



ENVIRONMENTAL MANAGEMENT PLAN

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ENVIRONMENTAL MANAGEMENT PLAN & IMPACT ASSESSMENT

THE COMPANY'S ENVIRONMENTAL AIMS AND OBJECTIVES

The entire Keppel Dive & Water Sports staff are committed to providing a fun yet educational experience for all of our guests. With 3 vessels with small passenger capacity (max. 12 passengers) we are able to limit our footprint on the Great Barrier Reef. As local owner-operators, we are also present to ensure all of our ideals are upheld by our employees. We are committed to ensuring that all activities are undertaken in a manner that exceeds all environmental regulation requirements and best practice codes. Through all of our tours and operations we uphold the view to prevent, reduce, or mitigate any harmful effects.

Our aims and objectives include, but are not limited to:

- Contribute to beach clean ups, organised by ourselves and recognised organisations.
- Compliance with all GBRMPA protocols including, but not limited to, zoning adherence, mooring care, EMC charge compliance, and educating the general public about all of these elements.
- Identify and minimise all possible environmental risks associated with the operation of Keppel Dive & Water Sports
- Ensure there are no long term environmental or cultural impacts from the operation of Keppel Dive & Water Sports
- Reduce contributions to greenhouse gas emissions and improve resilience and adaptation to climate change.
- Educate tourists travelling to Great Keppel Island and the surrounding Keppels and how to reduce their impact by developing their appreciation and understanding, including school groups, local travelers, and domestic and international tourists.

ENVIRONMENTAL AND CULTURAL CHARACTERISTICS

Although Great Keppel Island is not a national park (state managed), its surrounding waters are still governed by the GBRMPA. Our pride in the waters and the island itself mean that our staff are committed to protecting and educating guests and the general public. We have key species, natural landscapes, water bodies and cultural sites specific to the Keppels.

These include:

- Key protected landscapes and habitats including the immediate green zones of Monkey beach, Middle Island and Humpy Island
- Important and protected species
- Sacred Aboriginal sites- middens located at Long and Monkey Beaches
- Mangrove habitat- Leekes Creek
- Public appreciation zone stretching from Monkey Point to Little Peninsula.
- Egg Rock- green zone and responsible for 50% of the areas *Plectropomus leopardus* (coral trout)



- Resident dugong family- reported to Eye on the Reef sightings each occurrence and social media posts to encourage “Go slow for those below”
- Turtles- including nesting, hatching and protection at vulnerable breeding, laying, and hatching times.

ENVIRONMENTAL RISK MANAGEMENT – THE ENVIRONMENTAL RISKS ASSOCIATED WITH OPERATIONS

We are aware that even though we limit our group sizes, use moorings or choose our anchor site carefully, and educate our guests with information on how to limit their impact, we accept that there is still an element of potential environmental harm. Harm might come from planned, accidental and emergency situations.

Potential Consequences Likelihood	Insignificant (minor problems handled in day- to-day process)	Minor (some disruption and/or damage possible)	Moderate (significant dis- ruption and/or damage)	Major (severe disrup- tion and/or damage)	Catastrophic (business sur- vival is at risk)
Almost certain Expected to oc- cur under nor- mal circum- stances	Moderate risk	High risk	Very high risk	Very high risk	Very high risk
Likely Expected to oc- cur at some time	Moderate risk	High risk	High risk	Very high risk	Very high risk
Possible May occur at some time	Low risk	Moderate risk	High risk	High risk	Very high risk
Unlikely Not likely to oc- cur	Low risk	Low risk	Moderate risk	Moderate risk	High risk
Rare Could occur but probably never will	Low risk	Low risk	Low risk	Low risk	Moderate risk



