

Light Show off the Harbor Phosphorescence and Red Tide

As part of the Advanced Class we do a night sail to practice with navigation lights and electronic navigation equipment. We also get some experience with a sextant if any stars are visible. What we didn't count on was the fireworks show put on by the phosphorescent plankton in the water. We also happened on a fleet of boats fishing for the huge squid recently in the news. These were about 2 1/2 miles off the harbor and are visible from the shore.

"Blooms" of plankton are a seasonal thing. In the spring the days get longer and the coastal ocean is rich with nutrients washed from the land as runoff during rain storms. The result can be several "blooms" where first the phytoplankton (plants) grow in large numbers and then the zooplankton (animals) multiply as they graze on the plants. Sometimes a bloom will have a red color, hence the name "red tide". Each cycle may last several weeks before it dies off and the water clears.

In the past few weeks we have seen a late-season bloom, perhaps caused by our unusual rainstorms. This one began in red patches, developed into a dark rust red tide and by this week was dissipating back to patchiness as the zooplankton grazed down the phytoplankton. At this point the result is like a fireworks show as the water glows with the smaller ones and then flashes with light when the larger ones are disturbed. Motoring through the water, the propeller puts out enough agitation that it looks like a spotlight shining behind the boat. We call it the propeller light. The waves in the wake flash, the fish darting away flash, and most spectacular are dolphin and sea lions as they charge toward the boat looking like glowing torpedoes and then turn away.

Besides the spectacular phosphorescence, there have been the squid. Whether there is a relationship between the squid and the plankton bloom is uncertain. There is certainly a relationship between the productivity we have seen in our local ocean and the many creatures we have seen that feed on it. As plankton are fed on by little fish, other bigger fish and critters are attracted to the feast.

While squid are transported from place to place primarily by ocean currents like the El Niño, other critters migrate in search of their food. Great whales may even communicate over long distances to announce a food source. The Blue Whales that have been such an attraction lately, feed directly on a larger type of zooplankton called krill which they filter from the water with huge broom-like filters in their jaws. Sperm whales have teeth and their favorite food is squid. It would certainly be an incredible addition to all the other characters in our local drama if sperm whales were to show up. Moby Dick was a sperm whale.