



The History of Nutrient Pollution and
Water Quality Issues on Marco Island
6/22/25



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The Early Years 1962-2006

The Mackle Brothers bought Marco Island in 1962 and started development of the Island.

In 1965 the first phase of Marco opened. Most of the single-family residential units were built using septic systems and there was a small private municipal primary wastewater treatment facility.

In 2003 the City of Marco Island acquired the Water and Wastewater treatment Utilities.

In 2006 Marco Island began implementing the Septic Tank Replacement Program (STRP) and upgraded the wastewater treatment plant, increased capacity and added production and distribution of reuse irrigation water to properties on our beaches and canals. Soon after, warnings about waterway pollution began to appear.

The First Signs of Trouble 2013-2016



On October 9, 2013 - Nancy Ritchie, Environmental Specialist, City of Marco Island published a letter in the Coastal Breeze warning about nutrient pollution and the need for water testing.



In 2013 Marco received its MS4 designation. There were also early warnings from environmentalists about possible waterway impairment.



In 2015 Marco hired Weiler Engineering Corporation to write its Stormwater Plan to comply with MS4 requirements.



In 2016, the Waterways Advisory Committee under the Chairmanship of Phares Hindl requested that the Marco Island City Council vote to approve monthly water testing after evidence indicating the water quality in the canals was deteriorating. City Council declined to vote on the matter.

Signs of Impairment 2016-2017



In 2016 Marco passed a Fertilizer Ordinance, which remains largely unenforced. It violates its own fertilizer ordinance by selling reuse water, for irrigation, containing nitrogen and phosphorus during blackout periods.



January 4, 2017, White paper by Dr. W.D. Trotter, Vice Chairman of Planning Board, recommends instituting monthly water quality testing program.

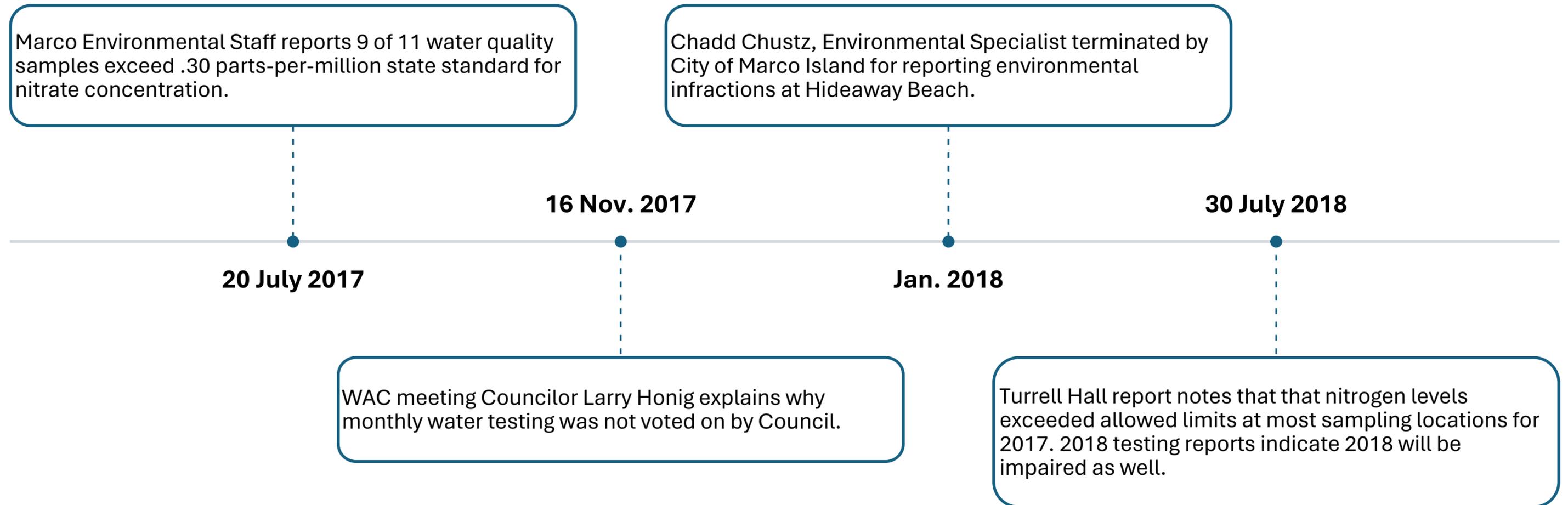


In 2017 Marco Island receives a report from Consultant Terrell Hall, warning of impairment and notes that nitrogen levels were close to allowed limits in 2016.



