



Your passion.
Your Collier.

Upstream Stewardship

When it comes to protecting, conserving, or restoring the environment,
tomorrow begins today.

Submitted by the



COMMUNITY FOUNDATION
OF COLLIER COUNTY
FOR GOOD. FOREVER.



By the middle of dry season (March and April) wetland water levels in the Sanctuary drop. This concentrates an abundance of fish and other aquatic life in deeper holes, creating a buffet for White Ibises, Great Egrets, and other wading birds.

The past year has put human challenges in the spotlight—and the natural environment into sharper focus. Collier County residents have been fortunate to escape the quarantine's confines by heading out for walks around the block, along shorelines, and through local parks for sunshine. We set out in boats and kayaks for a dose of saltwater. We retreat to our lanais for fresh air and bird watching.

Collier County is an expansive 2,305 square miles comprised of 1,998 square miles of land—the largest county in land area in the Sunshine State—and 307 square miles of water. It boasts 30 miles of white-sand beaches. No doubt, this area is home to unparalleled natural resources. Collier's environmental health is directly tied to its economy: for tourism, water-based small businesses, property values, and as an attractor of wealth as people find it the ideal place for a second home.

These resources are also limited and fragile, as hurricanes, forest fires, and catastrophic red tide and toxic blue-green algae blooms remind us. South Florida has one of the most unique geological landscapes in the world. Its wetlands store and filter pollutants out of rainwater before it reaches the Gulf of Mexico or trickles into underground aquifers to be used for human consumption. According to the Everglades Foundation, the Greater Everglades ecosystem's aquifers provide the water supply for more than nine million South Florida residents.

Experts say that both red tide (caused by the

Karenia brevis organism) and blue-green algae (cyanobacteria) are fed by nutrients that wash into water bodies, such as phosphorous, nitrogen and other organic and synthetic ingredients in fertilizer. Primary sources include agricultural lands and urban yards, golf courses, septic systems, and aging infrastructure.

With a permanent population of over 385,000, the county is projected to gain between 122,000 and 162,000 new permanent residents by 2040. (The local population already swells by 20 percent in season.)

Environmental advocates and county planners realize that smart development is critical for the future planned communities, roads, and commercial corridors that will be needed to accommodate these newcomers. Thousands of acres in the county's rural eastern swath are currently on the drawing board, including two new villages and a town similar to Ave Maria.

On the land and in the Gulf of Mexico, "water is fundamentally about our quality of life, our health, and our economy," said Rob Moher, CEO/President of the Conservancy of Southwest Florida. "What we do on the land is important because everything starts upstream."

The Community Foundation of Collier County collaborates with other local leaders, nonprofits, advocates, and agencies to create innovative partnerships to tackle local environmental challenges. In the past two years, the Community Foundation has already distributed more than

\$281,424 through 19 competitive program grants to 10 local organizations directly addressing environmental issues.

Some of the grants and programs the Community Foundation has been supporting in recent years include:

- The Conservancy's research and outreach for the voter-approved Conservation Collier program to purchase and conserve sensitive habits and ecosystems while providing opportunities for residents to connect with nature
- Significant reforestation projects to replace the thousands of trees destroyed by Hurricane Irma in 2017. Grants were provided to the Naples Botanical Garden, City of Naples, and to the Collier County Parks & Recreation Division to provide natural shade at the popular Immokalee Sports Complex
- Climate change and sea-level rise education and outreach through the three-year regional initiative Growing Climate Solutions – Path to Positive Southwest Florida, in partnership with Southwest Florida Community Foundation, Florida Gulf Coast University, and Conservancy of Southwest Florida
- An Audubon Western Everglades winter shorebird stewardship program to teach Collier County beachgoers how to protect shorebirds
- An educational virtual boardwalk tour at the Audubon's Corkscrew Swamp Sanctuary for local elementary students



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—Rob Moher, CEO/President of the Conservancy of Southwest Florida

“Water is the No. 1 issue in Florida because it’s such a delicate ecosystem. And then trees—people who were here during Hurricane Irma saw that we lost a lot, and it’s continuing to impact our environment,” said Community Foundation President/CEO Eileen Connolly-Keesler. These projects will spread throughout Collier and its municipalities, she said.

Today, the foundation leads the charge to create a \$2 million fund tailored specifically for environmental collaborations as part of its new *Your passion. Your Collier.* capital campaign. The fund will support water-quality improvement projects that will also benefit sea life and fisheries and tree-planting initiatives to improve air and water quality, provide shade, and support wildlife. As of October, \$565,000 had been pledged toward the campaign’s goal of \$2 million. The Community Foundation is seeking donor support to close the financial gap this year to get to work making an impact on environmental initiatives as soon as possible.

