Conditions Report

Not present to medium concentrations of *Karenia brevis* (commonly known as red tide) are present along- and offshore portions of southwest Florida and are not present in the Florida Keys. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction.

Recently Reported Impacts (Listed by County):

**Respiratory irritation:** Lee, Collier

**Dead fish:** Charlotte

Definition of respiratory irritation levels.

<table>
<thead>
<tr>
<th>RESPIRATORY IRRITATION LEVEL</th>
<th>AFFECTED POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>(\times)</td>
</tr>
<tr>
<td>Very low</td>
<td>(\times) (\times)</td>
</tr>
<tr>
<td>Low</td>
<td>(\times) (\times)</td>
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<tr>
<td>Moderate</td>
<td>(\times) (\times) (\times)</td>
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<tr>
<td>High</td>
<td>(\times) (\times) (\times) (\times)</td>
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</tbody>
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Additional Resources

**Health Information:**

*Florida Department of Health:*

**Other resources:** https://go.usa.gov/xQNWp

**Recent, Local Observations and Data:**

*Mote Marine Laboratory Daily Beach Conditions:*
http://visitbeaches.org

*Florida Fish and Wildlife Conservation Commission:*
http://myfwc.com/redtidestatus
The table lists the highest level of potential respiratory irritation forecast. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction.

Cells are marked ‘none’ if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.

<table>
<thead>
<tr>
<th>State Name</th>
<th>County Region</th>
<th>Thu 12/12</th>
<th>Fri 12/13</th>
<th>Sat 12/14</th>
<th>Sun 12/15</th>
<th>Mon 12/16</th>
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<td>Central LEE County-Gulf Coast</td>
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<td>low</td>
<td>low</td>
<td>very low</td>
<td>low</td>
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</table>

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Wind conditions from Naples, FL

Wind conditions from Venice Pier, FL

Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA’s National Weather Service (NWS). A text summary of the marine forecast by region is available from NWS at https://go.usa.gov/xnx4y.
Summary of Recent Water Samples:

**K. brevis** Cell Concentrations:

**Range:** Not Present through Medium

**Date:** 12/02-12/11

**Source:** FWRI, MML, SCHD, CCPCD

**Imagery:**

Recent ensemble imagery (MODIS Aqua, 12/11) is obscured by clouds north of Charlotte County, limiting analysis of that region. Patches of elevated to high chlorophyll (2 to 12 µg/L) are present alongshore southwest Florida from Charlotte to Collier counties, but they do not contain the optical characteristics of *K. brevis*. A patch of high chlorophyll with the optical characteristics of *K. brevis* is present alongshore southern Lee County, and 27 miles offshore Collier County.

**Forecasts:**

Predominantly offshore winds (5-15 kn) forecast today through Monday (12/12-13, 12/15-16) will decrease the potential for respiratory and transport of surface *K. brevis* concentrations. Onshore winds (10 kn) forecast Saturday (12/14) will increase the potential for respiratory irritation at the coast.

Keeney, Jima

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*K. brevis* cell concentration sampling data from: 12/02/19 through 12/11/19. Cell count data are provided by Florida FWC Fish and Wildlife Research Institute. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: https://tidesandcurrents.noaa.gov/hab/hab_publication/GOMX_HAB_Bulletin_Guide.pdf, Detailed sample information can be obtained through the Florida FWC Fish and Wildlife Research Institute: http://myfwc.com/REDTIDESTATUS.

MODIS Aqua satellite chlorophyll image (12/11/19) with possible *K. brevis* HAB areas shown by red polygon(s).
Karenia brevis cell concentration sampling data from: 12/02/19 through 12/11/19. Cell count data are provided by Florida FWC Fish and Wildlife Research Institute. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: https://tidesandcurrents.noaa.gov/hab/hab_publication/GOMX_HAB_Bulletin_Guide.pdf. Detailed sample information can be obtained through the Florida FWC Fish and Wildlife Research Institute: http://myfwc.com/REDTIDESTATUS.

Verified and suspected HAB areas shown in red. Other areas with K. brevis optical characteristics shown in yellow (see p. 4 analysis for interpretation).