Activity / Area	Associated Risk/s	Level of Risk	Strategy to Minimise Risk	Staff Role Responsible	Monitoring Process
Refueling vessels	Pollution	Moderate	Spill Kits in place, crew training and procedures, scupper valves, and hose used rather than a nozzle.	Coxswain	Spot inspections
Hut waste management	Littering	Low	Crew training and awareness, availability of rubbish bins	All	Spot Inspections
Anchor dragging - vessel	Damage to fragile areas	Moderate	Crew training, Over-size Anchor and chain to minimise likelihood, use of public moorings	Coxswain	Quality assurance during operational days.
Guests kicking or standing on reef	Damage to corals	Moderate	Briefings and education	All	Feedback, observations during tours.
Spillage of chemicals, cleaning products	Pollution, hazardous waste	Moderate	Monitoring of chemicals bought, to be as environmentally friendly as possible. All chemicals to be kept internally, as per SDS	All	Weekly Tasks
Shell Middens (Between monkey and long beach)	potential foot traffic	low	Guests briefed on the importance of the area- boardwalk built by Woppaburra community & Livingstone Shire Council to direct foot traffic away from the middens	all	Observations during tours, adequate staff training and monitoring



ENERGY AND GHG EMISSIONS: MEASUREMENT, MINIMISATION AND MANAGEMENT STRATEGIES

1. IDENTIFY AND MEASURE

SOURCES

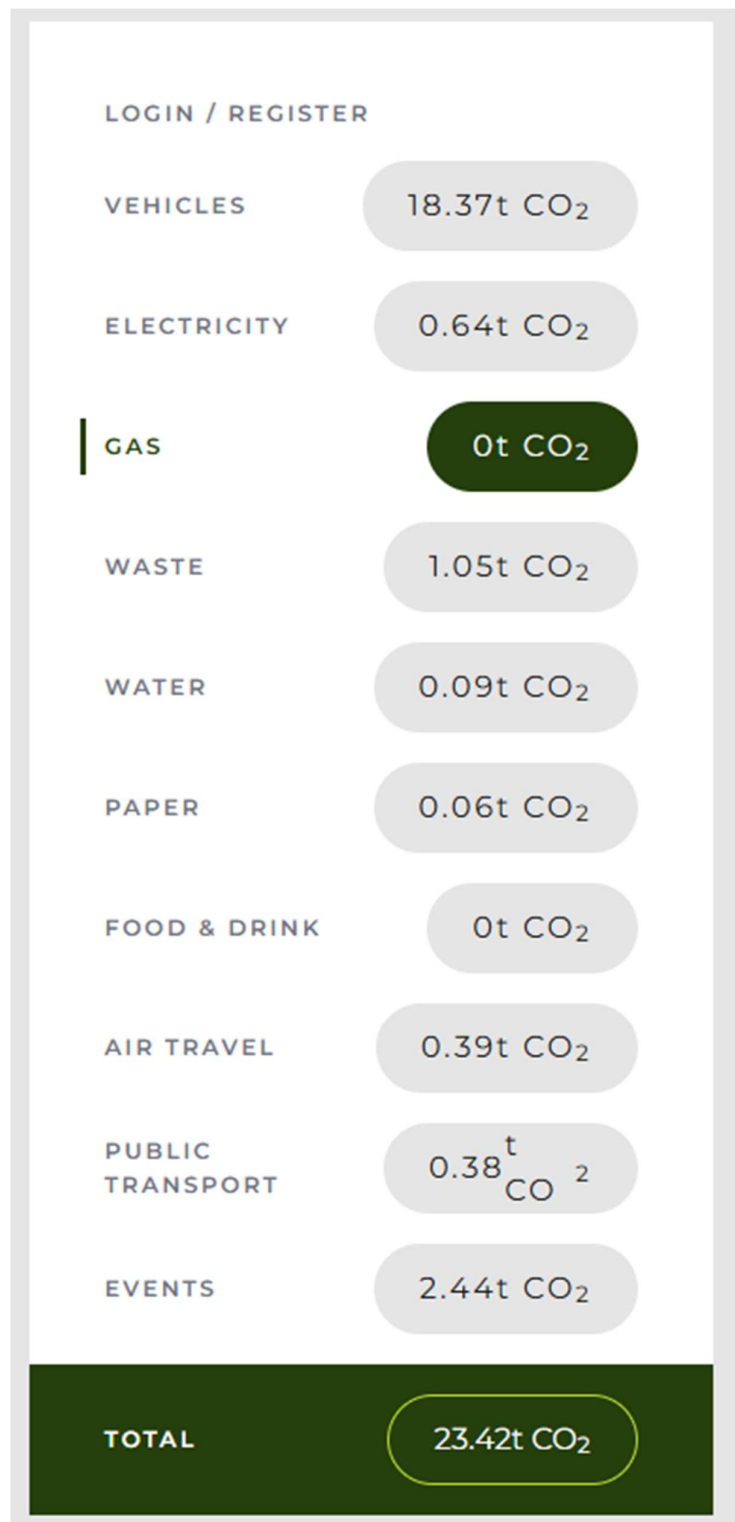
- Poor equipment is a source of waste and emissions due to manufacturing. We purchase and service the majority of our products through local dealers. This enables us to better quality control the items we stock. By purchasing better quality items, we can help reduce waste as the turnover of these items is far less.
- Single use plastics and materials of most kinds are a source of emissions and waste, due to their manufacturing processes. We minimise all single use products. This is especially the case for things such as drinking cups and water bottles, as the majority of our services don't require a high turnover of equipment. We have a company policy to minimise single use plastics especially.
- Sunscreens have been shown to impact our reefs. We have implemented natural based sunscreen that has been designed to minimise the impact on our reefs
- Where possible, we have implemented solar lights around our building. We aim in the future to move to a complete solar powered system where possible.
- Direct emissions we produce from our processes are from our engines. Our motors on for our vessels are near new 4-stroke outboards that meet the latest emission requirements. We minimise all other motorised transport where possible.
- We are provided power through an external organisation that utilises generator and Solar as part of its energy grid. We still attempt to minimise power usage through best practice and minimising our usages.
- We have an open plan building, enabling us to capture the breeze. It is through this we are able to operate without air-conditioning systems and limited use of fans, saving power and emissions.

