



Second Annual
STATE OF *our* AIR
Our Commitment, Our Community.

2020 - 2021



The State of Our Air Report for 2020 - 2021

In October 2020, U.S. Sugar released the first *State of Our Air Report* to highlight the good air quality found throughout the Glades' communities in a concise and simplified format. Our report used publicly available, scientific data, collected by the Florida Department of Environmental Protection (FDEP) under supervision of the Environmental Protection Agency (EPA). The data demonstrated that Glades communities have air quality better than Florida's state average, according to AirNow.gov and other independent sources. The Report was a continuation of our ongoing conversations with our neighbors about U.S. Sugar's commitment to helping keep the farming communities where we work, play, and raise our families clean, safe, and healthy. U.S. Sugar is proud to reconfirm that commitment in releasing the **second annual *State of Our Air Report***.

Summary & Key Findings

- As farmers and businesses that rely on science and data in our daily lives and to provide additional professional-grade air quality monitoring information, U.S. Sugar started privately monitoring local air quality to provide additional data to the residents of our communities.
- Both publicly available and privately collected data on small particulate matter (PM 2.5) show the Glades' communities continue to have clean, safe, and "good" air - which is the very best designation of air quality when analyzing PM 2.5 (as set by the EPA).
- In addition to low particulate matter levels, **the Glades' communities also experience extremely low levels of benzo[a]pyrene (BaP)**—which is produced by various sources and often found in breathing zones. Privately collected data over the entire sampling period consistently fell **well below** the Regional Screening Level (RSL) established by the EPA.
- Despite inaccurate claims from anti-farming activists, **privately collected PM 2.5 data confirms that the Belle Glade monitor was never "malfunctioning"** and provided accurate and reliable air quality data for the people of the Glades. FDEP and other agency officials also confirm the fitness and reliability of public equipment.
- In November, FDEP installed a new, federally-approved FEM regulatory monitor that (1) shows readings consistent with the previous monitor and (2) is the same type monitor used to collect the private data included in this report; which should serve as additional proof points that **the air in our communities is "good."**



The Data

The data in this 2020-21 report is comprised of both (1) public and private air quality data and (2) additional privately collected polycyclic aromatic hydrocarbon (PAH) data at multiple monitoring sites. *Unless otherwise stated, data is presented in monthly averages.* Public data used in this report can be found at WWW.FLORIDADEP.GOV/AIR (updated daily); this report reflects available FDEP data at the time of publication.

PM_{2.5}

According to the EPA, PM 2.5 are fine particles (under 2.5 microns)—either solid or within liquid droplets—found in the air; the EPA regulates PM 2.5 levels on the basis of two different standards: (1) *primary standard*, which provides public health protection, including “sensitive” populations and (2) *secondary standard*, which provides general public welfare protection.

The EPA has established standards for protecting the public and can be used as a reference for air quality data. For PM 2.5, the **primary standard is 12.0 µg/m³** and the **secondary standard is 15.0 µg/m³** and are assessed by looking at the annual mean of PM 2.5 values. **For 24-hour analyses, the EPA standard is 35 µg/m³ meaning daily averages below 35 µg/m³ meet the National Ambient Air Quality Standards (NAAQS) air quality standards.**

The data used in this report are from both public and private air quality monitor samples—all of which meet the rigorous quality control standards and tests set forth by the EPA and have been deemed sufficient for measuring air quality in our communities.

Benzo[a]pyrene

Benzo[a]pyrene is a common PAH. According to the EPA, BaP can be found in coal tar, automobile exhaust fumes, cigarette smoke, and even charbroiled food. While there is no regulatory “standard” for any PAH, the EPA provides a health-based guideline called *Regional Screening Levels* (RSLs) when monitoring common PAHs. **The RSL for BaP is 1.7 nanograms per cubic meter (ng/m³). The majority of the monitoring data showed BaP levels of less than 0.1 ng/m³.**

Air Monitoring Locations

“Public” Monitors:

- Palm Beach County, Belle Glade (State Road 80) - PM 2.5
- Palm Beach County, Lamstein Lane (151 Lamstein Lane) - PM 2.5

“Private” Monitors:

- Palm Beach County, Belle Glade - PM 2.5 & BaP
- Palm Beach County, Loxahatchee - PM 2.5 & BaP
- Palm Beach County, Ortona - PM 2.5 & BaP



New, Regulatory Approved Monitor Installed in Belle Glade - Continues to Show “Good” Air Quality

Recent media coverage falsely reported that the previous Belle Glade monitor was “malfunctioning” and unfit to provide accurate public data to the community. As stated in the previous *State of Our Air Report*, the FDEP monitor was not malfunctioning and provided accurate, reliable air quality data.

