



# INNOVATION CASE STUDY

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# Coral Reef Restoration & Education For Our Community's Future

UNITED WAY OF COLLIER AND THE KEYS

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**VOLUNTOURISM**

*Photo courtesy of REEF*

United Way of Collier and the Keys understands that taking bold, proactive steps through innovative initiatives is critical to the future of the community and a foundation for future generations to be inspired to continue the work of uplifting residents. This is accomplished through efforts that focus on health, education, and financial stability.

In the Florida Keys, the means to financial stability looks a bit different. With a tourism-based economy, over 60% of residents are dependent on the marine environment for their livelihood. This led United Way to take a unique approach - joining coral reef restoration efforts to improve the long-term financial stability of local residents.

Since the 1970s, coral reefs have been dying at an unprecedented rate, [according to the NASA Earth Observatory](#). With the environmental decline of native coral, coastal communities face an increasing risk to their economy and decreasing protection during hurricanes. For a small chain of islands in south Florida, the Florida Keys, these risks impact the

community's future. Here the coral reefs are a financial as well as physical safety net; the community's way of life is dependent on their existence.

Taking note of the widespread impact that unhealthy, depleted reefs will have on its community's livelihood in the years to come, United Way is taking a proactive and holistic approach to the sustainability of the Keys community through the innovative "Revitalizing the Florida Keys through Reef Restoration and Beyond." Pioneering a path to economic sustainability with restoration, United Way incorporates educational benefits, global partnership prospects, fundraising efforts, and the potential for "voluntourism" in its unique approach to revitalizing the Florida Keys. Through these avenues, United Way will showcase that reef restoration is an ongoing, global issue that requires bringing stakeholders from diverse backgrounds together to work toward mitigating a worldwide problem.

With this collaborative work, United Way is a spark for similar projects across other United Ways and their communities globally to help cultivate a greater understanding of how the environment can affect quality of life and financial stability.



Photo courtesy of UWCK

# Background

The Florida Keys are a chain of islands stretching 120 miles off the southern tip of Florida. The islands are surrounded by the Florida Keys National Marine Sanctuary (FKNMS) which helps protect local marine resources and their use. With an economy largely driven by tourism, almost 60% of the region's residents are employed in hospitality or other marine-centered industries. Most of the community is directly or indirectly dependent on the marine environment for their livelihood. From fishermen to tour boat captains to the staff of ocean-front restaurants, the financial stability of the residents is inextricably linked with the sea.

Unfortunately, the Key's once vibrant marine ecosystem is in severe decline; for over 40 years, the rate of the decline is primarily attributed to the **deterioration of over 98% of coral cover** on the reefs. **Coral reefs**, which are made up of colonies of tiny invertebrate animals called coral, provide a home and shelter for countless marine life. Oceanic creatures are dependent on coral reefs for both shelter and food. The reefs are crucial to supporting and sustaining coastal communities in various ways. They provide natural barriers from hurricanes and other storms. Healthy reefs yield harvests of fish and other ocean catches, which is a crucial source of food and income for both recreational fishermen and commercial fisheries. Lastly, the natural beauty and allure of healthy reefs sustain a steady flow of tourism, attracting tourists from far and wide.

To address the devastation of the Key's corals, the National Oceanic and Atmospheric Administration (NOAA) and partners have devised a twenty-year plan called **Mission: Iconic Reefs**, a comprehensive approach to restore corals at seven ecologically and culturally significant reef sites in the Florida Keys National Marine Sanctuary. The intent

is to restore live coral coverage from the current 2% to an ecologically sustainable 25%. The Florida Keys coral reef is the only barrier reef in North America, a significant treasure for the nation. The Marine Sanctuary maintains a **website** that assists the community in acquiring more information on *Mission: Iconic Reefs*, including visuals showing the progress being made with the help of partners such as United Way.

As a catalyst to *Mission: Iconic Reefs*, the United Arab Emirates (UAE) **granted a \$3.5 million gift** to the United Way of Collier and the Keys to support coral restoration and education efforts. The donation is part of a larger \$10 million pledge to Florida to assist in relief and recovery efforts from Hurricane Irma; the Florida Keys are one of many communities that were devastated by the Category 4 hurricane's destruction. In collaboration with NOAA's *Mission: Iconic Reefs*, the United Way of Collier and the Keys will use a portion of the gift to support nonprofit reef restoration organizations' innovation and invention in restoring coral reefs. United Way will also support local marine science education efforts; without knowledge of the environment's role in supporting the viability of human communities, the efforts to replenish the life-sustaining corals could be threatened.

