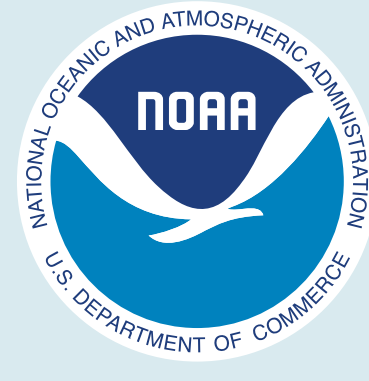


# UD CITIZEN MONITORING PROGRAM



UNIVERSITY OF DELAWARE  
EARTH, OCEAN &  
ENVIRONMENT



DELAWARE CENTER FOR THE  
INLAND BAYS  
Research. Educate. Restore.



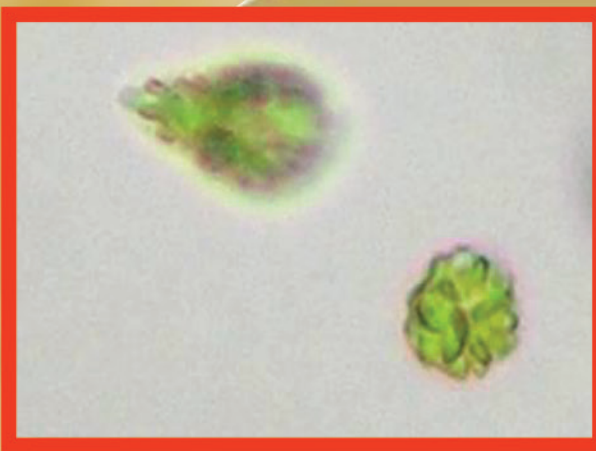
## Harmful Algal Blooms (HABs)

### HABs Facts:

- Harmful Algal Blooms (HABs) are a growing problem in U.S. coastal waters, as well as around the world.
- Some HABs produce toxins that can kill fish or contaminate shellfish resources. Others produce so much biomass as to disrupt aquatic life through low dissolved oxygen or smothering. At present, there are few to no practical remediation strategies depending on the scope of the water body affected. Reductions of nutrients entering water bodies should limit the extent of blooms of many species.
- The best thing that researchers, resource managers and public health officials can do is to monitor for the presence of HABs and respond to events in a coordinated fashion to minimize their potential effects to public health and aquatic resources.
- These cells have been seen locally. The **red highlighted** cells have been shown to contain some toxin in DE.

