

Perquimans County Waterway Watch

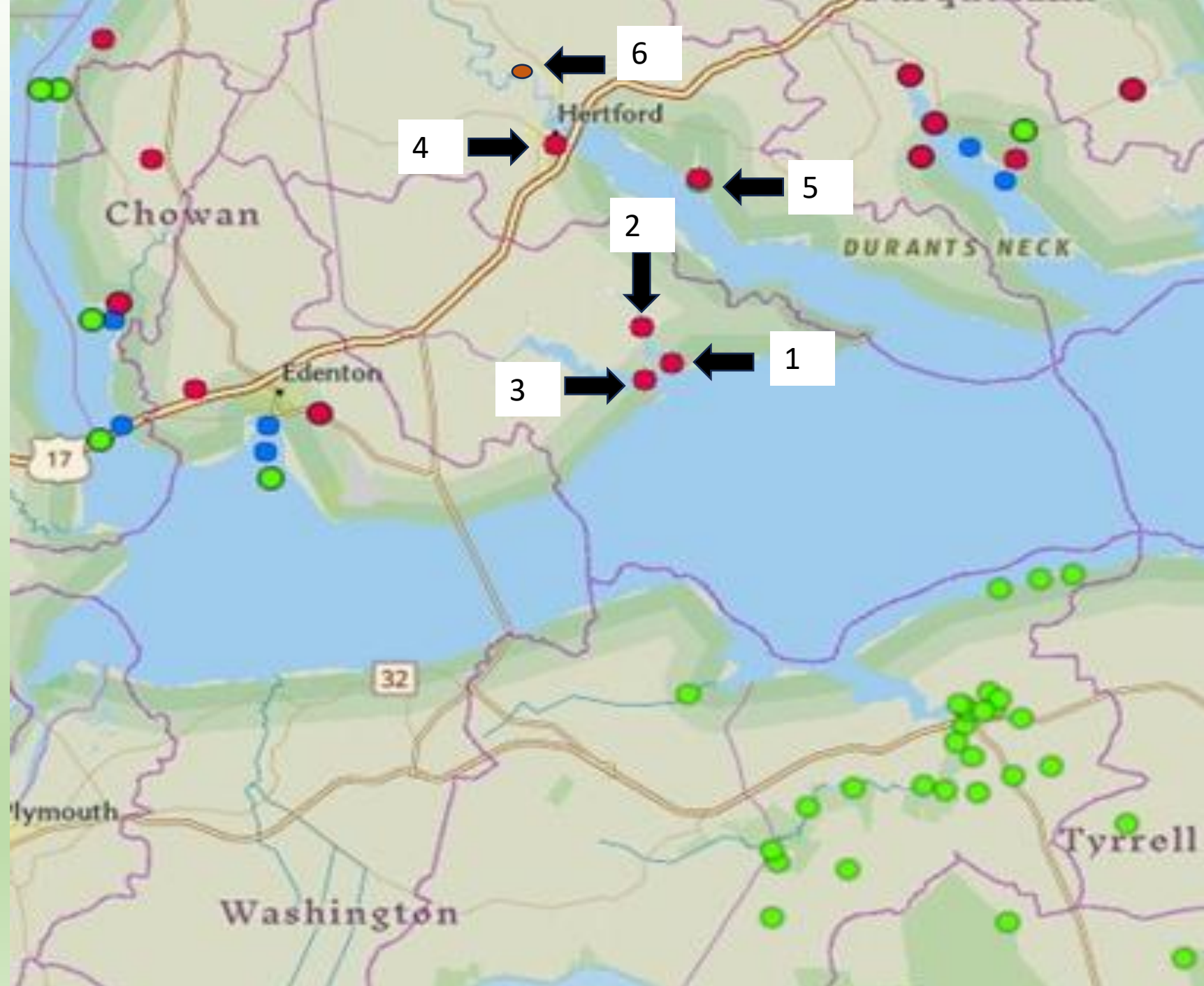


We measure temperature, salinity, dissolved oxygen, pH, turbidity (light penetration) and take water samples which are measured for nutrients like nitrogen and phosphate which stimulate algal growth in an effort to describe the conditions under which an algal bloom might occur.

