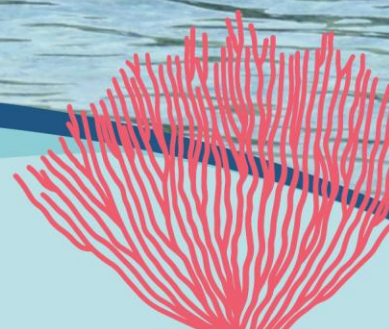


A Resilience Strategy for the

**KOROR ROCK ISLANDS  
SOUTHERN LAGOON  
WORLD HERITAGE SITE**

**BOUNCE BACK BETTER**



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## ABBREVIATIONS

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Abbreviations	Definition
BAC	Bureau of Arts & Culture
BOF	Bureau of Fisheries
EN	Endangered (IUCN red list)
GBRF	Great Barrier Reef Foundation
Koror DCLE	The Department of Conservation and Law Enforcement
Koror DSCA	The Department of State and Cultural Affairs
Koror DTF	Department of Treasury and Finance
Koror OOG-ADMIN	Office of the Governor, Administration
KSG	Koror State Government
PCS	Palau Conservation Society
PICRC	Palau International Coral Reef Center
RISL	Rock Islands Southern Lagoon
RRI	Resilient Reefs Initiative
TNC	The Nature Conservancy

## GLOSSARY AND KEY TERMS

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Key term	Definition
Climate change	Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity.
Climate projections	Scientifically derived estimations of how different variables (such as temperature, precipitation, wind, solar radiation, sea level rise) in our climate and weather will be affected by increases in greenhouse gasses in the Earth's atmosphere.
Resilience	The capacity of reef ecosystems – as well as the individuals, businesses and communities that rely upon them – to survive, adapt and recover from stresses and shocks.
Resilient Reefs Initiative	A capacity building program supporting leaders in UNESCO World Heritage Sites around the world to advance integrated resilience planning for an uncertain future.

## MESSAGE FROM THE KOROR STATE GOVERNOR

BOUNCE BACK BETTER: A Resilient Rock Islands Southern Lagoon and people.

As Palauans we are inherently resilient people. But we need to look back to our heritage to draw lessons for resilience building to survive in a changing climate. This Strategy is the beginning of that resilience building effort.

The resilience strategy stems from two+ years of hard work and dedication at all levels of the Koror State Government, and from our partners and community groups.

The process highlighted our commitment as a community as we came together to develop this plan for building the resilience of the Rock Islands Southern Lagoon (RISL). The RISL is our *chelebacheb*, our treasured cultural and natural heritage, and our community. As we say in our own way - "*ke de kullii a delad el chutem, ma demad el daob*" we respect our mother the land, our father the ocean. Only when we respect our "mother" and our "father", are we rewarded the benefits from our ecosystems.

Now it is the commitment to act on this strategy - with guidance from our elders and from our science partners that we will need to face the challenges before us.

The climate we live in today has already changed. We have felt the frequency and intensity of climate disasters increase already and we will continue to feel this. Air temperatures has increased with extreme heat in Koror threatening human health, the continuously rising sea level is flooding homes and infrastructure, coral bleaching threatens our tourism economy and our deep cultural connections to fish for food and ceremonies. Our livelihoods are at risk. The only way forward is to draw on our traditional and scientific knowledge to adapt and build our resilience.

These issues are not unique to Koror, they are the result of global forces which cannot be tackled in isolation. This is why I believe our state government alone cannot address these challenges. We must continue coming together as one community - with our partners - to face these challenges together. Only then can our Rock Islands Southern Lagoon and its community be resilient into the future.

I am heartened by the hard work of everyone who engaged in this process. I am especially grateful for the Resilient Reefs Initiative who created the opportunity for us to build the resilience of the Koror community and the Rock Islands Southern Lagoon.



**Eyos Rudimch**

**Governor**



## LETTER OF SUPPORT – GREAT BARRIER REEF FOUNDATION

The Great Barrier Reef Foundation is thrilled with the launch of the Resilience Strategy for the Rock Islands Southern Lagoon in Palau. This work was delivered through our global [Resilient Reefs Initiative](#) – an AUD\$14 million global climate resilience program. Partnering with four UNESCO World Heritage Sites, Resilient Reefs connects local reef managers and communities with a global network to catalyse and implement solutions that build both the reef and community resilience, together and at scale.



Coral reefs are the most biodiverse ecosystems on the planet, and the most at threat from a combination of local pressures and warming oceans. With a strong El Niño predicted for the coming summer, the Resilient Reefs partnership is bringing crucial resources, connections, and technical expertise to the reef management organisations and communities on the frontline of protecting coral reefs and adapting to climate change. This includes funding for a new Chief Resilience Officer (CRO) to lead the work as well as strategic and technical support to develop a Resilience Strategy, connection to a global knowledge network of climate resilience leaders, and access to a \$5M fund to support the implementation of priority resilience actions.

Our partnership with Palau is based with the Office of the Governor at Koror State and is supported by partnerships with a range of others including the National Government, Palau Conservation Society, Palau International Coral Reef Center and The Nature Conservancy. We warmly congratulate the team on the ground who have conducted deep and highly inclusive engagement with diverse groups such as Traditional leaders, community groups facing sea level rise, scientists, the public sector, the broader community and more. This Strategy has also brought together priorities from across local and national planning documents to identify funding and partnership gaps. In an era of planning fatigue and increased investment in the Pacific, this Strategy offers a launch pad for new funders wanting to support impactful work in Palau and an exemplar for other nations in the region.

With record water temperatures and coral bleaching throughout the northern hemisphere already occurring and an El Niño event looming - now is the time for action. We are proud to have partnered with exceptional leadership in the Pacific on this Strategy that is already catalysing action through four funded projects including fisheries management, preservation of cultural assets, innovative finance, and institutionalising adaptive management. We hope the Strategy will continue to catalyse and accelerate action for many years to come.

The Great Barrier Reef Foundation is immensely proud to lead the Resilient Reefs Initiative and on behalf of the entire Resilient Reefs network – including our partners, UNESCO, The Nature Conservancy's Reef Resilience Network, Columbia University's Center for Resilient Cities and Landscapes, Resilient Cities Catalyst, AECOM, and BHP Foundation – we celebrate the incredible work Palau has accomplished and look forward to deepening our partnerships there and globally to support implementation of this Strategy, seeing lasting outcomes and continuing to strengthen partnerships with Palau and in the region.

