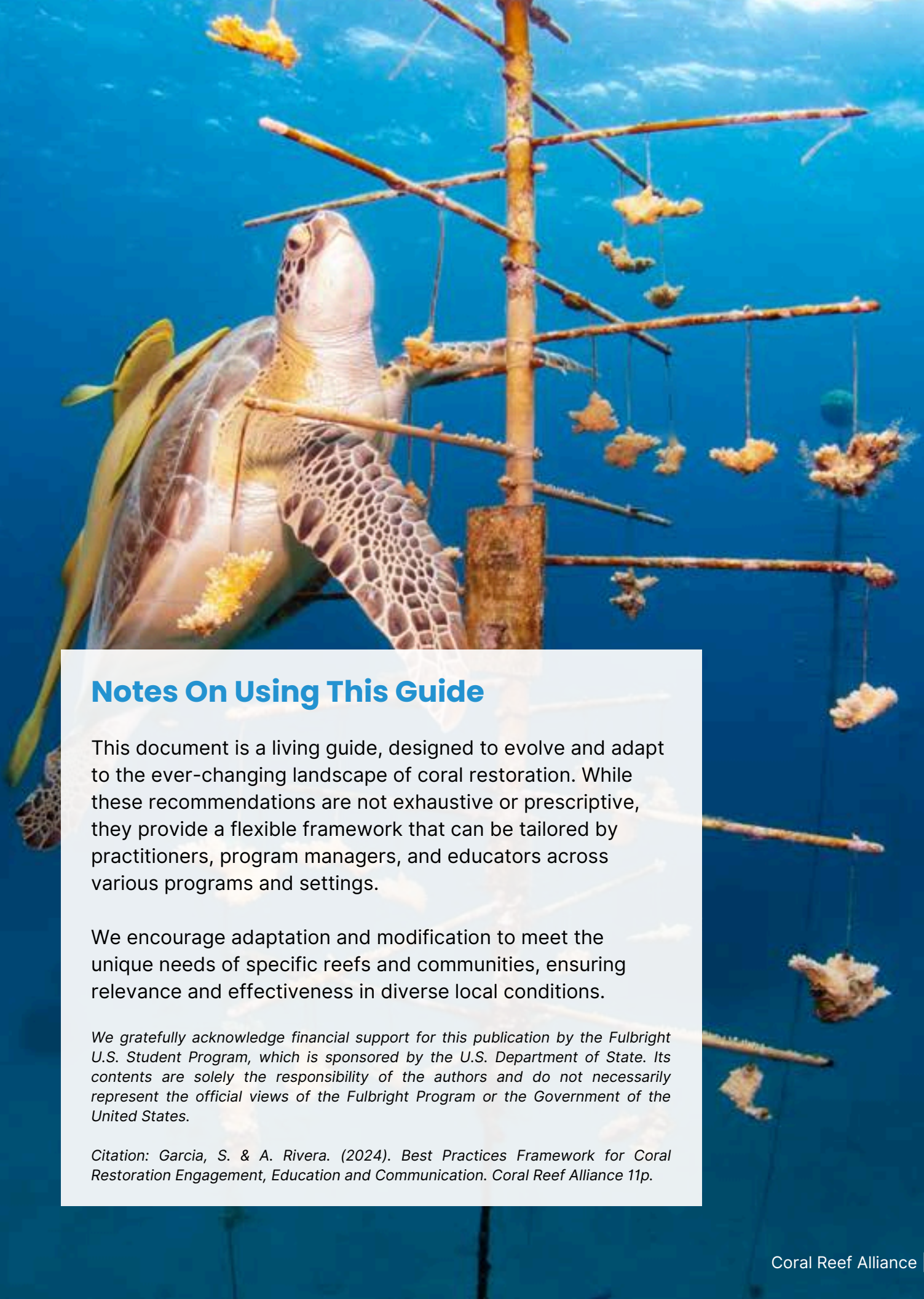Photo by Antonio Busiello

CORAL
REEF ALLIANCE

Best Practices Framework For
**Coral Restoration Engagement,
Education, and Communication**

Prepared by Sierra Garcia and Antonella Rivera

Notes On Using This Guide

This document is a living guide, designed to evolve and adapt to the ever-changing landscape of coral restoration. While these recommendations are not exhaustive or prescriptive, they provide a flexible framework that can be tailored by practitioners, program managers, and educators across various programs and settings.