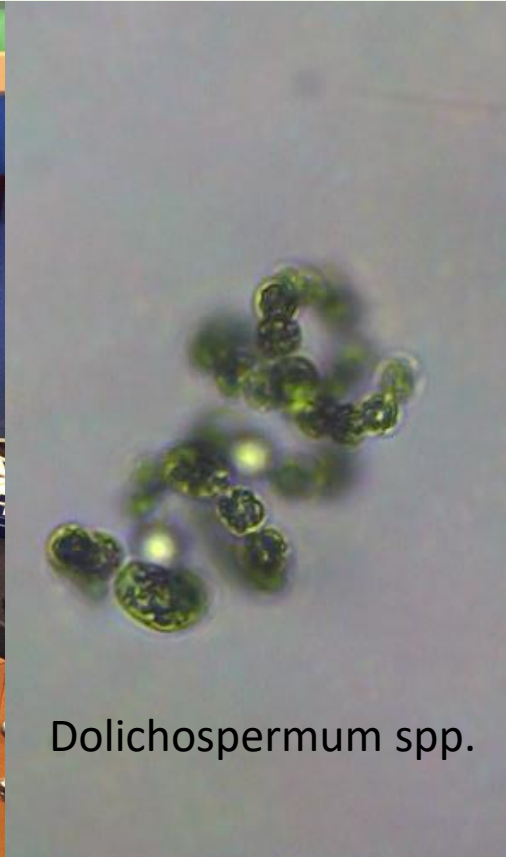
Sampling Stations

We sample all six stations once a month from May through October.

1. AP Marina
2. Yeopim Creek
3. Yeopim River
4. Raccoon Creek
5. Sutton Creek
6. Upper Perquimans River



Reporting Results



Dolichospermum spp.

Results of the microscopic examination are sent to the Phytoplankton Monitoring Network at the NOAA laboratory in Charleston, South Carolina.

FIELD DATA
◆ REQUIRED

Name:

Sampling Site:

Sample Date:

Sample Time:

Water Temp (°C):

Air Temp (°C):

TARGET SPECIES SCREENING LIST

No Yes Elevated

Aphanizomenon spp.

☐ ☐ ☐

Dolichospermum spp.

☐ ☐ ☐

Microcystis spp.

☐ ☐ ☐

Planktothrix spp.

☐ ☐ ☐

Raphidiopsis spp.

☐ ☐ ☐

If water is visibly discolored and a target species is identified, please send pictures to pmn@noaa.gov and contact staff to confirm sample shipment for toxin analysis.

◇ OPTIONAL

Weather: Sunny | Partly Cloudy | Mostly Cloudy | Cloudy | Rain

Wind direction: N | NE | E | SE | S | SW | W | NW

Wind speed (mph): 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25+

Tides: High | Low | Incoming | Outgoing

pH:

Dissolved Oxygen (ppm):

Barometric pressure (mmHg):

