

COLLIER COUNTY FERTILIZER ORDINANCE TALKING POINTS

Summary:

The Collier County environmental staff has drafted an ordinance which DOES NOT INCLUDE A SUMMERTIME FERTILIZER BLACKOUT. We must support the staff recommendation.

BE AWARE THAT THE MAJOR MUNICIPALITIES IN THE COUNTY HAVE PASSED 4-MONTH SUMMERTIME BLACKOUTS AND WILL BE PUTTING PRESSURE ON THE COLLIER COUNTY BCC TO DO THE SAME. ENVIRONMENTAL ACTIVISTS WILL BE CALLING FOR BLACKOUTS AS WELL. **THE STAFF DRAFT IS THEREFORE NOT SAFE.**

The following are some of the talking points put together by EREF in connection with various fertilizer ordinance initiatives.

Topic – The Difference Between “Nitrogen” and “Fertilizer”

Concerns about fertilizer come from the potential that it contains nitrogen (N) and phosphorus (P). Since P has been absent from both professionally-applied and consumer-bagged urban fertilizers for many years, N is the only real issue at hand.

Going one step further, the N from fertilizer is a very particular and identifiable kind of N. Confusingly and very unfortunately, virtually all discussions of nitrogen loading are about “Total Nitrogen” or “Kjeldahl Nitrogen” as if those were the same thing as fertilizer, which they simply are not.

Total Nitrogen includes nitrogen from all sources:

- Atmospheric deposition
- Septic leaching
- Stormwater
- Reclaimed water
- Animal waste
- Decomposing plant material
- Sewage spills
- Irresponsible or improper (BUT NOT ALL) fertilizer use (we are very much opposed to this one too, by the way)

Think of Total Nitrogen like Total Traffic, and Fertilizer like Motorcycles. The presence of Total Traffic or changes in Total Traffic do not mean there is a presence of or a change in Motorcycles.

What's the Point? No local government enacting or proposing a summertime fertilizer blackout that we are aware of has presented any evidence of having conducted any testing or sampling for the presence of the stable isotopes of fertilizer in its impaired waters (before or after implementation), nor indicated any intention to do so. How is that even possible? Drilling down further, none have presented any evidence that professional applicators, golf courses or sports fields have contributed to any such loading.

With that said, it is impossible to imagine implementing the regulation of any other profession or activity without having clearly demonstrated a specific linkage. The general presence of Total Nitrogen or changes in Total Nitrogen is not evidence that proper and professional applications of fertilizer are a contributor.

Topic – The Summertime Fertilizer Blackouts Have Accomplished Nothing

Advocates will tell you that the summertime fertilizer blackouts have been great and that nitrogen loading has been on the decline since their passage.

We would agree that nutrient loading has declined in many, even most, jurisdictions. What is missing from those statements is that the declines were well underway long before the blackouts were ever passed. Further, blackout advocates have used misleading data to attempt to show that the summertime blackouts were effective. That's unfortunate, but perhaps a heads-up for Alachua County.

Let's look at some evidence (documentation available from EREF upon request).

Wekiva River Basin (Seminole County and Orange County) –

During the hearings for summertime fertilizer bans in both Seminole County and Orange County, we provided the respective Boards of County Commissioners and staff a third-party peer review of a report by MACTEC which had been used by various activists to support the blackouts, even those in other counties. The peer-review report clearly identified important flaws in the MACTEC report on which the blackouts were based. Most importantly, it properly interpreted the MACTEC data to eliminate synthetic lawn fertilizer as a direct source of nitrate pollution in the Wekiva River Basin, and properly identified the loading as coming from septic leaching and natural sources. Further, the peer review identified other biases and interpretational flaws in the report, including failures of reasonableness of the MACTEC report's key conclusion.

Manatee County –

Manatee County passed their summertime fertilizer ordinance in 2011 to be effective in 2012. EREF carefully examined their sampling data from 1995 to 2018 showing all the Nitrogen parameters for which they sampled, plus dissolved oxygen, in two water bodies chosen by Manatee County to demonstrate the benefits of their summertime blackout.