**"As a marine biologist and educator, I understand the importance of this work for our future and generations to come. I'm doing this for my children so that they can grow up and take their children out to enjoy, appreciate, and sustainably utilize this incredible ecosystem."**

**—Jessica Dockery, United Way of Collier and the Keys Reef Revitalization Project Liaison**



Photo courtesy of UWCK

# An Ocean-Based “Blue” Economy

Revitalizing coral reefs can contribute to drastic improvements in the coastal ecosystem, and healthy reefs also maintain a way of life for the people of the Keys. When realizing this initiative, the United Way of Collier and the Keys ensured that the \$3.5 million gift is invested in the community by repairing the economic link that connects the health of the coral reefs with the well-being and economic success of the people.

Billions of dollars are generated from tourism-based industries in the Florida Keys each year. Hotels, tourist destinations, and restaurants are all dependent on the biodiverse marine ecosystem to make profits that are invested back into the community through consumer spending, jobs, and taxes. However, the decline of the environment which threatens this economic sustainability can be traced back over 40 years. As early as the 1980s, a vital species of sea urchin began to disappear due to natural and human-made factors. The depletion of these symbiotic sea urchins threatens the existence of coral reefs. *Mission: Iconic Reefs* is therefore attempting one of the largest restoration efforts ever, with a holistic approach revitalizing

biodiverse organisms that help the corals flourish as well as restoring the reef itself.

While the coral reefs provide a financial safety net for the Keys, they also act as a physical one. The Florida Keys are prone to tropical storms and hurricanes due to geographic location as a string of islands straddling the Gulf of Mexico and Atlantic Ocean. Healthy coral reefs can serve as a natural barrier to mitigate storm damage to homes, businesses, and infrastructure. The United States Geological Survey [recently published data](#) on the reefs’ less visible economic impact, like their ability to reduce storm surge. Already, the reefs prevent over \$200 million in storm damage each year, and the value of that protection could be an additional \$13.9 billion above what it is today, with robust restoration efforts.

The risks to the Florida Keys’ economy and infrastructure as a result of the decline in coral and related sea life is real – and becoming more serious. Interventions like *Mission: Iconic Reefs* are an attempt at nimble yet massive efforts to shift this devastating trajectory.



Photo courtesy of REEF



Photo courtesy of REEF



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# Core Components

Through coral outplanting (a method taking “baby” corals grown in a nearby “nursery” and permanently attaching them to bare spots on the reef), education, youth engagement, and economic work, the restoration of coral reefs in the Keys can transform communities. However, to achieve the goal of restoring at least 25% of coral coverage, innovative coral planting methods and techniques to scale up repairing the reef are necessary. To foster opportunities for local, state, or national reef restoration organizations (or “practitioners”) to employ their insight and research into the outplanting of coral, United Way will invest \$2.8 million of the \$3.5 million UAE donation in the form of match funding. Restoration practitioner organizations successful in the competitive process to receive funds through United Way are required to match those funds using additional non-governmental revenue. This matching requirement is to encourage community engagement and is seeding future investments in the Florida Keys. These matched funds may then be leveraged against state and federal funds, quadrupling United Way’s investment. This is an opportunity for United Way to amplify the impact and investment for the community well beyond the initial gift.

## **CORAL RESTORATION**

United Way has already funded practitioners selected for their creative approach to coral restoration, their visionary thinking for how their work can revitalize the residents of the Keys, and their organizational approach in tackling the endeavor. For example, Reef Renewal USA, whose lead practitioner, Ken Nedimyer, is world-renowned for his impactful work in coral restoration is making extensive use of volunteers implementing new techniques. New in-water coral nursery

and outplanting methods are being pioneered in the Keys, with United Way support. Paving the way for this work, United Way will work alongside Reef Renewal USA to create a more efficient system of reef restoration. If successful, this approach can be replicated on a global scale.

Since United Way is people-centered, it recognizes that the community must have a voice in deciding which organizations and practitioners are most compatible with the needs of the Florida Keys. After applications from potential practitioners were received, United Way organized several committees composed of residents from diverse backgrounds to review applications for funding. For instance, the science committee consisted of local and state marine scientists and researchers with an understanding of practitioners’ methods for coral restoration. Other committees, such as outreach and education, assessed applicants and reviewed each proposal’s engagement.