June 8, 2017, Waterways Advisory Committee Workshop unanimously recommends change to monthly water and turbidity testing.

Nitrogen Impairment Begins 2017-2018



Stormwater Ordinance Passes, Impairment Continues 2018-2019

- August 16, 2018, WAC Committee presentation by Tim Hall. Motion by WAC to obtain in depth report from Turrell Hall.
- November 2018 elects three Council members who run on platforms of improving water quality.
- In 2018 Marco Island passed a seriously deficient generic Stormwater Ordinance. Public Works Director Tim Pinter, PE was allegedly told “Hands Off” and that it would be written by the City Attorney who is not an Engineer and not qualified to tailor to Marco’s needs.
- February 2019 Turrell Hall report states “based 2018 sample results Marco Island waterways have been over state standards for two consecutive years and exceeds state standard for being impaired for total nitrogen”. Turrell Hall report recommends monthly water testing.

WAC Moves for Monthly Testing 2019



At February 21, 2019 WAC meeting, unanimous vote by Committee to request City Council approve monthly water testing, additional testing sites and addition of turbidity testing.



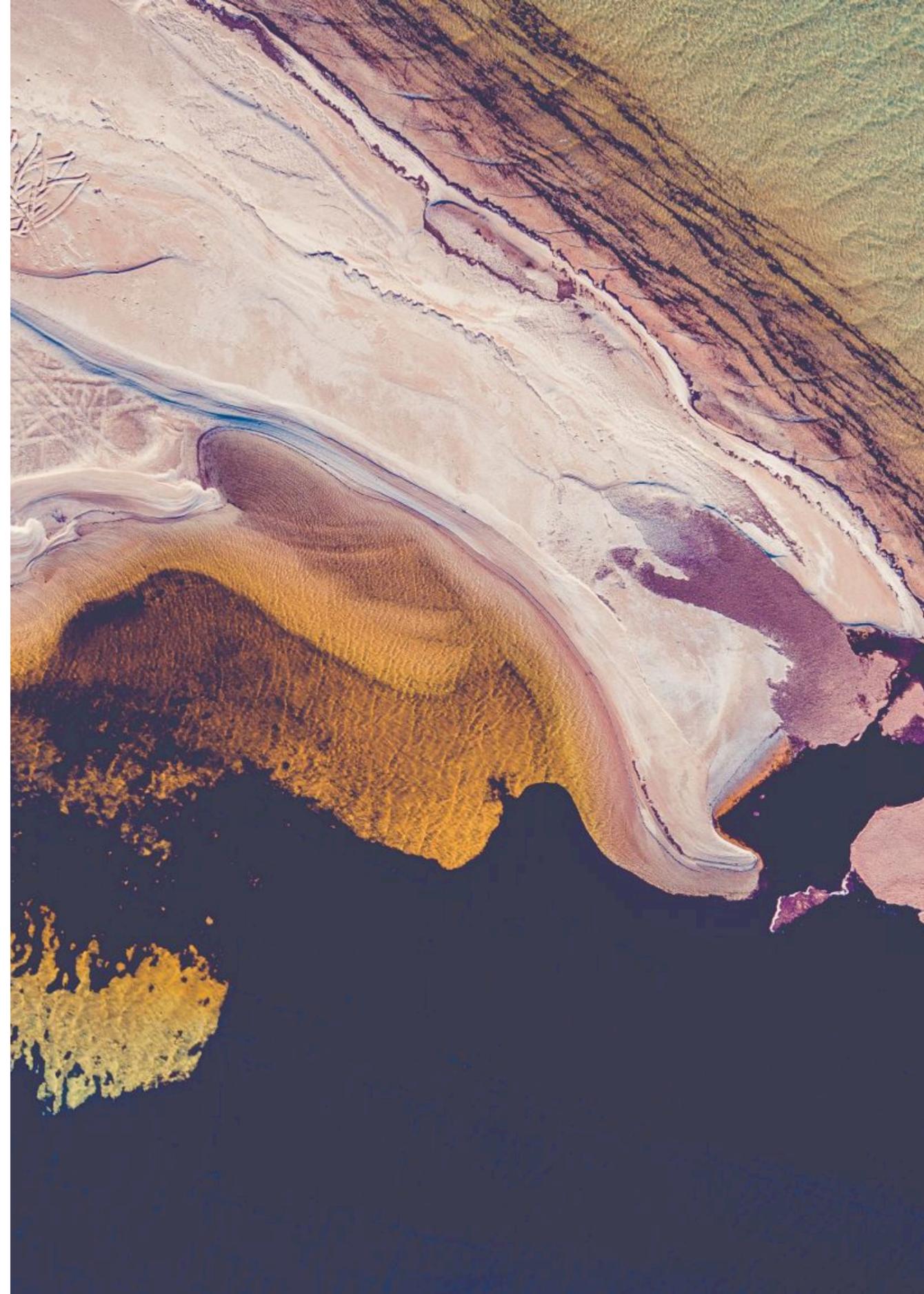
On April 22, 2019 WAC submits 2020 fiscal year budget request for monthly water testing and support of University of Florida program. Informs City Manager Harden after reviewing City operating statement that there were in fact funds available for water testing.