CONSUMPTION

-Total energy consumption includes

-Dive compressors

-2 fluorescent lights in building (The Hut)



Note: Calculated with the Carbon Neutral (<https://carbonneutral.com.au/carbon-calculator/>)



2. STRATEGIES TO REDUCE AND REPORT

	Topic/Area	Emissions Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
Energy Efficiency	Buildings	Open air – nil air-conditioning	All	ongoing	
	Equipment	Purchasing only quality equipment from reputable sources, through local dealers.	Owners	Continual	Only the owners are in charge of purchasing, enabling quality to be assured. Staff report back to owners on faults, so continuous evaluation can take place.
	Lighting	Solar Outdoor Lighting	Owners	N/A	Installed at beginning of operation. Replaced if required.
	Heating, cooling and ventilation	Open air ventilation only	All	Daily Operation	Nil.
	Water heating	Not applicable	N/A	N/A	
Energy Supply	Green power	Use of manpower to move equipment rather than machinery where possible	All	Daily schedule allows for time to complete this.	Staff continually monitoring other ways to minimise energy usage.



	Topic/Area	Emissions Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
Travel / Transport	Vehicles / transportation	Outboards are maintained for efficient operation. Only recent model outboards are utilised to ensure emission standards are maintained.	Owners / Coxswains	Service schedules are 6 monthly or 100 hours as recommended by the manufacturer.	Service schedules are used to ensure efficient operating.
	Employee travel to work initiatives	Employees are offered free carpool with other staff where feasible. Staff travelling to the island are offered free public transport aboard the ferry to the island through company negotiations.	All	When feasible.	N/A
Operational Areas	Partnership with climate friendly businesses and suppliers	We aim to partner with and recommend other Eco-certified businesses to those seeking advice for further travels. As stated previously, we aim to purchase high quality equipment from reputable sources to assist with our footprint.	All	N/A	Owners continually monitor changes within the industry.



