(Draft for public consultation) February / 2018

Objective

To provide supporting information to support the Guidelines on permission system applications for interventions to improve resilience of coral reef habitat in the Great Barrier Reef Marine Park

Target audience

Agency staff; applicants for permission to conduct intervention activities to improve resilience of coral reef habitats in the Great Barrier Reef Marine Park

# Purpose

1. To provide further clarity on reef intervention activities designed to improve the resilience of coral reef habitats in the Great Barrier Reef Marine Park.

# Definitions

1. The Authority considers that intervention activities with the aim of improving resilience of coral reef habitats are generally either (a) preventing harm to or protecting; (b) restoring to allow for better recovery potential; (c) enhancing coral reef habitats. The Authority acknowledges that many of these activities can occur concurrently and there is a great deal of overlap.
2. The risk levels depicted in the tables below are general in nature and may change depending on the scale of the reef intervention activity, the geographic location of the activity, the zone in which the activity is proposed to occur and the state of the environment at the proposed location.
3. Generally, the Authority finds the activities in Table 1 to be of low risk. Refer to the draft guideline for further information about low risk activities.

Table 1: Examples of activities the Authority finds to be of low risk.

| **Activity** | **Definition or example** | **Type of intervention activity** |
| --- | --- | --- |
| ***Examples only*** | | |
| Small scale removal of sediments | The removal of sediment from coral may prevent coral stress and thereby increase coral resilience to other stressors. | Protective/ Preventative |
| Removal of smothering algae | The physical removal of coral-limiting algae from coral reef settlement surfaces | Protective/ Preventative |
| Removal of COTS and *Drupella* spp. | In accordance with GBRMPA permit requirements | Protective/ Preventative |
| Reorienting coral colonies | Overturning (righting) coral upended by cyclones or other destructive forces and returning coral bommies to the water at the same place/reef (does not include translocation between reefs) | Restorative/ Recovery |
| Affixing broken coral fragments | Reattaching coral fragments/colonies to the substrate with adhesive (e.g. epoxy cement) following an incident (e.g. ship grounding or cyclone). Such actions will most likely not involve moving the coral to a holding/staging area prior to reattachment. Likely to be smaller scale than translocation activities. | Restorative/ Recovery |
| Transplantation of healthy coral fragments within the same reef complex | Small scale restoration of a local site using healthy fragments from a different site within the same reef complex to support quicker recovery after an event that has caused discreet localised damage at a high use tourism site. Fragments transplanted directly between sites without growing/propagation period. | Restorative/ Enhancement |
| Substrate consolidation/ stabilisation of coral rubble | This will increase the solid reef base after an incident and may also include the removal of algae to prepare the surface and/or enhancement of crustose coralline algae growth. | Restorative/ Recovery |

1. Generally, the Authority finds the activities in Table 2 to be of medium risk. Refer to the draft guideline for further information about medium risk activities.

Table 2: Activities the Authority generally finds to be of medium risk.

| **Activity** | **Definition or example** | **Type of intervention activity** |
| --- | --- | --- |
| Coral nurseries (racks, tables, trees, etc) | Cultivation of coral for the purposes of translocating and/or transplanting within a local area for the purpose of supporting the associated tourism sites (no sale or trade of the coral).  The frames used for the nurseries could be considered a tourist facility. | Restorative/Recovery |
| Substrate stabilisation and enhanced coral growth using electrolysis (biorock) | Mineral accretion for substrate stabilisation or recovery enhancement on remnant coral reef habitats. May or may not require additional research equipment and/or facilities. | Restorative/Recovery |
| Removal of coral disease | Examples:   * + Phage therapy   + Normal coral micro-biota as probiotics   + Disruption of cell to cell communication in pathogenic bacterial communities   + Enhanced ecological mitigation - Promoting/breeding healthy populations of coral-associated invertebrates which mitigate coral disease   + Stimulation of coral immune systems. | Restorative/Recovery |
| Coral translocation | This involves removing coral from a natural reef and translocating (outside natural distribution) either on a natural substrate or an artificial substrate. | Restorative/Recovery |

1. The Authority finds the activities in Table 3 to be of high risk. Refer to the draft guideline for further information about high risk activities.

