



Community Engagement Officers:
Yvonne Wong and July Kuri

Outcomes from the community consultation process
with 100 communities in Lovongai and Murat Local
Level Government Jurisdictions, New Ireland Province



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Cover photograph: Villagers taking part in an education and outreach activity in Lovongai Local Level Government Jurisdiction, New Ireland Province. Photograph source: Yvonne Wong, 2021.

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Female focus group members designing their Venn diagram in order to represent their community governance structure. Phase I consultations. Yvonne Wong, 2019

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Introduction

Flanked by the Bismarck Sea to the south and Pacific Ocean to the north, New Ireland and the adjacent island groups comprise Papua New Guinea's (PNG's) most north-easterly province (Figure 1). Located in the Coral Triangle ecoregion, the Bismarck Sea is considered one of the world's focal points for marine biodiversity, with approximately 600 species of hard coral and 3,000 species of reef fish. The people of New Ireland Province are reliant on their coastal environments for marine resources, used for protein and livelihoods. However, during recent decades, the population of the province has risen from around 118,000 people in 2002 to roughly 265,000 people in 2021, placing pressure on marine resources. Better fishing methods, habitat destruction and anthropogenic climate change are also impacting marine habitats and the people who rely on them. While efforts have been made to mitigate against these threats, such as the creation of small locally-managed marine areas (LMMAs), a larger scale approach is required.

From 2017 to 2022, efforts were made to develop a community-focused marine protected area* (MPA) in New Ireland Province to empower communities in managing their marine resources, and also to help safeguard biodiversity. This approach was bolstered in 2019 when the Lovongai Marine Environment Management Law was passed; although the law has not been fully implemented, it provides an opportunity for an MPA to be created within the local level government (LLG) jurisdiction. From 2017 to 2018, community consultations took place in 168 communities in Kavieng District, New Ireland Province, to determine community perceived threats to local marine resources and to gauge interest in spatial marine management. The outcomes from the community engagement indicated interest in spatial management in Lovongai and Murat LLGs, and further feedback from the first two Technical Working Group (TWG)[†] meetings reinforced these decisions. In 2018, it was agreed by the TWG that two MPAs would be established in Lovongai and Murat LLGs, which will collectively cover 7,500km² of seascape in the Bismarck Sea in New Ireland Province. This decision was supported by the PNG Government during the 2018 World Oceans Conference in Bali, Indonesia, where the following statement was made:

“Papua New Guinea announces that, with the support of the WCS MPA Fund and Oceans 5, it will establish 7,500km² of marine protected areas in the Bismarck Sea, one of the most biologically diverse areas on earth, by 2021. This will triple MPA coverage in PNG. The proposed areas include coastal areas around Tikana and Lovongai Islands (2,500km²) and offshore areas identified as high priority marine areas for conservation in New Ireland Province (5,000 km²).”

* A marine protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature, ecosystem services and cultural values.

[†] The New Ireland Province Technical Working Group (TWG) is a steering committee focused on the management of marine resources in New Ireland Province. The TWG comprises representatives from national, provincial and local-level governments, education institutions, law and order, the private sector, non-governmental organisations (NGOs), and community fisher champions. The TWG aims to meet twice per year.

In 2019 and 2020, the Wildlife Conservation Society (WCS) – with support from Ailan Awareness Inc.* and the Lolieng Sustainable Programme† – continued the community awareness programme in Lovongai and Murat LLGs,‡ respectively, which would become the first of three phases of community engagement for MPA establishment. During the initial community engagement phase, grievance mechanisms were installed, and the free, prior and informed consent (FPIC) process was adhered to. Two further phases of community engagement were carried out from 2020 to 2022. A summary of the three community consultations has been provided in Table 1. The following report provides an overview of how the communities were consulted, as well as how they identified the MPA threats and developed the rules, boundaries and governance leading to the establishment of each MPA.

Free, prior and informed consent

All community members are required to give consent prior to any community outreach or engagement process. Therefore, WCS started the FPIC process within each of the Lovongai (Figure 2) and Murat (Figure 3) LLG communities to gain their consent for the establishment of an LLG level MPA. FPIC is the collective right of the people to give or withhold consent and applies to all activities, projects, legislative or administrative measures, and policies that take place in or impact the land, resources or livelihoods of customary landholders and communities.

The WCS PNG programme has developed a standardised engagement protocol which specifically outlines all steps of community engagement from entry to exit. First, engagement at all community sites provided an inception to the project – focused on marine conservation and MPAs – and provided space for participating communities to ask questions before deciding whether to grant consent. FPIC and grievance mechanisms were aligned with international standards and guidelines (including the International Union for the Conservation of Nature Environmental and Social Management System). In PNG, WCS relied on Community Facilitators (CFs) who acted as project intermediaries and ensured that community expectations match the outcomes that the MPAs can realistically deliver. The major role of the CFs was to act as a cultural liaison, whereby they articulate community concerns to WCS staff, and in turn are able to explain the advantages and disadvantages of the MPA process to the communities in local vernacular in both formal and informal settings. WCS provided adequate time and space for community members to discuss issues surrounding the proposed MPAs and also to resolve internal conflicts among themselves. In addition, to ensure voices from a cross-section of society could be heard, residents in each community were divided into male, female and youth groups during the different consultation activities.

The PNG Constitution recognises the rights of the customary land owners; indeed, 97% of the land and inshore waters of PNG are held under customary land tenure. For effective marine and coastal resource management interventions, there had to be extensive consultations carried out with around 100 communities in Lovongai and Murat LLGs. Such consultations included awareness programmes, which focused on marine ecology, the threats to coastal fisheries and marine management measures. These community consultations were accompanied by appropriate grievance mechanisms.

* A non-governmental organisation (NGO) that advocates reviving traditional marine management methods.

† A community-based organisation (CBO) based in Murat LLG that focuses on marine environmental work.

‡ According to the 2011 National Population Census, there are 97 communities in Lovongai LLG, which have a combined population of 29,000; in Murat LLG there are 26 communities and 4,100 residents.

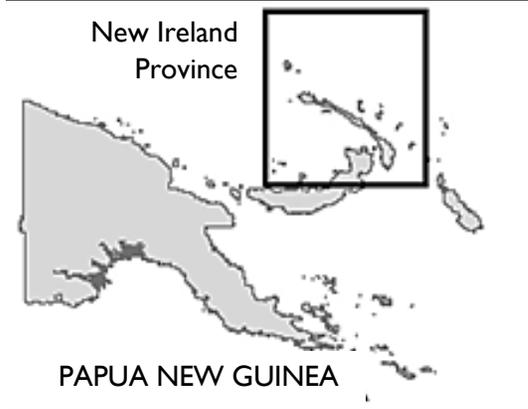
Table 1: A summary of the three phases of community consultations that took place in Lovongai and Murat Local Level Government jurisdictions from 2019 to 2022 by the Wildlife Conservation Society, Ailan Awareness Inc. and the Lolieng Sustainable Programme, in order to establish two marine protected areas.

PHASE	COMMUNITIES		COMMUNITY CONSULTATION DETAILS
	Lovongai	Murat	
PHASE I	87	26	2019-2020: Prior to the consultations, WCS visited 168 communities in Kavieng District to conduct outreach and to gain an understanding of what the communities wanted in terms of marine management and the threats to marine resources. Before community engagement work took place, initial community entry occurred, in which community facilitators introduced WCS and the project work, through the FPIC process. Grievance mechanisms were established in each community, enabling residents to report project-related grievances through the correct channels. Initial outreach, education and awareness was carried out in each community, which focused on the ecology of marine and coastal species, the threats to key marine resources and possible management options that could be used. A threat analysis was also carried out to determine the threats each community thought were harming their marine and coastal resources, which was conducted through the risk assessment. Using Venn diagrams, local governance and decision-making structures were assessed. Once community consent had been given, all the information was compiled and the planning for the Phase II consultations began.
PHASE II	78*	26	2020-2022: Prior to commencing the Phase II consultations, the community-perceived threats were inserted into a risk matrix. The risk matrix provided hypothetical magnitude and frequency scores for each community-perceived threat, the outcomes from which were combined to provide risk impact ratings. During the Phase II consultations, the FPIC process was conducted for village participants that could not attend the first meetings, followed by an update on the Phase I consultations. Further education and awareness was carried out, followed by the risk matrix activity, which was conducted with separate male, female and youth groups in each community, providing opportunities for a cross-section of society to raise their voices and concerns. The development of community-selected rules and penalties for non-compliance were discussed, agreed upon, and listed during the male, female and youth groups. Community elders and leaders – accompanied by WCS staff – also sailed to the furthest point from within their customary marine tenure, where a GPS point was taken. The GPS points around each LLG were mapped, and the furthest point from the shore was used to determine the outermost boundary of each MPA, ensuring all communities in each LLG are included within the MPA.
PHASE III	65*	26	2021-2022: Following the Phase II consultations, all the risk matrix information was pooled for each LLG; the threats that received the highest risk impact rating scores were used to determine the MPA rules. The GPS points for each community were mapped for each LLG, providing the outer most boundary for each MPA. During the Phase III consultations, the community-selected MPA rules and boundaries were disseminated back to the communities in order to gain consensus, through male, female and youth discussion groups. The communities were also informed about why some rules and regulations were not included in the MPA management plans (because they did not rank high in the risk matrix outcomes), and there was an update on the LLG law progress. All feedback obtained from the Phase III consultations was used to amend and update the MPA management plans.

* Due to COVID-19 pandemic restrictions, as well as community disputes in the south-eastern region of Lovongai LLG, not all the communities could be visited in Lovongai LLG during the Phase II and Phase III community consultations. Rather, a subset of communities were visited during these consultations.