A handwritten signature in black ink, appearing to read 'Anna Marsden'.

**Anna Marsden**  
**Managing Director**

Resilient Reefs Partners



Great Barrier  
Reef Foundation



COLUMBIA | Center for  
Resilient Cities  
and Landscapes  
RESILIENT CITIES CATALYST

**AECOM**

**BHP** | **Foundation**

*Figure 1 Koror city, in close proximity to the Rock Island Southern Lagoon. This image demonstrates the connectivity between the urban environment and Palau's natural ecosystem*





1

# Overview



# 1 OVERVIEW

*Resilience is the capacity of the reef ecosystems – and the individuals, businesses, and communities that depend upon them – to survive, adapt and recover from the stresses and shocks that they experience<sup>ix</sup>. Regardless of the challenge, resilient systems are able to remain strong, retaining their core functions and characteristics while undergoing change and transformation.*

## The continuous resilience of Palauans

Palauans have been resilient for millennia, adapting to the limitations of their island environment and leveraging its abundant resources.

Due to global forces, the Rock Islands Southern Lagoon faces challenges never experienced before. The challenges are recognized and cannot be addressed in silos nor resolved via short-term standalone action.

Reaching back to our heritage and moving forward with ingenuity and commitment is required to hold on to an inherent resilience and to embed that resilience moving into the future.



The Resilient Reefs Initiative (RRI) officially commenced in Palau in May 2021 through a partnership between the Great Barrier Reef Foundation (GBRF) and the Koror State Government (KSG). The initiative aims to build resilience in the Rock Islands Southern Lagoon (RISL) reef ecosystem and the related community and governance systems. Following extensive stakeholder consultation and review of policies and science, this Resilience Strategy details a locally inspired vision - and actions – to be implemented so that ecosystems, communities and governance systems are better able to cope with, recover from and adapt to change and disturbance.

This Strategy builds on multiple local and national frameworks, including the RISL Management Plan<sup>i</sup> (2023) the Palau Climate Change Policy<sup>ii</sup>, Koror State Planning Team's Development Core Values<sup>iii</sup>, and Palau's Protected Areas Network<sup>iv</sup>. In particular, this Strategy includes an overview of actions which have recently (as of August 2023) secured funding through RRI and which, when implemented will contribute towards the following goals from the RISL Management Plan:

- Strengthened community and Koror State Government institutional capacity to steward and sustainably manage the RISL.
- The value of the natural, cultural and historical sites and practices as the legacy of the people of Koror are maintained and preserved.
- Strengthened social and economic resilience and wellbeing of Koror communities through healthy ecosystems and biodiversity of the RISL.

Several entities were involved in providing guidance and support to develop this Strategy. The core team included international and local partners from Koror State Government (see pull out box below), Palau Conservation Society (PCS), Palau International Coral Reef Center (PICRC) and AECOM.



## Introducing Palau's First Chief Resilience Officer – Andrea Uchel

**Name:** Andrea Uchel

**Current Role:** Chief Resilience Officer

**Company:** Koror State Government

**Academic Background:** Master's of Arts in Educational Leadership focusing on Public Administration and Human Resource Development

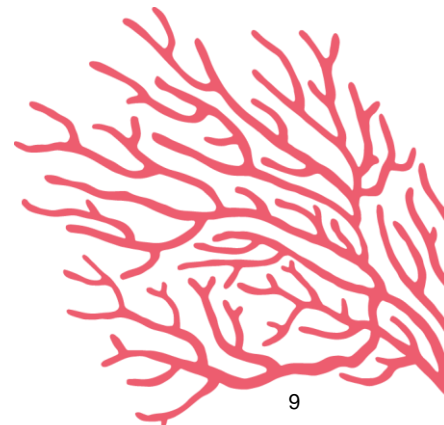
**Professional Expertise:** Worked for 5 years as a Policy Development Officer at the Palau International Coral Reef Center

**Goals:** To ensure that resilience is understood, built, and best interpreted for the our local context in my community.

**Achievement:** My level of interest in learning and understanding the world of science has grown because of my past and present profession and the networking; and because of career I was fortunate to have, my love for my country's rich biodiversity has grew immensely.



Figure 2 Children playing on the beach<sup>v</sup>





## UNESCO Inscription

The Rock Islands Southern Lagoon (RISL) covers 100,200 ha and includes 445 uninhabited limestone islands of volcanic origin. Many of these islands display unique mushroom-like shapes in turquoise lagoons surrounded by coral reefs. The aesthetic beauty of the site is heightened by a complex reef system featuring over 365 coral species and different types of habitats. The islands sustain a large diversity of plants, birds and marine life, including dugong and at least thirteen shark species. The marine lakes are among the island's distinctive features and sustain high endemism of populations which continue to yield new species discoveries.

The Rock Islands Southern Lagoon was inscribed as a mixed World Heritage Site in 2012, having been found to meet five natural and cultural criteria for Outstanding Universal Values, including<sup>vi</sup> (*The following criterion is an excerpt taken from UNESCO*):

**Criterion (iii):** the Rock Islands cave deposits, burials, rock art, abandoned remains of stonework villages and middens bear exceptional testimony to the organization of small island communities and their harvesting of marine resources over some three millennia.

**Criterion (v):** the abandonment of Rock Island villages in the 17th and 18th centuries demonstrated by the remains of human settlement and evidence of marine harvesting activity in the Rock Islands Southern Lagoon is an exceptional illustration of the intersection and consequences of climate change, population growth, and subsistence behaviour on a society living in a marginal marine environment.

**Criterion (vii):** the Rock Islands Southern Lagoon contains an exceptional variety of habitats within a relatively limited area. Barrier and fringing reefs, channels, tunnels, caves, arches and coves, as well as the highest number and density of marine lakes in the world, are home to diverse and abundant marine life. The maze of dome-shaped and green Rock Islands seemingly floating in the turquoise lagoon surrounded by coral reef is of exceptional aesthetic beauty.