Table 3: Activities the Authority finds to of high risk.

| **Activity** | **Definition or example** | **Type of intervention activity** |
| --- | --- | --- |
| Coral aquaculture | Propagation/cultivation of coral for the primary purpose of selling/trading to entities doing reef restoration projects in the marine Parks. May include translocation. | Restorative/ Recovery |
| Introduction of biological and/or chemical control mechanisms for COTS | Such as attractants and dispersants for COTS, re-stocking populations of natural COTS predators. | Protective/ Preventative |
| Assisted gene flow  (i.e. improving settlement/survival rates and improving connectivity by collecting natural spawn and rearing to settlement stage and releasing to reefs) | Assisted larval dispersal or assisted adult migration. Collection, artificial rearing and settling of coral spawn on degraded reefs. Collected larvae can be reared for varying periods of time before settling them directly onto the reef substrate or settling them on substrates in aquaria.  Reference Anthony *et al.* 2017 | Restorative/ Recovery |
| Assisted evolution  (i.e. controlling spawning in labs and trying to select for traits that would otherwise take a lot longer to evolve, such as hybrids that are more heat tolerant) | Selection using existing genetic material | Restorative/ Enhancement |
| Synthetic biology | Genome editing using natural or synthetic genes  Reference Anthony *et al.* 2017 | Restorative/ Enhancement |
| Habitat engineering and artificial reefs | Physical enhancement activity that involves the use of artificial substrate/structures for either natural coral recruitment or for replanting/transplanting coral.  Engineered reef habitats to protect key reef-dependent species, including fish and invertebrates  Reference Anthony *et al.* 2017 | Restorative/ Enhancement |
| Geo-engineering | Geoengineering is the deliberate large-scale intervention in the Earth's natural systems to counteract climate change.  Example: Marine cloud whitening - Field research on the effect of aerosol particles on clouds, temperature and climate  Reference: Marine Cloud Brightening project <http://mcbproject.org/> | Restorative/Protective/Preventative |
| Installation of facilities/large infrastructure | Large scale engineering projects that involve the installation of facilities (such as pontoons) in the Marine Park. This will include water mixing technologies, use of fans and sprays, wave-driven ocean pumps, sprinklers and Reef Cooling physical shading structures, as they will involve the installation of facilities in the Marine Park. | Protective/Preventative/ enhancement |

# Information for applicants

1. The Authority recommends that applicants make themselves aware of the assessment considerations as outlined in the Great Barrier Reef Marine Park Regulations 1983. It is the applicant’s responsibility to review the relevant policies and guidelines and to ensure their application provides all the necessary information, including information contained in this document.
2. The Authority recognises that activities may be for commercial or non-commercial purposes and may involve research or other activities. Assessment fees may apply to those activities classified as commercial [refer to [Application Guidelines](http://elibrary.gbrmpa.gov.au/jspui/handle/11017/3226) for further guidance]. Costs will vary depending on whether or not public advertising is required under the Regulations. This decision will be made on a case-by-case basis depending on the scale and number of sites proposed, timeframes of any equipment or structures installed, and the proposed location of the reef(s), whether sensitive environments are in the area and the chosen location’s level of use by others.
3. The Authority will consider the applicant’s ability to manage the development and ongoing operation/maintenance of the reef intervention activity when making a decision on the application. The Authority is likely to require evidence of the financial viability of the applicant to develop, operate and monitor reef intervention activities.
4. The applicant will need to supply all information necessary to assess the application, in accordance with criteria outlined in the Regulations. The Authority may prepare a terms of reference for each specific proposal, which will explain the applicant's information requirements and will include input from consultation with the applicant, other relevant government departments and relevant stakeholders.
5. The Authority is likely to require the applicant to demonstrate evidence of suitable experience and knowledge in the relevant reef intervention activities.
6. Reef intervention activities proposed in the Remote Natural Area must be consistent with the requirements of this area as outlined in Part 3 of the Zoning Plan and in the Regulations.
7. When preparing an application applicants liaise with the Authority on the information requirements and should at a minimum consider providing the information in the checklist for applications at [Attachment A](#_Attachment_A._Checklist:).
8. Applicants should consider the following principles when selecting materials to support their activities:
   1. Materials should suit the objective of the proposed intervention activity
   2. Materials should be clean, non-toxic and free of greases, oils, chemicals, and other potential contaminants
   3. Materials should not have been recently (within 3-5 years) treated with toxic compounds such as anti-fouling paints containing TBT (tributyltin)
   4. Materials should be of sufficient strength to withstand day-to-day wear of the marine environment (i.e. should not easily fragment or break)
   5. Materials should not immediately, or through decomposition, have the potential to harm or injure wildlife or affect the values of the Marine Park.
9. The Authority encourages applicants to consider the Guidelines for the Placement of Artificial Reefs - London Convention and Protocol/UNEP when developing artificial reef proposals.

