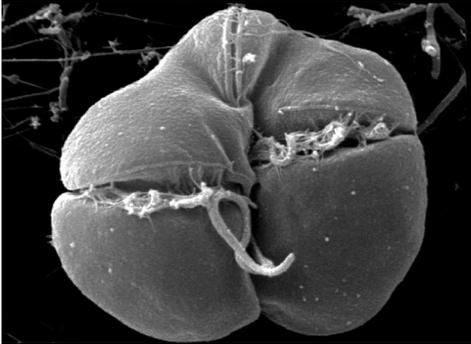


Karenia brevis

FACT SHEET



BACKGROUND

Karenia brevis is a single-celled, naturally occurring organism belonging to a group of algae called dinoflagellates. Large concentrations of this organism, called blooms or 'red tides', can discolor water red to brown. *Karenia brevis* occurs in marine and estuarine waters of Florida and typically blooms in the late summer or early fall. Blooms develop offshore and are brought inshore by currents and winds, usually in bottom waters. Although there is no direct link between nutrients related to human activity (for example, sewage and runoff) and the initiation of blooms, once blooms are transported inshore, these nutrient sources can fuel them. *Karenia brevis* produces neurotoxins called

brevetoxins that can sicken or kill fish, seabirds, turtles, and marine mammals. Although less common, blooms of *K. brevis* can also contribute to fish kills by depleting the water of dissolved oxygen. Toxins can also affect humans, causing respiratory irritation if aerosolized toxins are inhaled or shellfish poisoning if shellfish contaminated with toxins are consumed.

SEAFOOD SAFETY

Shellfish, including clams, oysters, and mussels can accumulate brevetoxins. Brevetoxins have no taste, smell, or color, and can't be destroyed by cooking. If contaminated shellfish are eaten, people can become ill with Neurotoxic Shellfish Poisoning (NSP). Shellfish harvesting from regulated areas is banned during blooms of *K. brevis*. Fish are safe to eat as long as they are caught alive and only the muscle is eaten. The muscle of crustaceans, including crab, shrimp, and lobster, is not affected by red tide toxins and can be eaten.

HEALTH

Symptoms of NSP include abdominal pain; nausea; vomiting; diarrhea; reversal of hot/cold sensations; progressive sensations of tingling, pricking, or burning; lack of muscle control during voluntary movements; muscle pain; headache; and vertigo. In severe cases, an abnormally slowed heart rate may occur. The duration of NSP, which varies from person to person, typically lasts 3 days. Respiratory irritation associated with blooms of *K. brevis* is usually temporary, but serious illness can occur in people with asthma, COPD, or other respiratory diseases. Some people who swim in red tide experience skin irritation and rashes, and some swimmers have reported eye irritation from the sea foam.

STAY CONNECTED

For **red tide status reports** and general information on red tide and other harmful algal blooms (HABs) in marine and estuarine waters of Florida, visit the FWC [Red Tide Status page](#). For the current status of **shellfish harvesting areas** and information on closures, visit the Florida Department of Agriculture and Consumer Services [website](#). For **public health related information**, visit the Florida Department of Health [website](#), and to report an illness, call Poison Control immediately at (800) 222-1222. To report **fish kills**, visit the FWC [Fish Kill Hotline reporting page](#) or call the Florida Fish and Wildlife Conservation Commission's Fish Kill Hotline at (800) 636-0511. To report concerns related to **wildlife**, visit the FWC [Injured Wildlife Report page](#) or call the Wildlife Alert Hotline at (888) 404-3922. For information on conditions at Florida beaches, including **respiratory irritation** associated with red tides, visit the Mote Marine Laboratory's [Beach Conditions Reporting System](#). For information on the Florida Fish and Wildlife Conservation Commission's Red Tide Volunteer Monitoring Program or **to volunteer**, visit the FWRI [Red Tide Offshore Monitoring Program](#) (RTOMP) page.

