

CTA-207-WFCRC Goals and Plans

Join WFCRC

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It is the main goal of our business plan is to identify coral health and stressors as well as coastal conservation issues as identified by line items outlined by the missions aim to fulfill the core goals of WFCRC, that is first and foremost, quality scientific research, and secondly, the promotion of conservation through inclusion, education and preparedness.

The key goals of our mission

GIS mapping
Drone Lidar, IR, NIR image acquisition
Coral Reef monitoring and decline

WFCRC (and partners) methods for reef assessments to ensure the data has the widest applicability

Coastal morphology

A feasibility and needs assessment on each location for a coral nursery.

Previous experience has shown that to involve local residents in any actions that effect their own wellbeing could achieve the long lasting results needed for sustainability now and well into the future. With that in mind the ESRI GIS software and data base information we gather along with training to monitor and survey each project location will be *donated* to a representative of that project location to continue and duplicate the data gathered as a base line for comparison over time. Participation from local constituents as well as an understanding of local traditions and life styles are paramount in how the program will be executed. It is not our effort to reinvent the wheel in our executions but to use existing local and digital knowledge and previous work for a seamless project delivery. The data model we create will provide a single, user friendly resource to monitor and manage local resources. When previous research on a location is available it will be merged into with our GIS database as much as possible and is a common format to be used by other researchers and we encourage interdisciplinary data sharing.

WFCRC Major Objectives:

- 1. Research and report the causes of, and solutions to coral reef decline
- 2. Implement strategies to promote conservation and sustainable use of coral reefs locally and internationally.
- 3. Capture hi res 4k drone visual, Lidar and NIR geo referenced imagery of entire coastal areas
- 4. Establish control points around each location for survey which will allow for follow up surveying covering the exact same transects to be performed at given time intervals.
- 5. Create a GIS base map to contain all observations and data gathered including Turtle nesting and other marine mammal surveys and in-water observations.
- 6. Locate turtle nesting sites and identify restricted areas on gis base maps and by mobile **WFCRC** Keys Collector application.









- 7. Identification of sewage treatment areas, settling ponds and other sewage treatment facilities and share how proximately to residents and coral reefs can affect the health of both.
- 8. Sample water and sediments for pollutants and nutrients that have an adverse effect on residents and coral health ie, Malathion, DDT etc. used for mosquito control
- 9. Identify sediment and agricultural runoff using sample locations
- 10. Identify Heritage sites and/or shipwrecks locations
- 11. Establish transect lines along which underwater geo referenced photography is taken that identifies aquatic life and coral types and health (With special interest give to Crown of Thorns Starfish and bleached coral.)
- 12. ARGO floats collect marine date and can track individual marine mammals.
- 13. Developing a mobile application for citizen scientists to report coral, mammals, and environmental and waste management observations to be viewed on our GIS visualization (ESRI) base map
- 14. With the guidance and support from experts in the field of coral gardening/growing and replanting programs for regrowth will be initiated.
- 15. As part of our outreach effort to gain support and additional funding we will approach our partners <u>Mission Blue</u>, <u>The Global Island Partnership</u>, <u>SIDS</u>, and contact individuals like Peter Thompson, President of the 71st session of the United Nations General Assembly, Sylvia Earl of Mission Blue for their support and funding.
- 16. As part of our UN Sustainable Development Goals 4, 6, 11, 12, 14, 17, Volunteer commitment to the support of these goals, will be satisfied by the work and projects we do and will be shared on the UN SDG website.
- 17 Assemble a team of professionals with the expertise and desire to deliver a conservation plan that is proven to be effective in developing steps to maintain our oceans health by utilizing sustainable goals and by an effective exit strategy. With the template we create for the Cook Islands we will be poised to execute the same in other locations.
- 18. **WFCRC** has created a Sea Turtle Awareness program that features a bronze sculpture in a desk top version and a *life size sea turtle*, by the world famous sculptor <u>Michael Hall</u> and is used <u>to raise awareness for the survivability of sea turtles</u>
 - 1.. The following are active and future projects locations with potential for development.
 - i. Caribbean Ring of Hope Sites
 - ii. Cozumel
 - iii. St. Maarten
 - iv. St. Kits
 - v. Florida Keys
 - vi. Gulf Coast