We encourage adaptation and modification to meet the unique needs of specific reefs and communities, ensuring relevance and effectiveness in diverse local conditions.

Citation: Garcia, S. & A. Rivera. (2024). Best Practices Framework for Coral Restoration Engagement, Education and Communication. Coral Reef Alliance 11p.

Summary

This guide represents a pioneering effort in coral restoration as the first resource to comprehensively incorporate the human dimension and the consequential spill-over conservation effects of these practices. While numerous online resources exist for the technical aspects of coral restoration — such as project design, implementation, and financing — there is a notable gap in resources that communicate the underlying science and philosophies of restoration to non-professional participants, who are crucial to many restoration programs.

This best-practices outline for education and engagement of divers in coral restoration programs draws on results from Sierra Garcia's 2022-2023 Fulbright research in Roatan, Honduras. Additionally, it integrates expert opinions and the latest in scientific literature.

While it is particularly tailored to Roatan and the Bay Islands in Honduras, this document is designed to be a valuable starting point for other regions with coral restoration initiatives, aiding them in crafting their own context-specific best practices that acknowledge and leverage the vital role of human engagement in conservation efforts.

Background

Hein et al. 2017 assert that "coral restoration can be used as a powerful conservation education tool to provide hope, enhance agency, promote stewardship and strengthen coral reef conservation strategies." Although many coral restoration programs have volunteer and community engagement as an implicit or explicit goal, few have comprehensive plans in place to optimize these outcomes.

This guide provides a base framework for structuring coral restoration projects so that anyone involved is as best empowered as possible to be an all-around coral reef advocate.

These recommendations are intended for programs whose volunteer coral restoration divers go through a comparable certification process to what organizations such as Bay Islands Reef Restoration and the Roatan Marine Park require: a comprehensive classroom theory component covering basic coral biology, threats, and rationale for restoration, followed by hands-on learning. Both of these volunteer training courses were originally adapted from the Coral Restoration Foundation's model.

Photo by Antonio Busiello

Recommendations

Initial recommendations fall into four broad buckets: transparency, accessibility, community, and agency.

Lack of **transparency**

can lead to **greenwashing.**

Lack of **accessibility**

can lead to **elitism.**

Lack of **community**

can lead to **disengagement.**

Lack of **agency**

can lead to **defeatism.**

Transparency

Transparency means ensuring all involved divers have accurate context for the decisions, limitations, and science around reef restoration decisions. What does this look like?

- New volunteer training emphasizes root causes of coral reef decline as well as ways to address these stressors:
  - Example: Teach students about the causes of climate change and local stressors like water quality and overfishing. This helps them understand why these issues harm coral reefs, as well as what can be done to prevent these issues.

- Acknowledge program setbacks or challenges as well as successes:
  - Example: Instructors can be encouraged to point out existing outplants to new participants if they pass by them on a dive. If the outplants are not doing well, freely discuss possible reasons why - such as algae overgrowth, bleaching, or disease. Remind students that their efforts are part of the process of discovering which genotypes are most resilient to stressors.

- Where feasible, make project data easily accessible:
  - Example: Online reports or infographics communicating outplant colony survival rate at 6-months

- Inform prospective volunteers how often they might volunteer, in what capacity, and what next steps will look like after they're trained. Be sure to include whether their volunteer training is applicable to other coral nursery programs and/or other destinations.

Accessibility

Accessibility means lowering barriers to qualified divers participating in restoration wherever feasible. How can this be achieved?

- Make all aspects of restoration volunteer recruitment, training, and follow-up easily available in relevant languages.
  - Example: Offering the course in both English and Spanish in the Bay Islands.

