

Marine Invader ID Cards

Marine Invader Monitoring and Information Collaborative

The Marine Invader Monitoring and Information Collaborative (MIMIC)—coordinated by the Massachusetts Office of Coastal Zone Management (CZM)—brings together scientists, resource managers, and coastal community members to search for marine invasive species. Since 2006, hundreds of trained participants have monitored more than 180 sites from Rhode Island to Canada. The goals of MIMIC are to understand patterns of established invaders, detect new invaders, educate the public, and get outside to learn and have fun!

How to use these cards

These ID cards provide information on the 22 species monitored by MIMIC. Each card covers a taxonomic group, including tunicates, bryozoans, crustaceans, anemones, bivalves, nudibranchs, and marine algae (seaweeds). The 22 species were chosen because they are identifiable in the field, commonly occur in monitored habitats, and are of scientific or management interest. The front of each card includes identification tips and notes on distribution for each MIMIC species. The back of each card describes similar looking native, non-native, and cryptogenic (native range unknown) species. The ID cards were developed based on current scientific literature, consultation with experts, and best professional judgment. Unless otherwise noted, illustrations are by Betsy Rickards, CZM.

Invasive species are introduced to a non-native location by human activity and can cause harm to the environment, economy, or public health. Invasive species can arrive in a new location through a number of vectors, which include transport via ballast discharge, vessel fouling, aquaculture, marine debris, and trade of live seafood, live bait, or ornamental species. Though the real number is likely higher, more than 75 marine invasive species have been documented along the Northwest Atlantic coast. Since species can arrive at any time, it is important to have eyes on the coast to detect new invaders before they become established.

Need more information?

Contact CZM at marine.invasives@mass.gov or see the CZM Marine Invasive Species Program page at www.mass.gov/marine-invasive-species-program



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MIMIC Protocol Quick Guide

Look for the 22 MIMIC species at docks, tide pools, rocky shorelines, and dive sites following these steps:

1. Collect site data:

- Note site name, type, location, date, time, weather, and time of next low tide

2. Record surface temperature and salinity:

- Hold thermometer below water for one minute and record temperature in degrees Celsius (°C)
- Use refractometer to record salinity value in parts per thousand (ppt)

3. Monitor marine invasive species:

- Inspect submerged structures and natural features for one hour for the 22 invasive species, using the MIMIC ID cards for reference
- Sweep for free-swimming species using a net at dock sites
- Check many spots throughout the monitoring area rather than concentrating efforts in one spot
- Mark the presence/absence and abundance of each MIMIC species as indicated in the key on the data sheet

4. Add additional comments:

- Note any changes to the site, observations of native species, or other comments
- If you see a new or unusual species that you are not able to identify, make a note on the datasheet, take a few clear pictures, and e-mail to marine.invasives@mass.gov

5. Add your species photos to the MIMIC project on iNaturalist:

- View species observations at www.inaturalist.org/projects/mimic or create a free account with the iNaturalist app to add your observations to the MIMIC project