Beyond maintaining and improving the financial stability of the Florida Keys community, one of United Way’s priorities is to ensure the next generation of community leaders, innovators, and entrepreneurs are invested in the reef restoration work – even if indirectly. Since the reefs are so important to the community’s income, it is critical that the efforts to recover the reefs reaches into future generations. United Way’s aim is to encourage action and raise awareness in children through education and youth engagement.

**My sister is a Marine Science teacher here in the Florida Keys. She has students that have lived here their whole life and have never been on a boat. They've never seen the reef. They have no idea. They just go over the bridge and the water is next to them on their bus on the way to school. This exposure to understanding what lies beneath those waters can change the future of that student and our community.**

**—Leah Stockton, United Way of Collier and the Keys Florida Keys Area President**



## YOUTH ENGAGEMENT

In addition to the \$2.8 million earmarked for coral restoration, \$335,000 of the UAE's gift will be invested in youth engagement. A portion of those funds will underwrite scholarships, and another component will support marine education in the classrooms of the Florida Keys.

To inspire the next generation of scientists, educators, and community leaders who understand the importance of Florida's coral reefs, United Way plans to allocate approximately \$155,000 towards scholarships to fund Florida Keys students who intend to study subjects related to marine science at Florida institutions for higher learning. As part of that scholarship package, United Way requires recipients to be involved with practitioners to gain hands-on experience. United Way will identify passionate enthusiasts and invest resources to help these students nurture their love for the environment and give back to the community.

Additionally, \$180,000 dollars of the UAE's donation will be granted by United Way to schools and marine science educational facilities in the Florida Keys to assist in teachers' efforts to promote and further expand marine science education over the next five years.

As human activity plays such a pivotal role in the health of coral reefs, United Way believes that education

and youth engagement are critical to sustaining the coral reefs that support the livelihoods of Florida Keys' residents. Although some of the coral reef destruction is due to factors outside of the local citizenry's control, there are many steps that people can take to lessen their impact on the marine environment. A holistic approach to repairing the ecosystem includes educating people on human impact and potential misunderstandings that could be harming the environment, and empowering them to make changes in their behaviors and beliefs. In order to sustain the health of the ecosystem, it's important that this education begins now, and continues into the future.

**“A significant part of it [reef loss] was from human impact, and human misunderstanding of the need to keep this ecosystem healthy and how to do so. If we don't fix that, it's going to continue to be a problem. We can do all this restoration, but within 20 years, it's for naught unless our residents know how to carry this work forward. This is about the future of our paycheck-to-paycheck population, now and for years to come.”**

*–Steven L. Sanderson, CFRE, United Way of Collier and the Keys President and CEO*



Photo courtesy of REEF

## GLOBAL PARTNERSHIPS

The devastation of the coral reefs is not isolated to just the Florida Keys: it is a pervasive issue worldwide. United Way will invest \$150,000 to facilitate global partnerships with the intent to share knowledge of coral restoration, foster conversation and dialogue, and ensure amplification of the issue with the greater environmental community. One way that United Way plans to facilitate global partnership is through sponsorship of a symposium in Key Largo called “**Reef Futures.**” This is the only global conference where marine scientists can gather to discuss innovative solutions to the complex issue of safeguarding coral reefs. Those invested in the work of coral restoration are welcome to join this global learning opportunity.

United Way will also be supporting global partnerships through an international learning exchange. To further promote sharing of knowledge and techniques, United Way plans to invite prospective practitioners from across the globe to restoration sites in the Keys for collaboration and hands-on learning opportunities. Likewise, practitioners in the Keys will travel to restoration sites across the globe to learn new techniques to bring home and help facilitate restoration locally.

## VOLUNTOURISM

Voluntourism is defined as “the act or practice of doing volunteer work as needed in the community where one is vacationing” (Merriam Webster). The Florida Keys’ communities are committed to working together toward reef restoration, but there is always the potential to increase outreach. The need for volunteer-driven activities is strong; existing reef restoration practitioners cannot do it alone. To tackle this effort at a scale needed to reverse the current decline, restoration practitioners need to drastically increase their efficiency. Volunteers are a cost-effective way to do so, with the added benefit of inspiring conservationism in the process.

With the support of NOAA, local dive shops, and nonprofit organizations, various volunteer opportunities are available to Florida Keys visitors who would like to get hands-on experience with the environment. Coral outplanting, nursery maintenance, and reef monitoring are a few of the activities that are offered to volunteers who choose to immerse themselves in this environmentally centered work.