# Permit terms

1. Permit terms are likely to be dependent on the nature of the activity and is likely to be 3 to 5 years for proof of concept research projects.
2. For projects that have already undergone a pilot study longer permit terms may be considered.

# Other legislative requirements*.*

1. Applicants should be aware that additional legislative requirements are likely to be required for certain activities to occur within the Marine Park. It is the responsibility of the applicant to be familiar with their legislative requirements.

| **EXAMPLES**:   * *Environment Protection and Biodiversity Conservation Act 1999* (C’th) * *Environment Protection (Sea Dumping) Act 1981* (C’th) * *Fisheries Act 1994* (Qld) |
| --- |

Further information

Director, Environmental Assessment and Protection

**Great Barrier Reef Marine Park Authority**

2 - 68 Flinders Street

PO box 1379

Townsville Qld 4810

Australia

Phone + 61 7 4750 0700

Fax + 61 7 4772 6093

email info@gbrmpa.gov.au

[www.gbrmpa.gov.au](http://www.gbrmpa.gov.au/)

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# Attachment A. Checklist: Information required to be submitted at the time of application for reef intervention projects

1. Background
2. The Great Barrier Reef Marine Park Regulations 1983 require specific information to be provided with a Marine Park application before the Great Barrier Reef Marine Park Authority (GBRMPA) considers the application to be properly made.
3. The following checklist provides the minimum information requirements to be submitted with any application for Marine Park permission for reef intervention projects. These checklists are not exhaustive and in some cases, GBRMPA may require further information from the applicant to address specific aspects of the proposal. Please note: information about the applicant (such as ACN if a company, ABN for a trading name, postal address, email address and phone number) is also required when submitting an application.
4. Submitting the required minimum information at the time of application reduces the need for GBRMPA to seek further information from applicants during the assessment process. This leads to more efficient assessment timeframes.
5. Permit requirements
6. Permits are necessary to ensure that appropriate sites are selected, materials are suitable and appropriately prepared, there are no significant adverse impacts on the marine environment and that the reef intervention project does not pose a danger to marine users. You should also refer to the research and facilities checklists to ensure you include what is needed to make a properly made application. [You can find the other checklists here](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/3223/1/Checklist-of-application-information.pdf).
7. The timetable for reef intervention projects depends on the risk involved and whether the proposed reef intervention has been trialled or conducted in the Great Barrier Reef before. Applicants are advised to begin liaison with GBRMPA as early as practicable to ensure a comprehensive permit application is submitted and the material is adequately prepared.
8. Reef intervention activities that include the installation of facilities may need to be publically advertised. This will add complexity and time to the permit assessment process.
9. Relevant policy documents
10. [London Convention and Protocol / UNEP Guidelines for the Placement of Artificial Reefs](http://www.imo.org/en/OurWork/Environment/LCLP/Publications/Documents/London_convention_UNEP_Low-res-Artificial%20Reefs.pdf)
11. [Guidelines on Coral Transplantation](http://www.gbrmpa.gov.au/__data/assets/pdf_file/0020/3980/gbrmpa_CoralTransplantationAtTourismSites_2004.pdf) at Tourism Sites
12. [Position Statement – Great Barrier Reef Marine Park Authority Position Statement on the translocation of species in the Great Barrier Reef Marine Park](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/825/1/translocation-of-species-2007.pdf)
13. [Guidelines for the Management of Artificial Reefs in the Great Barrier Reef Marine Park](http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements/guidelines-for-the-management-of-artificial-reefs-in-the-marine-park)
14. [Permits Information Bulletin – No Structure Sub-Zones](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/872/1/no-strutures-sub-zones-2006.pdf)
15. [Guidelines for the Use of Hydrodynamic Numerical Modelling for Dredging Projects in the Great Barrier Reef Marine Park](http://www.gbrmpa.gov.au/__data/assets/pdf_file/0018/26532/Guidelines-on-Hydrodynamics-Modelling-15-Aug-2012.pdf)
16. Additional site-specific management arrangements, both statutory and non-statutory, are described in the [Location-specific assessment guidelines](http://www.gbrmpa.gov.au/__data/assets/pdf_file/0008/248984/Location-specific-assessment-guidelines.pdf).
17. Application information checklist