**Criterion (ix):** the Rock Islands Southern Lagoon contains 52 marine lakes, more than at any other site in the world. Furthermore, the marine lakes of the property are at different stages of geological and ecological development, ranging from lakes with high connectivity to the sea to highly isolated lakes with notably different species composition, including unique and endemic species. These features represent an outstanding example of how marine ecosystems and communities develop, and make the lakes valuable as “natural laboratories” for scientific study of evolution and speciation. Five new species of the *Mastigia papua* jellyfish have been described from these marine lakes, and new species discoveries continue to be made both in the marine lakes as well as in the complex reef habitats of the property.

**Criterion (x):** the Rock Islands Southern Lagoon has exceptionally high biological and marine habitat diversity. The marine lakes are unique in terms of number, the density at which they occur, and their varying physical conditions. With low fishing pressure, limited pollution and human impact, as well as an exceptional variety of reef habitat, the resilience of reefs of the property makes it a critical area for protection, including as an area important for climate change adaptation of reef biota, and potentially as a source of larvae for reefs in the region. All the endangered megafauna of Palau, 746 species of fish, over 385 species of corals, at least 13 species of sharks and manta rays, 7 species of giant clams and the endemic nautilus are found in the here.

Additionally, the forests of the islands include all of Palau's endemic birds, mammals, herpetofauna and nearly half of Palau's endemic plants. This makes the area exceptional for conservation value.



Figure 4 Aerial shot of the Rock Islands Southern Lagoon <sup>v</sup>

## 1.3 THE PANDEMIC SHONE A LIGHT ON OPPORTUNITIES TO BUILD RESILIENCE

Palau has demonstrated time and time again that the protection of ecosystems, and the security of people are the cornerstone of their policies. Since the late 1990s, Palauan leaders have accelerated national actions to protect the reef that have reflected a “bounce back better” ideology. These actions include the creation of the Protected Areas Network (PAN) and the [Green Fee](#) to fund the PAN as well as creating the Palau National Marine Sanctuary (PNMS). Through the PNMS, 80% of Palau’s EEZ and 46% nearshore marine are protected<sup>vii</sup>. Palau has also banned the export of inshore reef resources and reshaped the tourism sector by banning incompatible tourism markets, and implementing an [environmental pledge](#) that is stamped in each passport on entry to the island nation.

However, at the local institutional and operational levels, the capacity to effectively plan, act, monitor, and adapt management strategies accordingly continues to lag. The COVID-19 global pandemic also introduced a new reality when Palau closed its borders for nearly two years.

The situation severely affected Koror State Government ability to fund day to day operations because of the loss in tourism revenues (accounting for 51% of Palau’s GDP<sup>viii</sup>). The shock from the pandemic and increasing uncertainty from climate change is the impetus for institutional resilience building in order to strengthen community partnerships, build financial redundancy and manage the RISL adaptively.

Figure 5 outlines the government structure and the key documents relating to the RISL.

### Governance



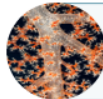
Ngarameketii in the House of Traditional Leaders: maintain supreme authority by virtue of traditional rights-hold over RISL - and resources within



The Koror State Government: is granted legal authority by the Koror Constitution to provide management of the RISL



The Koror Department of Conservation and Law Enforcement: manage the RISL



Ngaramaiberel women’ and Ngarametal men’s group: Traditional groups from the clans of Koror who carry out civic management activities in the RISL as their traditional responsibilities on behalf of the Ngarameketii and Kerngab (matriarchs)



The Bureau of Fisheries at the Ministry of Agriculture Fisheries Environment: regulates the extraction of specific species of marine resources nationally, including the RISL

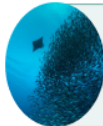
### Key documents



The RISL is designated as a “Conservation Zone” by the Koror Zoning Law. Permanent and semi-permanent developments are prohibited, with the exception of those semi-permanent structures built by the state for public use



There are several conservation areas in the RISL, four of which are no-extraction zones, several of which are specially-managed areas



Key frameworks driving this Strategy:

- RISL Management Plan (2023)
- Palau Climate Change Policy (2015)
- Palau’s Protected Areas Network (2015)
- Koror State Planning Team’s Development Core Values (2021)

Figure 5 Governance and key documents for the Koror State Management Area<sup>1</sup>

## 1.4 CHALLENGES FOR THE ROCK ISLANDS SOUTHERN LAGOON<sup>ix</sup>

*“We see what the future looks like, and we need to take action to mitigate and build our resilience. The cost of inaction is too high.” Dr. Yimnang Golbuu, Coral Resilience Director, The Nature Conservancy Micronesia and Polynesia*

Climate change is anticipated to disrupt many aspects of life. More intense and severe weather events, the increasing transmission of disease and failing ecosystem health all threaten the health and wellbeing of the local community in Palau. Additionally, climate risks related to energy, food production and the global economy are projected to cause significant shifts in prices and accessibility of food and goods and services. This is likely to be particularly stark in Palau, where there is a high reliance on imports for staples (apart from fish), including fresh fruit and vegetables. Climate change is expected to affect all people in Palau, but vulnerable populations will be most affected<sup>ix</sup>.

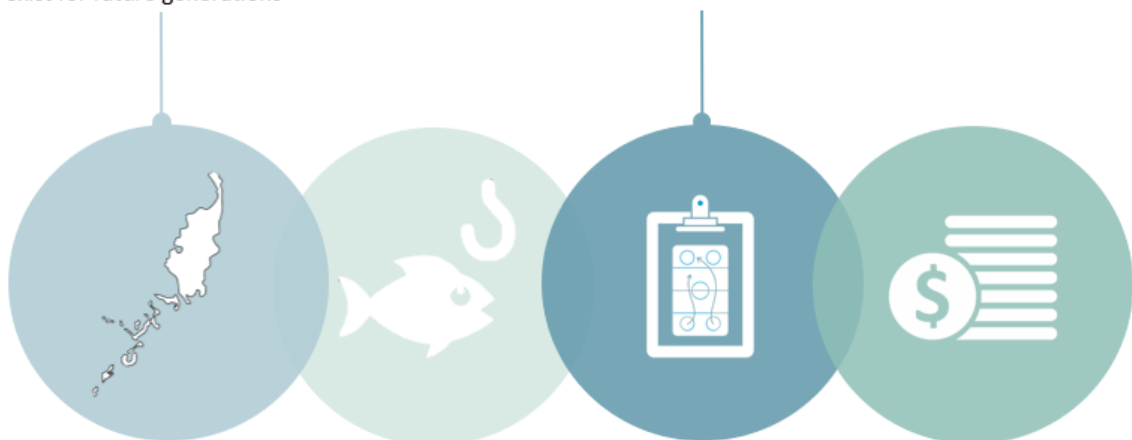
This Strategy details the key challenges affecting the reef and communities. These challenges were informed by the RRI planning process that considered climate change projections (see Figure 6), insights from deep community engagement and other technical work (see Figure 9)<sup>x</sup>. Nine challenges were initially identified and were prioritised by the Steering Committee, with input from the community (see Table 1 in the Appendix for the full list of challenges). The four prioritized challenges detailed in this Strategy and funded by RRI include:

### **1. Preservation of Cultural and Historical Sites and Practices:**

Cultural sites, knowledge and practices should be protected from climate change and other human induced threats so that they exist for future generations

### **3. Adaptive management:**

The capacity of reef managers to monitor and regularly review and update management interventions and strategies should be strengthened



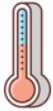
### **2. Managing fisheries:**

There is a need to balance community fishing needs while protecting current and future fish stocks

### **4. Sustainable Financing:**

Sustainable and potentially innovative financing is required to ensure that management activities and programs in the RISL have funding to sustain implementation

Although this Strategy mainly focuses on the top four Resilience Challenges, the broader list of Challenges (Table 2 in the Appendix) can and should provide the basis for future directions given the robust community engagement and strong institutional support that underpins this list.



The **number of hot days** (above 90°F) in Koror has **increased** from an average of about 46 days per year to 100 days per year in the last decade. More frequent and intense extreme rainfall events are expected



Scientific consensus predicts **tropical cyclone intensity** is likely to **increase** in a warmer climate for most regions including Palau



The mean **sea level** for Palau has been **increasing** on average 0.095 inches per year from 1969 to 2016, which will affect tidal flood frequency and magnitude. Palau's natural sea level shifts in mean sea level will be accentuated by global sea level rise, causing **high tide flooding** to become **more common** in the long term



The frequency of **droughts** is projected to **decrease**, and the duration of moderate, severe, and extreme droughts is projected to remain stable in the future



Palau is expected to continue experiencing **high interannual variability** in **sea surface temperature**. Widespread coral bleaching is projected to occur annually in Palau by 2040. Unless coral species adapt to ocean warming, **coral reef areas** in Palau are currently projected to experience **annual severe bleaching** conditions by 2048, some areas expect to experience these conditions beginning 2035

Figure 6 Climate Change Projections for Palau<sup>xi</sup>



## CHANGING CLIMATE

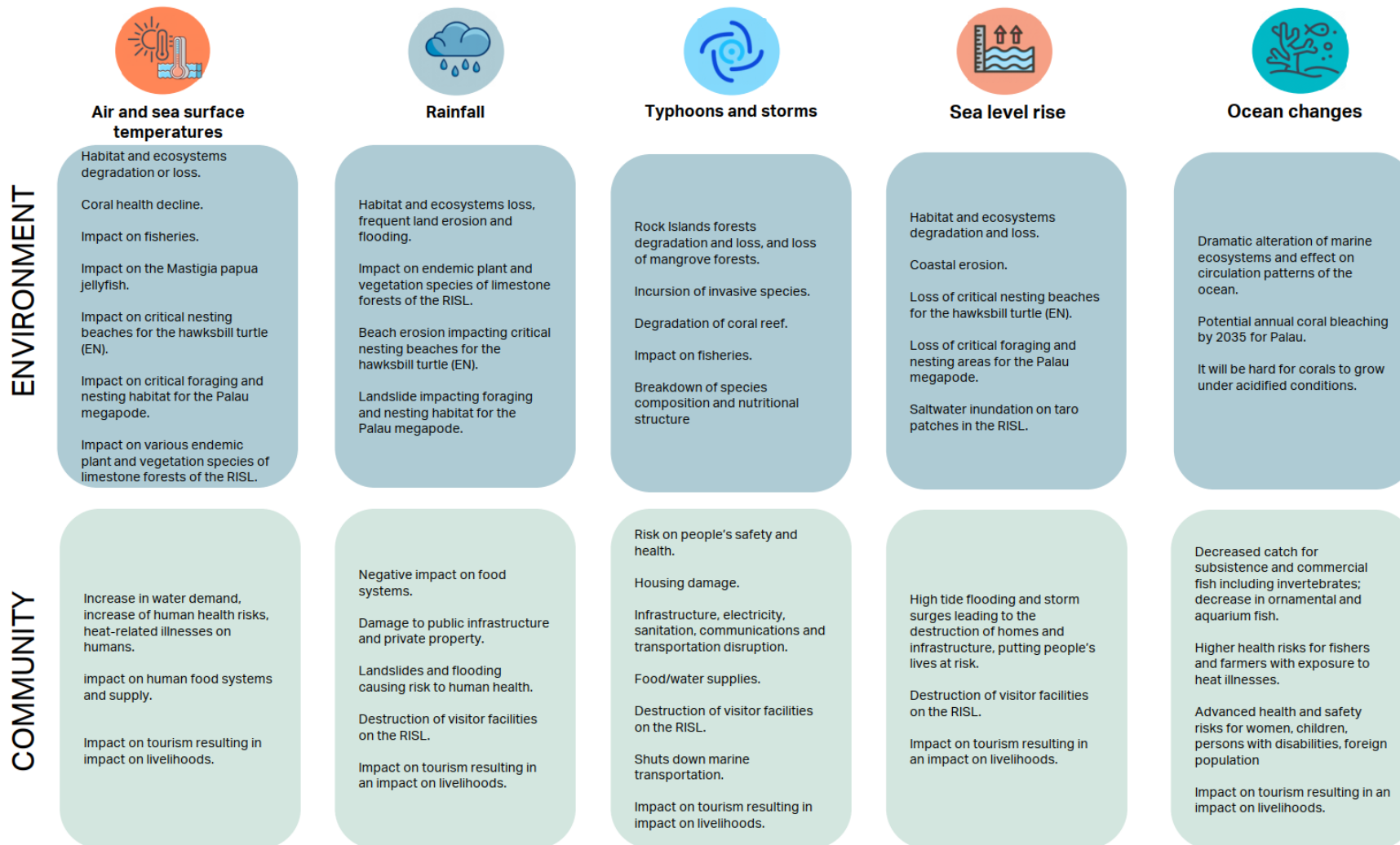


Figure 7 Climate change impacts on the environment and community in Palau<sup>ix</sup>



2

## Developing the Resilience Strategy





## 2 DEVELOPING THE RESILIENCE STRATEGY

### 2.1 THE RESILIENT REEFS INITIATIVE

The [Resilient Reefs Initiative \(RRI\)](#) was developed to support reef managers and local communities in the face of climate change and to identify innovative and adaptive solutions to the threats facing coral reefs and communities.

