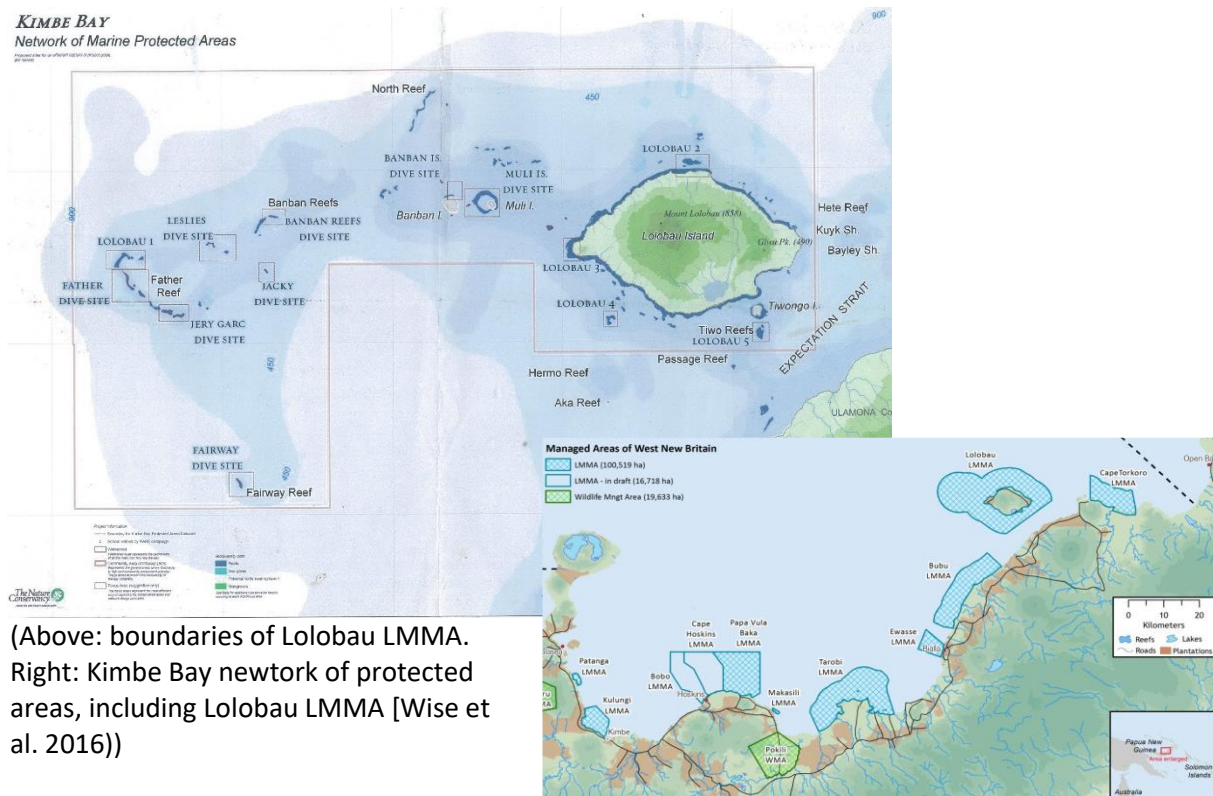


# Lolobau Locally Managed Marine Area

## Talasea District, West New Britain Province

Lolobau LMMA (upper map) is located in Kimbe Bay (lower map), in the vicinity of Lolobau Island in the Bialla area, west of Kimbe town. There are five village communities along the coast of Lolobau Island, including Potou and Poipoi (the largest), and Au'Aulu, Viluvilu and Mauga. There are no large rivers that flow from the mountains into the sea. The LMMA contains several islands (Banban, Muli'i and Tiwongo) and reefs (e.g. Fairway, Father, North and Banban).