“The Community Foundation can make decisions and deploy money much faster than government,” noted Naples Botanical Garden CEO Donna McGinnis. “A lot of donors want to know what’s going on and what the community issues are, and they need a trusted advisor. That’s exactly what the Community Foundation does.”

Trees convert carbon dioxide into oxygen; carbon emissions are the primary greenhouse gas accelerating climate change. They also provide shade for humans and habitats for birds and wildlife and protect against erosion. The focus is to plant species native to Southwest Florida, which are naturally storm resilient and less dependent on irrigation and fertilizer because they evolved with the region’s soil conditions and climate. Foliage also makes the landscape more aesthetically pleasing. Various studies report that trees, including those on neighborhood streets, increase private property values up to 10 percent. “Another reason,” Connolly-Keesler added, “is that it would be an amazing legacy for our kids and people in this community in the future.”

Thankfully, trees are a renewable resource—but wetlands are not. “If we care about water quality, then we have to care about wetlands. We can’t afford to replace one acre. One acre stores a million gallons of water. They are one of the most complicated ecosystems in the world, so you can’t really rebuild them. They’re irreplaceable,” said Rob Moher.

Planning for Climate Change and Sea-Level Rise

Throughout Southwest Florida, the effects of climate change—sea-level rise, coastal flooding, erosion of beaches and waterfront property and infrastructure, storm intensification and frequency, and the destruction of sea turtle and shorebird nesting habitat—are becoming the new norm. Experts from Florida Gulf Coast University (FGCU) and the University of Florida are analyzing the pressing reality of sea-level rise in Collier County to guide future county growth.

According to the National Oceanic and Atmospheric Administration (NOAA), the last

seven years have been the hottest on record. 2020 ranked as the second-hottest year, sandwiched between 2016 and 2019 since record-keeping began in 1880. As a result, the 2020 average annual Arctic sea ice coverage was approximately 3.93 million square miles, tying 2016 for the smallest on record, NOAA reports. The melting ice raises sea levels across the globe.

Since 1993, when sophisticated modeling technology was integrated into satellites, sea level has risen 3 inches globally. The Southeast Florida Regional Climate Change Compact has forecasted between 17 to 31 inches of sea-level rise by 2060.

Climate change-driven sea-level rise is a grim prospect that concerns Southwest Florida residents. The first regional survey of its kind, conducted by ecoAmerica and Lake Research Partners in 2018, shows:

- 76 percent have noticed more severe weather and changing seasonal weather patterns over the last several years
- 75 percent believe that climate change is happening
- 71 percent are concerned about climate change
- 59 percent believe that the effects of climate change have already begun to happen

That’s the reason the Community Foundation and a private donor each provided \$300,000 for the initial funding of *Growing Climate Solutions, Path to Positive Southwest Florida*. The coalition partners with ecoAmerica, a national climate leadership organization, to serve in an advisory role and coordinate outreach with more than 40 businesses, and religious, health, and education organizations. In addition to building residents’ climate change literacy, key objectives include preserving natural assets that protect the shoreline, encouraging large organizations to make sustainable adaptations, and promoting paths to coastal resilience.

“This is a community issue. There are impacts across health, wellbeing, the economy, enjoyment of our community, agriculture, and natural resources,” said Moher.

The Southwest Florida Regional Resiliency Compact, made up of Charlotte, Lee, and Collier counties and their incorporated cities, got off the ground last summer. Its stated goal is to “address sea-level rise, water quality, harmful algal blooms, erosion, greenhouse gas emissions, heat events, droughts, flooding, and intensifying hurricanes.” Members will share scientific data and planning tools, develop a unified action plan, and offer collective support to prepare for, adapt to, and mitigate climate change impacts. Everglades City, Marco Island, and Naples are among its members.

Moher is relieved this region has finally organized a regional compact, as other Florida areas did long ago. “How do we prepare better? You have to think 10, 20 years ahead. We are fortunate that these conversations and actions are already

underway. Protecting is planning for it. If we love it here, we have to protect it.”

Reforestation Collier, Seed by Seed

To celebrate its 35th anniversary last year, the Community Foundation partnered with the Naples Botanical Garden to distribute 3,500 native trees for free throughout the county, including Everglades City and Immokalee. The Garden team gleaned seeds from the wild, nurtured them over several months until they were a couple of feet tall, and distributed the bald cypress, golden shower, Florida fiddlewood, and other native Southwest Florida trees. Each came with information about their care and beneficial role in the landscape. The Garden also worked with three nonprofits—the Salvation Army, Habitat Collier, and the Guadalupe Center—on site-specific landscaping projects.

“Getting trees out into the community was exciting and to get the word out about what’s best for Southwest Florida was a win for everybody,” McGinnis said.