| **Great Barrier Reef Marine Park Regulations – Mandatory application requirements**  The following checklist is considered the minimum information required at the time of application. These information requirements are needed as well as the information [for research applications and if appropriate requirements for facilities.](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/3223/6/Checklist-of-application-information.pdf) | |
| --- | --- |
| 1. Name and description of the proposed reef intervention. (Refer to draft guideline) | Submitted |
| 1. Type of permission being applied for: research, tourism, aquaculture, facility, carrying out works? | Submitted |
| 1. Justification- Why do you need to use the Marine Park? What alternatives have been considered, and why have they been ruled out? | Submitted  Not applicable |
| 1. Location of the proposed facility, intervention site, including:  * ESRI files (preferred) or Differential GPS coordinates * PDF map showing the proposed footprint of the facility and/or equipment installation, overlaid on a satellite image using the highest resolution imagery possible. | Submitted  Not applicable |
| 1. Zone in which the proposed reef intervention is to take place. Justification of how the proposed reef intervention is consistent with the objectives of the zone.   If **research** is proposed in Marine National Park or Buffer Zones - Explanation of why the research :   * Is relevant to, and a priority for, the management of the Marine Park; or * Cannot reasonably be conducted elsewhere.   If **research** is proposed in Preservation Zone - Explanation of why the research:   * Is relevant to, and a priority for, the management of the Marine Park; and * Cannot reasonably be conducted elsewhere. | Submitted  Not applicable |
| 1. For pilot studies that are considered medium risk (refer to draft guideline) provide proof of concept, scientific papers or supporting rationale for likely success in the GBR Region.   For pilot studies that are considered high risk (refer to draft guideline) provide proof of concept and scientific papers and supporting rationale for likely success in the GBR Region. | Submitted  Not applicable |
| 1. Consultation- which groups has the applicant consulted with? Provide evidence of any consultation that has already occurred, issues raised and how they have been addressed. | Submitted  Not applicable |
| 1. Any impacts that are likely (positive or negative) from the proposed reef intervention activity and timeframes involved to see evidence of those impacts.   Also consider how the proposed reef intervention activity will improve the condition and resilience of the Great Barrier Reef and/or the values of the Great Barrier Reef (including social and economic values) and how will the risks associated with the activity (both long and short-term) be avoided, mitigated or minimised. | Submitted  Not applicable |
| 1. Details of any translocation that will take place. Provide, a completed translocation proposal form ([refer to position statement](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/825/1/translocation-of-species-2007.pdf)). | Submitted  Not applicable |
| 1. If you propose to install facilities and/or medium-large scale equipment in the Marine Park provide an installation and a removal plan. Provide details of how the facilities will be secured in the Marine Park. Provide a contingency plan for the facilities in extreme weather events. [Refer to checklist for facilities for information requirements.](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/3223/1/Checklist-of-application-information.pdf) | Submitted  Not applicable |

### OPTIONAL APPLICATION REQUIREMENTS

The Great Barrier Reef Marine Park Regulations specify the criteria that the Authority must consider before granting a permission. Applicants are advised that providing information against the below mentioned criteria could reduce the permit application assessment timeframes.

