The Guideline for Coral Transplantation

Suitability Criteria for Recipient Sites

Introduction

This guideline is developed due to the growing practice of coral relocation as an appropriate restoration technique to mitigate the decline of coral reefs in the Maldives. The transplantation of corals has become one of the most globally recognized measures to preserve, enhance and restore coral reefs in degraded areas. The Guideline for Coral Translocation will act as a guiding document for organizations/individuals involved in coral relocation projects when selecting a suitable recipient site for coral colonies and assessing the optimal conditions required to relocate them. It is critical to select a recipient site with similar environmental conditions as the donor site for a successful coral transplantation.

Key Parameters

Following are the key parameters required to ensure the survival of transplanted coral colonies:

- Water quality
- Water conditions
- Comparative reef density
- Availability of substrate
- Algal dominance and coral health
- Presence of grazers
- Connectivity between reefs
- Proximity to donor sites

Water Quality

The recipient sites should have similar or better water quality compared to the donor sites. This includes factors such as sedimentation, salinity, temperature, and proximity to potential sources of pollution like harbors, boat traffic, and land outfalls.

Water Conditions

The water conditions at the recipient site should be like those at the donor sites. This includes factors such as water depth, amount of light, and the presence of predominant current.

Comparative Reef Density

The density of the reefs, specifically how close corals are together, and their general age determined by size, should be assessed at both the donor and recipient sites. The survivorship of coral transplants is increased when they are relocated to reef areas with some degree of pre-existing healthy coral cover, and which ae protected from anthropogenic pressures such as recreational activities and fisheries.

Availability of Substrate

The recipient sites must preferably have barren and stable reef rock areas or artificial structures that is not already so densely populated that there remains insufficient substrate for new growth and reattachment. Substrate refers to the physical surface or material on which the coral transplants can attach and grow. Substrate at the receiving site may be natural reef, rubble, or sand or in some cases, artificial structure may be necessary.

Algal Dominance and Coral Health

The recipient sites should lack areas dominated by algae and should show minimal evidence of recent coral mortality, disease, or bleaching. The presence of healthy corals with similar species diversity is preferred. Establish a quarantine period before transplantation to screen for diseases and invasive species such as COTS. This narrows the chances of spreading invasive species and diseases unknowingly.

Presence of Grazers

The recipient sites should have a presence of mature grazers such as sea urchins and fish, particularly parrotfish. These grazers play a role in maintaining a healthy coral reef ecosystem by controlling algal growth.

Connectivity Between Reefs

The sites should consider the connectivity between the reefs. Coral reefs are often interconnected, and maintaining connectivity allows for the exchange of genetic material and helps with the overall resilience and health of the reef ecosystem.

Proximity to Donor Sites

The recipient sites should be near the donor sites. This is important for minimizing the stress on the corals during relocation and ensuring a higher chance of success in their adaptation to the new environment.

The above criteria are essential for identifying suitable recipient sites that can support the relocated corals and contribute to the conservation and restoration of coral reef ecosystems. The number of potential sites should be assessed and compared before selecting the most suitable location for the transplants. All the Marine Protected Areas (MPAs) should be avoided when transporting the coral transplants to maintain their natural environment and minimize any chances of introducing invasive species to MPAs. The recipient site should not be located in between atolls.

Assessment Checklist for the Recipient Site

Check the box with (✓) if the criteria are met and (✗) if the criteria are not met.

No. of Sites	Parameters							
	Water quality	Wave condition	Comparative reef density	Availability of substrate	Algal dominance and coral health	Presence of grazers	Connectivity between reefs	Proximity to the donor site
1								
2								
3								
4								
5								
6								
7								