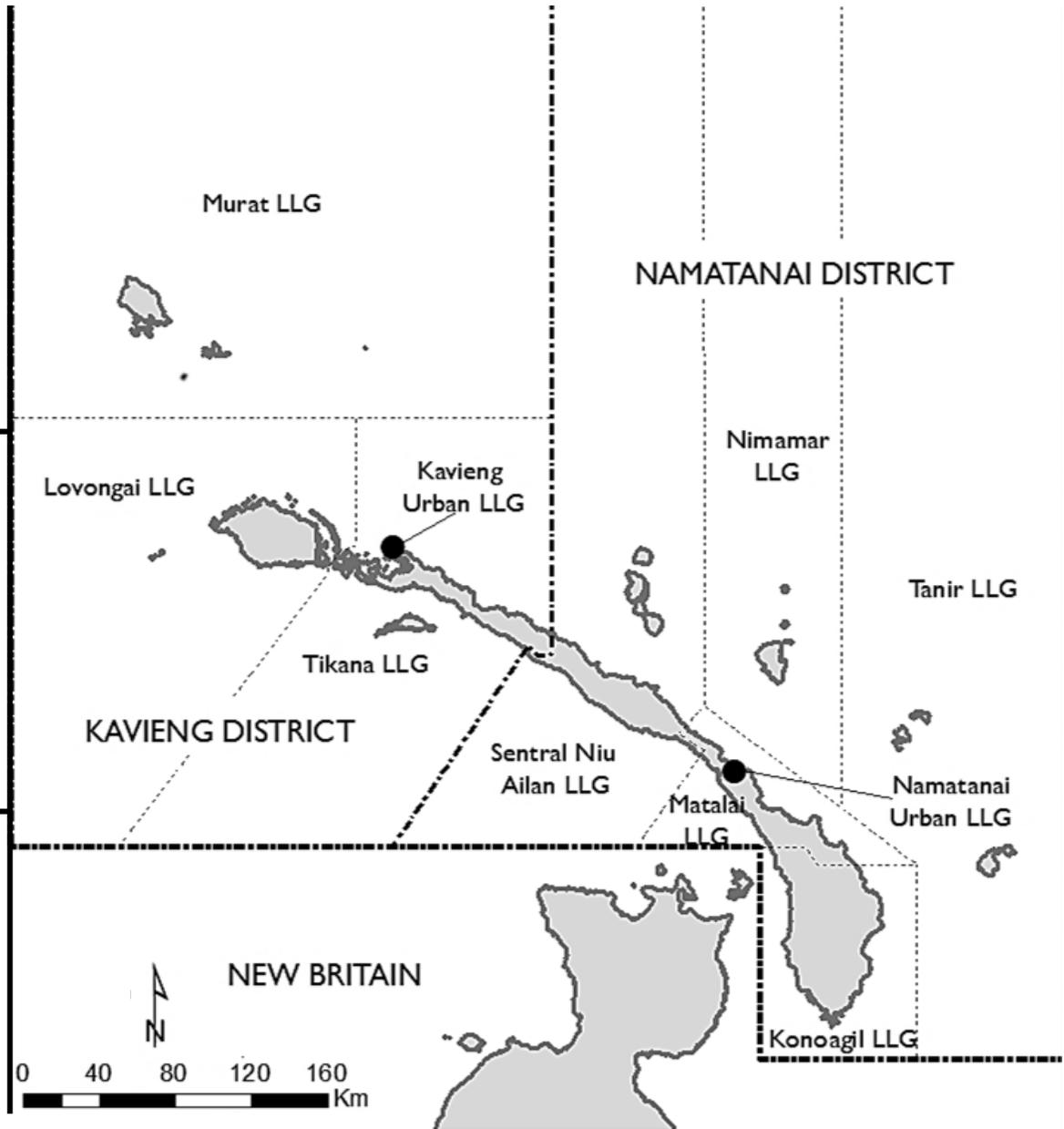
THE ADMINISTRATIVE BOUNDARIES OF NEW IRELAND PROVINCE, PAPUA NEW GUINEA

Figure 1: Located in north-eastern Papua New Guinea, New Ireland Province has borders with East New Britain Province and West New Britain Province to the south, Manus Province to the west, the Autonomous Region of Bougainville to the east, and the Pacific Ocean to the north. New Ireland Province consists of two districts: Kavieng District in the west and Namatanai District in the east. There are ten Local Level Government jurisdictions in New Ireland Province, including Lovongai Rural and Murat Rural Local Level Government jurisdictions. Each Local Level Government is divided into wards, which can include several communities.



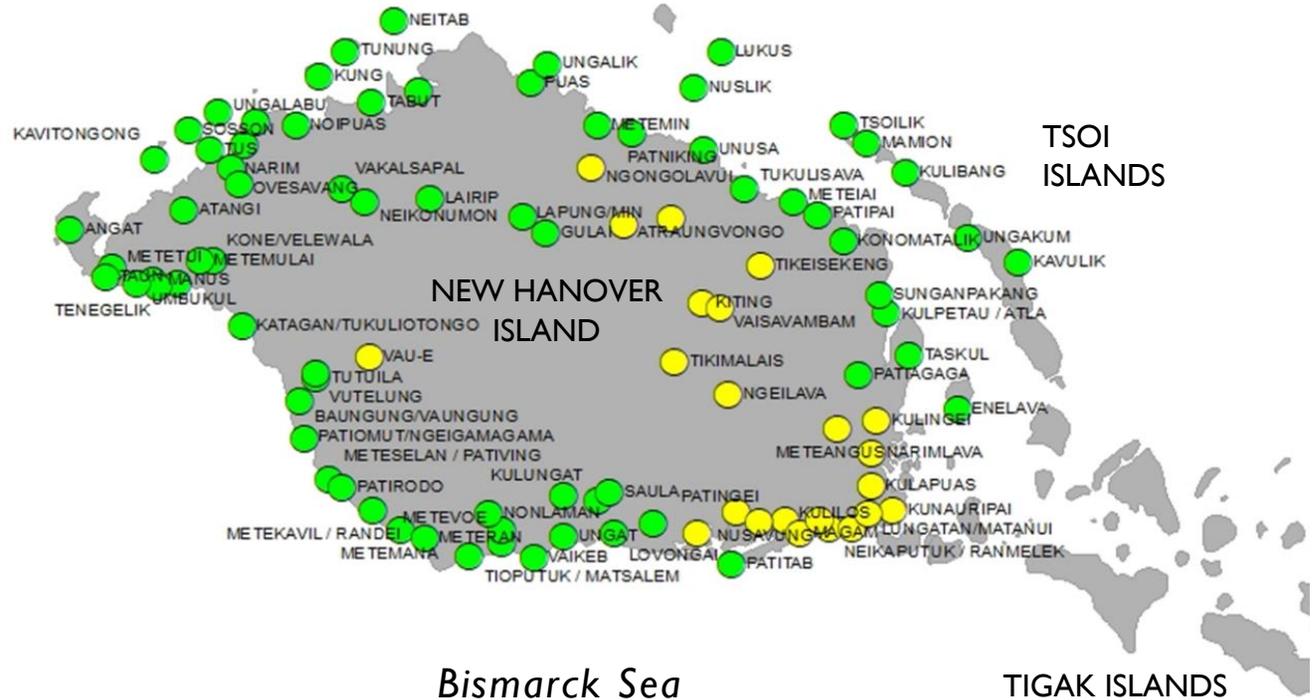
Jurisdictional boundaries

- Provincial boundary
- - - - - District boundary
- Local Level Government boundary



COMMUNITIES CONSULTED IN LOVONGAI LOCAL LEVEL GOVERNMENT JURISDICTION

SOUTH PACIFIC OCEAN



- Community completed the risk matrix activities
- Community has not completed risk matrix activities

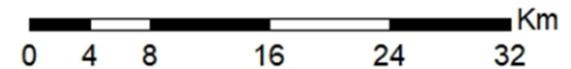
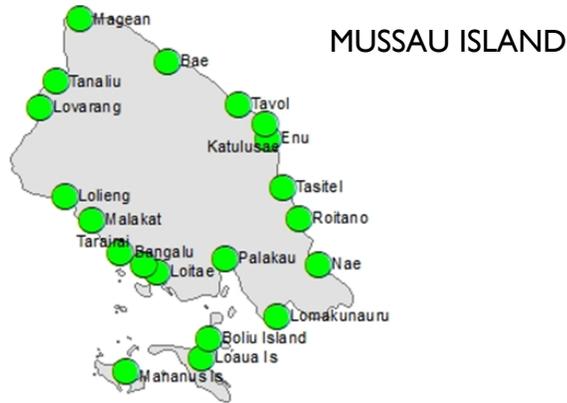
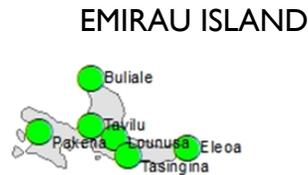
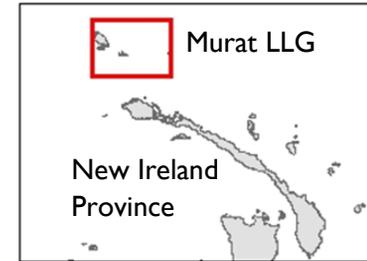


Figure 2: Communities that were consulted during the MPA establishment process in Lovongai Local Level Government jurisdiction. Yellow-shaded communities could not complete the Phase II consultations due to internal disputes in the south-eastern region of Lovongai LLG or because the communities were less accessible in the interior of New Hanover Island.

MURAT LOCAL LEVEL GOVERNMENT JURISDICTION COMMUNITIES



SOUTH PACIFIC OCEAN



TENCH ISLAND



Ysabel Channel

All 26 communities have completed Phase III of the community consultation process for MPA establishment

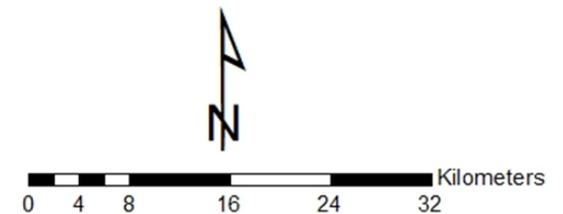


Figure 3: Communities that were consulted during the MPA establishment process in Murat Local Level Government jurisdiction.

COMMUNITY CONSULTATIONS

PHASE I

The aim of the first phase of consultations was to understand clan and community decision-making arrangements and to obtain consensus on the proposed MPA through the free, prior and informed consent (FPIC) process. The specific activities undertaken during the first round of consultations included:

- Identifying the appropriate protocol for community engagement using the FPIC processes
- Developing an integrated process for conducting community outreach by linking science with the traditional knowledge and custom of each community
- Conducting awareness with appropriate materials focused on marine threats and management
- Understanding community-perceived threats to local marine resources in each community
- Using dialogue and participatory tools to understand and identify governance structures and decision-making authorities

Grievance redress mechanisms

A grievance mechanism is a commitment to ethical conduct and provides the correct channel for any community resident within Lovongai and Murat LLGs to report complaints, concerns or issues associated with the marine management work. During the Phase I consultations, a total of 87 channels for potential grievance reporting were implemented in Lovongai LLG; 26 channels were implemented in Murat LLG. To date, in Lovongai LLG, only Mamion community expressed concern due to internal disputes (related to community land issues and customary marine boundaries); despite this, both the Phase I and Phase II consultations were completed in Mamion community.* In Murat LLG, two letters of concern were received from two residents in Lolieng community regarding work carried out by a local community-based organisation; in both letters, no reference was made to the MPA work in the region.†

Free, prior and informed consent process outcomes

In total 2,596 community members were directly engaged during the Phase I consultations, of which 1,139 were female and 1,457 were male. A number of concerns arose during the consultations, many of which were due to misunderstandings about the work carried out by WCS and the key objectives of the proposed spatial marine management area. For example, some residents assumed that WCS visited the communities to set up no-take zones or permanently closed areas. This misconception triggered an adverse response from some community residents. In view of this, no-take zone were not established within the MPA. Furthermore, due to the recent election of new community leaders – coupled with the frequent changes of community leaders and the restructuring of their roles – many communities in Murat

* On the request of some community members, the Phase III community consultations did not take place in Mamion community in Lovongai LLG due to internal disputes.

† The two letters from Murat LLG requested that the work of the Lolieng Sustainable Programme (a local community-based organisation) should cease in Lolieng village. The complainants stated that they want to have some 'share' in the project due to land tenure issues. This is a land issue for Lolieng community and adjacent community members.

LLG had not properly set up their community structure that would enable incoming organisations to carry out their work. As such, some residents did not feel confident to attend meetings and ask questions during discussions. Such concerns often persisted until community residents began attending subsequent community consultations facilitated by WCS, which helped residents to better understand the information provided and the role of WCS in facilitating the MPA establishment process.

A lesson learnt from the Lovongai LLG consultations – as with many other parts of New Ireland Province – was that there is a strong culture based on story-telling, and there are no long-term written records of important historical events that occurred in each community, or of local genealogies. Therefore, recognition of consent from the communities should indicate how receptive each community is to WCS' work, including whether the community agrees with WCS being in their community and facilitating the MPA establishment process, and whether they understand the benefits of an MPA. From this consultation, consent was given through comments at the end of each meeting either by a community leader or by a recognised and respected member of the community; such consent was supported by the community.

An example of a positive response from a local community member during the Phase I community consultations was at Meteran community in Lovongai LLG, where Robin Kamkam verbally announced that *“Lovongai LLG should have a law”*, and that *“although a large majority of Lovongai [LLG] people do not know about this [law], it was good that plans are in place to progress the amendment of the law and to talk about it so that the people know [about it].”* The communities that were consulted expressed interest in marine management, and thus requested technical assistance from WCS. Many communities also requested further education and awareness programmes for local schools, while some inland communities – that are known for frequenting the sea for protein – were also interested. These communities appreciated WCS's approach to the consultations, and the use of FPIC, primarily because they have never heard of this process before. They welcomed the initiative of allowing them to decide how they should manage their marine and coastal resources. Furthermore, many residents now understand the link between local traditions and customs and marine resource management.

Through the FPIC process, all the consulted residents in the visited communities in Murat LLG opted for and gave their consent to implementing community-focused MPAs following the interactive sessions on marine resource management. Likewise, communities in Lovongai LLG, during the Phase I consultations, gave their consent and opted for MPAs as the best tool to manage their marine resources; the only exception in Lovongai LLG was the Enelava site in Ward 1, which is a vocational school and hence has no land ownership in the region.