Globally, we have already lost 30-50% of coral reefs, and if things continue the way they are, coral reefs are predicted to suffer mass bleaching twice per decade in the next 20 years – making recovery very challenging<sup>xii</sup>. With loss of coral reefs, comes the loss of coastal protection, reef tourism, fisheries, food security, and livelihoods. While reef managers cannot influence large-scale climatic and oceanographic changes, there is an opportunity to take bold action at a local level and RRI aims to build the enabling conditions and support for that action.

In Palau and many places worldwide, communities are entwined with the reef system, relying on it for culture, livelihoods, food, recreation, storm protection and much more. Communities can therefore be a driver of reef protection in well-managed systems or contribute to reef degradation in unmanaged systems.

Using the Reef Resilience Framework (developed as part of RRI) supports efforts to put communities at the center of reef health by looking holistically at coral reefs, the communities that depend on them and the governance arrangements that influence them as an integrated system that must be understood together<sup>xiii</sup>. Placing communities at the center of a dynamic system is fundamental to resilience-based management as climate and anthropogenic threats become more unpredictable<sup>xiv</sup>.

The Reef Resilience [Framework](#) provides a structure for understanding reef resilience through 3 Dimensions and 12 corresponding Attributes (Figure 8). The Framework Dimensions are defined as<sup>xiii</sup>:

- ≈ **Ecosystem** - the preservation of ecosystem services.
- ≈ **Community** – maintaining or improving community wellbeing.
- ≈ **Governance** - the maintenance of robust and effective governance arrangements to support these outcomes.



Figure 8 Reef Resilience Framework<sup>xv</sup>

## 2.2 THE APPROACH TO ENGAGEMENT & STRATEGY DEVELOPMENT

Throughout the development of this Resilience Strategy, the Koror State Government officials, department Directors and partners were candid, collaborative and open in their communication. There was an appetite for strong partnerships, a commitment to engage the community, perseverance and a common desire for improving the status quo. Upholding these attitudes will be vital for ensuring the continued success of this Strategy.

Figure 9 summarises the extensive stakeholder consultation and expert input that has informed the development of this Resilience Strategy.

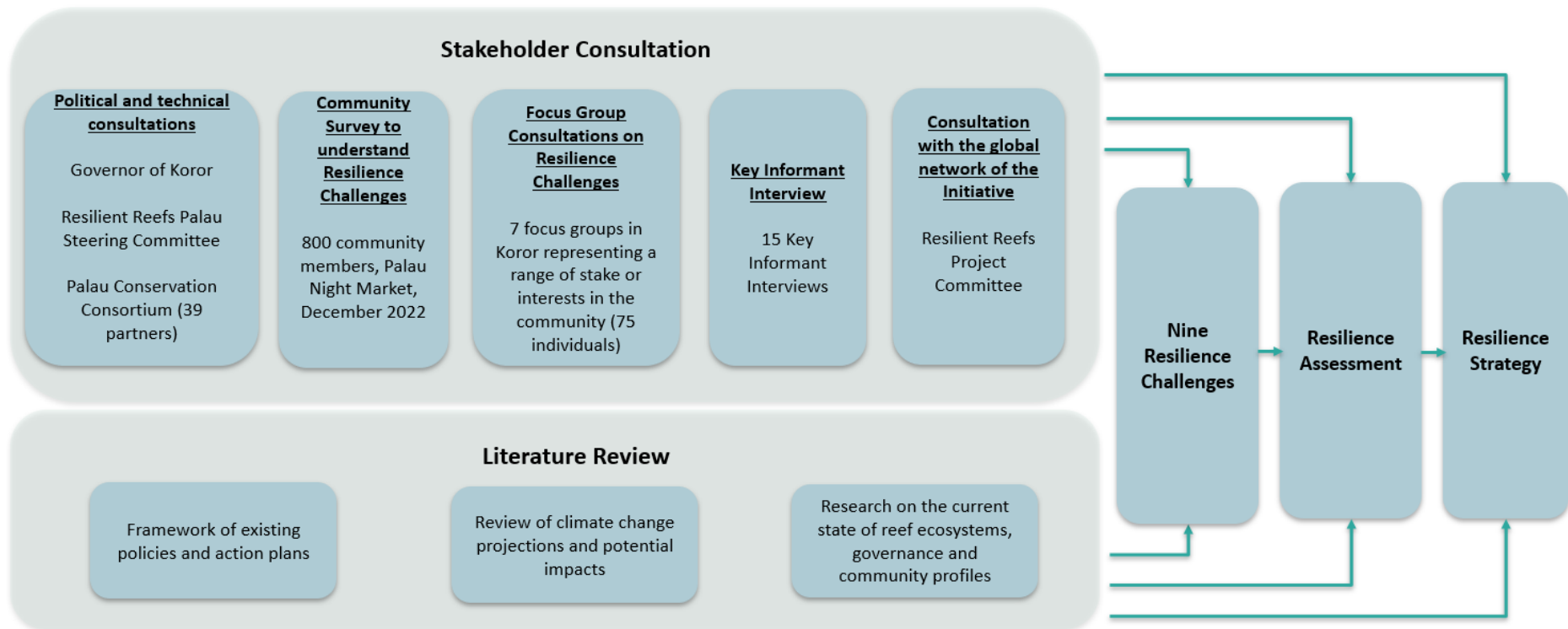


Figure 9 Stakeholder consultation and technical input to inform the development of this resilience strategy

The time, input and advice of close to **1000 people** (roughly 8.7% of the Koror population) helped inform and shape this Strategy's development. In addition, management plans, state and national policies, research and reports were reviewed. The breadth of knowledge captured from all the engagement activities and literature reviews was instrumental in informing the Palau team in the development of this Strategy.