None YES Elevated

Centric Diatoms

☐ ☐ ☐

Pennate Diatoms

☐ ☐ ☐

Dinoflagellates

☐ ☐ ☐

Cyanobacteria

☐ ☐ ☐

Ciliates

☐ ☐ ☐

Other Zooplankton

☐ ☐ ☐

SHIPPING INFORMATION

☐ - No samples needed

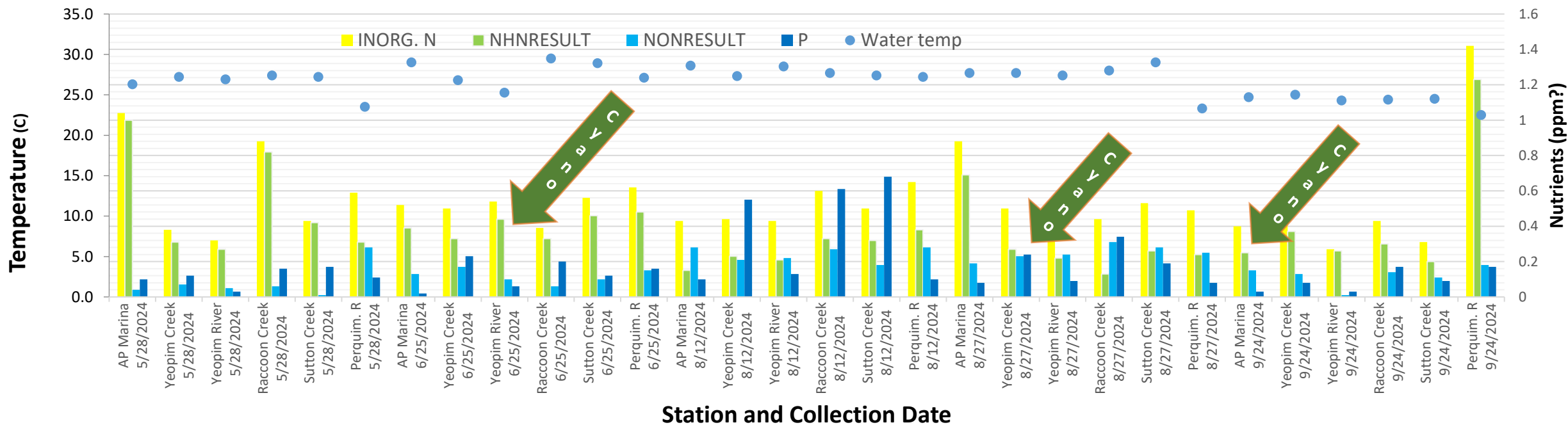
◇ - Contact PMN staff to confirm shipment of samples for testing.

-preserve 125 mL bottle with Lugol's
-do NOT add Lugol's to 1 liter bottle.
-use overnight shipping label to ship both bottles

While we have not detected a bloom in our area so far, we have found some isolated colonies under the microscope.

Date	Site	Site Number	Latitude	Longitude	Species
6/16/21	Albemarle Plantation Marina	1	36.08306	-76.4069	Dolichospermum spp.
6/16/21	Yeopim River Mouth	3	36.07511	-76.4203	Aphanizomenon spp.
6/16/21	Raccoon Creek	4	36.18394	-76.4659	Dolichospermum spp.
6/28/22	Yeopim Creek	2	36.10025	-76.4217	Raphidiopsis spp.
6/28/22	Sutton Creek	5	36.16817	-76.3926	Raphidiopsis spp.
8/23/22	Albemarle Plantation Marina	1	36.08306	-76.4069	Dolichospermum spp.
7/25/23	Yeopim Creek	2	36.10025	-76.4217	Dolichospermum spp.
6/25/24	Yeopim River Mouth	3	36.07511	-76.4203	Dolichospermum spp. Raphidiopsis spp.
8/27/24	Yeopim Creek	2	36.10025	-76.4217	Raphidiopsis spp.
9/24/24	Albemarle Plantation Marina	1	36.08306	-76.4069	Raphidiopsis spp.

The cyanobacteria seem to turn up in the microscope samples when nitrogen values are low. This may be because cyanobacteria have the ability to fix nitrogen directly from the air (like peanuts, peas and beans) which gives them an advantage over other algae which must take it up from the surrounding water.



We also found evidence of a clam die-off at our
Suttons Creek site in September of 2023



Die-offs such as these in bivalves and fish are usually associated with low oxygen levels. You can see in the spreadsheet below that we observed low dissolved oxygen levels that month at Raccoon Creek and Suttons Creek (Highlighted in yellow).

[illegible]