On April, 29, 2019 City Council holds 2nd Water quality Workshop that includes presentations by University of Florida on expanded testing program and “white paper” presentations by Councilor Young on failure of the Suntime filter program, excess nutrients in reuse water and Councilor Reed on other possible factors contributing to water quality issues. WAC volunteers its budget for monthly water testing. A resident’s presentation on the benefits of street vacuuming was cut short.

Official Impairment for Nitrogen-Harper Report 2019-2021

- In August 2019 Marco Island receives designation of official impairment for nitrogen from the FDEP and is required to establish a Total Maximum Daily Load (TMDL). Also finally begins monthly water testing after resisting for several years.
- In January 2020, Marco hires Environmental Research and Design (ERD) to study the source and nature of nutrient pollutants. A draft of the ERD report was issued for staff review only in July, 2021. The second draft ERD report was issued in August, 2021 and finalized officially and received by the City in September 2021 after staff review and comment. It contains a Matrix of “Recommended Management Options for Marco Island” to improve and preserve the Island’s surface water quality.
- In September 2021 Dr. Harvey Harper, President of ERD presented his report to City Council at a public meeting followed by a virtual meeting with the City’s volunteer Waterway’s Advisory Committee. His two key takeaway points were to improve the quality of the reuse irrigation water which had been found to contain high levels of nitrogen and phosphorus, and to better manage the use of landscape fertilizer on the Island.



Jacobs Report and the 4e Plan 2022-2023

- On May 23, 2022, the City held a third “Water Quality Workshop”. In preparation for the Workshop, the City hired another firm, Jacobs Engineering, to specifically refute the Harper (ERD) report’s claim that the reuse water was in any way leading to the nutrients in its waterways. The City eventually ruled out upgrading its reclaimed wastewater treatment plant and issued a press release to end the discussion. Dr. Harper from ERD was never brought back into the discussion.
- At the January 9, 2023 Marco Island City Council meeting, Council declared by edict that “that nitrogen and phosphorous from the City’s reclaimed water is not the fundamental cause of degraded water quality in our canals.”
- In early 2023, instead of deciding to pursue upgrading the wastewater treatment plant, or limiting residential fertilization., Marco Island City Council decided to hire Jacobs Engineering to prepare an “Alternate Water Quality Plan(4e) Plan” to simply try and get Marco Island removed from the official FDEP Impairment list. This Plan was submitted by the City to the FDEP in mid-2023, which as indicated below, was done without any opportunity for public comment or input from its own Waterways Advisory Committee.