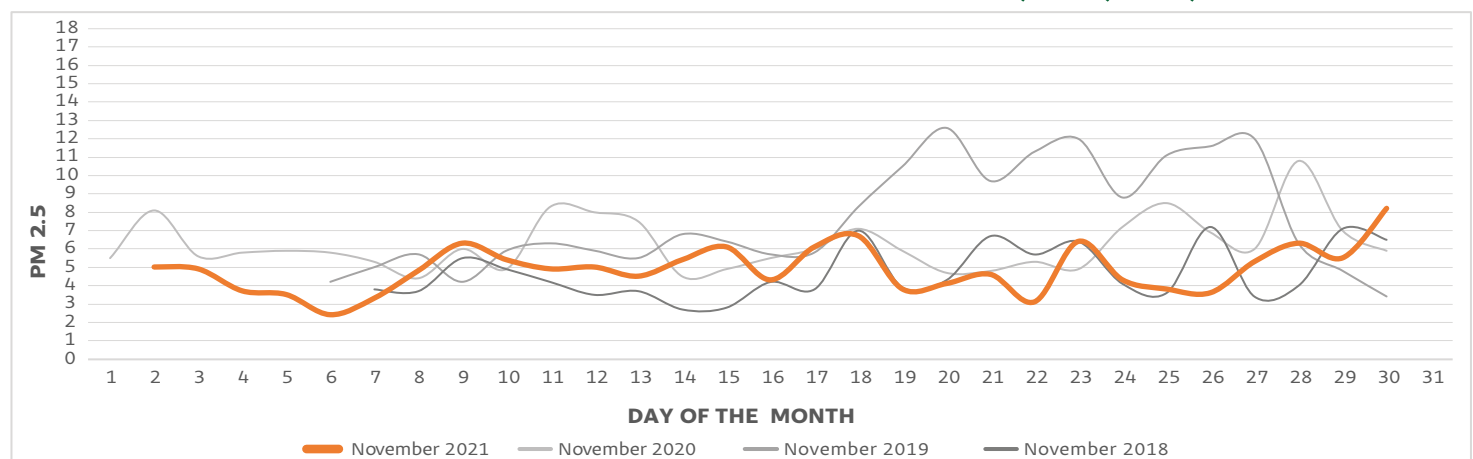
Officials from the FDEP repeatedly verified that the Belle Glade monitor was accurately functioning and while the monitor was deemed “non-regulatory,” it was fit-for-purpose: the monitor “measure[d] criteria pollutants” in order to meet the regulatory requirement of measuring air quality in the Belle Glade area, but it was “not intended to provide data for regulatory purposes.”

Each year the FDEP publishes an *Annual Ambient Air Monitoring Network Plan* overviewing the network of ambient air quality monitors located throughout the state, which is one of the most comprehensive ambient air monitoring networks in the country. Each annual plan is also submitted to the EPA for review and ultimate approval, ensuring that the monitors and the network meets all of the requirements established by the EPA and current regulatory standards. **To date, the EPA has consistently approved the state’s network plan and all equipment including the Belle Glade monitor.**

In the 2021 Plan (first released in March 2021), the FDEP announced a **series of changes to the network and equipment** – which included plans for replacing the Belle Glade monitor in July 2021, along with new monitors in Delray and Homestead. The new monitor, a **Teledyne T640**, is a Federal Equivalent Method (FEM) monitor, meaning that it is approved by the EPA to determine compliance with the NAAQS. Supply chain delays as a result of the COVID-19 pandemic delayed the new monitor’s installation; **the new FDEP monitor began monitoring PM 2.5 in November 2021 at the same Belle Glade monitoring site location.**

The daily PM 2.5 readings from November 2021 recorded by the “new” Belle Glade FEM monitor (the orange chart line) shows similar and consistent readings compared to November readings from 2020, 2019, and 2018, taken by the previous monitor. While every reading fell substantially below the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$, the new monitor largely reported even lower levels compared to previous reporting years.

