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Palma Sola Bay impacted by several sources

By **Leslie Lake**

Horses on the north side of Palma Sola Bay may be a possible source of water quality issues, an expert says. - Leslie Lake | Sun

BRADENTON – Horses are not the only source of bacteria and seagrass damage in Palma Sola Bay, an expert told the Bradenton City Council.

In a July 26 water quality presentation, Dr. Dave Tomasko, executive director of the Sarasota Bay Estuary Program (SBEP), stopped short of naming horses as a primary cause of elevated bacteria levels and loss of seagrass, instead saying that there are likely multiple causes.

Horseback riding on the north side of the bay has long been debated by the council, the Palma Sola Scenic Highway Committee and water quality organizations.

“People damage the bay by enjoying the bay, we’re not against that at all,” Tomasko said. “SBEP is for access and recreating on the bay but that does cause damage to the bay.”

In his slide presentation to the council, he raised the question, “Do horses pose a risk to the health of Palma Sola Bay? Is this something that might be bothering some people, or is it something that puts

the system at risk?"

Two businesses provide horseback riding in the water on the north side of the bay.

Tomasko discussed four metrics related to water quality and health of the bay, and talked about each of their possible sources: Nutrient enrichment, pathogens, physical damage and nitrogen.

"We generate nutrients through our fecal material, through passing urine. We generate nutrients by fertilizing our lawns, not picking up after our dogs," he said. "We're going to look at whether or not there is a nutrient-related problem in Palma Sola Bay and if there is, how important might horses be for that."

Pathogens can be quantified, Tomasko said.

"Pathogens are things that can make you sick. We test for bacteria. We have three types of fecal indicator bacteria – e. coli, enterococci and fecal coliform, and none of those are just specific to humans, to mammals or to animals," he said. "I can get you millions of fecal coliform bacteria from decomposing grass in a bucket of water. Our indicators are not specific to a source. So, if you find elevated levels of bacteria, it doesn't mean you know why they're there. "

Two different locations, one on the north side where horses are ridden and one on the south side where they are not are both sampled by laboratories, he said.

The Florida Department of Health collected more than 50 samples of south-side data and 84% of them were good, Tomasko said.

"On the north side, the values are poor more than any other category. Elevated levels are found more on the north side than the south side," he said. "The south side doesn't show elevated levels (of bacteria) except on occasion."

"Enterococci bacteria is not necessarily from humans or pets or horses. It could be, but it could also be coming from decomposing seagrass meadows," Tomasko said, noting that seagrass is absent from the south side of the bay.

Tomasko suggested that there is a good way to find out where the bacteria is coming from and that is through quantitative testing.

"My suggestion would be to try find what the bacteria is coming from to know what you should act upon, if anything," he said. "If I have 3,000 bacteria and one is due to a human, that's a lot different than if I have 3,000 bacteria and 1,500 is due to a human. There's a quantitative way to do this."

Evidence of physical damage to seagrass is apparent, Tomasko said, but could be caused by multiple sources.

"If we walk through seagrass meadows, or run through with a boat propeller, you're going to scar the grass a little bit," he said. "Horses are 1,500-2,000 pounds, they're kind of heavy, but they also have buoyancy. A submerged horse will have some of its weight offset by buoyancy in the water."

"It's important to keep in mind we've been doing a lot of things to physically damage these habitats. And horses are causing a trail, true, but there's a lot of boat propeller scars there too."

With regard to nitrogen levels he said, “If you want your lawn to grow fast or your trees to look green, add nitrogen. So, we’re trying to keep the amount of nitrogen under control in the water.”

Five or six times a year, volunteers go out to measure microalgae in the bay.

“This was a healthier bay 10-15 years ago. We had a 28% increase in seagrass, we had lower nitrogen, we had lower algae and lower phytoplankton,” Tomasko said. “Palma Sola Bay continues to be healthy, looking at the seagrass status, the phytoplankton, the water clarity, it continues to be classified as a healthy system.”

“Would removing these horses reduce some of these issues?” he asked. “Yes, probably in a local sense, but the bay remains healthy and it doesn’t appear that the bay is in some kind of tipping point or close to it.”