2. POTENTAL/CURRENT CLIENTS: CAN BE APPROCHED RIGHT NOW!

- A. The following are clients and organizations in which the WFCRC and partners have contacts or a working relationships with, that all lease or rent vessels annually and some of the services that we provide for them.
 - 1. Public sector: State, Federal, and Education clients/projects
 - Department of Environmental Protection, Florida State Parks, National Park Service, and National Marine Sanctuaries







- a. Services that we provide include, but are not limited to:
 - i. Mangrove, Reef, Shipwreck, Dumpsite, and Historic Structural Surveys.
 - ii. Applications to the Natural Register of Historic Places
 - iii. Lion Fish and Invasive Species Removal
 - iv. Environmentally friendly channel dredging
 - v. Archaeological studies
 - vi. Site protection plans
- b. Current services on the water amount to roughly **1-2 months a year**.
- 2. Law enforcement, Military, and civil service: City, County, State, Federal, and Space Agencies, and to Allied Governments of the United States
 - a. Services that we provide include, but are not limited to:
 - i. Open and Confined water or Specialty SCUBA/CCR Training
 - ii. Underwater Search and Recovery Training
 - iii. Unmanned Underwater and Aerial Vehicle Training and Construction
 - iv. Driver Instructor Training
 - v. Many other forms of specialty training for these organizations.
 - b. Current services on the water amount to roughly 2-3 weeks a year.
- 3. Universities and Colleges: UWF, UF, USF, University of Tampa, Pensacola State College, and Texas A&M
 - a. Services that we provide include, but are not limited to.
 - i. Open and Confined water or specialty SCUBA training
 - ii. Navigation assistance and Rescue Diver support, and Excavation assistance
 - b. Uses include Marine Biology, Archaeology, Natural and Cultural Resource Management, Oceanography, Engineering, Architecture (Renewable energy sources) and other related fields of studies.
 - c. All of the above listed schools rent or lease vessels for field schools or classes annually, most for the 3 month Summer Semester and periodically throughout the year.
- 4, Conservation and Research Organizations: The Coral Restoration Foundation, MOTE Marine Labs, and about 15 other Environmental research companies
 - a. Services that we provide include, but are not limited to. We currently have contacts with these organizations but no active work.
 - i. Open and Confined water or specialty SCUBA training
 - ii. Species count surveys
 - iii. Manatee, Shark, Sea Turtle and Dolphin rescue and tagging assistance.
 - b. Current services on the water amount to roughly 2-3 weeks a year.





5. Private sector

1. NAUI Worldwide

- a. Through Under Pressure Sports we offer NAUI SCUBA Diver Training, but we are also working with NAUI to develop a Scientific Diver Training program that will meet or exceed the U.N. specifications for data collection during the Decade of Oceans directive.
- b. NAUI has asked for assistance in development of their CORE program, and of a queryable Google Earth style map and database of all dive sites and details so that divers can find sites to dive that correlate directly with their level of training.
- c. NAUI Education Programs for kids.
 - i. Discovery dives and intro to diving courses in exchange for beach and underwater site cleanups.

2. Wounded Warrior SCUBA training

- 3. Vet to Vet Ventures-V2 Energies
 - a. Boxed water, Boxed food, and Boxed Batteries-all provided to areas for disaster relief.
 - b. Provider of solar and wind renewable energy.
 - c. Provider of Battery banks, solar cells, and LED lighting.

4. Geico and Progressive

- a. Underwater Recovery Services; we've been raising boats for insurance companies since this past hurricane season.
- b. This work usually requires us to rent a boat, retro-fit all needed equipment (Dive platforms, Crane/lift, compressors)

5. Sea World

- a. Tagging and tracking
- b. Animal rescue

6. Disney

a. We're part of the Epcot Seas Education Program

7. Captain Slate's Dive Center

- a. This is another business that we have partnered with on day-to-day operations, it should be able to serve as a portal to the rest of the Caribbean, from the Florida Keys.
- b. Captain Slate's might also be able to provide storage.







- 8. 2019 Guinness World Records Attempt
 - a. In October of 2019 the EMC/Under Pressure team is planning a 10 day event in which they intend to attempt to break 200+ world records.
 - b. Dive Tech and Sunset House in Grand Cayman are in talks to host these events.
 - c. Sponsors for the event include Huish Sports, Stream2Sea, Zeagle, Atomic Aquatics, and several other nationally recognized brands.



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The only thing necessary for the triumph of evil is that good men do nothing"....Edmund Burke