FIGURE 1: COMPARISON OF FDEP DAILY PM 2.5 AVERAGES FOR NOVEMBER 2021, 2020, 2019, AND 2018.

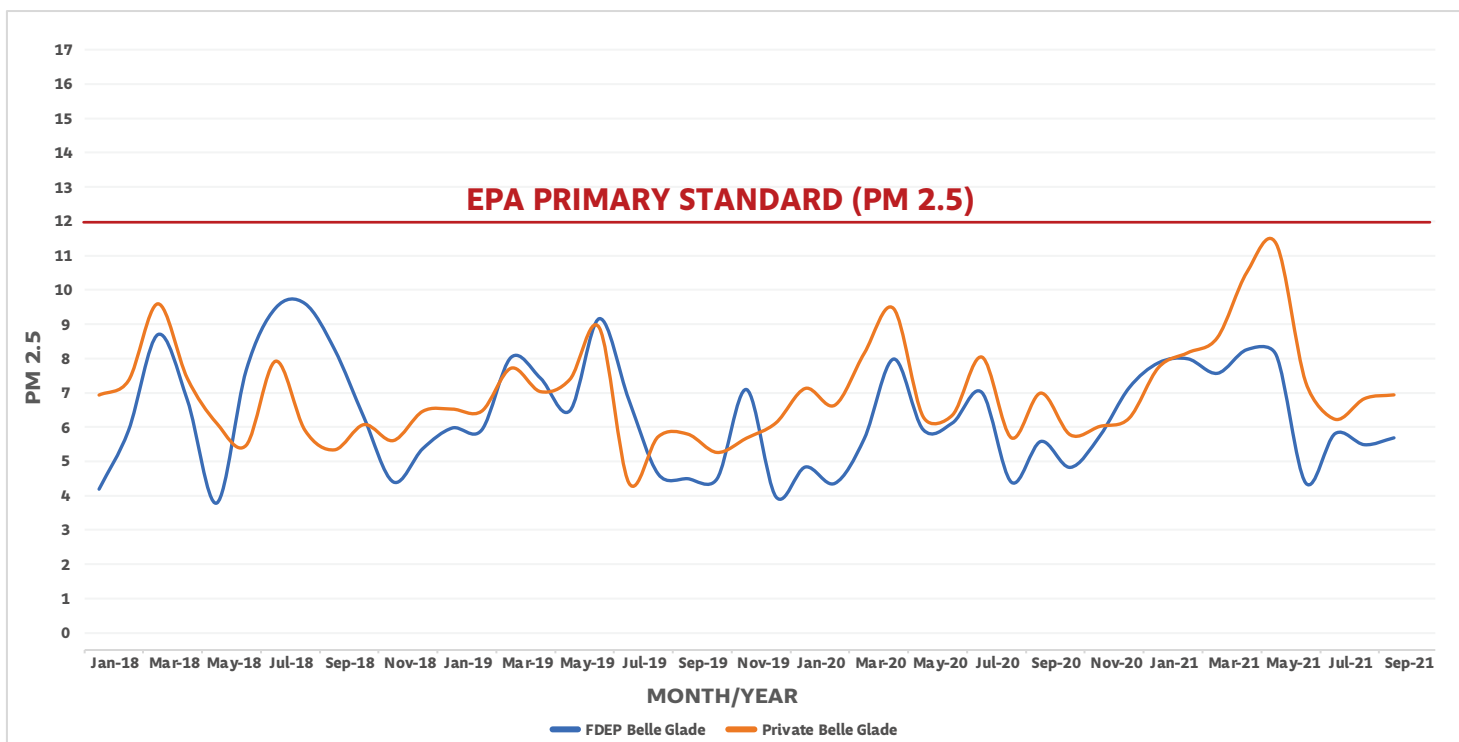




Accuracy of FDEP Belle Glade Air Quality Data Confirmed by Years of Private Monitoring

Despite claims made by anti-farming activists and error-filled reports by media outlets including *The Palm Beach Post*, the FDEP's Belle Glade monitor provided accurate, reliable air quality data for our farming communities, stating our air quality is "good." This data is supported by years of internal air quality monitoring conducted by a "regulatory-grade" FEM monitor; this confirmation should come as no surprise, given years of annual quality assurance tests—including approvals by the EPA.

