PHOTOS BY RICHARD WHITMAN/PROVIDED

There was a beach closure at West Charlotte County Park on April 3, 2021 while the adjacent East Charlotte County Beach, left, remained open. HOH scientists wonder why the west beach tends to be higher in FIB.

Is it safe to swim, fish or boat?

RICHARD WHITMAN
Chief Science Officer, Heal Our Harbor

It may be the most common question a Charlotte Harbor visitors may ask: Is it safe? Safe to swim? Safe to fish? Safe to boat?

The honest answer is complicated.

Water managers, public health officials, and recreational water-quality scientists wrestle with this question every day. There are local, state and federal guidelines designed to protect public health, but even those standards can struggle to keep pace with highly dynamic estuarine systems like Charlotte Harbor.

For marine and estuarine waters, public health protection focuses largely on Enterococci. In freshwater, managers rely on E. coli. Together, these organisms are known as Fecal Indicator Bacteria (FIB).

Enterococci are not a single species, but a group of bacteria. Like E. coli, some strains can cause infections; most are harmless. Importantly, they are not usually the primary pathogens of concern. Instead, they serve as indicators — a practical, measurable signal that fecal contamination may be present and that the risk of gastrointestinal illness may be elevated.

THE GOOD GUYS (MOSTLY)

It is important to remember that our waters contain thousands of bacterial species, and the vast majority are beneficial. Bacteria drive ecosystem function. They decompose organic matter, recycle nutrients, and support the food web that sustains the rich fisheries of Charlotte Harbor. Without them, the estuary would collapse under the weight of unprocessed organic debris.

Most bacteria are ecological allies. A few are opportunistic pathogens that cause infections when they invade places they do not belong. Fewer still are consistent public-health villains. In fact, in the United States, viruses account for more documented waterborne disease outbreaks than bacteria, fungi, or parasites.

So why not measure pathogens directly?

Because we cannot technically or economically test for every possible infectious agent. Instead, we monitor FIB — organisms that naturally inhabit the intestinal microflora of humans and animals. These bacteria help digest food, produce certain vitamins, and can even protect against other infections. They are essential inside the body — but when elevated in water, they signal contamination and potential health risk.

PHOTO BY RICHARD WHITMAN/PROVIDED

Charlotte County Water Manager Brandon Moody, Heal Our Harbor scientists Phyllis Wojcik and David Schultz discuss fecal indicator bacteria sampling spots.

A SNAPSHOT IN TIME

Monitoring FIB is a shared responsibility. Health departments monitor drinking water, shellfish beds, and beaches. Environmental agencies oversee ambient waters, stormwater systems, outfalls, and wastewater facilities. When levels exceed standards, actions may follow — beach advisories, shellfish harvest closures, boil-water notices, or permit enforcement.

But government cannot do this

More **SAFE** | **A9**

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Safe/ from A8

alone.

Just days before Valentine's Day, 20 citizen scientists gathered with one objective: to create a snapshot of Fecal Indicator Bacteria levels in waterways landward of the East Wall of Charlotte Harbor. These volunteers were students in Heal Our Harbor's Charlotte Harbor Ambassador Training (CHAT) program.

The survey had no official name. Some jokingly called it the "Valentine's Day Bacteria Count." Others preferred "Bacteria Roundup Day." Regardless of the title, the mission was serious..

Heal Our Harbor also conducted an 18-month monitoring program during 2025–2026 called the Citizens Partnership for Clean Canals (CPCC), in cooperation with Team Punta Gorda and supported by Charlotte County and Rotary Club grants.

This all-volunteer initiative was the first to systematically characterize Punta Gorda canals from the Peace River to Burnt Store Isles. The results are being used to inform future microbial source-tracking efforts and to assist with planning and management of these canal systems.

FIB concentrations change seasonally, daily, and even hourly. They often rise during the rainy season, following storm events, during early morning hours, and on outgoing tides. They tend to be higher near shorelines, in downwind areas, in lower-salinity waters, near stormwater outfalls, and in canals influenced by runoff

Most CHAT samples were collected in residential canals, but inland lakes, drainage ditches, and segments of the Peace River were also included.

The results will be shared with appropriate governmental agencies for evaluation and interpretation. Heal Our Harbor hopes to repeat the effort next summer, potentially focusing on areas that warrant closer attention.

A single event is merely one frame in a constantly moving movie. However, agencies such as Charlotte County, Florida Environmental Protection, Central Heartland National Estuary Partnership and Heal Our Harbor together help form a larger picture.

PHOTO BY BONETTA REXRODE/PROVIDED

Heal Our Harbor scientist Phyllis Wojcik instructs Charlotte Harbor ambassadors Helena Martel, Rick Johnston, Lynn Martel and Jim Martel on how to analyze fecal indicator bacteria.

That picture starts to show that sometimes our rivers, canals, ditches and nearby shorelines exceed guidelines and criteria set for beneficial usage. They need attention warranting further investigation.

NOT ALL SOURCES ARE EQUAL

It is important to understand that not all FIB originate from human waste. Birds, pets, wildlife, and livestock all contribute. Distinguishing between human and non-human sources is critical. Human sources generally pose a greater public-health risk because they are more likely to carry human-specific pathogens.

However, excessive fecal contamination of any origin is undesirable in a recreational estuary.

Monitoring programs and targeted investigations help sort signal from noise — separating natural background levels from actionable pollution.

WHY IT MATTERS

The recreational water quality of the Charlotte Harbor watershed is inseparable from our quality of life. Our economy depends on clean water. We swim, fish, boat, and paddle here. Property values reflect it. Community pride depends on it.

Elevated fecal indicators are not just a public-health concern — they are often associated with nutrient enrichment, stormwater releases, aging septic systems, and broader watershed stress.

WHAT WE CAN DO

Protecting Charlotte Harbor begins at home:

- Pick up pet waste — in your yard and along sidewalks.
- Keep rainwater on the land with rain gardens and vegetated buffers.
- Reduce unnecessary impervious surfaces.
- Support sustainable stormwater management.
- Maintain septic systems — or better yet, connect to central wastewater treatment when available..
- Support monitoring, science-based regulations, and the governmental and nonprofit agencies working to safeguard our harbor.
- Volunteer to help monitor water quality. Excellent programs exist with organizations such as CHNEP, FDEP, Sea Grant, Charlotte County, Waterkeepers and Heal Our Harbor.

SAFE TO SWIM, FISH, OR BOAT?

The answer depends on conditions, location, season and timing. Rainstorms particularly causes area problems. But one thing is certain: continued monitoring, informed citizens, and responsible stewardship are essential to keeping Charlotte Harbor healthy for generations to come.

PHOTO BY DEBBIE PETERSON/PROVIDED

Heal Our Harbor scientist Karen McCague teaches Citizen Partnerships for Clean Canals trainees how to take proper fecal indicator bacteria samples. From left, Marianne Gumbar, Judith Morgan, Bill Pappadake, Sushila Cherian, Karen McCague, Ed Stevenson, Scott Mitchell.

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