Rebuttal to 4e Plan by CMW 2023

- On 9/18/23 the City of Marco Island issued a press release touting its receipt of the Florida Department of Environmental Protection (FDEP) FDEP's approval of Marco Islands Alternate Water Quality Plan(4e) (Plan) 4e alternative water quality restoration plan. We believe the Plan does not include any meaningful measures to reduce nutrients in Marco's canals nor improve overall canal water quality. Rather, it is merely a recapitulation of the City's existing Municipal Separate Storm Sewer System Phase II MS4 Stormwater Management Program (MS4) responsibilities to continue doing nothing noteworthy to improve the surrounding water quality and circumvent the Total Maximum Daily Load (TMDL) process, which might be burdensome and arduous. Further, the City did not invite any public participation in the Plan, solicit any input or even inform its own Waterways Advisory Committee until after they had already submitted the Plan to the FDEP. (The Waterways Committee had completely fallen apart, isn't even called "Advisory" anymore, and hadn't met since May,2023.) Instead, the City hired Jacobs Engineering Group (Jacobs) for \$26,170 to produce a Plan that does nothing new, doesn't offer any benchmarks or goals and fails to address nutrient loading or removing the benthic algal mats that often clog our canals.

FDEP Appeal and Water Quality Townhall Meeting 2023-2024



On 9/28/23, upon learning of the submittal and apparent approval of the FDEP, CMW sent a letter to the Florida Department of Environmental Protection (FDEP) appealing their decision to accept Marco Island's submission of an "Alternate Water Quality Plan(4e) Plan" as well as an LTE submitted by CMW to City Council and published in the Coastal Breeze



On 6/12/24 Clean Marco Waters wrote a response to a Guest Commentary in the *Coastal Breeze*, written by Marco Island City Manager Mike McNeas "Addressing Water Quality", apparently trying to quell the groundswell of disappointment of how City Council is handling the matter and growing support of residents for doing something meaningful to improve water quality in our canals. McNeas also fails to mention that fertilization with phosphorus is totally banned by the State, County and the City of Marco Island in all areas that have waterways that collect runoff and drain to our lakes and estuaries. It is prohibited in the City's Fertilizer Ordinance as it will wash off into these same vital waterways and the City violates its own Ordinance 24 hours a day, 365 days a year by exempting its reuse water.



On January 21, 2025 City Councilor Tamara Goehler sponsored a Water quality Town Hall Meeting. The meeting was dominated by City staff including Chief Tracy Frazzano, Public Works Director Justin Martin and Water and Sewer Director Jeff Poteet.

WAC Agenda Items, C-HAWQ, and FDEP Appeal 2025



At the February 20, 2025 Waterways Advisory Committee meeting Rick Woodworth introduced 17 agenda items for discussion and to be presented to City Council.



On May 9, 2025, in response to an unsolicited proposal to Marco Island City Council by C-HAWQ for canal dredging, Clean Marco Waters wrote the following response: “Flaws in the C-HAWQ Proposal & Ineffectiveness of Canal Dredging”.



On May 13 2025 Clean Marco Waters wrote to the FDEP objecting to the way Marco Island conducts its groundwater monitoring, alleging the wells are too deep to provide samples that accurately represent groundwater contents.

