

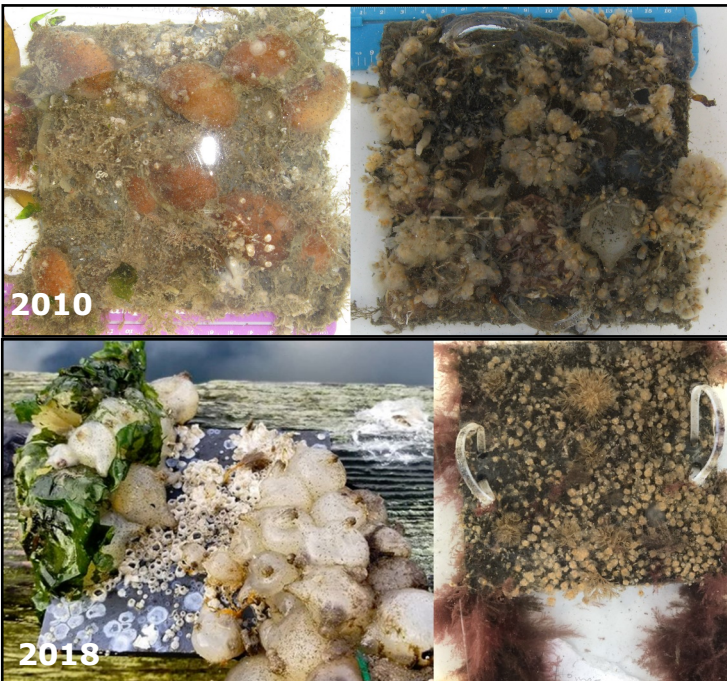
# KACHEMAK BAY RESEARCH RESERVE

## Invasive Tunicate Monitoring

### 2018 Progress Report

The main goal of invasive tunicate monitoring is to detect invasive tunicates as soon as possible, should they arrive.

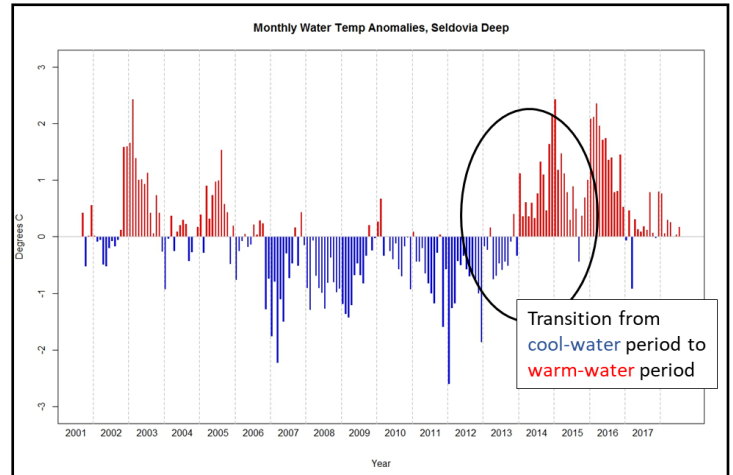
**This is the 13th year KBNERR has checked settling plates for marine invasives. We have not detected any invasive species yet.**



Settling plates retrieved at Seldovia Harbor (left) and Homer Harbor (right). Take note of how different the species composition is at these two locations and between years. Despite the drastic differences, all species shown are native.

#### All observations are important!

While we specifically monitor for the early detection of invasive species, other important data is gathered in the process. Observing the natural cycles of Kachemak Bay allows us to know when and where tunicates may be, and when to be alarmed or not.



This figure shows the difference in water temperature from what is "normal". Over the past four years we have been experiencing **warmer than normal** temperatures, an opportunity for establishment of foreign species.

#### Survey results show no invasives found in 2018...

Although we were unable to complete our regular tunicate surveys on Hesketh Island, Outside Beach, and Lower-Cook Inlet set net sites this year, regular settling plate observations showed no new signs of marine invasives in Homer or Seldovia.

In 2016 an assessment of tunicate species between a warm(2007) and cold(2015) water-year in Homer Harbor. Findings showed little variation between plates. More recent comparisons indicate and increase in overall species diversity at both sites, with an increase in Bryozoan and Hydroid cover in Seldovia. Possibly due to consistently warmer waters.

For detailed reports on each of these surveys, e-mail [rmrobinson3@alaska.edu](mailto:rmrobinson3@alaska.edu) or call 907-235-4797.



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# Marine Invasive Species!



Prevent the  
Spread  
of Marine  
Invaders!

✓ CLEAN  
✓ DRAIN  
✓ DRY



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The pictured invasive tunicate, *Didemnum vexillum*, (Dvex), was found in Whiting Harbor in Sitka. In suitable environmental conditions it can spread over boat hulls, docks, pilings, and other hard surfaces, as well as seafloor substrate. This invader can also smother algae, sea grasses and slow moving organisms such as clams, oysters, mussels, and other invertebrates.  
Photo credit: NOAA, 2010



Marine invasive species are non-native plants and animals that can harm ecosystems that support native species. By crowding out native species, these invaders can negatively impact the marine environment. Non-native marine species are most commonly introduced in places with high human traffic, such as boats and harbors. Marine invaders hitchhike on infrastructure transported from these locations, causing their spread. A few simple steps can help protect our Bay and ensure marine invaders do not take over:

- **At a minimum, DRY by storing above high tide for 3 weeks;**
- **If possible, CLEAN (scrape or power wash) plants and animals from all equipment away from the water and dispose in the garbage at an upland site;**
- **DRAIN water from any reservoirs.**
- **Clean, drain, and dry. Every time.**



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