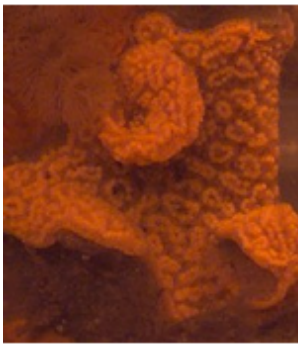


## Monitoring Recruitment

Recruitment is monitored using a rack recruitment panel. We expose 4 replicate, 100 cm sq. PVC panels for one week, while a second set remains in place to allow development of the local community. Each week during the recruitment season one set of panels are transported back to the laboratory for census and one set remain in place to monitor community development. We use a dissecting microscope to census panels; all benthic invertebrates are identified to genus and species when possible. Currently, we monitor 32 species from 6 phyla.

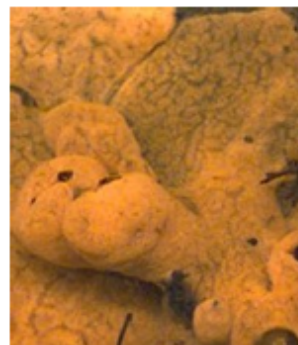
Using this method we have been able to monitor and detect several invader species, including the colonial ascidians *Botrylloides violaceous*, *Diplosoma listerianum*, and a recently detected *Didemnum* spp. and a bryozoan, *Bugula neritina*, from warmer southern Atlantic waters.



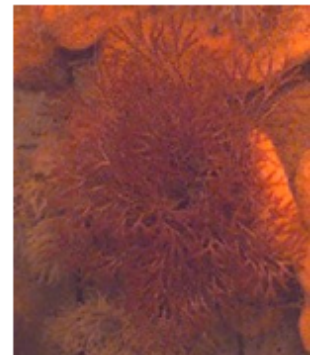
*Botrylloides violaceous*



*Diplosoma listerianum*



*Didemnum lutarium* (?)

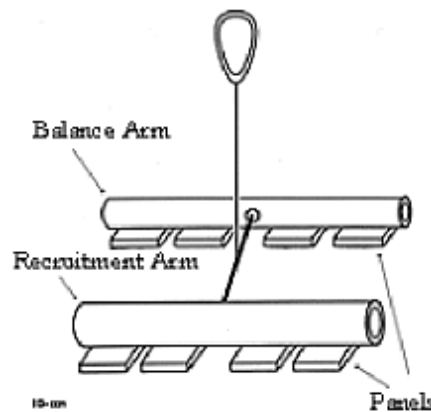


*Bugula neritina*

Adult community composition is monitored once a month during the summer and fall recruitment period and once during the winter and spring. Initially, we monitored adult composition through video image analysis. In recent years we deployed permanent substrates that can be removed for census and photographic documentation in the lab. Additional photographic documentation of changes in community composition on the balance arm allows us to monitor small scale changes.

### Recruitment Rack

Our "recruitment rack" is made up of two PVC pipe arms with four roughened, 100 sq cm, gray PVC panels attached to each arm. Panels are horizontally suspended in the water column allowing recruiting organisms to attach to the underside of the panels.



## Monitoring Community Development

In addition to the four recruitment panels brought in weekly, an additional set of four panels are kept at the site continuously. These panels, referred to as the balance arm, allow us to monitor community development through a series of monthly photographs.

[View a Shockwave video clip](#) that demonstrates community development at 1 month intervals on a recruitment panel at the Avery Point site.

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