Community traditional structure and custom decision-making rights

From October 2019 to January 2020, Ailan Awareness Inc. (a local non-governmental organisation [NGO] that specialises in reviving traditional marine management methods at the community level) and WCS visited the coastal communities of Lovongai LLG. For the sites that were visited, the aim was to connect science with custom and traditional marine management.* Information on clan structure was collected

* For more information on the outcomes of this activity, please refer to the following report: John Aini, Ailan Awareness Inc. 2020. Summary of the consultation meetings for the proposed Lovongai Island Marine Protected Area.

(Table 2), including the identification of major and minor clans*, as well as the connectedness between traditional culture and attitudes toward the natural environment.

In total, 63 communities were consulted. According to the outcomes, it was recognised that there are twelve clans across Lovongai LLG. The major clan is the *Kikiu* clan (named after the kingfisher bird), which was represented in 47 of the visited communities in Lovongai LLG. This was followed by the *Manilava* clan (named after the eagle), with representatives in 42 of the visited clans, then the *Kol* (37; also known as *Nguma*, named after the crow), *Silau* (35; bird type unknown) and the *Ianga* (green parrot) and *Vengevenge* (hornbill) clans, which both had 31 occurrences. The other clans were present in smaller proportions, including the *Gila*, *Sui*, *Tien*, *Valus*, *Kanai* and *Uk* clans. For each clan, their representative presence in different villages may vary depending on their origin, cultural ties, how they migrated to Lovongai LLG, and intermarriages. Table 2 presents a summary of the major clans that were documented in Lovongai LLG during the community visits for comparative purposes. Ailan Awareness Inc. (2020) continued by stating the *“Lovongai people claim ownership of terrestrial and aquatic (marine, coastal, brackish and freshwater) spaces. These spaces are owned by clans through a matrilineal arrangement. The family line then designates portions of land within clan boundaries. We draw the general assumption from this scenario that communities claim ownership of their reef areas and coastal waters and will be the main institution involved in any decision making activities.”*

According to the feedback from this activity, of the 16 wards that were consulted, 13 listed *clan* as an institution, which comprised 63 of communities visited (51%). According to Ailan Awareness Inc. (2020):

“The institutional profiles indicated that church and village planning committees were nominated above clans in terms of being recognised as institutions. Across all villages, clan representation was only 12.9%, after village planning committees (VPC), 18.7%, and the church [groups], 21.6%. After clans, youths (10.4%), village courts (7.5%) and schools (4.6%) were considered other forms of community institution. We argue that this representation is biased and cannot be used during the consultations and decision-making processes during the establishment of the MPA, with the exception of clans. The churches, VPCs, youth, village courts and schools do not have the power and mandate to make decisions in this regard.”

Ailan Awareness Inc. (2020) identified a loss in traditional marine management practices in northern and western Lovongai LLG; however, south Lovongai LLG retained some traditional practices and cultural values that can assist with marine management. There were alternative local names for management, conservation, no-take zones and fisheries management practices, which the authors believe are *“tools [that can] connect science with our traditional ways.”* They continued by stating that *“In Lovongai Island, traditional resource management is in the form of Vala,[†] a branch from a certain tree species that was powered by the calling of our ancestral spirits.”* Ailan Awareness Inc. believes that through *Vala*, current

* Major clans hold or own land and have a family tree that predates legitimate oral history. Major clans may not necessarily have a big population in a village. Minor clans are those that are married into other communities, work in those communities, temporarily reside or internally migrate into those communities, or have decided to live there under some form of arrangement with people in those communities or through custom.

[†] *Vala* is a Y-shaped branch taken from the red cordyline plant (Family Asparagaceae), which is known locally as *tanget*, and decorated with valuable shell money, known as *mias*. *Vala* is positioned in a specific location which is to be set aside as a management area, or *tambu*. The calling of an ancestral spirit over the *tanget* provides more power, ensuring obedience throughout all clans. This is known as the *Vala* system.

PROJECT IN PICTURES

Yvonne Wong and July Kuri conducting the free, prior and informed consent process and awareness, 2019



Residents in Lovongai LLG arranging their stakeholders on a Venn diagram, 2020

July Kuri providing marine awareness in Lomaku village, Murat LLG, in 2019



A card-based fisheries management awareness activity, Lovongai LLG, 2020



Community marine threat analysis and resource mapping activity taking place in Lovongai LLG in 2020



Villagers in Loaua Island, Murat LLG, working on their Venn diagram, 2019

Example of a Venn diagram that was drawn by male residents in Lovongai LLG in 2020



Residents working on the Venn diagram exercise in Lovongai LLG, 2019

Tracey Boslogo conducting marine awareness, education and outreach in Lovongai LLG, 2020



PHASE I CONSULTATIONS

Table 2: A summary of the major clans that were identified in Lovongai Local Level Government (LLG) jurisdiction, New Ireland Province, and their distribution in each of the 19 wards. The major clans were identified in late-2019 through community consultations conducted by Ailan Awareness Inc.,* a local non-government organisation that advocates reviving traditional methods for managing marine and coastal resources. Ward 1 comprises Taskul, the main town in Lovongai LLG, rather than villages, and thus was not included in the table. A major clan holds or owns land and has a family tree that predates legitimate oral history.

MAJOR CLANS	REGION AND WARD OR CONSTITUENCY																				TOTAL CLANS
	NORTH LOVONGAI LLG					WEST LOVONGAI LLG						SOUTH LOVONGAI LLG									
	2	3	6	7	Total	8	9	10	11	12	13	Total	14	15	16	17	18	19	Total		
Gila	-	-	-	-	-	-	-	-	1	2	3	6	1	-	-	-	1	-	2	8	
Ianga	3	3	1	5	12	-	-	-	-	7	1	8	3	1	1	2	3	1	11	31	
Kanai	2	3	-	2	7	-	-	-	-	-	1	1	-	3	-	1	2	1	7	15	
Kikiu	3	1	3	6	13	1	2	1	1	7	3	15	4	4	4	3	3	1	19	47	
Kol	3	3	3	5	14	1	3	-	-	-	1	5	4	5	5	2	1	1	18	37	
Manilava	3	2	3	4	12	1	1	2	-	6	3	13	3	5	3	2	3	1	17	42	
Silau	2	2	1	4	9	-	2	1	-	1	5	9	4	4	4	2	2	1	17	35	
Sui	2	1	1	4	8	-	2	-	-	-	4	6	3	4	3	3	2	1	16	30	
Tien	3	1	3	4	11	1	1	1	-	-	-	4	2	2	1	3	3	1	12	27	
Valus	1	1	1	2	5	-	-	-	-	-	3	3	3	5	5	1	3	1	18	26	
Vengevenge	2	3	2	1	8	2	-	2	-	-	4	8	3	4	2	2	3	1	15	31	
Ukt†	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

* For more information on the outcomes of this activity, please refer to the following report: Ailan Awareness Inc. 2020. Summary of consultation meetings for the proposed Lovongai Island Marine Protected Area.

† According to community feedback, the *Uk* clan may soon go extinct.

marine management committees represent the leadership of deceased ancestors. The report stated that *“In doing so the living relatives confirm their commitment to respect and showcase their support... in ensuring the reef area covered under the Vala was their responsibility... and thus is a form of a management committee.”*

Governance and decision-making

To determine the local governance structure of each community, and also the relationships between key stakeholders and partners at the community level, each community drew a Venn diagram. Comprising interlocking circles, a Venn diagram provides an opportunity for community residents to locate stakeholders and partners associated with marine management – including clans, village leaders and elders, ward councillors, women and youth groups, the local and provincial governments, village courts, peace officers, Provincial Fisheries Officers (PFOs), NGOs and other partners or existing groups that are present in the community – according to how important or valued they are to the community. When drawing the Venn diagram, the interlocking circles are specifically arranged so that their locations and sizes provide the following information:

- If a circle overlaps with another circle, the groups that are represented work together; however, if the circles are set apart and do not overlap, then the particular organisation or group that is represented does not typically work with the other stakeholders or partners
- The larger the circle, the more important a certain stakeholder is; smaller circles signify less important partners, which may have less power in terms of decision making

The circles can then be placed within larger circles drawn on butcher’s paper, or placed outside the larger circles, with the largest circle indicating the community. The outcomes from this activity helped to determine the local governance structure of each community and how local decisions – and especially those related to marine management – are made.

During the Venn diagram activity in Murat LLG, many of the residents indicated that the Church was one of the more influential bodies within their respective communities. In addition, women’s groups were also listed as active in making decisions and were involved with many community activities, including those associated with hospitality. For Lovongai LLG, based on the outcomes from the Venn diagram exercise, the clans were identified as one of the most influential groups, especially when discussing matters related to natural resource management. Organised church groups were also identified as important institutions at the community level, with church groups supporting community leaders and events.

Education and awareness programme

An education and awareness programme formed part of the Phase I consultations, which focused on the biology and ecology of marine life, the threats to marine resources, and different marine management tools that can be used to manage marine resources. A total of six education and awareness activities and tools were used to disseminate messages associated with marine management, which included:

- (i) Training modules and presentations on marine resource management, which were devised in Fiji and adapted for PNG;
- (ii) Large, coloured flipcharts featuring the ecology of marine resources and the threats they face;

- (iii) Rotational stations of interactive and kinaesthetic card activities based on fisheries resource management topics;
- (iv) Children’s activities conducted on the beach that focus on marine food webs and the life-cycles or marine fish;
- (v) Role play activities based on a hypothetical marine space, and with participants taking on the roles of marine managers;
- (vi) Games on marine life, and informative handouts and posters.

Ailan Awareness Inc. also provided an education and awareness programme that focused on the loss of culture and customs that once contributed to local-level environment and resource management around Lovongai Island.

According to the community feedback, most people in Murat LLG were happy with the education and awareness programme and requested for further awareness to be carried out, especially focused on marine ecology. One community member stated:

“The Seventh Day Adventist Church (SDA) teaches us about stewardship, but we do not know the practical part of it. You have now equipped us with the tools [information] that we will now allow us to be real stewards of our natural resources.”

In Lovongai LLG, all community responses were positive. For example, in Meteai community in Ward 3 of Lovongai LLG, James Vingil stated:

“Our marine resources are important and we need to take ownership of them. People living near the coast have already been exposed to logging, I can really see the difference and the impact[s] of not being careful and responsible. After the MPA Phase II consultations, I decided to get my family to work with me to agree on closing our front reef. We did that and it took us just a couple of months to see that fish are coming back.”

In addition, other communities that were visited in Lovongai LLG requested copies of the education and awareness materials that were used in order to support further marine management initiatives in the region.

Community perceived threats

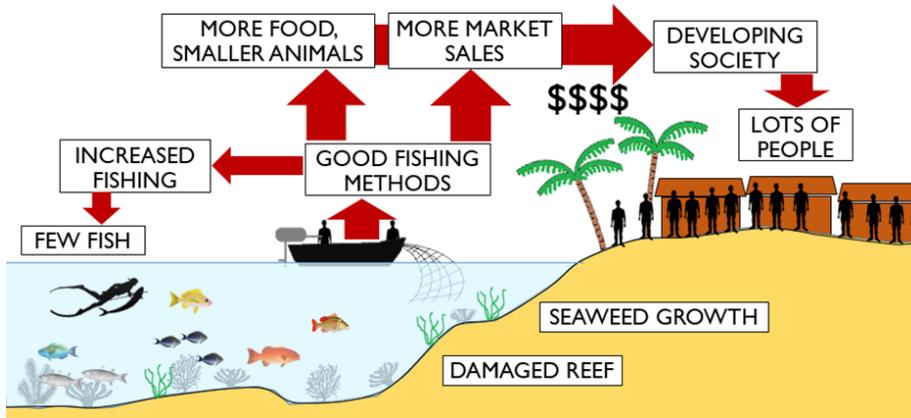
To assist the communities in managing their marine and coastal resources, residents were asked to discuss and list what they believe are the key threats to the local marine resources and habitats. During the Phase I consultations, each community was divided into male, female and youth groups to encourage gender and generational inclusion. Each group was then asked to decide on what they perceived to be the threats to their particular marine resources and list them. The threats that were identified during the initial community consultations, which took place in 2017 and 2018 in Lovongai and Tikana LLGs, were also assessed.* The threats that were identified from all the communities that took part in the community consultations in Lovongai and Murat LLGs have been listed in Table 3. The threats were also mapped using colour-coded keys on butchers’ paper.

