



## CASE STUDY

# Fast Water Aids to Navigation Help Protect Property and River Users

*Merrimack River, Massachusetts, USA*



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## Project Overview



### Application

Rivers with Fast Currents



### Product

- Fast Water Buoy in Regulatory Slow No Wake Style (SL-B1200)
- Solar LED Marine Lantern with 1-2NM Range (SL-15)



### Location

Merrimack River  
Massachusetts, USA



### Date

2019, 2020



## Background

The 117 mile (188km) Merrimack River begins in the USA's state of New Hampshire. It empties into the Gulf of Maine, via the state of Massachusetts. Currents and tides run fast in its lower section. Shifting sandbars quickly drop off to deeper water. Tides, currents and rip currents in the picturesque New England river present unsuspecting dangers to boats and river users.

The last 8 miles of the Merrimack River are navigable. It is a relatively shallow section of the river with a current that typically exceeds 5 kts. There is little commercial vessel traffic along the lower part of the river now, but it is seasonally used by several thousand recreational boats, kayaks, Stand Up Paddle boards (SUPs), school crew teams, as well as a few fishing fleets.

The river's main channel is marked with aids to navigation (AtoNs) by the U.S. Coast Guard. Municipal marine patrol agencies monitor the local boating traffic and work to minimize damage from the wakes of speeding vessels. Excessive speed creates large wakes that swamp smaller craft, damage docks and vessels, erode shorelines, and disturb nesting waterfowl.

## Challenge

Jack Bailey has served as a local harbormaster for decades. It's his job to ensure everyone who uses the Merrimack River in his jurisdiction is safe. He had previously used Slow No Wake buoys to remind passing boaters to keep headway speed to a minimum. But the river's swift current pushed them over, submerged them, or dragged them off-station. The marine lanterns he had used for nighttime buoy illumination failed from water ingress. Harbormaster Bailey sought a better solution to keep his floating AtoNs visible to all users in the swift river current.



The unique hull shape of the SL-B1200 Fast Water Buoy allows it to ride on top of the water, ensuring excellent visibility in currents up to 8kts.



The SL-B1200 is available in both regulatory and navigation styles in IALA compliant colors and styles. An integrated, topside lifting ring makes deployment and retrieval simple.





Harbormaster Jack Bailey knows the SL-B1200 Fast Water Buoy will stand upright and be highly visible when the current is fast.



The precise location of the (supplied) 32mm shackle helps the SL-B1200 Fast Water Buoy ride on top of water flowing up to 8kts.

*“The Sealite buoys are the best option to mark my section of the river. They look and perform so much better than the other buoys. And the lanterns have worked flawlessly for 5 years before requiring a battery change! It’s a great solution for rivers with fast currents like the Merrimack.”*

– Jack Bailey  
Harbormaster, City of Amesbury

### Solution

Harbormaster Bailey knew Sealite’s SL-B1200 Fast Water Buoy would be an optimal marking solution for the swift current of the Merrimack River. The innovative design of the SL-B1200 features a combination of a traditional float-collar buoy and boat hull. The integrated bow and keel help keep the buoy in the current. A relatively flat bottom allows water to flow underneath it, instead of pushing it over or submerging it. Sealite’s SL-B1200 remains stable as it rides on top of the water, helping to increase visibility for the Slow No Wake message to passing boaters.

The SL-B1200 is available in regulatory and navigation styles in IALA compliant colors. All of Sealite’s buoys are rotationally molded to eliminate seams. Rotational molding also ensures uniform thickness for strength and durability. The material used in the molding process is UV stabilized polyethylene to help the buoys resist fading in strong UV environments. Closed-cell polyurethane foam filling helps inhibit water ingress in case of puncture from a boat collision or ice – both of which are frequent occurrences on the Merrimack River.

Sealite’s SL-15 1-2NM Solar LED Marine Lanterns were installed on the SL-B1200 Fast Water Buoys. The lanterns add visibility for the buoys at night and in foul weather. The SL-15s are designed to be maintenance-free, utilizing a single, white LED with a life expectancy of 100,000+ hours. An autonomy of 50+ days is achieved with the use of an easily replaced NiMH 2.4Ah battery. The SL-15s are completely sealed and waterproof to IP68 standards, feature 16 user-adjustable flash characteristics, and 32 intensity settings, and are available in green, red, white and yellow.

### Outcome

After two years of use, Harbormaster Bailey has complete trust in the Sealite SL-B1200 Buoys with SL-15 Solar Marine Lanterns. The Slow No Wake regulatory signage on the buoy is highly visible to passing boaters and the marine lanterns have provided years of reliable service. The Merrimack River is safer for users, damage to docks and boat has been reduced, shoreline erosion has slowed and nesting waterfowl have gone undisturbed.



The SL-15 1-2NM Solar LED Marine Lantern is quickly and easily installed, has a service life of over 5 years and is available in red, green, white and yellow.



All Sealite products are manufactured to exacting standards under strict quality control procedures. Sealite's commitment to research and development, investing in modern equipment and advanced manufacturing procedures has made us an industry leader. By choosing Sealite you can rest assured you have chosen the very best.

- ✓ Experienced & Trained Personnel
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- ✓ Rapid Turnaround

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