- Where possible, build participation agreements into existing partnerships
  - Example: Encourage dive centers to offer restoration participation as a standard part of their professional dive training programs.

- Provide several tiers of participation instead of a "one-size-fits-all" approach:
  - Example: Use land-based nursery models so non-divers can easily learn about the restoration process. This could also look like allowing people who are interested but unqualified to volunteer for coral restoration (inadequate dive experience) to shadow the theory/land-based portion of the coral restoration course.

- Adapt the schedule of outings for restoration activities, where possible, to maximize participation:
  - Example: If volunteer turnout is substantially lower on certain weekdays or times of day, poll volunteers to determine their collective best availability.

- Minimize financial barriers for participation, especially for local dive professionals.
  - Example: Set a sliding scale or suggested donation instead of fixed cost for restoration certification.
  - Example: Offer diving equipment or collaborate with dive shops to offer free gear rentals for volunteers who need it during restoration outings.
  - Example: Earmark a portion of money from certifications of short-term visitors to establish a fund for subsidizing restoration certifications for local divers.
  - Example: Encourage employees of companies with corporate volunteer commitments to check whether the company will pay for participating in restoration activities. Corporate matching from these participants could provide additional funding, reducing the entry barrier for divers with fewer resources.

Community

Community gives divers a sense of being connected with others through their involvement. How can we foster a sense of community?

- Maintain ways for engaged coral restoration participants to connect with one another.
  - Example: Social Media, WhatsApp Groups, Facebook Groups, Instagram Hashtags and Profiles
  - If these channels already exist strictly for coordinating activities, decide whether to create separate ones for fostering community and sharing related resources.

- Establish a newsletter and/or website with program updates, and ensure longterm restoration volunteers are signed up to receive updates.

- Build structured rewards for repeat engagement into the program.
  - Example: Volunteers can receive discounts at participating dive shops. This can be in the form of a complimentary fun dive after a certain number of restoration dives or a hat/rash guard/t-shirt.
  - Example: Volunteers receive a designated coral tree after a certain number of restoration activities.

Agency

Agency empowers divers to feel capable of making choices to help the reef. What ways can this be developed?

- Encouraging and reinforcing a sense of leadership:
  - Example: Certify volunteers with a title like "ambassadors" like the Roatan Marine Park does. Remind volunteers that even outside of restoration activities, they can serve as positive examples and coral reef advocates by sharing information with others.

- Providing follow-up resources with information and specific actions.
  - Example: Provide restoration learners with the slides/notes from the restoration theory course
  - Example: Remind them how to access site-specific recommendations for other ways to protect the reef, like the Bay Islands sustainable seafood guide.

- Inspiring them to think beyond restoration:
  - Example: Promote other hands-on activities that protect the reef - such as the lionfish hunting certification or underwater cleanups - to already engaged divers.
  - Example: Provide resources for interested divers to learn how they can address some of the reef threats they learned about, such as carbon emissions.

- Frame restoration as a collaborative learning process, not a formula. Be sure to follow up with project updates to highlight their positive impact.

- Make clear pathways for accepting volunteers who trained in restoration through other programs.

Recommended Next Steps

- Identify which specific practices your own coral restoration program is already accomplishing well and where there could be room for improvement.

- Based on your assessment, discuss within your team what specific practices you could implement (or continue implementing).

- Decide on educational/engagement goals and how you'll know if you're accomplishing them.

- Evaluate outcomes within an agreed-upon time frame. Use the evaluation results to make informed adjustments to your practices and goals.
- Repeat this process as needed.

- (Optional): Integrate funding explicitly for these efforts into program grant renewal, budget, or funder reports to support ongoing engagement efforts.

Photo by Antonio Busiello

Feedback?

Anyone using this guide is encouraged to share insights, suggestions, or comments to improve it. Please contact **sierra.garcia@fulbrightmail.org** and **arivera@coral.org** with any questions or feedback!

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