In the first instance of Rattlesnake Slough, ALL the N parameters are shown to be steadily declining from 1995 until now, and dissolved oxygen on the rise. All good things, but very clearly uncorrelated to any ordinance activity. In the second instance of Nonsense Creek (a great name considering), the N parameters are up, down and unchanged (i.e. once again totally uncorrelated to any ordinance activity).

Here's our favorite part. Manatee County recently held a workshop to reconsider their summertime blackout and presented these two water bodies as their evidence supporting its effectiveness. Unfortunately, they did not show this water atlas data to the commissioners, but rather two modified graphs claiming an "inflection point" in N almost immediately after the implementation of the ordinance (i.e. representing that N was rising before the blackout and declining after its implementation).

You can see for yourself that this was untrue on its face relative to the raw data. Moreover, the obvious conflict between the water atlas data and the modified data for these two interpretations was third-party peer reviewed after the hearing and the so-called inflection point was established by the peer review to be completely non-existent.

Sarasota County –

Sarasota County's blackout has been in place even longer than Manatee's. They also have a water atlas showing water sampling with similar patterns as those in Manatee County (these water atlases are accessible to anyone on the internet by the way). Famously in 2011, one of the advocacy groups supporting the blackouts felt it was a good idea to promote the declining N in Roberts Bay as "evidence" of the success of the blackouts during a presentation to Collier County which, at the time, was considering its own summertime blackout. Once again, what was originally presented was the decline reflected only from the date of the ordinance. And once again, what was intentionally left out was that the declines had started long before the implementation of the blackout. The rebuttal reflecting the full data set was presented to Collier County and they rejected the blackout.

Hillsborough River Data –

During our interactions with Manatee County, we discovered a communication to them from the Environmental Protection Commission of Hillsborough County dated March 1, 2018 transmitting nutrient loading data from the Hillsborough River before and after the enactment of the City of Tampa's summertime fertilizer blackout ordinance. In brief, that data shows once again uncorrelated changes in N and P (i.e. up and down) before and after the blackout.

Sarasota Bay Estuary Program –

In addition to the above, we discovered a communication from the Sarasota Bay Estuary Program which indicates that while "total N for Sarasota Bay and its tributaries was declining until about 2010-2012, the trends have been up recently and are statistically significant", dispelling any notion that their longstanding

ordinance was or is favorably impacting these numbers, especially taken together with the water atlas data referred to previously.

Indian River Lagoon (IRL) –

Summertime blackout enablers represented consistently in various public hearings in the IRL in 2012 that if local governments would just pass these blackouts, they would be just like Tampa Bay (i.e. unimpaired for N, strong seagrass bed recoveries, etc.). Fast forward to any date after that until the present and it is clear that was a promise that could not be kept. Rather, it was false hope and a distraction from the root problems of septic leakage and failed or inadequate wastewater infrastructure. Please see the work of Dr. Brian Lapointe of Florida Atlantic University regarding the IRL which has been embraced by the Florida Legislature, among others.

Lake County –

During Lake County's public hearing, representatives of County Staff and of the Lake County Water Authority testified to the presence of isotopic evidence of synthetic fertilizer in local waters as justification for passing the blackout, which they did on a close 4-3 vote. When both organizations were asked for the isotopic evidence, the request was refused.

The Tampa Bay Smoking Gun –

After having promoted the passage of several summertime fertilizer blackouts in the Tampa Bay region (namely Pinellas County, Manatee County and the City of Tampa), the blackout activists, in an effort to convince Hillsborough County to pass one also (which they have NOT done to this day), persuaded the collective local governments to jointly fund an expensive study (\$250,000) to "prove" the blackouts worked. This was curious to hear since the same parties had already promoted the summertime blackouts as the "decided science" of the day. Clearly, this was both an acknowledgment of insufficient evidence by the blackout enablers and a need for additional evidence by Hillsborough County.