For the Keys, voluntourism will be a pivotal way to bring more diversity in financial stability to local communities. Additionally, people who choose to participate in this style of vacationing can take what they learn in Florida and bring it back to their home communities. Visitors will enjoy a sense of accomplishment knowing that they played a part in not only the present restoration, but the future health of the reefs and the global environment.

Youth engagement comes into play here as well. College students globally participate in this form of tourism, whether it be for college credit, volunteer hours, or as an internship venture. As *Mission: Iconic Reefs* is built up, capacity is still somewhat limited, but interested parties can refer to the helpful information concerning volunteer excursions, extracurricular activities, collegiate opportunities, and employment under the **Marine Science Resource Guide**.



*Photo courtesy of REEF*



Photo courtesy of UWCK

# Advice For Other United Ways

## BE OPEN TO EMBRACING A PROJECT LIKE THIS

**“United Way is stepping way out of the box and working with all new partners to really make an impact for this unique problem in our community. The community is recognizing and seeing United Way in a whole new light as a result of really looking at this big problem that affects the community’s future, stepping up and saying, ‘We’re going to do this!’”**

*–Leah Stockton, United Way of Collier and the Keys Florida Keys Area President*

Investing in a non-traditional project is a commitment not only of funding and capacity, but also a commitment to increasing knowledge and deepening or expanding partnerships beyond United Way’s historical scope. Through this project, United Way is developing new processes and exploring new issues, yet still aligned to their strategic plan. This work has also required different skill sets leading to hiring a

marine biologist with an education background to serve on staff as the project liaison. These commitments in staff, knowledge, funding, and capacity are not for short-term outcomes. This is a major investment into a long-term generational project which will take years to accomplish but will change the future of the community for lifetimes beyond that.

**“Pushing beyond the boundaries of United Way’s traditional roles to solve unique problems affecting the local community is critical to our mission of responding to our communities’ diverse needs. As an organization, we must think strategically to meet evolving challenges in ways that align with our mission of investing in the health, education, and financial stability of the local community now and for the future.”**

*–Steven L. Sanderson, CFRE, United Way of Collier and the Keys President and CEO*



*Photo courtesy of UWCK*

## TAKE A HOLISTIC APPROACH

An initiative as wide in scope as reef restoration requires a holistic approach that takes into consideration the interconnectedness of an issue. For instance, United Way understands that for coral restoration efforts to succeed, it is important to understand how the past causes the present and influences the future. This holistic approach will educate the community on how a history of pollution and climate change impacts the current marine environment and influences the future livelihood of people in the Florida Keys.

Thinking holistically is also about understanding how all the elements of the marine environment are intertwined – how coral reefs are related to the ocean on a global scale, how inland pollution is related to coastal environmental decline, how sea grasses are related to water quality, etc. These are lessons that could be replicated in other communities dependent on the environment; one solution leads to another.

## FIND A LIAISON

United Way of Collier and the Key's initiative requires collaborative efforts across multiple sectors, including federal and state governmental agencies, environmental and educational non-profits, and local stakeholders. While the effort to restore the Keys' coral reefs is a common goal, this does not take away from the fact that these sectors are generally geared towards disparate goals. Government agencies have exponentially more expansive jurisdiction with many managing operations nation-wide. This requires the expertise of liaison(s) who understand the inner and outer workings of multiple sectors, including sector-specific language and bureaucracy.

Collaborations are also key in this area. United Way partially funds a position within the *Mission: Iconic Reefs* infrastructure to ensure success of the larger efforts, in addition to those funded through United Way. This person plays a dual role and serves as a crossover between the seemingly dissimilar sectors involved.

United Way staff are also deeply involved in the internal and external work within the reef restoration efforts, serving on working groups and as part of the overall governance structure, meeting regularly with stakeholders and partners. United Way is seen by these partners as a means to engage others within the community who may not otherwise be involved in an environmentally focused project. United Way staff have participated in international continuing education seminars, been called upon to present as part of a congressional briefing, and joined numerous local and state-wide opportunities to highlight the intertwined importance of environment and communities.



*Photo courtesy of UWCK*

# Conclusion

Through “**Revitalizing the Florida Keys through Reef Restoration and Beyond**,” the United Way is catalyzing restoration efforts of the only barrier reef tract in North America, ensuring the continuation of the reef’s viability and the vibrant Florida Keys community that depends on it. This project has the potential to transform the community long-term – a healthy reef will remain the backbone of the community, the economic and biological driver for the county. With this project, the United Way is creating a legacy – a physical and financial safety net for residents of the Florida Keys.

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## TO LEARN MORE



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