It’s one of several collaborations the Garden is undertaking to be good stewards of the local environment and educate residents. Older, long-established botanical gardens in the north have traditionally had a science component, McGinnis said, but she feels her organization’s role is putting others’ research into action.

“In general, the nonprofits here network really well, especially in the environmental space. We know each other very well and are connected at several levels, and even work with public agencies on projects on their state, local, and national parks and preserves. There’s a lot of interconnections so there has been grassroots collaboration happening for quite a while,” she added.

McGinnis said the red tide crisis of 2018—which killed hundreds of thousands of pounds of sea life and forced the closure of beaches and businesses—surely opened the community’s eyes. “Everyone said, ‘We’ve got to find a solution to this.’ When we have the public’s attention, it’s a good time to talk about what the solutions can be,” she said. “We can do the citizen education piece, awareness building, and outreach.”

She said FGCU has plenty of research and information she can model programs around. For example, the Garden can reach out to homeowner associations to educate residents about beneficial landscaping practices that reduce fertilizer usage, which feeds red tide and harmful algae blooms, she said.

The Garden uses its parking lots for urban forest research, investigating various species to see which fare best in streetscapes, tolerate a wide range of conditions, and require little pruning, fertilizer, or irrigation. It’s advising the Gateway Triangle Community Redevelopment Agency on the landscape design of new roadway medians, which will also serve as an educational tool and showcase plant diversity.

Specialists from the Garden and Rookery Bay National Estuarine Research Reserve are collecting the seed of targeted plant species in the 110,000-acre reserve. The Garden is seeking seeds that lack adequate protection in botanical garden collections. At Rookery Bay, 15 percent of native species, including many found in coastal

The Community Foundation partnered with the Naples Botanical Garden to hand out 3,500 trees to Collier County residents and nonprofits to celebrate the Foundation's 35th anniversary and give back to the community.



Rob, CFCC Board of Trustees, and Cathy Funderburg's tree is thriving in its new home.



dunes, are either not found or underrepresented in other national botanical collections.

According to the Garden, these areas will be among the first ecosystems lost to sea-level rise or stronger, more frequent storms, so they will become increasingly crucial for future beach dune restoration projects.

Protecting water quality is a common theme in many of the Garden's projects. "Water drives so much here economically, the quality of life, and recreation," McGinnis said. "Recreation here isn't in a giant sports stadium, it's in a boat or kayak. It's outside recreation."

Wondrous Wetlands

It rains an average of 56 inches a year in Collier County. That water flows into ditches, drainage pipes, and retention ponds. It slowly percolates through limestone into underground aquifers where drinking water comes from or disappears into the Gulf. It seems like a simple phenomenon, though managing stormwater is a complicated task.

One example: During Hurricane Irma, sewage lift stations and private residential septic fields failed, and the waste leached into flooded fields, neighborhoods, and drainage systems. The ground was already saturated from the outer bands of Hurricane Harvey three weeks prior, and vast quantities of untreated water flowed into bays, rivers, and the Gulf estuary. It had nowhere else to go.

Some of the region's problems are scientifically, politically, socially, and financially complicated to solve efficiently, resting in the hands of federal and state agencies and local ordinances and directives.

The ongoing, costly, but necessary Everglades restoration project—the largest ecosystem restoration project in the world—is one example. When Congress authorized the Comprehensive Everglades Restoration Plan in the Water Resources Development Act of 2000 to restore 1.5 million acres of this World Heritage Site, it was billed as a 30-year undertaking to build 68 projects at a price tag of \$8.2 billion. One of the separate projects has been completed, and the price tag is expected to double by completion in the 2060s.

Historically, the Everglades region comprised the vast miles of lands south of Orlando, made up of Lake Okeechobee, prairies, marshes, and wetlands. Water moved slowly south as shallow sheet flow, becoming known as the River of Grass, until dredging and draining began a century ago to make the land inhabitable and farmable.

Wetlands protect and improve water quality, provide fish and wildlife habitats, store floodwaters and maintain surface water flow during dry periods while human-made drainage projects, development, and agriculture have reduced the region's invaluable wetlands. Natural and artificial wetlands act as "kidneys," filtering pollutants from stormwater runoff.

Unpolluted freshwater is vital to the health of

mangroves and the estuaries they surround. Estuaries in Southwest Florida lie downstream of the larger watershed that encompasses freshwater lakes, streams, rivers, canals, wetlands, and sloughs. So what happens on the land, as Moher noted, winds up in estuaries. Estuaries are often called the "nurseries of the seas," where fish, crustaceans, shellfish, and other sea life forms begin their lives. They are the nurseries for recreational and commercial fisheries.