What followed was a study conducted under the auspices of the Tampa Bay Estuary Program (TBEP), performed by Applied Ecology and peer reviewed by the University of South Florida. Our organization was granted what was essentially "observer status" during the entirety of this study. To make a long story short, here is what transpired:

- ❑ Enablers repeatedly stated that this study was needed and that it was going to be the "smoking gun" to prove unequivocally the bona fides of the

blackouts. Reminder – the same parties had previously represented that blackouts were decided science.

- ❑ Shortly after the formation of the Applied Ecology team, the report's scope was released and it clearly stated that it could NOT be used to establish any cause and effect as to the summertime fertilizer blackouts.
- ❑ At numerous TBEP Technical Advisory Committee updates on the study by Applied Ecology (for which we were present), Applied Ecology repeatedly admonished the interested parties of this scope limitation which essentially guaranteed there was never going to be any smoking gun.
- ❑ Further to the prior bullet, Applied Ecology went on to say that “A minimum of 5-7 years and preferably 10 years of data collection should be targeted for any statistical detection [of benefits from implementing a summertime fertilizer blackout] to be able to take place”. Ironically, the only study which most closely meets the criteria established by Applied Ecology is the fully peer-reviewed FDEP leaching study.
- ❑ Based on the passage dates of some of the existing summertime fertilizer blackouts, we aren't even to that 10-year preferred time frame YET. In addition, no implementing local government we are aware of has even begun such a study, rendering the prospect of such a cause and effect determination impossible. In other words:
 - There wasn't ever any proof that blackouts worked;
 - Enablers represented that they did work and were proven science;
 - An expensive study at taxpayer expense was drummed up to establish the “new” proof;
 - The study said it was scope limited and not intended to be used as proof, and;
 - The study established that for anything to call itself proof it would have to entail a long-term study that has not even begun now many years out from original passage of the early ordinances.
- ❑ The Applied Ecology report DID conclude reasonably that education can be useful in helping to teach people how to use fertilizer responsibly. Our organization was promoting that before the study. Once it was clear that the smoking gun was a no-show, the report disappeared.

The Tampa Bay Miracle –

The granddaddy of all summertime fertilizer blackout fairy tales is the Tampa Bay Miracle. This was implied in the prior section and is a product of the global success achieved in seagrass bed recoveries in Tampa Bay. Supporters of the blackouts want credit to be given to those blackouts for some appreciable portion of the seagrass bed restoration. Unfortunately for them, when you apply the TBEP's own timeline, as spelled out clearly in their own press releases (citations available) about the recoveries, it is crystal clear that the recoveries occurred substantially before the ordinances were enacted. Does this sound

familiar at all? The credit for the recoveries properly belongs to decades of large-scale Clean Water Act projects, reclaimed water being raised to AWT standards and used for irrigation rather than discharging it directly into Tampa Bay and its headwaters, and decades of industry deployment of best management practices.

The Red Tide Narrative

Conflicting narratives abound as noted. Moreover, and to bring that point forward, it has been disturbing to hear blackout supporters say that fertilizer causes Red Tide (certainly not true) and to still insist that the blackouts have worked when the highest Red Tide counts were offshore of the counties with the oldest and strictest blackouts. While Mote Marine, FWC, academic scientists and others rule out fertilizer causation as well as significant interaction of Red Tide with urban nutrients, the dialogue highlights the willingness of the blackout supporters to blame fertilizer nonetheless, insisting that Red Tide is caused and exacerbated by fertilizer, and to say that the blackouts are needed to reduce red tide. Pretty confusing.

Conclusion –

The cumulative weight of evidence is clear – the blackouts were a theory that never had any credible scientific support, and which have never panned out. To this day, no enabling local government has performed any structured study to establish cause/effect metrics, nor tested for the specific isotopes of synthetic fertilizer. Defending them seems to have become an exercise in diversion and dissembling based on the instances described above and we encourage you to consider testing and other alternatives to this highly controversial policy.