FIGURE 2: YEARS OF PRIVATELY COLLECTED PM 2.5 DATA CONSISTENT WITH THE FDEP'S BELLE GLADE MONITOR.



As shown above, **data from both the “public” and “private” monitors show consistent trends, reinforcing the fact that the FDEP’s air quality monitoring equipment provides accurate and reliable readings for the Glades community.** Future readings should also show a similar consistency given both monitors are identical, FEM monitors, which measure compliance to the NAAQS.

Monthly averages from both the “public” and “private” monitors never exceed the primary standard - indicating the Glade’s communities’ air is safe, healthy, and clean in both the harvest and growth season.

In fact, many of the heightened levels of PM 2.5 can be attributed to natural causes, such as wildfires and Saharan Dust events. Unlike controlled pre-harvest burns which are conducted only under approved conditions by the Florida Division of Forestry in agricultural settings, unauthorized fire events cause a concentrated and sustained level of PM 2.5 to remain in the atmospheric breathing zone. Conversely, prescribed burns—which are highly regulated and monitored by certified burn experts—quickly dissipate and rarely affect the breathing zone.

The data in the chart above reaffirms that FDEP’s Belle Glade monitor is providing an accurate representation of the area’s air quality and is qualified to provide reliable air quality information for our farming communities.



The Air in *Our* Farming Communities is Consistently Clean, Safe, and “Good” Quality

Anti-farming activists and their paid outside “experts” often claim Florida’s comprehensive air monitoring network—which assesses the air quality for nearly 90% of Florida’s 21+ million residents—is insufficient and support that notion with the unfounded allegation that the monitoring does not accurately provide air quality information for rural areas like the Glades’ communities.

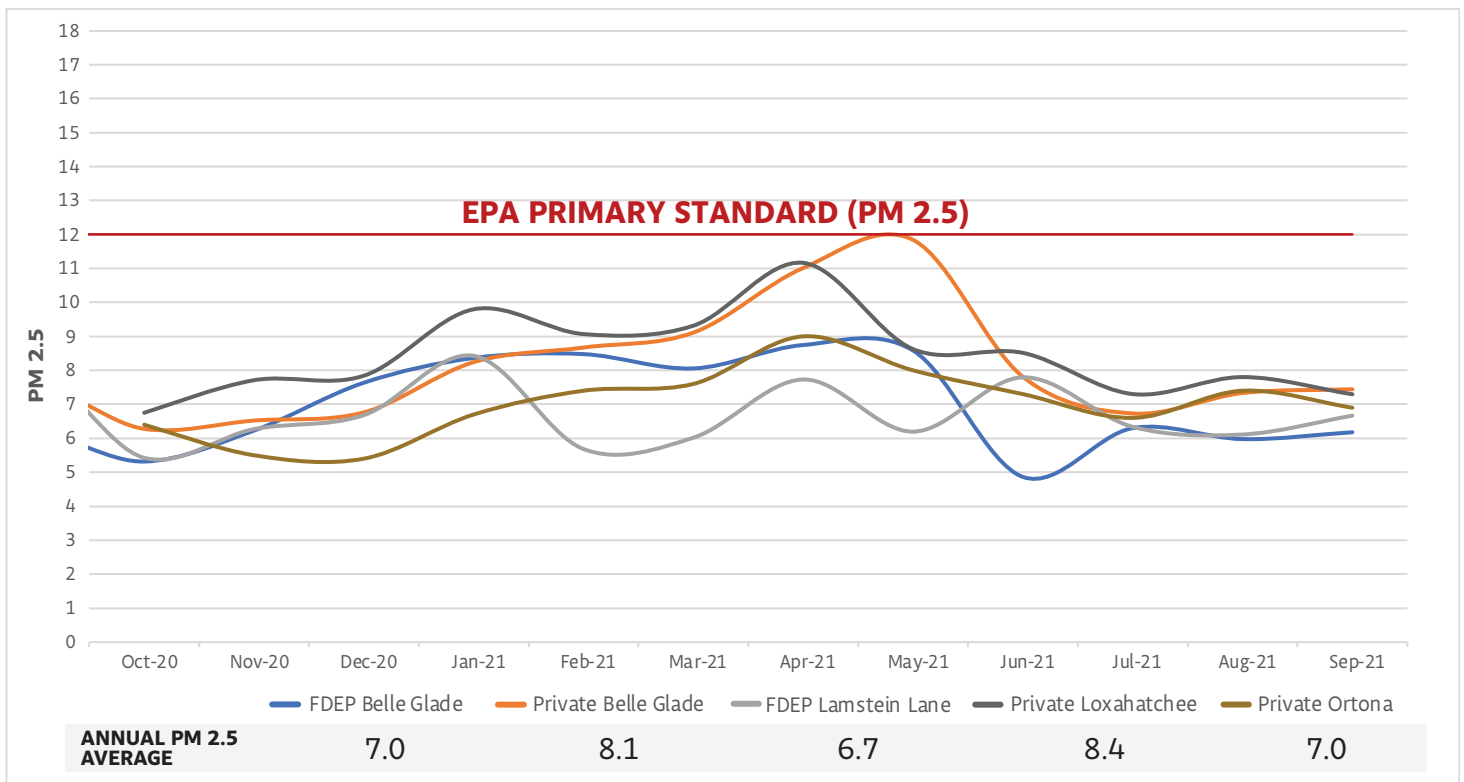
The FDEP, in accordance with EPA standards, strategically positions roughly 177 monitors throughout the state. As stated in the 2021 Plan, monitoring sites **“are concentrated in areas of higher population density, along the coast, and near interstate highways.”** Three additional monitors are “rural monitoring sites as representative locations for comparison to regional background levels of pollution.”

