

Speaker Name : Leon Bay
Institution : Livingseas Founder
Topic : Why maintenance and monitoring is the key to success
Type of Activity : Coral planting monitoring
Project Location : Padangbai
Project Duration : 2019 - 2024

Summary Presentation:

1. Livingseas

- Coral conservation projects started in 2012 and shifted to coral reef conservation projects in 2020 due to the COVID-19 pandemic.
- Based in Prang Bay.
- Target: 50,000 sqm of coral.
- In 2024, the restoration successfully recovered the degraded condition to good condition, with substrate cover dominated by living coral and a high abundance of fish associated with coral.

2. Monitoring

- Monitoring is a crucial aspect of the restoration effort.
- Includes scientific monitoring of fish and coral (every 6 months).
- Monitoring does not always involve data collection; it can include swimming around the site to observe reef conditions and identify problems.
- Example: An empty space between reef star structures was filled with bottles on a concrete base. Massive coral was planted between the bottles, and after four years, the bottles were covered by coral (Galaxea).
- Monitoring assesses coral cover and fish abundance and evaluates the restoration project. Initially, small structures were used, but coral near the seabed tended to die. This led to the development of larger structures called “Super Stars.”
- The project focuses on habitat recovery and creating nurseries. Structures include rope and green group stars, providing habitat for species like snappers.
- Coral tables were built to store leftover coral temporarily underwater instead of leaving them to die on the seabed.
- Restoration structures attract fish, providing habitats for reef fish. Monitoring is not always scientific but involves trial and error in restoration.

3. Maintenance

- Involves clearing algae, dead coral, and sponges from corals or structures.
- Older restoration sites require less maintenance once fully covered.
- Maintenance should be consistent during the first 1–6 months after installation.
- Within three months, corals grow over cable ties.
- After six months, corals grow into the structure itself.

- Without maintenance, coral restoration will be overgrown with algae instead of coral.
- Consistent maintenance is key.
- Many coral restorations using large structures and concrete have minimal coral cover due to a lack of maintenance.

4. Sustainable Funding

- Involve tourists and those interested in reef restoration by offering reef installation, maintenance, and monitoring experiences.
- Provide activity-based experiences rather than direct donations.
- Offer various packages, such as maintenance packages that include two dives for reef maintenance.
- Develop snorkeling sites.
- Ensure the project impacts the environment, business, and customers.

Question and Answer:

1. Zach Boakes

- *Advice for creating biologically diverse reefs and transplanting more coral species?*

Restoration is not just about providing structures for coral growth but also for fish habitats. Coral restoration structures don't have to be limited to spiders or piles; they should suit the project's purpose. Trial and error have helped achieve high coral species diversity. Different coral morphologies require different structures.

2. Tries B. Razak

- *What destruction occurred in the restoration area?*

The area had a lot of rubble, indicating previous reef presence. The reef was lost due to fishing with bombs and anchoring. Big waves and currents also degraded the site, moving rubble and damaging corals.

- *Soft coral under structures and competition?*

Soft coral does not promote habitat or fish life. Excess soft coral is cleaned off.

- *Effect of algae and sponges?*

Sponges drop off and cannot reattach, but algae are more concerning.

- *Maintenance in older restoration sites?*

Maintenance continues if coral is still exposed, depending on coral cover rather than a specific timeline.

3. Elsa

- *How do you choose restoration sites?*

In Mingpang, there is a large field of natural coral. Areas without coral may suffer from unstable substrates due to rubble and sand movement. Structures are placed over rubble and sand to stabilize them and promote coral growth.

4. Rindah

- *Managing slow and fast coral growth areas?*

Continuous maintenance is essential. Fish that have a symbiotic relationship with corals can enhance coral growth. Growth is also affected by depth and sunlight.

5. Suandar

- *Planting one or multiple coral species per structure?*

Planting multiple species may lead to competition, but planting the same species allows each coral to grow larger and provides fish habitat.