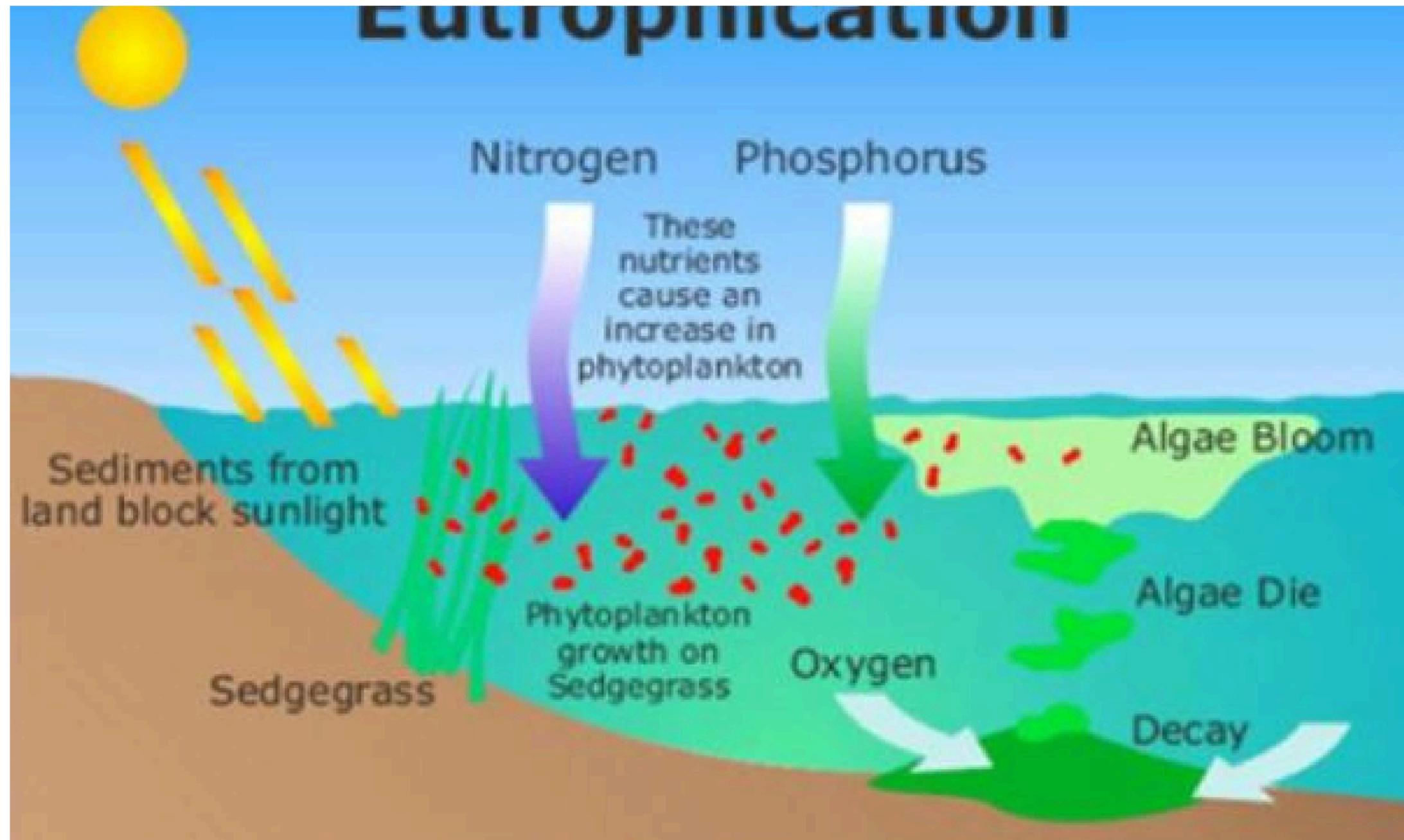
Caffeine and Sucralose Testing 2025

- On May 15 and 16, 2025 Clean Marco Waters sent letters to the FDEP, Marco City Council and Mike McNees informing them that the managing members of Clean Marco Waters, LLC conducted water testing sampling at six locations in Marco's canals and then submitted those samples for caffeine and sucralose testing. The purpose was to test for these chemical tracers to establish a connection between Marco Island's reuse irrigation water and the poor water quality in its waterways. The testing was conducted by the Environmental Analysis Research Laboratory (EARL) Southeast Environmental Research Center and Department of Chemistry & Biochemistry at Florida International University in North Miami, Florida. The results indicated positive evidence of caffeine at both canal locations tested, near Jamaica Court and Veterans Park. The sucralose testing found identifying markers at all 6 canal testing locations, near Jamaica Court, Veterans Park, Galeon, Landmark, Caxambas Pass near Cape Marco and Swallow, and significant levels in the reuse water sample, and more disturbingly, in the household potable water sample. Sucralose concentrations in Marco's were greater in canals closer to reuse irrigation.