* The threat analysis in Murat LLG took place during the Phase I consultations.

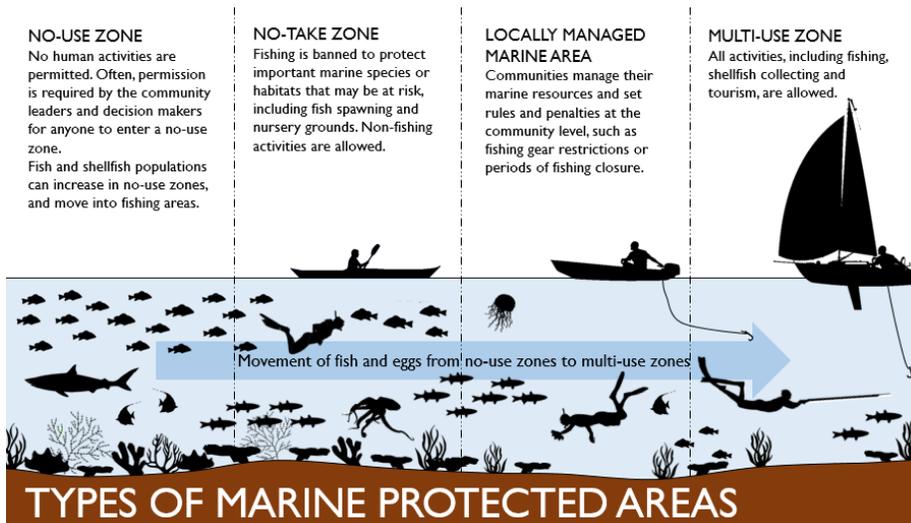
EDUCATION AND AWARENESS

2020s

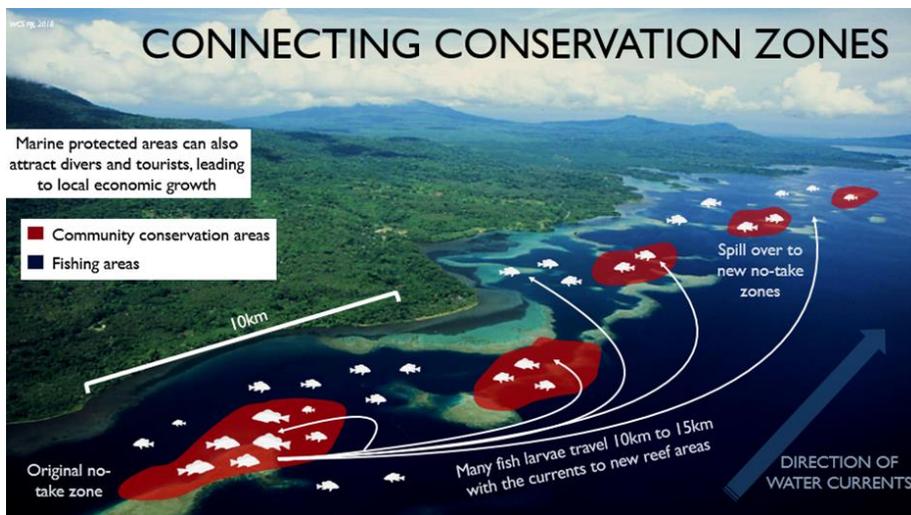
Today we have better ways of catching fish for feeding larger populations, resulting in more pressure on our marine resources



One of a sequence of awareness slides, depicting how human population growth from the 1950s through to the 1980s and 2020s has impacted coastal and marine resources, and how this trend could lead to declining fish stocks in the future if appropriate fisheries management measures are not taken. This slide represents the current threats to marine resources.



A visual representation of the types of spatial marine management areas that can be employed in order to manage marine and coastal resources, and how different levels of spatial marine management can be implemented. When various management initiatives are adjoined, fisheries resources can spill over from the more heavily protected areas to the more open areas.



A schematic diagram of how spatial marine management initiatives can be connected. Research conducted in Manus Province, Papua New Guinea, in the 2010s indicated that juvenile fish typically remain within 10 to 15 kilometres of their spawning sites. If marine management areas are within 10 kilometres of one another they can help replenish local fish stocks.

Table 3: The combined community-perceived threats that were identified by the residents in Lovongai and Murat Local Level Government jurisdictions, respectfully, during the Phase I community consultations that took place from 2019 to 2020.

COMMUNITY-PERCEIVED THREATS: LOVONGAI LLG	COMMUNITY-PERCEIVED THREATS: MURAT LLG
<ul style="list-style-type: none"> • Community overfishing (and population increase) • Commercial overfishing • Destructive fishing (derris root, dynamite and small-meshed gillnets) • Pollution, plastics and non-biodegradable waste • Agriculture and agricultural runoff • Logging and logging runoff (sedimentation) • Coral reef and sea grass bed destruction • Mangrove destruction • Tourism • Overharvesting of sea cucumbers, including juveniles (when the moratorium is lifted) • Overharvesting of sharks and rays (focused on sawfish, wedgfish and guitarfish) • Overharvesting of turtles, dugongs and other marine mammals • Coastal and inshore developments (such as mining) • Kova (shell money) depletion • Kina shell depletion • Mud crab depletion • Overharvesting of sago palms 	<ul style="list-style-type: none"> • Community overfishing (and population increase) • Commercial and industrial overfishing • Destructive fishing (derris root, dynamite and small-meshed gillnets) • Pollution, plastics and non-biodegradable waste • Agriculture and agricultural runoff • Logging and logging runoff (sedimentation) • Coral reef and sea grass bed destruction • Mangrove destruction • Tourism (and yachting) • Overharvesting of sea cucumbers, including juveniles (when the moratorium is lifted) • Harvesting of sharks and rays • Harvesting of sawfish, wedgfish and guitarfish • Harvesting of turtles • Harvesting of dugongs and other marine mammals • Coastal and inshore developments (such as mining) • Crocodile attacks • Unexploded World War II bombs

Collected during from late-2018 to mid-2019, the community threats listed in Table 3 were pooled from 87 communities in Lovongai LLG and 26 communities in Murat LLG. All the community-perceived threats in each LLG were subsequently inserted into a risk matrix in order to assist community residents in selecting appropriate MPA management rules and regulations for the customary waters.

According to feedback from Murat LLG, many community residents and elders stated that they embraced the process of identifying the community-perceived threats to marine resources. A resident from Murat LLG said that *“This is a way forward for the community and [for] the [whole of Murat] LLG”*. In Lovongai LLG, the community responses were also positive; indeed, the residents in several communities located along the southern shoreline of Lovongai LLG were willing to take the lead in managing their marine and coastal resources, which included the establishment local marine management initiatives through custom.

PHASE II

From early 2020 to mid-2021, Phase II of the MPA community consultations took place in 78 communities in Lovongai LLG and 26 communities in Murat LLG. The main aim of the Phase II consultations was to determine which community perceived threats were considered to be the most critical to the residents across each respective LLG, which occurred through the risk matrix activity. In addition, the boundaries of each MPA were determined through the mapping of the customary tenure limits of each coastal community. An interactive education and awareness programme also took place during the Phase II consultations.

At the onset of each Phase II consultation, the WCS team reintroduced the project work as a refresher, mindful that there may be community residents present that were absent during the Phase I consultations. This was followed by a review of the FPIC process and an update of the Phase I consultation outcomes. The Phase II community consultations did not take place in the coastal communities of wards 17, 18 and 19 of Lovongai LLG, where internal disputes have been occurring for the past decade.* Rather, leaders and community elders from the communities that could not be consulted were invited to Kavieng Township in order to complete the Phase II consultations on behalf of their communities. Further feedback was also obtained from the residents of wards 17, 18 and 19 to reinforce the views obtained from the community leaders.

Education and awareness programme

During the Phase II community consultations, a number of outreach, education and awareness activities took place using the following tools:

- Interactive activity station that focuses on the sizes at which target fish species become mature, and their home ranges
- Interactive activity station based on fish life-cycle phases and their habitat associations
- Interactive activity station that focuses on whether marine biological resources are considered vulnerable or valuable by local residents
- Top Trump playing cards game, which introduce some of the marine and coastal biodiversity of PNG
- Outdoor and interactive activities based on marine management approaches
- Threatened species and critically endangered sawfish and rhino ray card activity, which also introduces the International Union for the Conservation of Nature (IUCN) Red List categories
- Videos on sustainable fisheries and marine management approaches

During the interactive activity station exercises, community participants moved from one activity station to the next, spending approximately ten minutes at each station. The aim was for the participants to gain further information about the complexities of marine systems and the challenges of marine management – messages that could be taken back to the rest of the community.

The Top Trumps card game provided an opportunity for the community residents to learn about local marine life, while also providing a form of entertainment.

* The troubles in wards 17, 18 and 19 affected many communities, causing women and children to evacuate villages and move to other parts of Lovongai LLG and neighbouring island communities.

Risk matrix activity

During the Phase II community consultations, a risk matrix, based on the community-perceived threats to local marine resources, was presented to the communities. The community participants were divided into male, female and youth groups, and each group then listed what they considered to be the perceived magnitude and frequency ratings for each threat, which are outlined in the risk matrix. An example of the risk matrix for Lovongai LLG has been provided in Figure 4. The magnitude ratings for each threat were then averaged for the combined male, female and youth outcomes; the same process occurred for the frequency outcomes. The average magnitude and frequency scores were then used to determine risk impact ratings for each threat (Figure 5). The risk impact ratings from all the communities were then pooled for each LLG. Figure 6 presents the combined risk impact rating outcomes for Lovongai LLG and Figure 7 presents the combined risk impact ratings for Murat LLG. The threats that received the highest risk impact rating scores formed the basis of the rules for each MPA, which were determined by the combined community input for each LLG.

During the Phase II consultations, the community residents – in male, female and youth groups – also suggested MPA rules and management options for the threats that received the highest impact ratings. In addition, proposed penalties for non-compliance were also listed. (During the Phase III community consultations, the combined MPA threat outcomes, as well as the suggested rules and penalties, were presented back to the communities for consensus-building).

It was during the threat mapping session that almost all communities could understand the benefits of spatial marine management. Many residents stated that they did not know much about anthropogenic impacts to the marine environment and voiced their concerns and hopes. For example, villagers from Tingwon (an island community in Lovongai LLG), as well as fishers from the south-western coast of Lovongai LLG and the far west of Murat LLG, including Tench Island, expressed their hopes that the MPA would restrict commercial fishing vessels from fishing in their inshore waters. Other coastal communities in Lovongai LLG, such as Metevoe and Vaikeb, as well as several inland communities, also realised the need to start managing their marine resources. As such, with support and encouragement from local community leaders, *tambu* areas were established in both village, which were tied to the traditional *Vala* system. Moreover, Metevoe community established a no-take zone in their coastal waters to help the community to manage their coral reefs; the no-take zone will be in place for two years.