## DELAWARE'S LEAST WANTED:

### POTENTIAL FISH KILLERS



**CHATTONELLA CF.  
VERRUCULOSA**



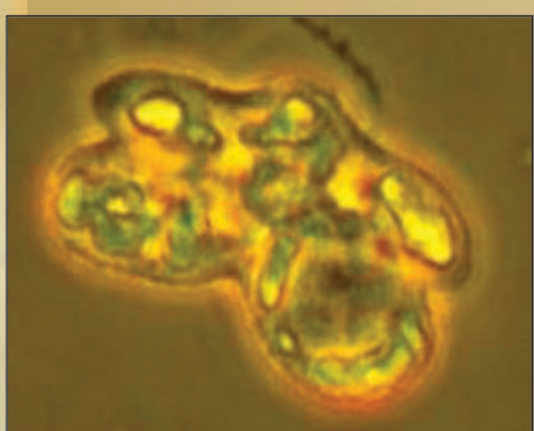
**CHATTONELLA  
SUBSALSA**



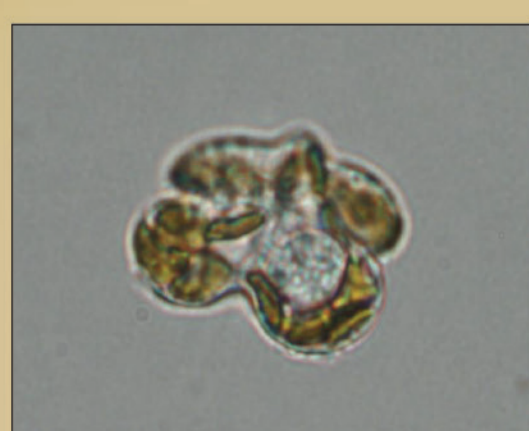
**HETEROSIGMA  
AKASHIWO**



**FIBROCAPSA  
JAPONICA**



**KARENIA  
PAPILIONACEA**



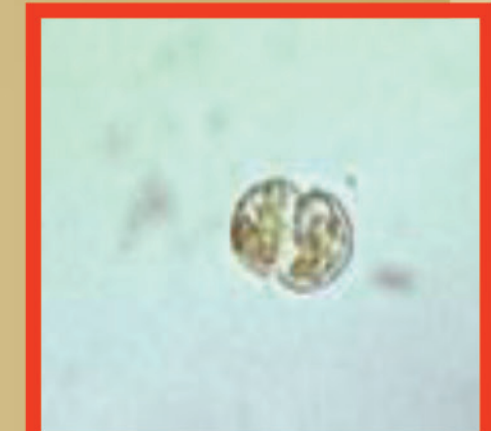
**KARENIA  
BREVIS**



**ALEXANDRIUM  
SPP.**



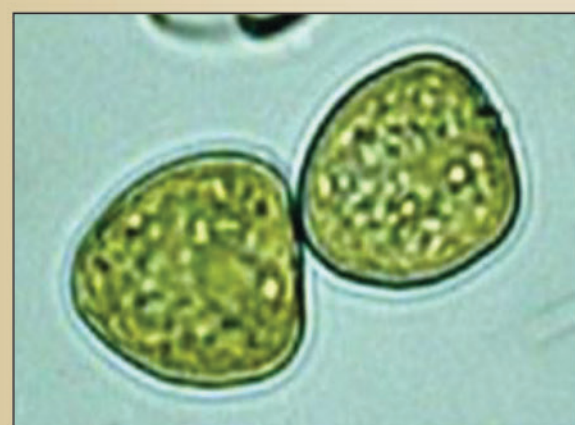
**AMPHIDIUM  
SPP.**



**KARLODINIUM  
VENEFICUM**



**DINOPHYSIS  
ACUMINATA**



**PROROCENTRUM  
MINIMUM**



**PROROCENTRUM  
SCUTELLUM**



**PSEUDONITZSCHIA  
SPP.**

### POTENTIAL SHELLFISH CONTAMINATORS



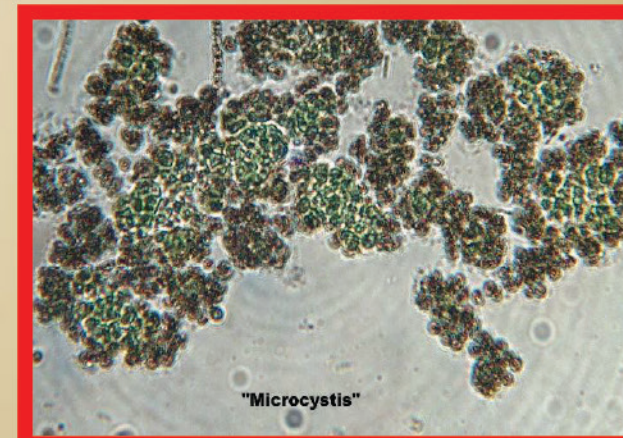
**ANABAENA SPP.**



**APHANIZOMENON SPP.**



**CYLINDROSPERMOPSIS SPP.**

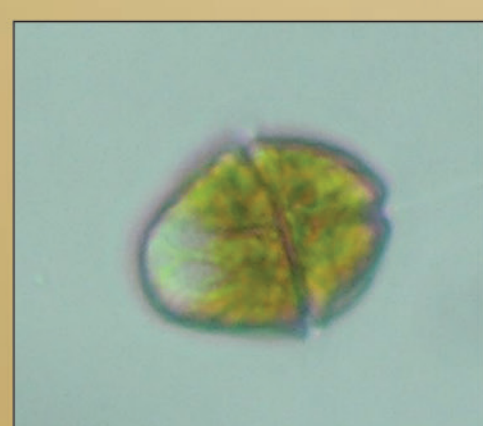


**MICROCYSTIS SPP.**

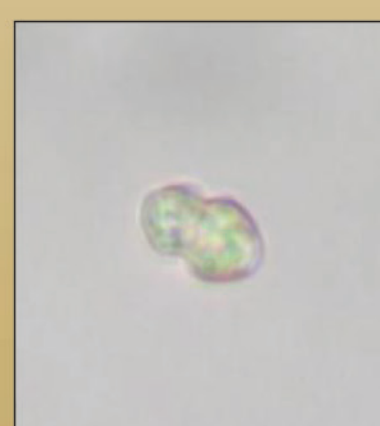


**SNOWELLA SPP.**

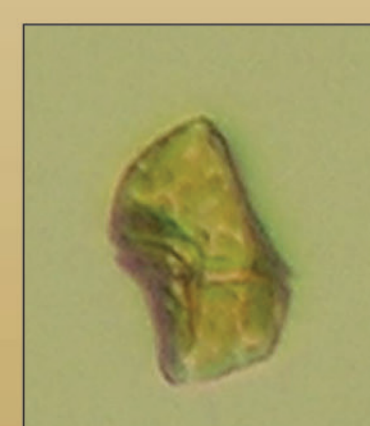
### POTENTIAL FRESH WATER TOXIFIERS



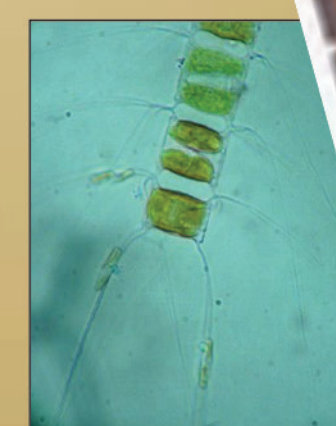
**GYRODINIUM  
INSTRIATUM**



**HETEROCAPSA  
ROTUNDATA**



**KRYPTOPERIDIUM  
FOLIACEUM**



**CHAETOCEROS  
SPP.**

### POTENTIAL NUISANCE BIOMASS ACCUMULATORS