	Topic/Area	Emissions Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
	Construction, renovation; building design and landscaping	Our building has been re-modeled as it was previously a kitchen. The building was renovated by us using battery and hand tools where possible, and recycled products that remained on the island. Future renovations will be conducted under the same theme.	Owners	N/A	Condition of facilities monitored by staff on a daily basis, and requirements passed onto owners.
	Suppliers				
	Green purchasing policy and initiatives	As stated previously, we aim to purchase high quality equipment from reputable sources to assist with our footprint. We as a company will not buy single use drink bottles, straws or other common products unless as a last resort.	Owners	Ongoing	Owners, all staff are encouraged to follow practice.
	Sourcing local products	Purchasing only quality equipment from reputable sources, through local dealers.	Owners	Ongoing	Owners are in charge of sourcing all goods.



	Topic/Area	Emissions Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
	Efficient product packaging (recyclable, minimal cooling etc.)	N/A	N/A		N/A
	In-house				
	Office / admin initiatives	We minimise use of paper etc where we can. We will continually assess ways in which we can minimise usage of single use items. We recycle printer cartridges and reuse scrap paper. We Shut down office equipment when not utilised. Transitioned to a paperless Digital Operations Platform called SeaLogs. Greatly reducing our paper usage.	All	Daily	All staff are required to assist with the effort to minimise waste on a whole. Owners can monitor this as requests for purchases by the business must be approved.
	Marketing and promotional	All marketing material is designed and produced in house or through local shops, to ensure it is made from the highest standard and is manufactured as per Australian standards and emission regulations.	Owners	As required	Owners monitor this as all purchases and orders are made personally.



	Topic/Area	Emissions Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
Emission Monitoring	Emissions assessment	With the first emissions calculation complete, we cannot work towards stabilising and minimising where possible.	Owners	Ongoing	At end of financial year periods



WATER: MEASUREMENT, MINIMISATION AND MANAGEMENT STRATEGIES

1. IDENTIFY AND MEASURE

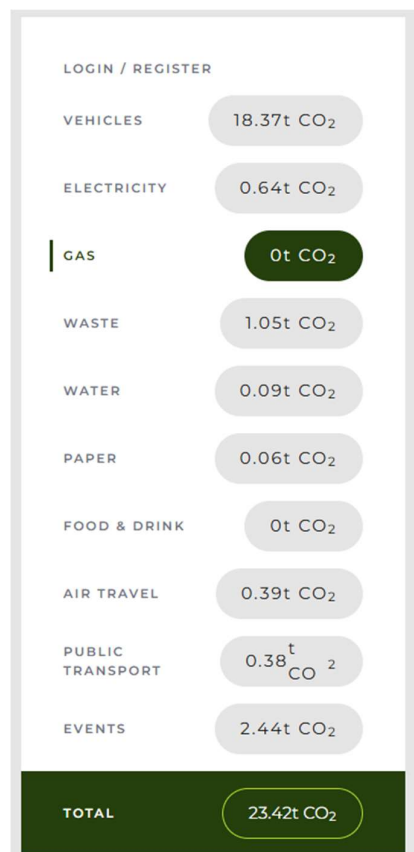
SOURCES

- Piped- mains: Drinking water stored in 20L drums, filled on the mainland
- Groundwater (bore): for gear washing

Note: Calculated with the Carbon Neutral (<https://carbonneutral.com.au/carbon-calculator/>)

CONSUMPTION

- We only use minimal water for drinking and washing equipment.
- Water is carted for drinking in 20L containers when required. 2x 20L tubs are used daily for equipment cleaning.



Note: Calculated with the Carbon Neutral (<https://carbonneutral.com.au/carbon-calculator/>)



2. STRATEGIES TO MEASURE AND REPORT

	Topic/Area	Water Reduction Actions	Staff Role Responsible	Time-line/Budget	Monitoring Process
	Gear cleaning a	-refilling multiple times per day kept to a minimum. -Sweeping equipment instead of hosing	All Staff	Ongoing	On going monitoring of water usages
	Drinking Water	This is kept to a minimum anyway due to staff traveling to the island on a daily basis, generally bringing water from their own residences.	All Staff	Ongoing	On going monitoring of water usages



WASTE: MEASUREMENT, MINIMISATION AND MANAGEMENT STRATEGIES

As a primary tour operator, our waste is minimal, which makes it easier to track and correctly manage. We produce minimal organic waste, with most coming from plastics and paper.