For the Lovongai LLG MPA, the five highest-scoring risk matrix outcomes were:

- i) Destructive fishing methods (such as dynamite, derris root and small-meshed gillnet usage)
- ii) Community overfishing (due to human population increase and better fishing methods)
- iii) Pollution and locally-discarded plastics wastes
- iv) Overharvesting of sea cucumbers when the national sea cucumber moratorium is lifted
- v) Commercial and industrial overfishing

Since 2019, an awareness programme focused on the decline of sawfish and rhino rays was conducted in Lovongai LLG; during the Phase II consultations, community feedback supported a ban on capturing these species. Residents justified the ban, stating that they do not target the species, and many senior residents reporting a decline in species' numbers during recent decades. Many villagers stated that there was no traditional significance of sawfish or rhino rays, and as such, prohibiting the capture of the species will not impact their lives, livelihoods or customs. Because commercial fishing and sea cucumber harvesting are

RISK MATRIX

RISK MATRIX THREAT MAGNITUDE AND FREQUENCY RATINGS

Figure 4: The Lovongai MPA management rules were determined through community consultations in Lovongai LLG. Once the community-perceived threats to marine resources were obtained, residents in each community were divided into male, female and youth groups. The groups selected magnitude and frequency scores (see tables below) for each threat. The outcomes were then averaged for each community to determine risk impact ratings, listed on page 22.

THREAT MAGNITUDE TABLE					
THREAT TO LIVELIHOODS AND RESOURCES	(5) MAJOR RISK	(4) LARGE RISK	(3) MODERATE RISK	(2) LOW RISK	(1) VERY LOW RISK
Community overfishing	All fisheries are exploited and fish stocks are in major decline	Most fisheries are exploited and many fish stocks are in decline	Some key fish stocks are exploited and are showing signs of decline	There are signs of fish stock declines, but fishing is not seriously impacted	Fish stocks appear stable and there are no noticeable fish stock declines
Destructive fishing (such as derris root or dynamite fishing)	Destructive fishing methods have resulted in large-scale marine environmental damage	Destructive fishing methods have damaged many reef systems and other marine habitats	Destructive fishing methods have damaged some reef systems and other marine habitats	Destructive fishing methods have had limited impacts on the marine environment	There are no destructive fishing methods used
Locally discarded pollution, plastic and other non-biodegradable waste	Pollution and non-biodegradable waste exists over all beaches, shorelines and reefs	Many beaches and reefs are polluted and covered in non-biodegradable waste	Some beaches and reefs are polluted and covered in non-biodegradable waste	A few beaches and reefs are polluted and covered in non-biodegradable waste	There are no signs of pollution or non-biodegradable waste in the environment

THREAT FREQUENCY TABLE					
THREAT OCCURRENCE AND RISK	(5) REGULAR	(4) PROBABLE	(3) POSSIBLE	(2) UNLIKELY	(1) HIGHLY UNLIKELY
RISK OCCURRENCE	10 times a year	Once a year	1 in 100 chance	1 in 1,000 chance	1 in 10,000 chance
Community overfishing	Could happen regularly	Could happen often	Could sometimes happen	Unlikely to happen	Expected never to happen
Destructive fishing (such as derris root or dynamite fishing)	Could happen regularly	Could happen often	Could sometimes happen	Unlikely to happen	Expected never to happen
Locally discarded pollution and non-biodegradable waste	Could happen regularly	Could happen often	Could sometimes happen	Unlikely to happen	Expected never to happen

RISK MATRIX

RISK IMPACT RATINGS

Figure 5: Following on from page 21, the averaged magnitude and frequency scores for each threat were then assigned risk impact rating scores (see table on the right). A key to each risk impact rating score has been provided below. The risk impact rating scores for each threat were then combined for the whole of Lovongai LLG. The same process also took place to determine the MPA rules in Murat LLG.

RISK MATRIX		THREAT MAGNITUDE SCORES				
THREAT FREQUENCY SCORES		1	2	3	4	5
	1	MEDIUM IMPACT (4)	HIGH MEDIUM IMPACT (5)	HIGH IMPACT (6)	VERY HIGH IMPACT (7)	VERY HIGH IMPACT (7)
	2	LOW MEDIUM IMPACT (3)	MEDIUM IMPACT (4)	HIGH MEDIUM IMPACT (5)	HIGH IMPACT (6)	VERY HIGH IMPACT (7)
	3	LOW IMPACT (2)	LOW MEDIUM IMPACT (3)	MEDIUM IMPACT (4)	HIGH MEDIUM IMPACT (5)	HIGH IMPACT (6)
	4	VERY LOW IMPACT (1)	LOW IMPACT (2)	LOW MEDIUM IMPACT (3)	MEDIUM IMPACT (4)	MEDIUM HIGH IMPACT (35)
	5	VERY LOW IMPACT (1)	VERY LOW IMPACT (1)	LOW IMPACT (2)	LOW MEDIUM IMPACT (3)	MEDIUM IMPACT (4)

KEY TO RISK IMPACT RATINGS

VERY LOW IMPACT	LOW IMPACT	LOW MEDIUM IMPACT	MEDIUM IMPACT	HIGH MEDIUM IMPACT	HIGH IMPACT	VERY HIGH IMPACT
1	2	3	4	5	6	7
The threat has no detectable changes to the marine environment or local communities	The threat has led to detectable negative changes to the marine environment or communities, but such changes are not significant	The threat has led to detectable changes to the marine environment or communities, which may be significant	The threat has led to detectable negative changes to the marine environment or communities, which are likely to be significant	The threat has led to negative changes to the marine environment or local communities	The threat has led to significant negative changes to the marine environment or local communities	The threat has led to highly significant negative changes to the marine environment or local communities

LOVONGAI LOCAL LEVEL GOVERNMENT

RISK MATRIX

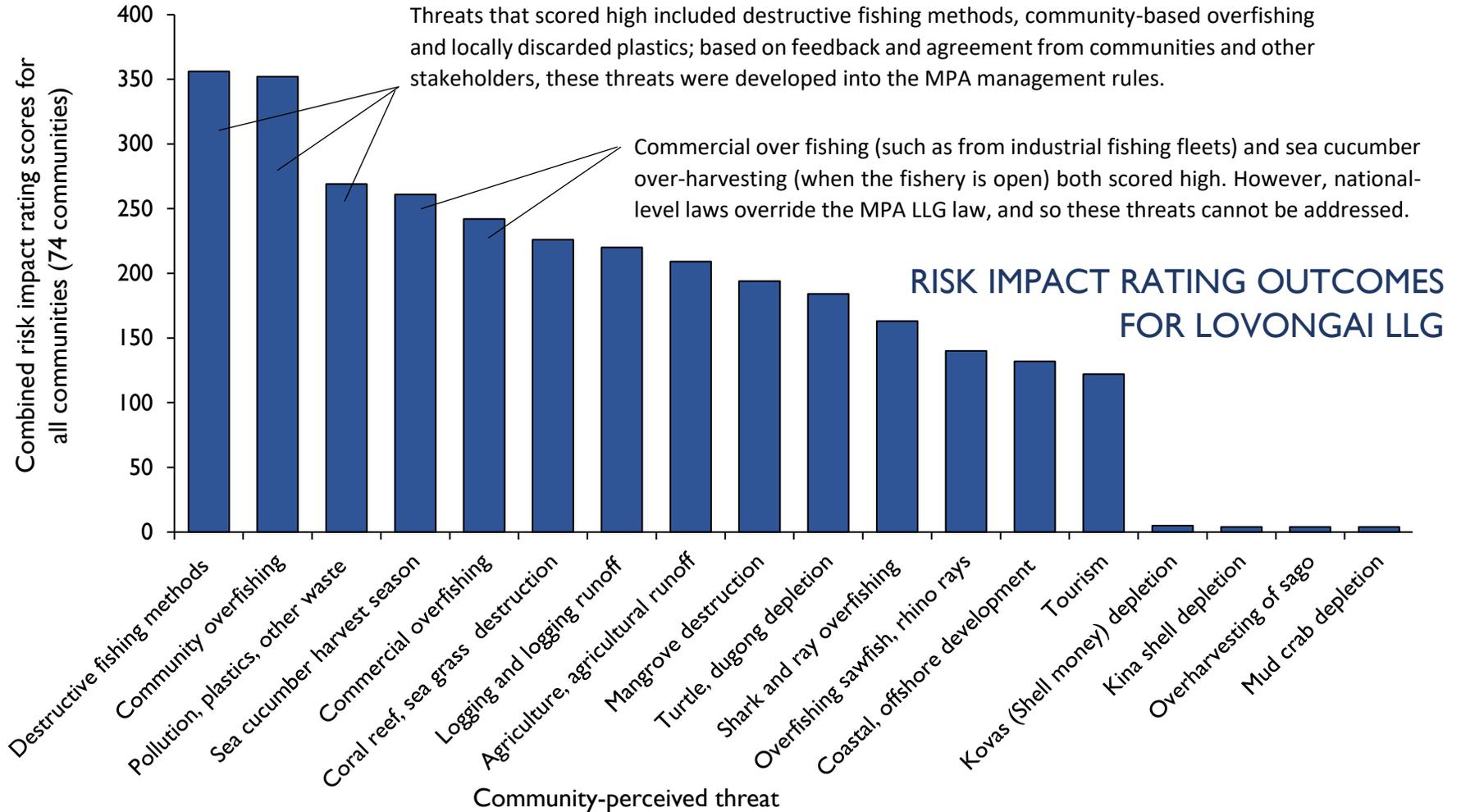


Figure 6: Continuing from page 22, the risk impact ratings for each threat from each community were combined. The results are presented in the graph above. Threats that scored high during the community risk matrix assessment, notably (i) destructive fishing methods, (ii) community overfishing, and (iii) pollution and locally-discarded plastics waste, formed the basis of the MPA rules. Since 2019, an awareness programme focused on the decline of threatened sawfish and rhino rays was conducted in Lovongai LLG; during the Phase III consultations, community feedback supported a ban on capture these species. Because commercial fishing and sea cucumber harvesting are regulated under national-level statutes, regulating these activities is above the jurisdiction of the Lovongai LLG law.