Topic – The Chesapeake Bay Model

The efforts related to the successful management of nutrient loads in the Chesapeake Bay were examined by EREF, with the following highlights:

- ❑ The Chesapeake Bay TMDL is the largest nutrient TMDL in the world and serves as the gold standard for large-scale watershed nutrient management.
- ❑ The Chesapeake Bay turf fertilization rules were created by the University of Maryland and are a mirror image of the FDACS Urban Turf Rule in terms of establishing limited local fertilizer application rates, and a confirmation of the *FDEP WM869 Study* that encourages winter rather than summer blackouts – and discouraging the baffling logic of the current blackouts which promote starving plants during their growing season and feeding them during their dormancy (resulting in the detrimental impacts noted in the professional scientific and academic literature and in the following point).
- ❑ The Chesapeake Bay TMDL establishes that turf nutrition and turf health during the summer growing season are critical to the prevention of erosion and to the protection of the Bay. Erosion (the real mortal enemy of water quality) arising from nutrient-deprived turf stands and landscapes were determined to result in an increase in nutrient loading as well as in total dissolved solids.
- ❑ The inclusion of summertime blackouts will compel homeowners and others to act out of human nature, likely exceeding recommended application rates during dormancy – all resulting in the inevitable consequences of off-season nutrient migration, completely contrary to the outcomes which the County is intending to achieve.

Topic – Miscellaneous

The Myth of the “Summer-Safe Blends”

The “summer-safe” blends as a replacement for Nitrogen are another addition to the rainy season mythology. It is simply inarguable that applying such summer-safe products substitutes for the food-making attributes of Nitrogen which landscapes are deprived of during the blackouts. They don't – they only address appearance. Nitrogen deprivation leads to cumulative declines in turf rooting and turf density, and eventually to erosion and the loss of filtration capability which are the mortal enemies of water-quality protection.

On a Lonely Island

Who supports the summertime fertilizer blackouts?

Florida Department of Environmental Protection – No
Florida Department of Agriculture and Consumer Services – No
Florida's Water Management Districts – No
Land Grant Universities with Agronomic Expertise – No
Maryland/Chesapeake Bay – No

Our Industry – Your Neighbors and Friends

It is inevitable that some in this discussion will say that the fine people in the green industry are only being in it for the money. This is a very unfortunate bit of profiling. Anyone paying attention and willing to take even a brief look at what we do knows that we have embraced cultures of natural resource protection in our companies and trade organizations for decades. We have innovated best practices, funded research and engaged our state and local governments in education and outreach to teach and share with others how to manage lawns and landscapes responsibly. We show up at meetings, we offer our help **and we love Florida's water and natural systems just as much as anyone else**. The people in the green industry would never promote a polluting status quo – period. We invite you to meet with us in person and see for yourself that we are, in fact, the Good Guys.

The way we see it, you are a real environmentalist if you follow the science, even if you don't like it and even if it requires you to change.

Facts About Rain in Collier County

The whole justification for summertime blackouts is rain. The equation is described as: excessive summer rains + fertilizer application = pollution. We would only agree with that statement to the extent that fertilizer was improperly spread on impervious surfaces, in which case it wouldn't much matter what season it was or how much it rained – that fertilizer is not where it is supposed to be. Our people don't do that.

Beyond that, the science is clear – summer fertilizer applications to actively growing landscapes don't go anywhere except the root zone to be taken up by the plant – even in saturated soils.

But just for fun, let's look at the average rain stats for Naples dating from 1960 until today from the Florida Climate Center (here's the link if you want to check this out for yourself – it's pretty interesting --

<https://climatecenter.fsu.edu/climate-data-access-tools/climate-data-visualization>)

MONTH	AVG. EVENTS > 2.0"
June	<1.0
July	<0.5
August	<1.0
September	<1.0

Not all that scary really. It's even hard to verbalize how negligible this is, but let's try:

- ❑ Rain events which deposit 2 or more inches of water happen less than 1 time per 30-day period in the months noted above. Most which did happen were in years of tropical activity, which also skew the average upward.

It is certainly hard to reconcile such minimal instances of heavy rain to the level of regulation in the blackout type ordinances.