	What type of waste is it? Where does it come from?	Management, Re-using, Recycling and Disposal	Reduction Strategies	Role & Staff Member Responsible	Monitoring
Organic/Food Waste	Staff lunches	Disposed of daily or taken home to be disposed of	Education of how to dispose correctly	<i>All staff</i>	Waste Management Policy
Paper	<i>Used brochures, maps and indemnity waivers</i>	<i>Reused when possible or recycled.</i>	<i>Guests are actively encouraged to give back publications for reuse and encourages to take a photo of the big map rather than take a physical copy</i>	<i>All staff</i>	Waste Management Policy
Plastic	Soft plastic packaging from purchased goods	Exploring re-newed soft plastic recycling scheme after "Red-Cycle" closure.	Policy to preference suppliers with reduced packaging. Eg. BOLD Australia	<i>All staff</i>	Waste Management Policy

	What type of waste is it? Where does it come from?	Management, Re-using, Recycling and Disposal	Reduction Strategies	Role & Staff Member Responsible	Monitoring
Chemicals	Batteries, fluorescent lightbulbs and electronics	Disposed responsibly through correct disposal programs		All staff	Industrial waste handled by the Hideaway, who are contracted to control the islands waste products. We separate waste as required to allow for recycling.
Oils	Outboard servicing	Taken off the island and disposed of in the council oil disposal system.	Servicing is required, but care is taken to minimise and dispose of sump correctly.	Owners. Qualified Marine Mechanics.	Service Schedule monitored by coxswains and owners; Oils disposed of by owners.
Paper	Used brochures, maps and indemnity waivers	Reused when possible or recycled.	Guests are actively encouraged to give back publications for reuse and encourages to take a photo of the big map rather than take a physical copy	All staff	



ENVIRONMENTAL BEST PRACTICE INITIATIVES

This section sets outlines best practice initiatives Keppel Dive & Water Sports is **currently** undertaking to avoid, mitigate and improve our environmental impacts. It includes the staff member responsible for the upkeep of this initiative as well as the means and timing.

Initiative Category	Environmental Initiative	Purpose	Role & Staff Member Responsible	Monitoring
Location	Location selection- due to our business being located on the sand spit, the movement and flow of sand due to wind and tide is high.	Minimise impact on the surrounding area with respect to erosion	Owners	Any adverse weather event or persistent northerly winds
Construction	Repurposing timber and other facilities (like sinks	Minimise the clearing/harvesting of naturally occurring forests. Upcycling from areas such as the Refuse facility in Yeppoon.	Owners	At any stage where construction is being undertaken.
Landscaping & gardening	Trimming of branches and only removing tress if they become a serious hazard eg. erosion has taken roots and the tree will fall	Minimise the level of disturbance and impact to our hut area	Owners	Staff report to owners and do not remove independently
Wildlife (flora & fauna)	Policy and procedures on managing visitors' behaviours when viewing wildlife. As we specialise in in-water activities, the no touch policy is enforced.	Minimise disturbance to wildlife	All staff	Any damage reported through reporting channels