RISK MATRIX

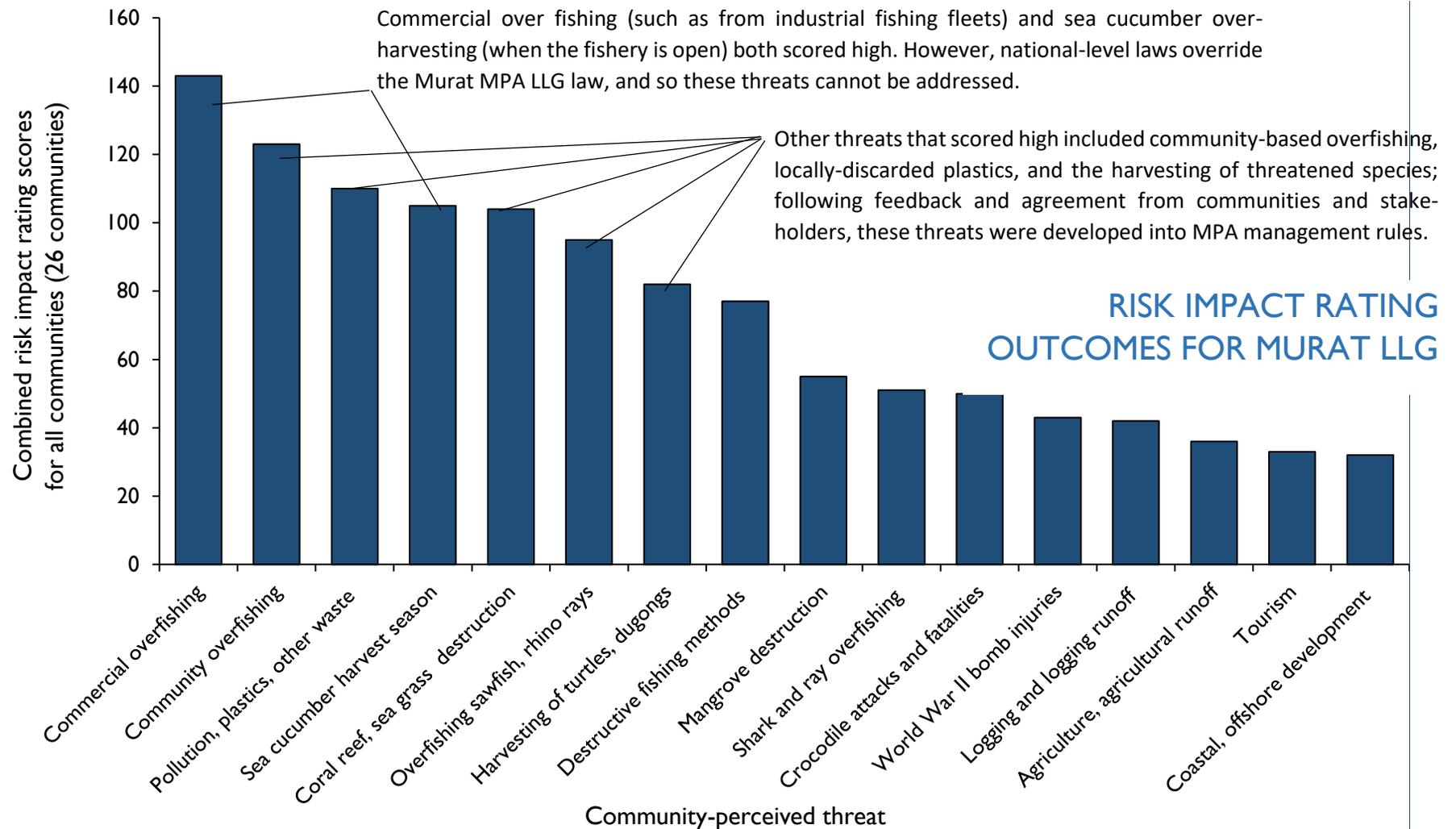


Figure 7: The combined risk impact rating outcomes for Murat LLG. Because commercial fishing and sea cucumber harvesting are regulated under national-level statutes, regulating these activities is above the jurisdiction of the Murat LLG law. Other threats that scored high during the community risk matrix assessment, notably (i) community overfishing, (ii) the local disposal of pollution and plastics waste, (iii) coral reef destruction, and (iv) over-harvesting of sawfish, rhino rays, turtles and dugongs, will form the basis for the MPA management rules. Thus, the communities of Murat LLG collectively devised the MPA management rules through the risk matrix process.

MURAT LOCAL LEVEL GOVERNMENT

regulated under national-level statutes, regulating these activities is above the jurisdiction of the Lovongai LLG law.

The selected rules and penalties were reviewed by the LLG leaders, the Marine Environment Management and Conservation Committee (MEMCC)* and the New Ireland Technical Working Group before being presented back to the communities for consensus. The rules were agreed upon in early 2022, and were then listed in LLG laws for each respective MPA. Thus, the communities of Lovongai LLG collectively devised the MPA management rules through the risk matrix process, which were developed according to the management rule and penalty outcomes suggested by the residents of Lovongai LLG during the Phase II community consultations.

For the Murat MPA, the five highest-scoring risk matrix outcomes, were:

- i) Commercial and industrial overfishing
- ii) Community overfishing (due to human population increase)
- iii) Release of pollution, plastics and non-biodegradable waste onto the beach and into the sea
- iv) Overharvesting of sea cucumbers when the national sea cucumber moratorium is lifted
- v) Coral reef and sea grass destruction

Because commercial fishing and sea cucumber harvesting are regulated under national-level statutes, regulating these activities is above the jurisdiction of the Murat LLG law. The communities of Murat LLG practice the Seventh-Day Adventist (SDA) denomination of Protestant Christianity, which forbids the consumption of certain foodstuffs, including sharks, rays, turtles, marine mammals and invertebrates. Many residents in Murat LLG expressed concern about the increased harvesting of sharks, rays, turtles and marine mammals in the region and requested for rules prohibiting the capture of these animals. One exception was Tench Island, an isolated sea mount comprising Ward 6 of Murat LLG, which has a population of less than 100 people. The residents of Tench Island have limited ways for making money and for paying school fees. Shark finning is one option, and so the Tench residents asked if they could catch sharks from October to December each year to pay annual school fees. As such, the Murat MPA has two zones: Zone I, which comprises wards 1 to 5, has a total ban on all shark and ray capture; and Zone II which comprises Ward 6, has a ban on all shark and ray capture from January to September each year. Only in October, November and December can shark fishing take place, although CITES[†] listed sharks (Appendix I) and all rays, including sawfish and rhino rays (Appendix II), cannot be caught in Zone II.

In Murat LLG, the other threats that scored high during the community risk matrix assessment and which were also requested by the local communities were: (i) community overfishing, (ii) control on pollution and plastic waste, (iii) coral reef destruction, and (iv) over-harvesting of sawfish, rhino rays, as well as sharks and other rays, turtles, dugongs and other marine mammals. These outcomes will form the basis for the MPA management rules, which were developed according to the suggested rules and penalties provided by the communities during the Phase II consultations. Thus, the communities of Murat LLG collectively devised the MPA management rules through the risk matrix process. For Murat LLG, the selected rules were reviewed by the LLG leaders and MEMC* in early 2022, and then – with the support of a legal advisor – were incorporated into the draft Murat MPA management plan and LLG law.

* The MEMCC in Lovongai LLG (and MEMC, Marine Environment Management Committee, in Murat LLG) members were appointed by each respective LLG and will oversee the implementation of the MPA management plans.

[†] Convention on International Trade in Endangered Species of Wild Fauna and Flora.

In addition to the suggested rules and regulations, penalties were also provided. Based on the pooled outcomes from each LLG, the suggested penalties for both MPAs were as follows:

Offence	Penalty
First-time offence by person	Community work
Second-time offence by person	Spot fine
Third-time offence by person	Referral to the village courts
Offence by corporations	Referral to the District Court

The MEMCC and LLG will help determine the first- and second-time offences. Third-time offenders and corporations will be directed to the village or district courts, respectfully.

Identification of marine habitats and resources utilised by the community

Part of the Phase II community consultations involved asking the residents in each community to draw a large sketch map of their marine area, which highlighted key marine habitats and resources, and the threats to their marine resources. On each map, the participants in each community distinguished shallow and deep water reefs, sea grass beds, sand flats, mangroves, coastal features, estuaries and deep water pelagic environments. Marine and coastal resources included key fishing areas, fish spawning sites, *tambu* areas, and sites where sharks and rays, whales and dolphins, crocodiles, and marine turtles are often found. Threats to marine resources included community-overfishing, destructive fishing methods (such as dynamite fishing and derris root), using small-meshed gill nets, coastal pollution and non-biodegradable refuse release, agricultural runoff, logging, the collection of corals, and mangrove destruction.

Customary sea space boundaries

The Phase II community consultations provided an indication of what the MPA boundaries may look like, based on the furthest known extent of each coastal community's customary sea tenure. The village elders and leaders in each community, as well as local fishers (from a total of 42 coastal communities in Lovongai LLG, and 26 communities in Murat LLG) travelled perpendicular to the shoreline to where they believed was the outermost limit of their customary marine tenure, at which point a GPS point was taken. The GPS points in each LLG were then graphically displayed on ArcGIS, indicating each community's marine tenure limit from the coast in each LLG (Figure 8).

In Lovongai LLG, the two furthest customary sea tenure points were 18 km and 26 km from the coast, which would result in MPAs that are either 5,142 km² or 7,938 km², respectively. In Murat LLG, the two furthest points from the coast were 20 km and 73 km, which would result in an MPA that is 11,071 km² or 41,329 km². The LLG leaders, MEMCCs and communities provided final consensus on the proposed areas of each MPA, which were subsequently presented to the provincial and national governments and to the New Ireland Province Technical Working Group (TWG). Following the discussions, it was agreed that the outer limit of the Lovongai LLG MPA would be 18 km from the shore, and the outer limit for the Murat LLG MPA would be 20 km from the shoreline. On ArcGIS, straight lines 18 km from the coast were drawn around the landmasses of Lovongai LLG; similarly, straight lines were drawn around the landmasses of Murat LLG that were 20 km from the shore, with all lines within the LLG administrative borders. The resulting area of sea space in each LLG was 5,826 km² for Lovongai LLG and 11,021 km² for Murat LLG.

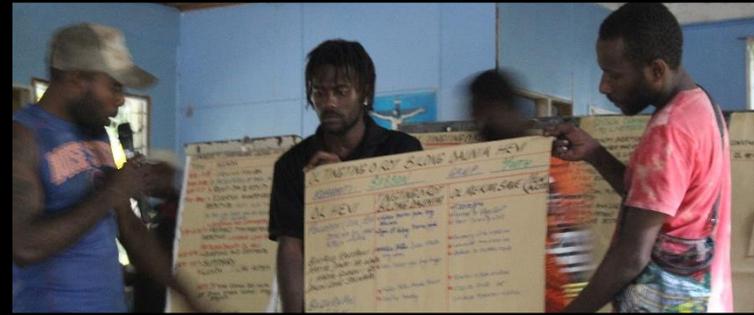
PROJECT IN PICTURES



Sawfish and rhino ray conservation status exercise in Murat LLG, mid-2020

Community risk matrix outcomes, Lovongai LLG, 2021

Set of Threats to Livelihood		Reserve		Table	
Area	Threat	Area	Threat	Area	Threat
4	1	4	3	3	4
2	5	3	3	3	3
4	4	3	3	3	3
2	2	3	3	3	3
3	2	3	3	3	3
4	5	3	3	3	3
2	1	3	3	3	3
3	3	3	3	3	3
3	4	3	3	3	3
3	4	3	3	3	3
2	4	3	3	3	3



Liam Gurumang conducting a risk matrix activity in Lovongai LLG to determine the community-based MPA rules. 2020



Judging threats during the risk matrix activity, Lolieng village, Murat LLG, 2020

Mapping the customary sea space in Ungalabu Harbour, Lovongai LLG, in 2020



Village residents taking part in one of the activity stations in Tavilu village, Murat LLG, in 2020



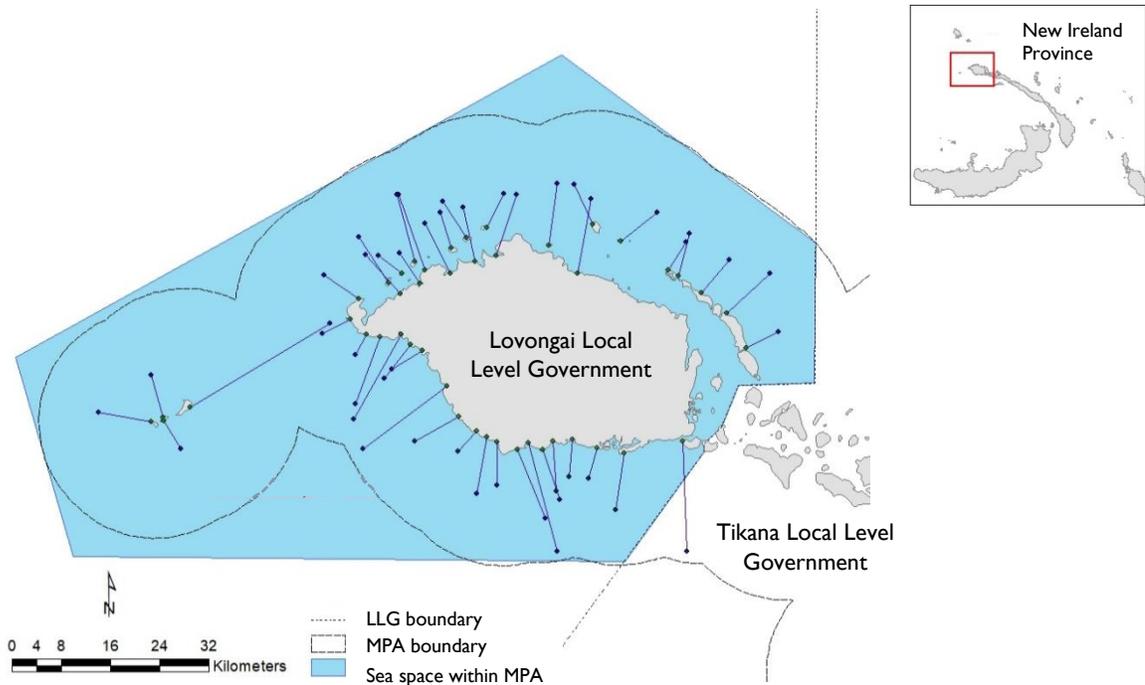
Elizabeth Raimon conducting the risk matrix, Lovongai LLG, 2021