Balancing what happens on land with its impacts in the watershed is a tricky formula in the Sunshine State, where 76 percent of the population lives along the coast. "I'm confident that once people are educated, they will act. And they want to act. They're very concerned about water issues," Connolly-Keesler said.

Hard surfaces—sidewalks, roads, parking lots, and driveways allow contaminated rainwater to gush into area storm drains, carrying its contents into the estuary. Naples Bay has been rated poorly in the past by the Conservancy for both water quality and wildlife habitat, based on several issues, including the stormwater outfalls the City of Naples has redesigned. Copper, toxic to aquatic life, is present in the bay.

The tricky balancing act between land use and water quality has to be mastered. Red tide returned to area waters in December and is killing fish and shorebirds in Southwest Florida. Beachgoers are reporting respiratory distress from the toxic blooms. Marco Island is experiencing sick and dead royal terns, and the Conservancy's von Arx Wildlife Hospital is reporting an uptick in royal tern admissions, with one week in February surpassing the total for 2020. The University of Florida is currently developing a device that will measure how much brevetoxin—the neurotoxic compound found in red tide—is in the air during a bloom and assess how long it survives.

The 2018 red tide bloom was so catastrophic that the Community Foundation set up an emergency relief fund that raised \$82,500 to assist

Collier residents connected to small water-based businesses who had lost income, such as marina employees and fishing guides.

Last year, the nonprofit Captains For Clean Water found an innovative way for fishing guides to make up for lost clients at the height of their busy season due to the pandemic. The Community Foundation provided a grant to the Captains to pay out-of-work fishing guides to take their families out and conduct waterway clean-ups.

Lisa Korte, Ph.D., Audubon Corkscrew Swamp Sanctuary Director, said Audubon's top national and statewide priorities include wetlands conservation and education. "We have lost 80 percent of our wetlands in Southwest Florida," she said, adding that Corkscrew and CREW Land & Water Trust lands are "the ecological heart of the Everglades."

A swamp is simply a wetland, she said, and she hopes visitors to the Corkscrew boardwalk will gain an understanding and appreciation of their importance as they take in 500-year-old trees and lush understory, wading wood storks and bobbing alligators, and the still water that looks simple on its surface but has a complicated journey on its way to the Gulf.

For a decade, Corkscrew has taught local elementary students about its pine flatwoods, wet prairies, cypresses, ecosystems, and water quality as part of the Collier County Public School Field Trip Specialist program. Today's fifth graders are tomorrow's elected officials, community leaders, and property and business owners. "It's important to engage youth and inspire future conservation leaders in Collier," Korte said. After all, Corkscrew's 13,000 acres are "a sanctuary for birds, wildlife and people."



Rehabilitation staff examine a reddish egret (white morph) after the bird was admitted to the von Arx Wildlife Hospital due to red tide exposure.

Your passion. Your Collier. is Funding Targeted Community Needs

A few years ago, the Richard M. Schulze Family Foundation undertook an initiative with the Community Foundation and 30 other community partners to listen and respond to our community's needs. Together, we completed a comprehensive Community Needs and Assets Assessment, which paints a clear picture of our residents' obstacles and gaps in support services.

As a direct result, the Community Foundation has launched the \$15.5 million **Your passion. Your Collier.** campaign to directly tackle six identified fields of significant concern: mental health and substance abuse, housing and hunger, education and employment, seniors and veterans, environment and accessibility, and crisis and disaster relief.

"Studies are pointless unless we follow them up with action," said Community Foundation President/CEO Eileen Connolly-Keesler.

However, she emphasizes that the Community Foundation has no intention of tackling these issues alone. "We are responding to what the community, government, and nonprofits have said they value and care about. We're just the conduit to make sure the projects happen the way they're supposed to happen." The goal is to have the donations or pledges wrapped up by the end of the year. "Nothing can move forward without the community's support," she said. "It's a community effort."



Follow your passion!

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Call us at 239.649.5000 or visit
YourPassionYourCollier.org to learn more.

The Community Foundation: 35 Years of Connecting Passion With Purpose

The Community Foundation of Collier County is THE catalyst for change for nonprofit collaboration. For the past 35 years, we have been connecting people to causes that matter, growing their charitable legacies, and funding nonprofit organizations to improve the quality of life in Collier County, distributing over \$35 million in grants and scholarships by the end of our 2020 fiscal year.

We hold more than \$250 million in assets and have distributed over \$200 million in grants to nonprofit organizations and community programs since 1985. Find out how the Community Foundation assesses the pulse of the social services in Collier County each year with its "Vital Signs" report, provides a comprehensive nonprofit directory, and convenes passionate financial advisors, donors and much more at cfcollier.org.



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