(Above: boundaries of Lolobau LMMA. Right: Kimbe Bay network of protected areas, including Lolobau LMMA [Wise et al. 2016])

### Lolobau LMMA in brief

Agreement: 28/10/2008  
 72430 ha  
 Customary land  
 Purpose: to protect marine ecosystems to meet the sustainable social, economic and cultural needs and requirements of the people today and into the future  
 >250 households and >2,000 people live in the LMMA – mainly on Lolobau Island  
 Management Plan  
 Management Committee (9 males, 1 female)  
 Traditional rules and customs in place  
 No employment, no budget, limited tourism

**Management objectives:**

- ✓ Increase the abundance of target fish/invertebrates in inshore reefs & the overall health of coral reef habitats.
- ✓ Protect turtle nesting grounds & ensure the sustainable harvesting of turtles.
- ✓ Protect water quality by reducing sediment, effluent & garbage entering the marine environment

## Participants' perspective on Lolobau LMMA's values and benefits

The forest areas on Lolobau Island are used for hunting wild pigs, gathering firewood, food collection (fruits and nuts) and gardening. A coconut plantation is located near Potou village, and there are also cocoa plantations. Most of the forest is intact. The coastal communities on Lolobau use the surrounding marine environment to undertake traditional fishing practices to obtain fish, crabs, lobsters, clam shells, bivalves, mollusks, shells, turtles, algae (sea grapes), sea cucumbers and other species. Dugong and turtles (hawksbill and green) feed and nest in the area (e.g. Banban and Muli'i Islands). Near shore areas have corals and seagrass meadows. There are also off-shore reefs (east and west of Lolobau) and they are in good condition. Dolphins and whales are seen in the open seas. The islands contain lizards and sea birds. The birds are hunted and megapode eggs are collected. The LMMA has recreational potential with good reefs for diving. There are also important sacred sites containing Masalai, spirit and historical areas.

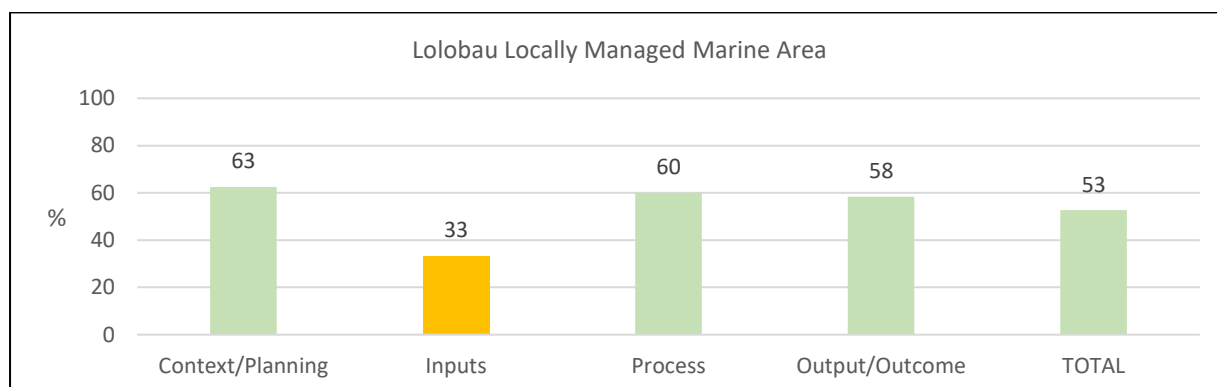
## Key Values, Condition and Trend

Value	Condition	Trend	Description
Turtle nesting areas (hawksbill & green)	Very good	↔	Nesting sites on Banban and Muli'i Islands. Eggs are harvested; some eaten by lizards
Habitat for sea birds, pigeons, megapode & lizards	Fair	↓	Mainly on Banban Island. Sea birds (balus), frigate birds ( <i>Fregata ariel</i> ) and noddy terns (indicators of tuna and trevally), pigeons, megapodes (wildfowl) (eggs harvested). Birds and lizards are hunted
Whale migratory routes	Very good	↔	Whales migrate between Lolobau, Banban and Muli'i Islands
Tuna breeding areas	Very good	↔	Father and Fairway reefs – important breeding areas; increased harvest (by outsiders and more local people); unsustainable fishing practices
Coral trout breeding areas/dugong resting	Very good	↔	Muli'i Island (Maleda Point)
Fish spawning/ aggregation areas	Very good	↔	Fairway and Father reefs – affected by increased take of fish (outsider and rising local population)
Diving sites / recreation	Very good	↔	Eight diving sites; three small islands around Lolobau (Banban, Muli'l and Tiwongo) have scenic spots for recreational activities.