Drawing maps of customary sea tenure in Ungalabu Harbour, western Lovongai LLG, in mid-2020

PHASE II CONSULTATIONS

(A)



(B)

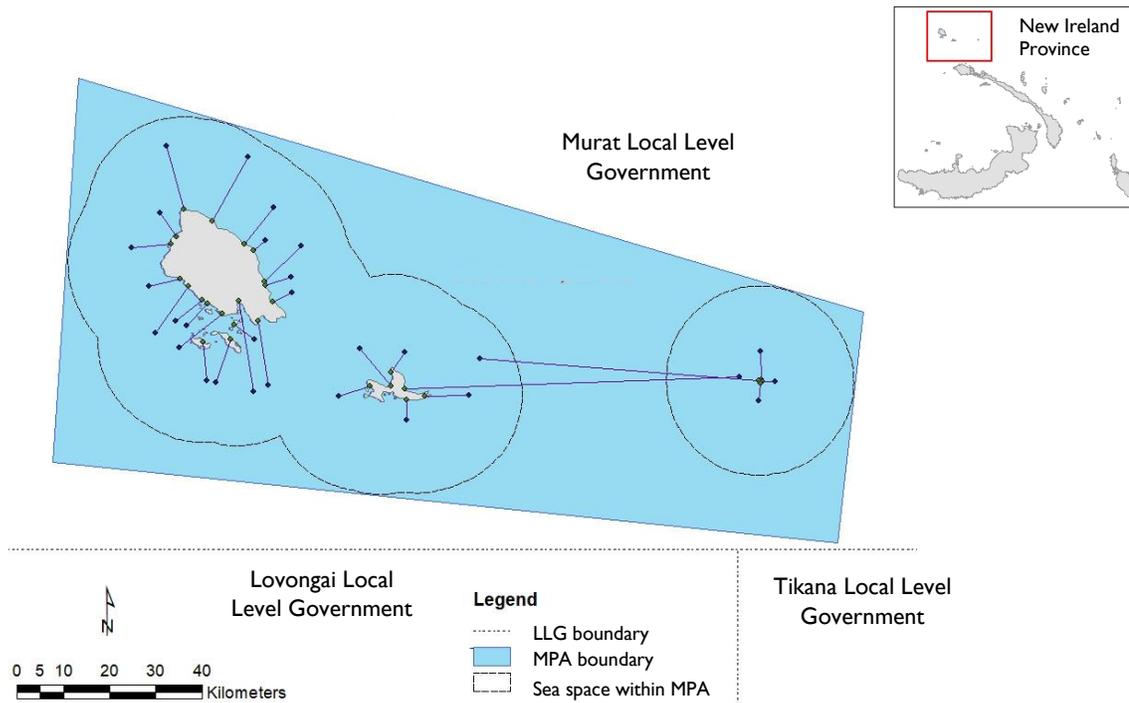


Figure 8: The marine protected area boundaries of (A) Lovongai and (B) Murat Local Level Government jurisdictions in New Ireland Province, including the furthest points from the shore that coastal community leaders and elders stated were the outermost limits of their marine tenure. The furthest point from the shore in Lovongai LLG was 18 km, resulting in a 5,826 km² MPA. The furthest point in Murat LLG was 20 km, resulting in an 11,107km² MPA.

In Tench Island, which comprises Ward 6 of Murat LLG, many residents stated that they are dependent on the sea for their livelihoods, and that they do not have alternative sources of income to pay for their expenses, such as annual school fees. Shark harvesting is a key resource that generates revenue for the residents of Tench Island. As such, the residents requested that they could harvest sharks at certain times of the year, leading to the development of Zone II within the Murat MPA. Therefore, two zones were drawn on the Murat MPA map, with shark fishing permitted from October to December each year in Zone II, which has an inter-zonal demarcation line positioned 20 km west from Tench Island.

During the Phase III community consultations and subsequent LLG, MEMCC and TWG meetings, consensus was given for proposed borders for each MPA.

PHASE III

During the Phase III community consultations, which were conducted from late-2021 to early 2022, the following activities took place:

- i) An update on the outcomes from the Phase I and Phase II consultations
- ii) An update on the progress of the LLG law development process
- iii) A presentation on the proposed MPA rules, regulations, penalties and boundaries

In Lovongai LLG, three Phase III community consultation teams reached a total of 65 communities located in coastal areas. Due to COVID-19 pandemic travel restrictions and protocols, each team was unable to conduct visits in every community, and therefore, the consultation approach had to change. Neighbouring communities were asked to meet at central locations in order to attend the Phase III consultations. During each meeting, the maximum number of participants could not exceed twenty people (according to the COVID-19 protocols). In view of this, only community leaders, including ward councillors, church leaders, and village planning committees (VPCs) were requested to attend the meetings, each with male, female and youth representatives to provide a cross-section of society. Following the meetings, the leaders were instructed to disseminate the messages and information from the meeting to the rest of their community. Any negative comments concerning the MPA rules, penalties or boundaries were to be reported through the grievance mechanism channels or through the village leaders to WCS. Through this process, the Phase III consultations enabled the communities – through their leaders – to provide feedback and verification on the MPA boundaries and rules, the latter determined through the risk matrix exercise during the Phase II consultations.

In Nuslik village in Lovongai LLG, a youth stated that “[We] want to see [that] our ocean has plenty of fish and enough for the future and so we agree to all the set of rules and penalties.” Some residents also acknowledged that there will be challenges when managing their marine resources. For example, a youth in Kavitungong community in western Lovongai LLG stated that “Progress will be slow since many of the decisions that have been decided will affect the normal way of fishing in the community... Yet, the only option is to go with it and see how things turn out. “

Unlike the first two phases of consultations, the Phase III consultations comprised fewer activities and discussion groups, and therefore the consultation process with each group could be carried out during one day.

The aim of each discussion group was to:

- Inform the communities about the MPA rules, penalties and boundaries, based on the outcomes from the Phase II community consultations;
- Update the communities as to why some of the proposed MPA rules were not included in the MPA management plans;
- Present all MPA rules, penalties and boundaries in order to obtain consent and agreement from the community leaders and prompt community residents to provide feedback based on their hopes and concerns regarding local marine management.

In both LLGs, there were no major objections concerning the rules, regulations and boundaries that were presented during the community meetings. Some concerns, however, were verbally expressed along the western and northern regions of Lovongai LLG based on the “no night or torch diving” rule. A youth from Kavitungong community (in western of Lovongai LLG) stated that night fishing is one of the most effective fishing methods, which allows the community to provide food for large gatherings. The youth continued, stating that *“if in the case that the whole of Lovongai [LLG] were to agree to have this as a prohibition rule, can there be conditions that would allow them to harvest [fish during the night] for certain occasions, such as when a resident is deceased, or during large church ceremonies and festivals such as Easter and Christmas?”* This point was again raised at Kulibang community (in north-eastern of Lovongai LLG). Such requests were accommodated in the MPA Management Plan for Lovongai LLG, allowing the MEMCC to grant permission for night fishing to take place during special occasions.

In each LLG, the communities agreed upon the other proposed MPA rules and regulations that were presented, and on the proposed MPA boundaries. For example, in Murat LLG, the residents agreed upon the two proposed MPA zones, including Zone II around Tench Island, where shark harvesting would be permitted from October to December each year. During the Phase III consultations, the Lovongai LLG manager, Ranson Warkurai, who is based in Taskul community in eastern Lovongai LLG, stated the importance of informing all the communities in Lovongai LLG about the MPA management plan and LLG law, and that this information should be simplified for the community level. Warkurai also stated that efforts should be made to develop sustainable livelihood activities so that people have options to sustain themselves.

In Lovongai LLG, following the community consultations, several communities, including Meteai community (in northern Lovongai LLG) and Metevoe and Tovotakalas communities (in southern Lovongai LLG), have since ventured into local-level marine management and developed their own locally-managed marine areas (LMMAs) based on the information and awareness that they received during the Phase III consultations.

Development of the marine protected area management plans

In early 2022, based on the outcomes from the community consultation process in both Lovongai and Murat LLGs, two site-specific management plans were developed for each MPA. The MPA rules, regulations and penalties for each MPA – that were determined through the risk matrix activity – and the boundaries of each MPA were included in each respective management plan.

PROJECT IN PICTURES



Female group providing feedback on the rules in Roitano village, Murat LLG, in 2021

David Tao facilitating an outreach and awareness session in Lovongai LLG, in 2022



Female group discussion taking place in Lovongai LLG in 2022, to provide consensus



Youth residents in Murat LLG giving consensus on the marine management rules, in early 2021



Female group providing feedback on the rules in Roitano village, Murat LLG, in 2021



Community feedback and consensus provided by women, Lovongai LLG in 2022



Male group providing consensus for their marine management rules in Lovongai LLG, in 2022



Male group discussing marine management rules in Loaua Island, Murat LLG, in 2021



Woman presenting feedback from the female group in Lovarang village, Murat LLG, in 2021

PHASE III CONSULTATIONS

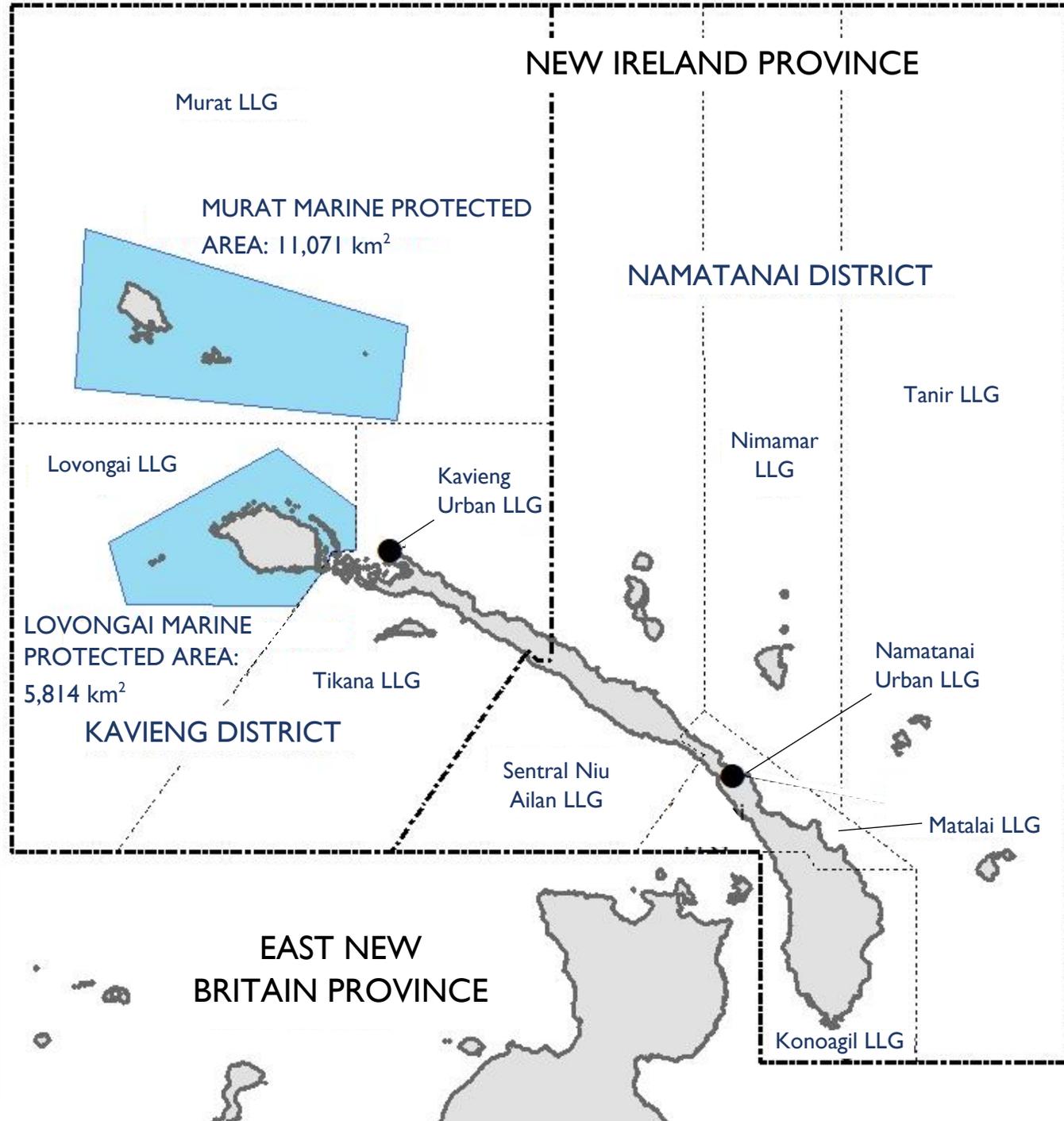
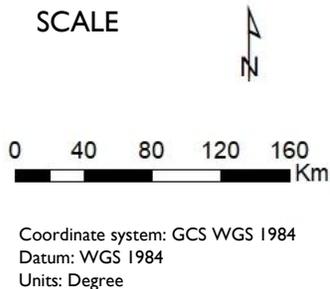
THE LOVONGAI AND MURAT LOCAL LEVEL GOVERNMENT JURISDICTION MARINE PROTECTED AREAS

