

ENVIRONMENT

Changing the (red) tide

Event to explore cause, impacts of harmful algal blooms

By Ashleigh Papp
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SANTA CRUZ » “I didn’t know what was happening — the water, usually clear and blue, was brownish red and murky.” Emily Pomeroy, a program manager with Save Our Shores, recalled a visit to Monterey’s Del Monte Beach in the summer months of 2019. “I’d heard of red tides before ... but I had never seen one in person,” she said.

These periods of discolored water that Pomeroy had stumbled upon can be called a “red tide” though in reality they are better known as a “harmful algal bloom.” They occur when water temperatures and nutrient levels rise, Pomeroy learned, and often lead to devastating consequences for marine life and

MORE INFO

What: Save Our Shores 2020 Speaker Series.

When: 6–8 p.m. Wednesday.

Where: Dream Inn, 175 W. Cliff Drive., Santa Cruz.

Information: saveourshores.org.

those who depend on it. In the days following Pomeroy’s first algal bloom experience, she couldn’t find anything online about this local happening. Determined to raise awareness in the local community, she began planning a Save Our Shores 2020 Speaker Series event that is scheduled for 6-8 p.m. Wednesday at the Dream Inn, 175 W. Cliff Drive in Santa Cruz.

“I want to create a conversation about algal blooms so



EMILY POMEROY — CONTRIBUTED

A California sea lion is seen at San Francisco’s Pier 39. Harmful algal blooms can affect marine mammals, among numerous other organisms.

that people know what they gen and phosphorous, can are and what to do when they provide enough extra plank- see one,” Pomeroy said. ton food to trigger a bloom

It all starts when the nor- when they enter the water mally-balanced ocean eco- via run-off,” said Kasie Reg- system is disrupted. “Excess- nier, the director of Applied nutrients, particularly nitro-

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Water Science with the Monterey Bay Aquarium and a presenter at Wednesday's event.

Plankton, she explained, are tiny organisms that float throughout ocean waters. Phytoplankton, more specifically, live near the surface of the water and use the sun's light to produce energy.

"Not all phytoplankton produce toxins and not all algal blooms are toxic," Regnier said. Pseudo-nitzschia, a type of algae normally found in small quantities in the ocean, is notorious because it produces domoic acid, a potent neurotoxin, during a bloom.

Filter-feeding marine organisms, such as shellfish, small fish and crabs, consume the toxic algae, stockpiling the toxin in their tissues. Once accumulated in smaller marine critters and consumed by larger marine mammals or humans, the toxin can have serious health effects.

"Algal blooms are a fascinating phenomenon, with real potential impacts on other animals and on humans," Regnier said.

In 2015, a massive algal bloom that became known as the "warm blob" devastated marine environment and related industries from California to Alaska. "During the summer and fall months of 2015, we were rescuing three to four sick or seizing marine animals each day," said Adam Ratner, associate director of conservation education for The Marine Mammal Center. Ratner is a panelist at the event.

Domoic acid, the harmful ingredient in the 2015 algal bloom, can cause seizures in marine mammals similar to a human during an epileptic episode. An overdose of it can affect the hippocampus, leading to permanent brain damage, Ratner explained. Though if rescued and treated in time, anti-seizure medication and extra fluids to flush out the system can save an animal.

More and more people are hearing about algal blooms and domoic acid, Ratner said, but without knowing the causes and treatments, the lack of information can make it feel scary.

In a panel discussion-style event, researchers from UC Santa Cruz, the Marine Mammal Center,

the Monterey Bay Aquarium and the Sanctuary Exploration Center will answer questions led by Pomeroy and from the audience. From domoic acid and its effects on wildlife and fisheries, to climate change and how residents can get involved, the goal of this event is to discuss harmful algal blooms at a local level.

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