The local team (KSG, PCS and PICRC) carried out a stakeholder mapping exercise, where the individuals and groups who are dependent on or interact with the RISL were identified. Engagement methodologies were designed to suit each stakeholder group.

**Document review and analysis.** Over **50** documents ranging from plans, research papers and reports to policies at state and national levels and international commitments were reviewed and analyzed to identify gaps and opportunities for resilience-based management in the Rock Islands Southern Lagoon. Of these 50 documents, the Rock Island Southern Lagoon Management Plan 2022 – 2027 was identified as critical, and this Resilience Strategy has been designed to align with and catalyze the implementation of some management actions within that Management Plan.

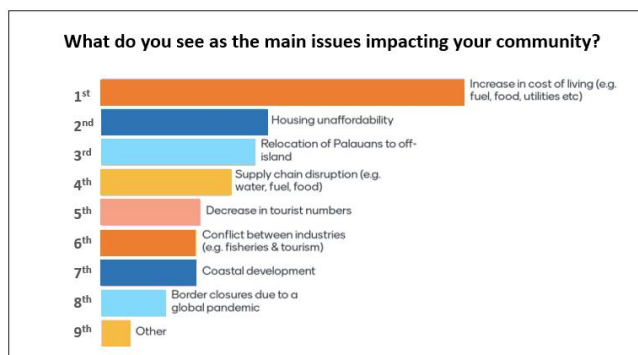
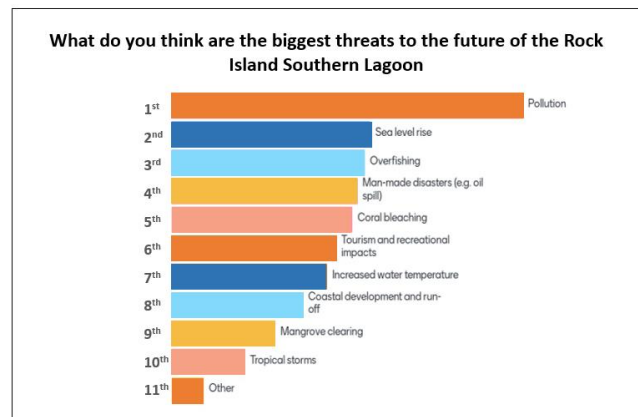


Figure 10 Results from the Night Market events in December 2022

**Key Interviews.** Individual interviews were carried out early in the process (June, July and August 2022), with **16** individuals. These individuals were primarily heads of agencies or businesses, scientists, and local consultants engaging in climate change, environment, or community-related work. The outcomes of these interviews helped to identify active programs (to avoid duplication and identify partnership opportunities) as well as key action and funding gaps.

**Public surveys.** A survey focused on resilience was presented to **785** people at one of Palau's Night Market events in December 2022. Responses to two main questions that were key in informing this Strategy's development process are provided in Figure 10. The results represented significant agreement on key issues from the community. It is important to note that while some of the top priorities in the survey, including 'pollution' was identified as the greatest threat to the RISL at the Night Market, they were not ultimately considered one of the prioritised resilience challenges by the focus groups and Steering Committee (see notes below on structure of these groups). Much deeper discussion and insights were gained through the focus groups and Steering Committee meetings, so these were elevated over the outcomes of the night market survey. Needless to say, the results from the Night Market Survey are still informative and could be revisited in the future.

In addition, coral bleaching was identified through public surveys as the fifth greatest threat to the RISL but was not further prioritised by other stakeholders likely due to the global messaging regarding the upcoming strong El Nino, and possibility of bleaching not being evident at that stage (i.e. in December 2022). However, considering the events we have seen since then (i.e. severe bleaching in the northern hemisphere) and the existential threat that coral bleaching poses to Palau's reef systems, food security, coastal protection and culture - future work should focus on building the skills, policies and systems needed to address this threat. There is also an opportunity to enhance awareness of coral bleaching and potential protection, restoration and

adaptation strategies among the community and other stakeholders which can help to empower communities to be part of the solution and partner in reef protection and restoration efforts.

**Focus Group Meetings.** Consultations were held with **75** people who participated in 7 Focus Group meetings in February 2023. The groups represented a range of people of various backgrounds, experience, economic status, expertise, age and gender. Many of the groups consulted had not had the opportunity to genuinely engage in planning processes previously. The objective of the meetings was to present the draft Resilience Challenges, discuss and collect input, ask if there were additional challenges, and ask each group to prioritize the resilience challenges based on their own experiences and knowledge. After carrying out the Focus Group meetings, the results of the group’s prioritization exercise and their input were summarized and reported to the project Steering Committee.

