

FACTS ABOUT RED TIDE

What is RED TIDE?

RED TIDE is a common term used to describe a coastal phenomenon in which the water is discoloured by high algal biomass or concentration of algae. The discoloration may not be always red, it may also appear yellow, brown, green or milky, depending on the organisms involved. There may be **no discoloration**, because the organism may go down or up in the water column. It may be **harmful or harmless**. Red Tides are harmless when there is no detrimental effect on the environment, living organisms and humans as well. Some cause mass mortality of fish or **fish kills**. And some produce potent toxins that are of public and health significance such as **Paralytic Shellfish Poisoning (PSP)**, Amnesic Shellfish Poisoning (ASP), Diarrhetic Shellfish Poisoning (DSP), Neurotoxic Shellfish Poisoning (NSP).

What causes RED TIDE?

Environmental conditions like the intensity of sunlight, change in water temperature, salinity, and nutrient levels may cause **Red Tide Blooms**. According to research, excess of nutrients like phosphorus, phosphate, nitrate and nitrite with exact combination of temperature and salinity may cause the proliferation and abundance of organism that cause red tide.

Red Tide may also be from the physical concentration of species in a certain area due to local patterns in water circulation.

Can RED TIDE be predicted, prevented or controlled?

Methods were presented on how to predict the occurrence of red tide in an area, however, until now there is no conclusive procedure to predict its occurrence.

Red Tide **cannot be prevented nor can be controlled** due to the wideness of the sea, and the effect of controlling red tide to other aquatic organisms. Currently, researchers are investigating the possibility of controlling red tide.

What PSP causing organisms/dinoflagellates can be found in the Philippines?

The following PSP causative organisms have been found in Philippine Coastal waters:

Pyrodinium bahamense car. compressum

Alexandrium tamiyavanichii

Alexandrium minutum

Gymnodinium catenatum

The most notable of which is:

Pyrodinium bahamense var. compressum

Do RED TIDES occur elsewhere?

YES, RED TIDES occur globally. Even in developed countries like **USA, Canada, Japan, France, Spain and New Zealand** are not spared from this menace. In the Philippines, the red tide has invaded 30 coastal waters between 1983 and 2013.

What seafoods are affected by toxic red tides?

1) Shellfish

The so called “filter feeders” like tahong, talaba, halaan, kabiya, litob, wasaywasay and amahong are not affected by red tide. But they accumulate the toxin in their bodies.

What is the effect of shellfish with the red tide toxin if eaten by man?

The person who ate shellfish with the red tide toxin may be poison by the so called Paralytic Shellfish Poison (**PSP**). Its symptoms are:

- Numbness of the face and mouth
- Vomiting
- Dizziness
- Headache
- Paralysis of the hands and feet
- Gastro intestinal Problems
- Difficulty in breathing

The symptoms are felt within 30 minutes after eating shellfish with the red tide Toxin. Death due to PSP is cause by the paralysis of the lungs and other parts of the respiratory system. This usually occurs within 12 hours after eating the shellfish with the toxin.

Why are there victims of Paralytic Shellfish Poisoning (PSP)?

- 1) People don't believe in the information about the danger cause by red tide
- 2) Shellfish don' exhibit external manifestations that it has the poison in its body.
- 3) The toxin is not lost even the shellfish is cooked.
- 4) Even if there is no discoloration, shellfish in the area may have accumulated high dosage of the toxin.

What to do to a person who has eaten contaminated shellfish?

If a person ate contaminated shellfish, vomiting should immediately be induced and rush the victim to the nearest hospital for medical treatment.

What are the ways to prevent the proliferation or spreading of red tide?

The spreading of red tide may be prevented by the following:

- 1) implement the regulation on the harvesting of shellfish contaminated with red Tide
- 2) treatment of waste water before discharging
- 3) implement proper solid waste management