Vessels- dive/snorkel site	Authorised GBRMPA moorings are used where possible, and anchoring limited to sandy areas or, where that is not possible, an in water guide will inspect the area to choose the place of least impact	Minimise any damage or disturbance to wildlife and their habitats while conducting our primary operations.	All guides and cox-swains	Any damage reported through reporting channels
Noise, light & air pollution	Upkeep and maintenance of 2 x Bauer PE100 Compressors	Minimise emissions, and ensure air quart	All staff- fills and filter changes logged	Ongoing- maintenance logged
	Upkeep and maintenance of 4 x 4 strokes form vessels	Minimise emissions by ensuring out-boards are maintained	All guides and cox-swains	Ongoing- maintenance logged
Vehicles	Well maintained and only use designated paths on the island.	Ensuring minimal vehicle emissions and	All Staff licence to drive	
Indigenous sites- Shell midden	To protect and preserve sacred Woppa Burra sites and educate highly frequented areas by tour groups (and self-walk/snorkellers)	Minimise any damage or disturbance by ensuring visitors are aware of the sites if they are traveling that way, and sticking to the boardwalk to reduce foot traffic damage	All staff- tour leaders and hut staff directing "self-walk" trips	Any damage reported through reporting channels
Turtle Nest Sites (seasonal)	To protect and preserve turtle nest sites between Sept-March	Minimise disturbance or damage by fencing and signing any nests in areas of high foot traffic	All staff	Nest dates and photos recorded and reported to Keppel Turtle Fund and Eye on the Reef.



ENVIRONMENTAL IMPROVEMENTS

Keppel Dive & Water Sports are continuously reviewing and developing strategies in all aspects of operations. Monitoring our impact on the environment and evaluating our sustainability is a constant focus and in the next 12 months to minimise our impact, we plan to implement:

- reduce noise from our compressors by insulating the container they operate in
- increased air flow and roof paint to increase cooling and insulation properties **(completed)**
- All staff and guests are encouraged to feedback their ideas, but we will formalise this process with an email that gets sent to guests after their experience with us **(completed)**
- Purchase of Digital Software to replace paper indemnities waivers and participation forms **(completed)**
- Launch of our Reef Rangers tour and “Be a Marine Biologist for a Day” programs - citizens science focused tour run daily with either Tourism Weekly or Rapid Monitoring + EotR sightings **(completed)**

REPORTING PROGRAMS

Staff and customers alike are encouraged to report sightings, damage and incidents that directly impact the ecosystems. The main external environmental reporting initiatives that we participate include:

- Reef monitoring (i.e. Eye on the Reef, tourism weekly and RHIS- conducted multiple times a week).
- Eye on the Reef Sightings
- Suspected infringements, incidents and pollution by other users of the site are reported to the relevant protected area manager or agency/agencies where they apply.

STAFF TRAINING AND DEVELOPMENT

Please refer to the attached SMS.



CUSTOMER AWARENESS

“Green Education” is a key part of all of our guided activities. This education includes, but is not limited to:

- Eye on the Reef and how sightings and surveys help
- Good waste procedures- littering on GKI directly effects the reef
- Follow tracks to minimise damage to habitats
- Education of the “no anchor zones”, GBRPMA moorings, fishing and green zoning
- “arm’s length” rule enforced over the reef flats to ensure no coral damage
- Customers are given ample opportunity to ask questions about our operations, impacts and general threats to the reef health.
- Feeding wildlife actively discouraged

GLOSSARY

Adaptation Changes : Changes made in response to the likely threats and opportunities arising from climate variability and climate change.

Adaptive capacity: Ability of a system to respond to climate change - to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.

Contingency plan: Any plan of action that allows an organization to respond to events should they occur. This includes all plans that deal with stabilisation, continuity of critical business functions and recovery [AS/NZS 5050:2010, Definition 1.3.8]

Level of risk: Magnitude of a risk or combination of risks, expressed in terms of the combination of consequences and their likelihood. [ISO Guide 73:2009, Definition 3.6.1.8]

Likelihood: Refers to the chance of something happening, whether defined, measured or determined objectively or subjectively, qualitatively or quantitatively, and described using general terms or mathematically (such as a probability or a frequency over a given time period). [ISO Guide 73:2009, Definition 3.6.1.1]

Risk identification: Process of finding, recognising and describing risks. [ISO Guide 73:2009, Definition 3.5.1]

- Note 1: Risk identification involves the identification of risk sources, events, their causes and their potential consequences.
- Note 2: Risk identification can involve historical data, theoretical analysis, informed and expert opinions, and stakeholder needs.