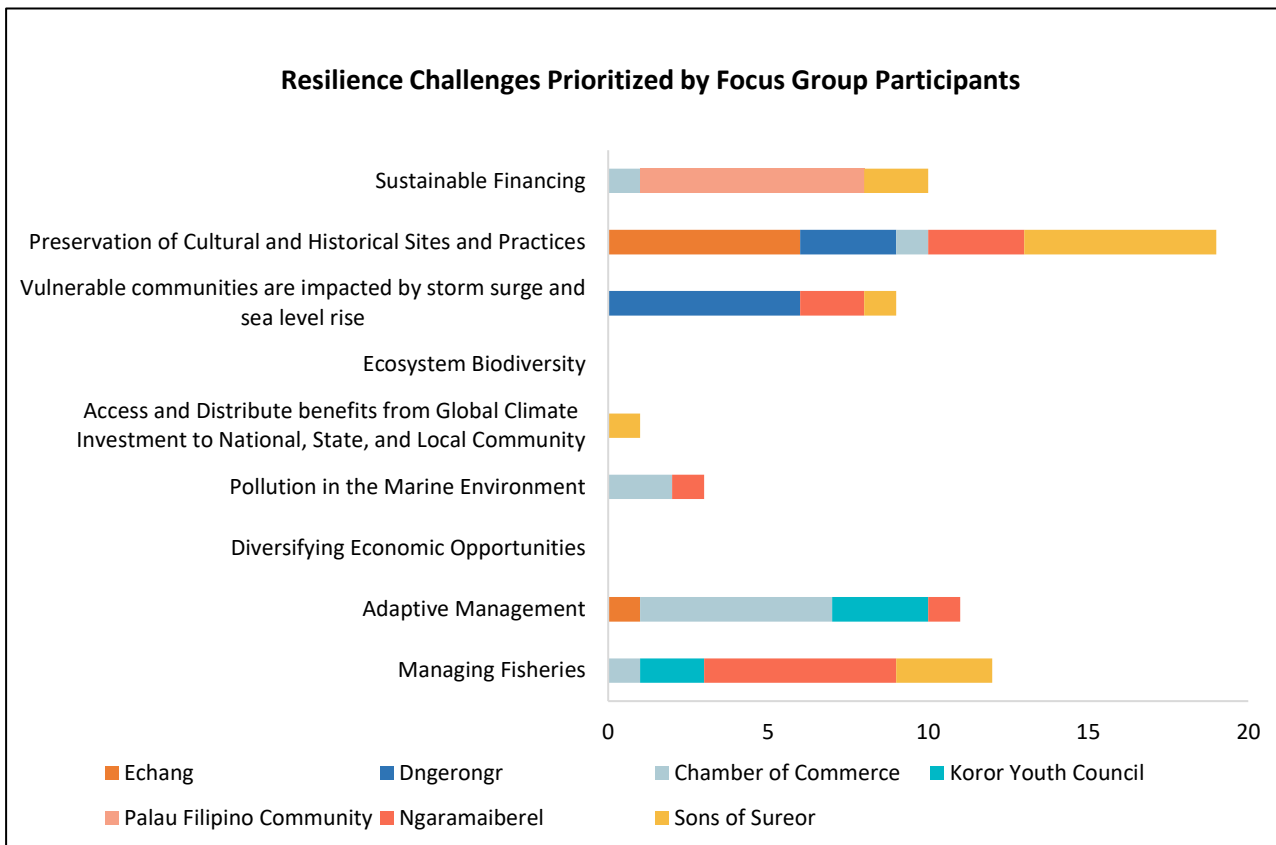


Figure 11 Results from the focus group discussions

**Project Steering Committee.** The project steering committee comprises **12** members, the majority of whom are rightsholders of the RISL. The Koror State Governor chairs the committee. The membership includes Chief Ngircheteet from the House of Traditional Leaders, two state legislators, a representative of the Ngarametal men’s group, a representative of the Ngaramaiberel women’s group, the Director of the Koror Department of Conservation and Law Enforcement, a representative of the Koror Department of State and Cultural Affairs, a representative of the Koror Youth Council, the Executive Director of Palau Conservation Society, the CEO of Palau International Coral Reef Center and a local representative of the Nature Conservancy Palau Field Office.

At the March 2023 project steering committee meeting, where it was decided which priority resilience challenges would progress forward for implementation, the committee invited several important guests to attend. The guests included Delegate Mengkur Rechelulk (representing Koror in the House of Delegates, national congress), the Chair and Vice Chair of the Palau Conservation Society Board of Directors, TJ Imrur

Remengesau and King Sam, and two guests, Jewin Umang and Marhine Etibek of the Ngaramaiberel women's group.

The role of the Project Steering Committee was to provide strategic advice to the project on the development and implementation of this Resilience Strategy, including key documents and project plans. The Project Steering Committee identified, discussed and confirmed a set of resilience challenges for the RISL and decided which resilience challenges will take priority to move forward for actions.



*Figure 12 Project Steering Committee Meeting, March 2023*

**Resilience action workshops with the Palau Conservation Consortium.** 39 members of the Palau Conservation Consortium were engaged. The Palau Conservation Consortium is a voluntary consortium made up of primarily technical individuals who take a particular interest in conservation-related matters. The individuals who make up the Consortium often come from agencies with conservation-relevant missions. The individuals also have some level of decision-making capacity within their agency. Meetings usually occur at the call of any member who seeks participation or input on an initiative or project or would like to report research study results and new regulations.

The Consortium has been actively engaged in the RISL RRI process. Two resilience action workshops were carried out with members supporting on the design of actions to address priority Resilience Challenges. These actions were subsequently submitted to RRI Design and Funding Round in April 2023. For both workshops, 39 people, including individuals from partner agencies, other NGOs, and Department Directors from Koror State Government, participated in the workshops. It was particularly unique and effective to have KSG Department Directors co-designing actions with the technical members of the Consortium.



*Figure 13 Palau Conservation Consortium Resilience Action Workshop, March 2023*

## 2.3 STRUCTURE OF THIS STRATEGY

This Resilience Strategy is structured around three overarching Goals from the RISL Management Plan<sup>1</sup> and four priority Resilience Challenges identified through the RRI process. Input was sought from the community, technical stakeholders, and the Steering Committee to finalise the list of Resilience Challenges. Clustered under these are the four Actions and twelve sub-actions that have secured funding from RRI, and implementation of these actions will commence in late 2023 (Figure 14). Given the close alignment to the RISL Management Plan, this Strategy is, in effect, a vehicle to drive implementation of the RISL Management Plan and institutionalise resilience principals into broader reef management in Koror.