For the communities surrounding the Lake Okeechobee farming areas, the FDEP has a monitoring site in Belle Glade and another past 20-Mile-Bend in Royal Palm Beach. Air quality data from those monitors have consistently shown the air is of “good” quality, *which is the best designation for air quality.*

Beginning in October 2020, private monitors were installed at two additional sites in (1) Ortona and (2) Loxahatchee, as well as a private monitor in Belle Glade which began sampling in January 2018. All three private monitors show similar data points as the FDEP monitors in the area, which are at or below the primary standard for the entire sampling period.

The graph below charts the last year of data points for all five monitors—both public and private. **This data set is indicative of the efficiency and reliability of FDEP’s air quality monitoring program and confirms what we know to be true: our farming communities have some of the best air (and air quality monitoring) in Florida.**

FIGURE 3: PRIVATE & PUBLIC AIR QUALITY DATA SHOW AIR IN FARMING COMMUNITIES MEETS EPA STANDARDS.





PurpleAir Monitors Are Not “Foolproof”

The Palm Beach Post, in a recent series funded by nonprofit activist online outlet ProPublica, sought to “investigate” the Glades’ communities and harvesting practices of the sugarcane industry—with the ultimate objective of banning the practice of controlled pre-harvest burning in Florida.

The articles contain a litany of unsubstantiated and inaccurate conclusions about the industry and its practices. Despite numerous attempts by many to correct the record, *The Post* refused to make any corrections.

The Post & ProPublica paid for non-regulatory PurpleAir monitors to be placed at undisclosed residential locations in Pahokee. Numerous reports show these monitors are not meant for large-scale, professional sampling; nor are PurpleAir monitors intended to replace ambient air quality monitoring conducted in accordance with EPA regulations and guidelines.

PurpleAir founder and CEO stated that while EPA monitors “are something that have to stand up to the scrutiny in the courts and cross-examination,” PurpleAir monitors are not, and are intended to help “you decide, should I go cycling and where?”

Experts say that PurpleAir monitors “aren’t always foolproof” and that “fog and humidity can sometimes affect the local sensors, such as PurpleAir’s, and they don’t always distinguish between small particulate matter, like smoke, and larger particulate matter, like road dust or sea salt. If someone is living next to a particular air source, it might skew the reading.”

