



Marine Safety Information Bulletin

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MSIB Number: 003-24
Date: August 23, 2024
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Autonomous Unmanned Watercraft on the Great Lakes

The Ninth Coast Guard District is issuing this Marine Safety Information Bulletin to bring awareness to autonomous unmanned vessels operating on the Great Lakes.

The Great Lakes provides an ideal environment for unmanned autonomous vessels to conduct a myriad of scientific and research missions. Federal and State agencies, educational institutions, and technology developers are utilizing autonomous unmanned vessels to, for example, identify toxic algae blooms near drinking water intakes, monitor fish populations, and chart navigable channel depths.

While these vessels may provide useful service contributions, their increasing presence and diversity of form, shape, and function brings an added layer of complexity for other vessels navigating on the Great Lakes. Below are some suggested precautions that all mariners, vessel owners and operators should consider while planning an outing or transit.

Stay Informed: Research vessel deployment and operations are communicated to the U.S. Coast Guard and are advertised to the public via:



Broadcast Notice to Mariners (BNM) on VHF Channel 16.

BNM textual format:

<https://www.navcen.uscg.gov/broadcast-notice-to-mariners>

Ninth District ***Local Notice to Mariners*** (LNM):

<https://www.navcen.uscg.gov/local-notice-to-mariners-main>

Subscribe to receive BNM's and/or LNM's weekly to your email:

<https://www.navcen.uscg.gov/subscribe-email-rss-feeds>

Maintain Navigational Awareness: These vessels operate on the surface, underwater, or both and each vessel differs drastically in autonomy, anti-collision capability, and maneuverability. The safest approach is to regard these as hazards to navigation and once sighted- make all possible attempts to keep clear.

To aid mariners in sighting and avoidance, the common identifiers of autonomous unmanned watercraft(s) include the following vessel characteristics:

- A flashing white or yellow light
- Retro-reflective markings
- Markings that identify craft as UNMANNED
- Yellow or Orange paint scheme
- Radar reflector and/or Automatic Identification System (AIS)

If you have any questions concerning this matter, please contact Lieutenant Commander Jason Radcliffe at (206) 820-3336.