## Threats

Description	Impacts
Population growth	Increased pressure on the use of resources within the LMMA.
Fishing methods	Increased fish take and unsustainable methods (e.g. dynamite, poison ropes (derris root) and under size nets) - impact on fish numbers and coral reef health
Development pressure	Increased illegal access to LMMA resources and increases in sediment and effluent entering the LMMA
Climate change (coral bleaching, sea level rise)	Erosion of coastline, loss of coral reefs, loss of fish.

## Protected Area Management Effectiveness – Summary of Results



## Evaluation – key findings

Element of evaluation	Result
<b>Context/ Planning</b>	<p>LMMA formally agreed by the customary landowners, with legislation developed under local government by-laws</p> <p>Management Committee (9 males, 1 female) in place</p> <p>Management Plan with clear vision, goals, objectives, values and targets</p> <p>Design is adequate to protect seagrass beds, reefs and related species</p> <p>Landowners contribute to the planning and management processes</p> <p>Limited research and information is incorporated into planning</p> <p>Work plan exists, but limited resources prevent extensive implementation</p> <p>Limited cooperation with surrounding landusers/companies</p>
<b>Inputs</b>	<p>No enforcement is undertaken</p> <p>No formal resource inventory, although landowners are aware of the condition of the values of the LMMA</p> <p>No paid staff, although the landowners are engaged in managing the LMMA</p> <p>Training has occurred, but is limited by lack of funding</p> <p>No budget or equipment</p> <p>Some fees are collected from tourism operators (e.g. dive companies)</p>
<b>Process</b>	<p>Boundaries are surveyed and known by the landowners (but not always respected by outsiders who enter and take the resources of the LMMA)</p> <p>Protection systems are very limited due to lack of resources</p> <p>Occasional research is undertaken, but does not directly affect management planning</p> <p>Infrequent education and awareness raising</p> <p>No cooperation with industrial neighbours and limited engagement with all levels of government</p> <p>Customary landowners are engaged with their Management Committee and there is open communication about management issues</p> <p>Actions are identified to minimise threats, but implementation is limited by lack of resources and equipment</p> <p>Some cooperation with tourism operators (but limited benefits to community)</p>
<b>Outputs /outcomes</b>	<p>Minimal benefits from tourism (e.g. diving fees)</p> <p>Condition of the LMMA's values remains good overall</p> <p>No visitor facilities</p>

## Strengths, Challenges and Ways Forward

Strengths	<ul style="list-style-type: none"> <li>• The community is supportive of the vision, goals and objectives of the LMMA.</li> <li>• The Management Committee is active and has developed a Management Plan which aims to minimise threats to the LMMA.</li> <li>• Biodiversity values remain high e.g. reefs are in relatively good condition and there is reported to be an abundance of fish and other marine life which provides for the subsistence needs of the community.</li> </ul>
Challenges	<ul style="list-style-type: none"> <li>• Achieving ongoing outcomes with limited resources.</li> <li>• Re-engaging with all levels of government.</li> <li>• Addressing threatening processes which result from associated development pressures and global changes (e.g. climate change).</li> </ul>
Ways forward	<ul style="list-style-type: none"> <li>• <b>Management and planning:</b> <ul style="list-style-type: none"> <li>○ improve monitoring and enforcement capacity and skills</li> <li>○ investigate strategies for securing relevant equipment (e.g. boat to assist with monitoring and enforcement, monitoring equipment)</li> <li>○ work with tourist operators to ensure equitable returns and benefit sharing arrangements as a result of tourist ventures (e.g. diving)</li> <li>○ identify and fund appropriate tourist facilities.</li> </ul> </li> <li>• <b>Education and training</b> <ul style="list-style-type: none"> <li>○ <i>of the management committee</i> in leadership, protected area management, finance, legal issues, administration, monitoring and basic research</li> <li>○ <i>of the customary landowners</i> in relation to increasing their understanding of the LMMA's values and sustainable resource extraction methods and their continued commitment to conservation</li> <li>○ <i>of the surrounding community</i> (e.g. other villagers and commercial landusers) to raise their understanding of the purpose of the LMMA, its boundaries and the need to minimise threatening impacts.</li> </ul> </li> </ul>