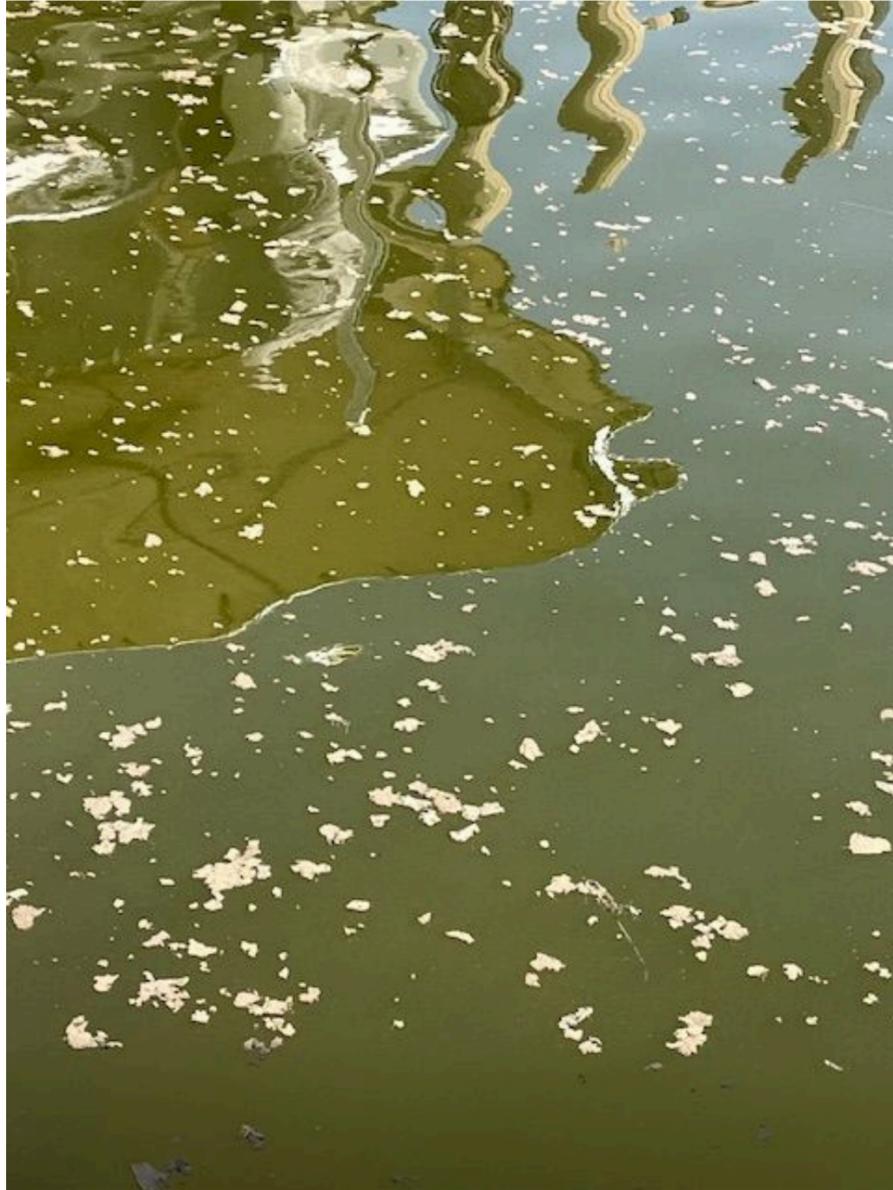
City Council Presentation and FDEP Request 2025

- At the May 2, 2025 City Council meeting Andrew Tyler on behalf of Clean Marco Waters, LLC presented the scientific results of the caffeine and sucralose testing done by them which indicated that reuse water was entering the Marco canal system. Councilor Darren Palumbo suggested an alternate theory for the marker's presence-that it was caused by construction workers drinking coffee and Diet Coke, tossing the containers in the canals and then peeing in the canals. Councilwoman Tamara Goehler submitted a White Paper for the solicitation of Vendor's Requests for Proposals for the design and construction of Advanced Wastewater Treatment for Marco Islands wastewater treatment plant. Councilor Champagne criticized the proposal and after discussion the proposal was deferred until July 7, 2025, Water Quality Workshop.
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- On June 8, 2025 Clean Marc Waters, LLC submitted a letter to the FDEP regarding "Caffeine and Sucralose Testing of Marco Island Canal Water, Ground Well Testing and Sprinkler Violations" requesting increased testing, clarification on the definition of fertilizer, action on violations of Marco Island's permit, ground well testing and submitted photos of continued sprinkler violations.