The Post relied on less than five months of air quality monitoring data from the PurpleAir monitors. While this data set was not made publicly available or published alongside the reports, some raw data were provided to U.S. Sugar (data sets were entirely excluded by *The Post* due to inaccuracies). The Post used the limited data set to attempt to point to controlled pre-harvest burns as the cause for some heightened PM 2.5 levels.

Yet, after reviewing *The Post*’s PurpleAir data, they show that **99% of the readings were below the EPA’s 24-hour standard of 35 µg/m³.**

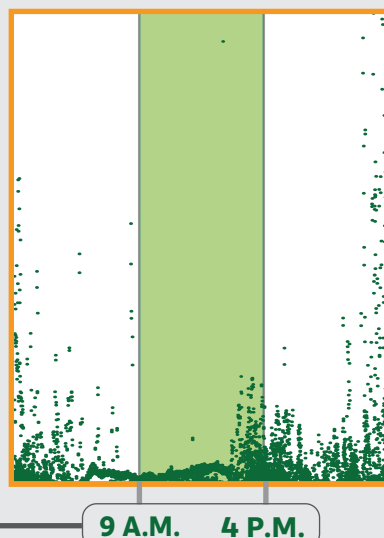
Of the small number of samples above the standard, **only 0.56%** were within the burn window permitted by the Florida Department of Agriculture and Consumer Services (FDACS). As shown in the chart, much of those readings were towards the end of the burn window, around dusk. The “data” produced by *The Post* fail to provide a credible connection to their demands of the industry to alter their harvesting process.

FIGURE 4: THE POST’S DATA FAIL TO SUPPORT CALL FOR END TO PRE-HARVEST BURNS.

Nearly 99% of the Post/ProPublica samples fell below the EPA standard.

Only 1.4% of the Post/ProPublica samples were above the standard.

Only half of one percent of the readings (0.56%) above the standard happened within pre-harvest burn windows permitted by Florida Forest Service/FDACS





If We Look Beyond Measuring PM 2.5, is Glades Air Still Safe? Data and EPA Screening Levels Say Yes!

We've long had plentiful data that showed our Glades communities have good, clean, safe air, however we wanted to go beyond just looking at particulate matter or PM_{2.5}. Thus, for the last two years our private air quality monitors also screened for additional substances including common polycyclic aromatic hydrocarbons (PAH). EPA sets measurable air quality standards for particulate matter (PM_{2.5} and 10), but they do not for any PAH, including BaP. They do calculate a lesser health-based guideline called Regional Screening Levels (RSLs) for a number of PAHs. The RSL for BaP is 1.7 ng/m³. Thus sample levels falling under that RSL are deemed "safe."

According to the EPA, Benzo[a]pyrene (BaP) is a five-ring PAH that can be released into the atmosphere as a component of smoke from forest fires, industrial processes, vehicle exhaust, cigarettes, and through the burning of fuel (such as wood, coal and petroleum products). Oral exposure to benzo[a]pyrene can commonly occur by eating certain food products, such as charred meats and charbroiled foods where benzo[a]pyrene is formed during the cooking process.