| **Great Barrier Reef Marine Park Regulations – Application requirements**  Refer to the [assessment guidelines](http://elibrary.gbrmpa.gov.au/jspui/handle/11017/3229) for how GBRMPA will consider these criteria | |
| --- | --- |
| 1. Criteria A: Objects of the zone - 88Q(a) If the proposed conduct will take place in a zone – how is the project consistent with the objectives of the zoning plan for the zone? | Submitted  Not applicable |
| 1. Criteria B: Other legislative instruments - 88Q(b): if the proposed conduct will take place in a specific area of the Marine Park to which a legislative instrument under the Great Barrier Reef Marine Park Act (whether these Regulations or another instrument), or a provision of such a legislative instrument, applies— how is the project consistent with the requirements of that instrument or provision? | Submitted  Not applicable |
| 1. Criteria C: Suitable person criteria - 88Q(c): whether the applicant for the permission is a suitable person to hold a permission for the proposed conduct, having regard to: the applicant’s capacity to engage in and manage the proposed conduct to the satisfaction of the Authority; and the applicant’s history in relation to environmental matters; and if the applicant is a body corporate – the history of its executive officers in relation to environmental matters; and if the applicant is a subsidiary of a holding company – the history of the holding company and its executive officers in relation to environmental matters; and whether the applicant owes any fee or other amount payable under the Act or these Regulations; and any other relevant matter. | Submitted  Not applicable |
| 1. Criteria D: Reasonable steps 88Q(d) the requirement in section 37AA of the Act for users of the Marine Park to take all reasonable steps to prevent or minimise harm to the environment in the Marine Park that might or will be caused by the user’s use or entry. | Submitted  Not applicable |
| 1. Criteria E: Feasible and prudent alternative 88Q(e) Outline all feasible and prudent alternatives to the proposed conduct. If any alternatives have been ruled out due to not being feasible and prudent, include a brief explanation of why this is the case. | Submitted  Not applicable |
| 1. Criteria F: Written comment received 88Q(f) If any form of public advertising or consultation is required, what are the applicant’s responses to any written comments received under Division 2A.3A in connection with the application.   **Note: if you have been advised that you need to publically advertise you will be required to provide a response to issues raised from public comment.** | Submitted  Not applicable |
| 1. Criteria G: Relevant impacts 88Q(g): the relevant impacts of the proposed conduct   Also consider the need for the facilities to be situated in such a way as to minimise disruption to e.g. humpback whale migration, restricting movement of smaller fauna e.g. dolphins, turtles, rays etc | Submitted  Not applicable |
| 1. Criteria H: Avoid, mitigate, offset 88Q(h) Describe the options proposed for avoiding, mitigating and offsetting any identified relevant impacts. | Submitted  Not applicable |
| 1. Criteria I: Monitoring and managing 88Q(i) Describe the options proposed for monitoring and managing any identified relevant impacts | Submitted  Not applicable |
| 1. Criteria J: Laws of the Commonwealth or Queensland 88Q (j) Identify any relevant law of the Commonwealth or of Queensland as in force from time to time, or a relevant plan (as in force from time to time) made under such a law | Submitted  Not applicable |
| 1. Criteria K: EPBC approvals and permits 88Q(k) Does the applicant consider that the proposed conduct also requires an approval or permit under the Environment Protection and Biodiversity Conservation Act 1999? If so, has the application been referred? | Submitted  Not applicable |
| 1. Criteria L: Queensland approvals 88Q(l) if the proposed conduct also requires an approval or permission (however described) under a law of Queensland — whether the approval or permission has been, or is likely to be, granted and, if granted, the terms and conditions of it being granted | Submitted  Not applicable |
| 1. Criteria M: Recovery plans and conservation advices 88Q(m) Is the proposed conduct relevant to and consistent with any recovery plan, wildlife conservation plan, threat abatement plan or approved conservation advice? | Submitted  Not applicable |
| 1. Criteria N: Conventions and agreements 88Q(n) Is the proposed conduct relevant to and consistent with any international agreement to which Australia is a party, or any agreement between the Commonwealth and a State or Territory? | Submitted  Not applicable |
| 1. Criteria O: Policies and guidelines 88Q(o) Is the proposed conduct relevant to and consistent with any policies and the management of the Marine Park or of its environment, biodiversity or heritage values and are published by GBRMPA under paragraph 7(4)(a) of the GBRMP Act; or adopted by the Department administered by the Minister administering the EPBC Act; | Submitted  Not applicable |
| 1. Criteria P: Any other matters 88Q(p) Are there any other matters relevant to the proposed conduct and either: achievement of the objects of the Act; or orderly and proper management of the Marine Park?   **Consider the following questions**   * 1. Will anchoring be allowed around the facility?      1. If the answer is ‘no’, GBRMPA would need to seek government approval to put a regulation in place prohibiting anchoring. There is no guarantee this would be agreed to by Government.   2. Would moorings be part of the application? If so how many, what type. ([refer to mooring checklist for information requirements](http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/3223/1/Checklist-of-application-information.pdf))   3. Would there need to be a booking system or limitation on the number of tourism programs that could access the tourist? facility each day.   4. What are the views of the relevant Traditional Owner Group?   5. What other users currently occur at the proposed location? | Submitted  Not applicable |