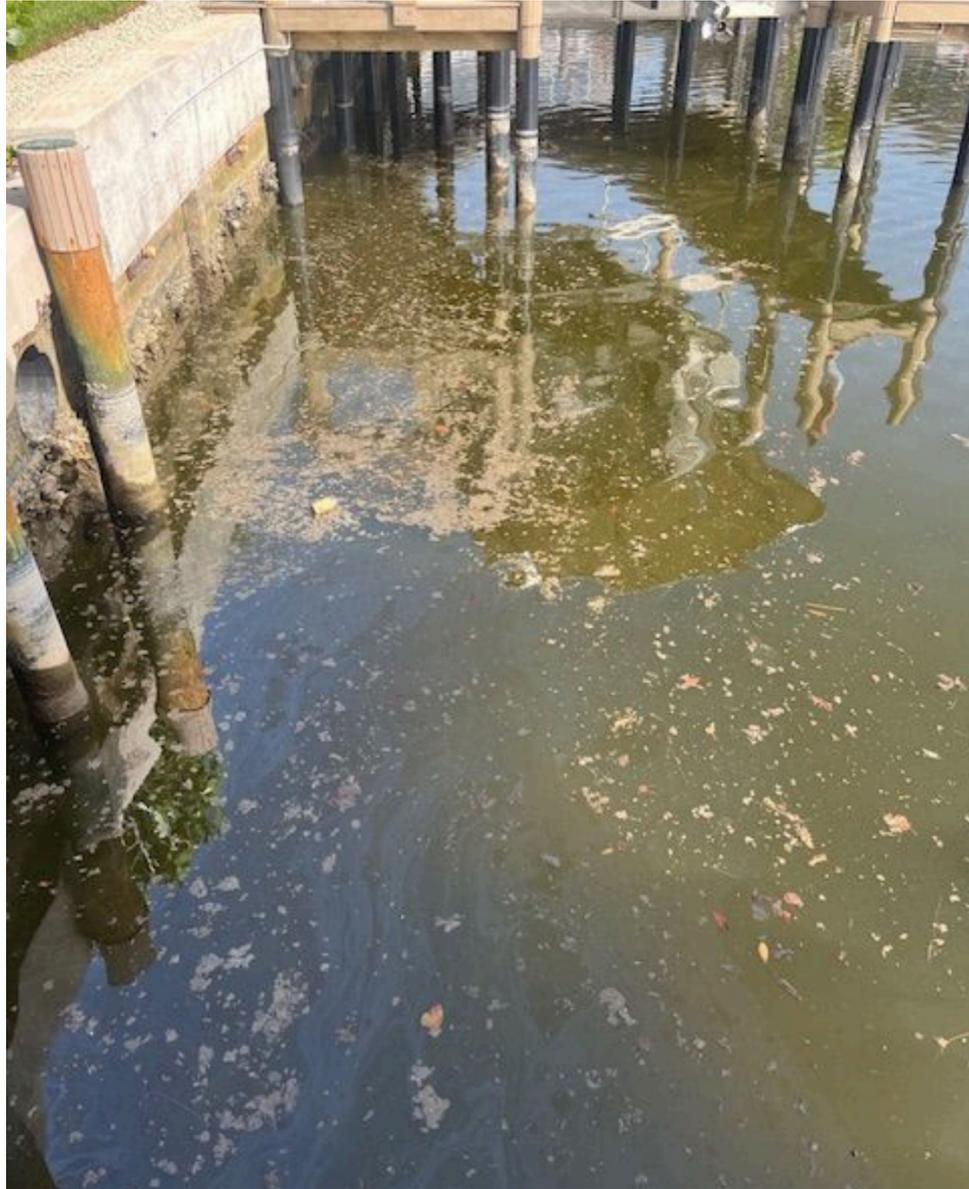
Eutrophication



Canal Photos



Canal Photos



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Dead and Dying Fish