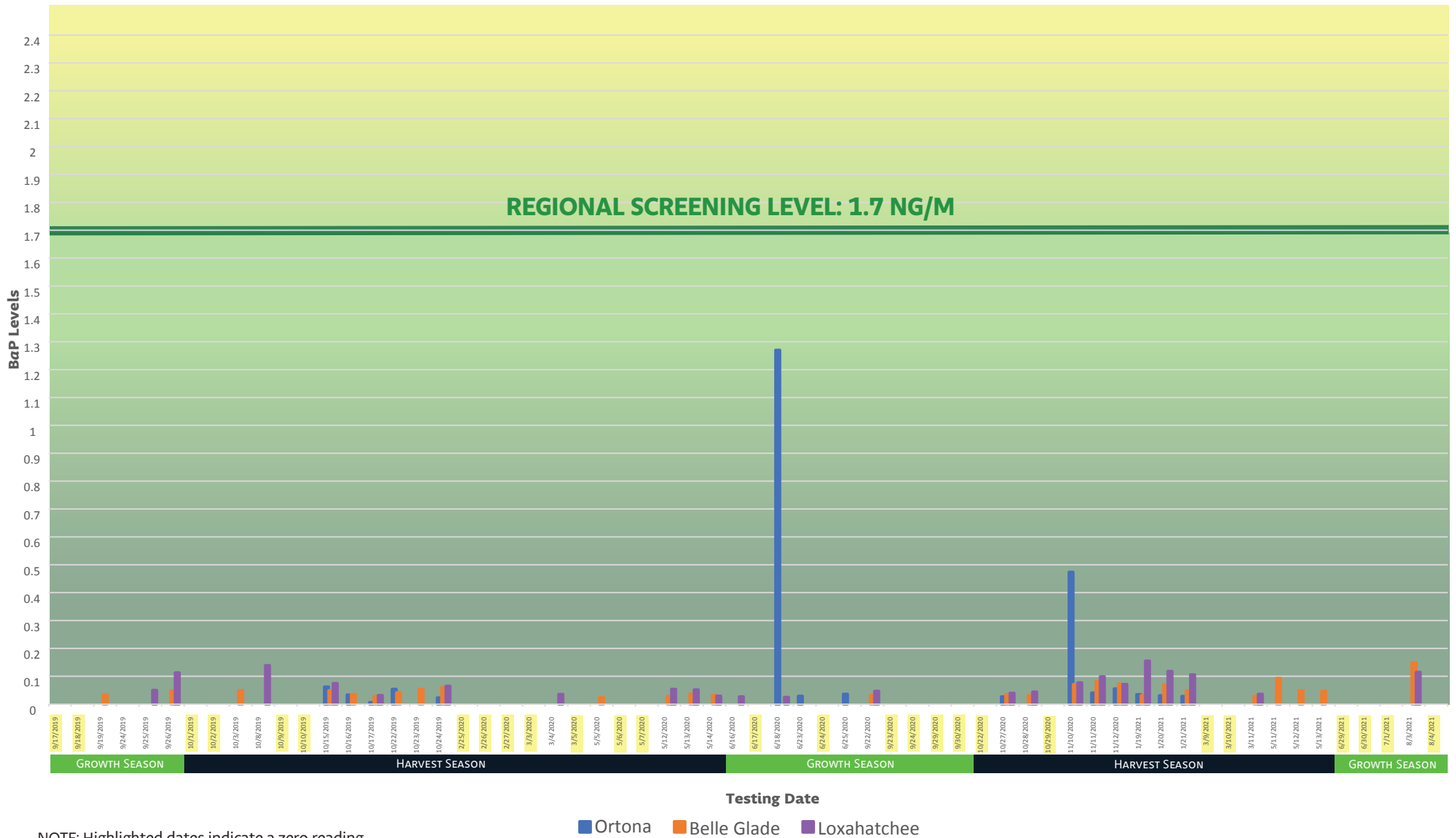
While EPA monitors/measures several criteria pollutants, they do not measure or report on PAH levels (nor specifically, BaP)—this is likely due to very low levels in the farming area to warrant regulatory monitoring, particularly in the Glades region. As part of our commitment to our community, **U.S. Sugar began monitoring for BaP levels in 2019 at three monitoring sites: 1) Ortona 2) Belle Glade 3) Loxahatchee.** The samples were taken in accordance with OSHA guidelines and have been reported in in the chart on the next page.

Over the last two years, BaP levels around our farming communities remained WELL BELOW these safe screening levels. This indicates that the air in our farming communities is consistently GOOD in relation to particulate matter, and SAFE when it comes to being within the EPA's health screening levels of BaP. This holds true whether we are in the harvest season or growth season. In fact, the highest BaP level occurred at the Ortona site, outside of the pre-harvest "burn" season.

Please note on **Figure 5 shown on the next page, the majority of the measured values are below 0.1 ng/m³.



FIGURE 5: BaP Levels in the Glade's Air Consistently Safe; Well Below the EPA Regional Screening Level.



Come Visit our Community!

Dozens of groups and thousands of guests tour U.S. Sugar farms and food processing plants each year as part of the Raisin' Cane Tours.

Organized by the *Clewiston Chamber of Commerce*, the tours provide visitors a behind-the-scenes view of how our crops get from *our* farms to your table.

Participants visit sugarcane fields, tour our community and see vegetables, citrus, and Lake Okeechobee.

