R.E.E.F.S (Research Enhancement Engineering for Seascapes)

Executive Summary

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8/12/21

The World Federation for Coral Reef Conservation (**WFCRC**) has, over the past thirteen years researched, held town hall meetings, and have consulted with stake holders and experts in coral reef conservation to create mutable programs that focus on procedures for coral reefs that will minimize mans impact on sensitive ocean environments, in *real time*. We focus on current issues and not tomorrows issues, we want to see change in years not lifetimes.

The **R.E.E.F.S** (Research Enhancement Engineering for Seascapes) Program is a global partnership supported by Mission Blue, local stakeholders, marine biologists, coral experts and MPA mangers in project locations to address key monitoring knowledge gaps in our understanding and sharing the science behind a need for immediate action and 1st response plans. These issues require site specific attention in order to maintain current levels of a reef presence and to prevent future decline and need to be executed in the necessary time frame. The need to provide this information for decision-makers to promote needed actions for sustainable reef conservation is ***now*** and is necessary to advance the understanding, use and conservation of coral reefs through an integrated program of excellence in data gathering/sharing, education, and outreach built upon active and long term partnerships with divers, conservationist, the science community and local island governments. To share this information on a broad spectrum will give decision makers the knowledge necessary to make better data driven decisions.

R.E.E.F.S. is a multi-phase initiative that:
1) lays the scientific framework for improved on-site management interventions;
2) builds a framework and capacity to carry out adaptive management and monitoring in sensitive eco systems
3) works to integrate findings into management and policy at local, regional levels for better data driven decisions.
4) produce application-oriented results that are clearly useful in management, science and coastal conservation.

*The **R.E.E.F.S**. Program* is nearing the end of the first 10 years of operation. The achievements to date include: a network of over 1500 participants, build an organization that is of high ethical and awareness values, web sites, mobile applications, document gallery based on location that has 100's of research documents and articles involving international scientists, marine biologists, and experts in the field of coral conservation. Articles included are published in AAPG, GeoXPro, Eco Magazine, Surfer Girls, and New Zealand Scuba News. Current project locations include St. Maaten, and discussions are underway with local stakeholders in Saba, St. Barts, Tanzania, Kenya, Indonesia, and Mexico to establish future locations using the same procedures as a template to establish other project locations to share our knowledge about conservation via smart phones and social networking. This in turn reduces developmental cost and increase area of shared 1st response and action plans. We also encourage other NGO's or agencies to adopt this holistic approach to coral and coastal environments.

New and previously unseen tool combinations are being developed for managers and decision makers to assess threats to reefs and to design, identify and to volumetrically account for coral volume, including remote sensing tools like NASA's CORAL Satellite, Landsat 8, Lidar and UAV infrared and near infrared imagery to monitor and view the entire coastal picture like those used used in the BP Deepwater oil spill in the GOM.

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The R.E.E.F.'s Program has promoted the use of information to convince decision-makers of 'win-win' actions with measures to involve stakeholders in their own wellbeing which in turn, directly affects coral reefs.