HOW THE BOUNDARIES WERE FORMED

- A total of 74 coastal communities in Lovongai Local Level Government (LLG) jurisdiction and 26 communities in Murat LLG were consulted
- We measured the extent of customary marine tenure of each coastal community according to local knowledge
- The furthest customary marine tenure limits were:
 - 18 km from the coastline in Lovongai LLG
 - 20 km from the coastline in Murat LLG
- The proposed marine protected area boundaries were set at these limits around each respective LLG, encompassing the customary marine tenure rights of all coastal communities
- The proposed Lovongai LLG marine protected area will cover 5,814 km²
- The proposed Murat LLG marine protected area will cover 11,071 km²

Jurisdictional boundaries and proposed marine protected area boundaries

- Provincial boundary
- LLG boundary
- District boundary
- MPA boundary



The final rules for the Lovongai MPA, which were listed in the Lovongai MPA Management Plan, are:

- Prohibition on the use of gillnets that have a mesh size of 3 inches or less within the boundaries of the Lovongai MPA
- No night or torch fishing (from sunset to sunrise) within the boundaries of the Lovongai MPA.
 - EXCEPTION: Night fishing may occur during specified open seasons or certain occasions as agreed upon by the MEMCC
- The disposal of locally-discarded plastics, glass, metals and other non-biodegradable waste onto the beach (defined as below the mean high tide mark) or in the sea is prohibited within the Lovongai MPA boundary
- Do not harvest critically endangered sawfish or rhino rays within the boundaries of the Lovongai MPA, including sawfish or rhino ray fins and other body parts (see Appendix I) for more details on sawfish and rhino rays)
- It is prohibited to harvest dugongs, including dugong meat and juveniles, within the Lovongai LLG Marine Protected Area
- It is prohibited to harvest any species of dolphin or whale (collectively known as cetaceans), as well as whale meat and blubber, within the Lovongai MPA

The rules that are listed in the Murat MPA Management Plan are:

- Prohibition on the use of gillnets that have a mesh size of 3 inches or less within the boundaries of the Murat MPA
- No night or torch fishing (from sunset to sunrise) within the boundaries of the Murat MPA.
 - EXCEPTION: Night fishing may occur during specified open seasons or certain occasions as agreed upon by the MEMC
- The disposal of locally-discarded plastics, glass, metals and other non-biodegradable waste onto the beach (defined as below the mean high tide mark) or in the sea is prohibited within the Murat MPA boundary
- Do not harvest critically endangered sawfish or rhino rays within the boundaries of the Murat MPA, including sawfish or rhino ray fins and other body parts (Appendix I)
- Do not harvest any sharks and rays within the Murat MPA boundary
 - EXCEPTION: Certain shark species may be harvested around Tench Island (Zone II) from October to December each year. See Appendix II for details on the shark species that cannot be harvested in Zone II of the Murat MPA.
- It is prohibited to harvest any species of turtle, as well as turtle eggs, meat and shells, within the Murat MPA
- It is prohibited to harvest dugongs, including dugong meat and juveniles, within the Murat LLG MPA
- It is prohibited to harvest any species of dolphin or whale (collectively known as cetaceans), as well as whale meat and blubber, within the Murat MPA

The penalties for non-compliance, which are listed in the management plans for both the Lovongai and Murat MPAs have been presented in Table 4.

Table 4: The penalties that were agreed upon by the communities – during the Phase III community consultations – for breaching both the Lovongai and Murat Marine Protected Area management rules. The penalties vary according to number of times an offence has been committed. Penalties for corporations and businesses has also been presented in the table.

OFFENCE	PENALTY
First-time offence	Community work, recommended by the MEMCC and LLG
Second-time offence	Spot fine, recommended by the MEMCC, not exceeding 200 for a young adult (aged 18 to 25) or 300 kina for an adult
Third-time offence	Referral to the Village Courts
Corporations	Referral to the District Court

The MEMCC and LLG will determine the nature of the first- and second-time offences when an MPA management rules has been broken. Third-time offenders and corporations will be directed to the village or district courts, respectfully.

APPENDIX



Male group discussing the risk matrix activity during the Phase II consultations in Lovongai Local Level Government jurisdiction. July Kuri, 2020

APPENDIX I: Protected sawfish and rhino ray species

It is prohibited to harvest the following sawfish and rhino ray species within the Lovongai and the Murat Marine Protected Areas.

RHINO RAYS

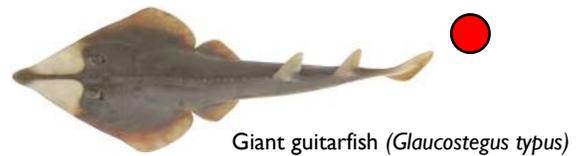
WEDSGEFISHES

Three species of wedgefish can be found in PNG. The shark ray and bottle nose wedgefish have been seen in New Ireland Province.



GIANT GUITARFISHES

Giant guitarfish have been observed by fishers in Lovongai LLG. One species can be found in PNG



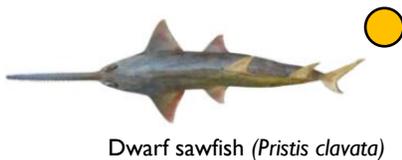
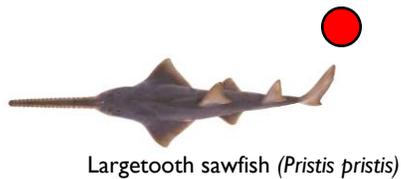
GUITARFISHES

At least one guitarfish species can be found in PNG: the possibly endemic Papuan guitarfish, which has only been found in New Ireland Province.



SAWFISHES

Fishers in Lovongai LLG have reported seeing sawfish in their waters. There are four sawfish species in PNG, which are protected in the Lovongai MPA. Two rostra (beaks) of the largetooth sawfish were found in Lovongai LLG.



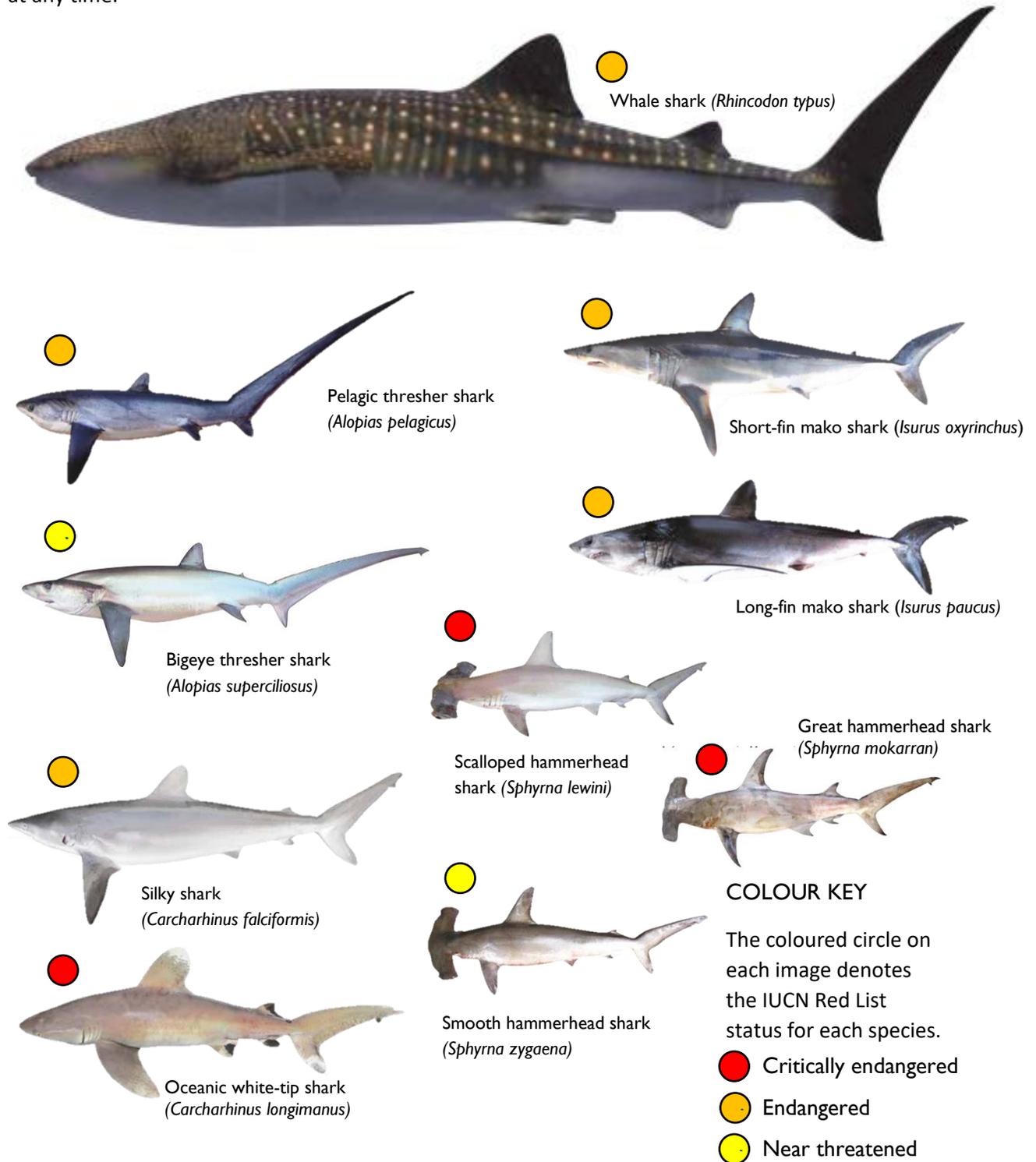
COLOUR KEY

The coloured circle on each image denotes the IUCN Red List status for each species.

-  Critically endangered
-  Endangered
-  Near threatened
-  Data deficient

APPENDIX II: CITES protected sharks in Papua New Guinea

The following sharks are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and should not be harvested within the Lovongai or Murat MPAs at any time.



Images from White et al. (2017)

Appendix III: List of acronyms

CBO	Community based organisation
CF	Community facilitator
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
FPIC	Free, prior and informed consent
GIS	Geographic information system
GPS	Global positioning system
IUCN	International Union for the Conservation of Nature
LLG	Local level government
LMMA	Locally-managed marine area
MEMC	Marine Environment Management Committee
MEMCC	Marine Environment Management and Conservation Committee
MPA	Marine protected area
NGO	Non-governmental organisation
PFO	Provincial Fisheries Officer
PNG	Papua New Guinea
SDA	Seven-Day Adventist
TWG	Technical Working Group
VPC	Village Planning Committee
WCS	Wildlife Conservation Society