free of hard fouling, validating the technology's ability to protect sailing catamarans in demanding, high-growth ecosystems.



REPORT LOG 2

By stopping the initial attachment of bio-slime and barnacle larvae, the system successfully eliminated the heavy drag that typically plagues multi-hulls in Charleston's active waters. This preserved the Leopard 42's optimal sailing performance, ensuring the catamaran maintained its day-one cruising speeds and fuel efficiency. The 1-year haul-out inspection revealed the fiberglass hulls remained entirely free of hard marine growth, confirming that the strategic ultrasonic mapping delivers 100% effective coverage.



TEST BOAT: L42

The vessel selected for this performance evaluation is a Leopard 42, a modern fiberglass catamaran featuring a distinct twin-hull geometry. This specific model serves as an ideal benchmark for the global cruising and charter market. Its dual hulls and expansive wetted surface area provide a highly demanding platform, allowing for rigorous testing of the BPS system’s acoustic signal distribution, structural conductivity, and overall effectiveness across complex fiberglass profiles.