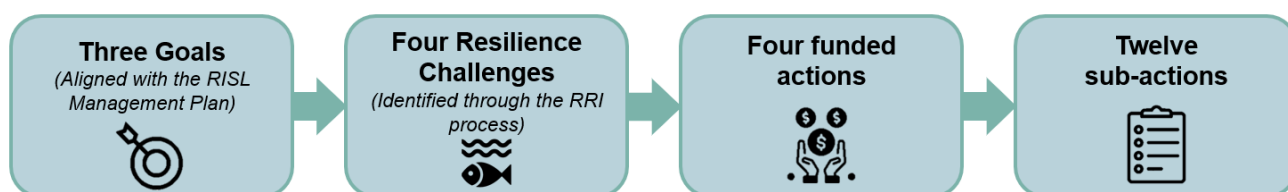


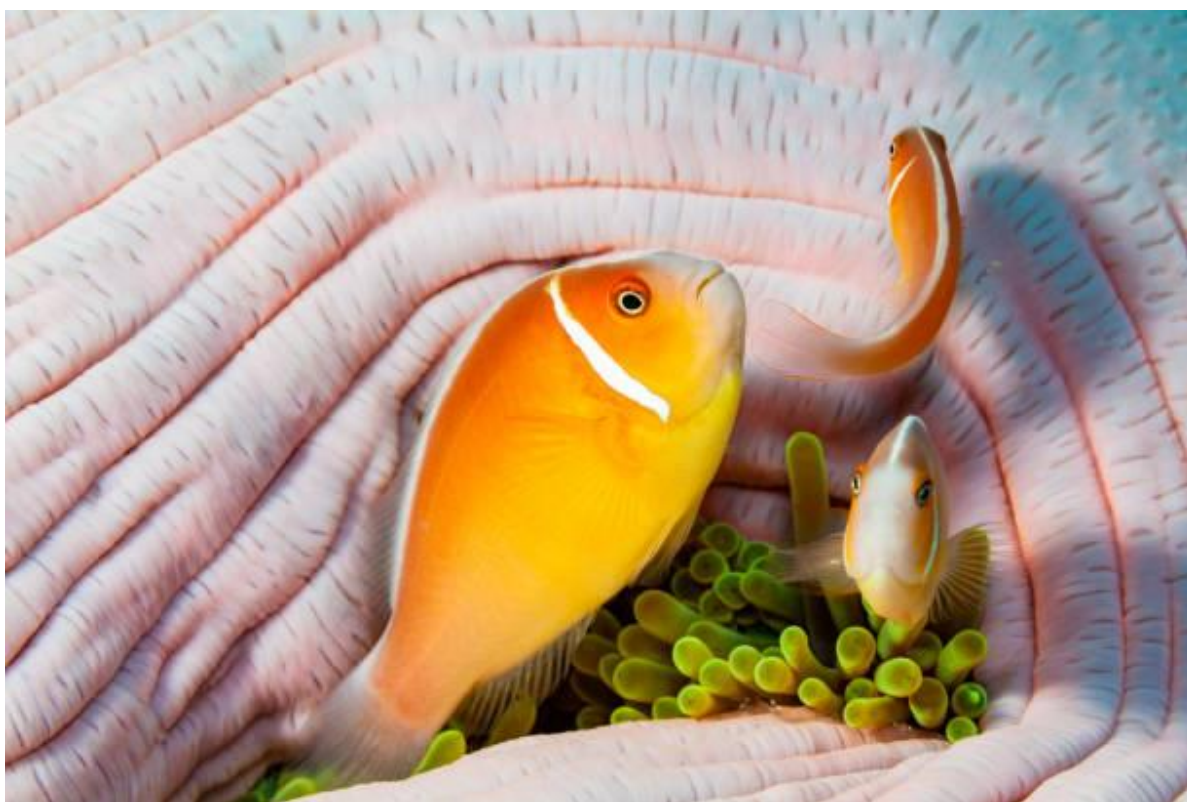
Figure 14 Organising framework for this Resilience Strategy for the Rock Island Southern Lagoon

An overview of the Resilience Challenges, three Goals, and four Actions are outlined in **Table 1**. The Resilience Challenges for the RISL are identified in Section 1.4, with further detail provided in Appendix A.

Table 1 Overview of the Resilience Strategy Challenges, Goals and Actions

<b>Goals</b>  (From the RISL Management Plan)	<b>Goal A.</b> Strengthened community and Koror State Institutional Capacity to steward and sustainably manage the RISL.	<b>Goal B.</b> The value of the natural, cultural and historical sites as the legacy of the people of Koror State are maintained and preserved.	<b>Goal C.</b> Strengthened social and economic resiliency and wellbeing of Koror communities through healthy ecosystems and biodiversity in the RISL
<b>Priority Resilience Challenges</b>  (Identified through the RRI process)	<b>Challenge 3:</b> Adaptive management  <b>Challenge 4:</b> Sustainable Financing	<b>Challenge 1:</b> Preservation of Cultural and Historical Sites and Practices	<b>Challenge 2:</b> Managing fisheries
<b>Actions Funded by RRI</b>	<b>Action 1.</b> Adaptively manage the Rock Islands Southern Lagoon.  <b>Action 2.</b> Enhancing sustainable financing mechanisms to ensure resilient financing support for the RISL.	<b>Action 3.</b> Building resilience through the preservation of cultural and historical sites and practices.	<b>Action 4:</b> Operationalize the Koror Fisheries Management Plan to increase the resilience of coastal fisheries resources in the RISL.

In addition to aligning with the RISL Management Plan Goals, it is also worth noting that there is strong alignment between this Strategy and the Koror State Planning Team's [Development Vision and Core Values for the RISL](#) which were developed in 2021.<sup>xvi</sup> This Vision and the corresponding Values are strong; however, they have not been sufficiently integrated with the management of the reef within the RISL. Thus, this Strategy is an opportunity to integrate the KSG Vision and Values with the RISL management Goals and leverage other recent planning efforts. By highlighting the Vision and Values in this Strategy, those responsible for bringing this Resilience Strategy to life will reconnect to the Vision and Values and ensure they are front of mind as Actions are being implemented. See Appendix B for how this Strategy maps to other plans and policies and where there are remaining key funding and action gaps.



*Figure 15 Pink Anemonefish Amphiprion perideraion in the tropical western pacific*

## 2.4 STRATEGY ACTIONS

### **GOAL A – Strengthened community and Koror State Institutional Capacity to steward and sustainably manage the RISL**

This goal relates to having appropriate institutional arrangements, such as transparent organizational structures, clearly defined roles and responsibilities, proper operating procedures, and adequate human resources to get the job done. This type of institutional capacity will be crucial for effective management which protects ecological health and builds long term resilience. In addition, responsible stewardship of RISL requires that the community is active and engaged ensuring benefits are equitably distributed to the people of Koror and Palau.



## Action 1. Adaptively manage the Rock Island Southern Lagoon

*Partners: Palau Conservation Society, The Nature Conservancy, Koror Office of the Governor, Administration*

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**Background:** The RISL is Palau's iconic center piece of identity and culture, and a source of economic prosperity. A deep respect for the RISL by Palauans is a nod to the historical connection and beginnings, and how this area has shaped identity and a way of life. However, climate change projections for Palau indicate that bold action is needed to build resilience now or risk losing this centerpiece. The anticipated sea level rise, tropical storms, warming temperature and coral bleaching are some of the familiar stressors experienced in recent years in the RISL. This increasing uncertainty and frequency of climate events requires that the management of the RISL is nimble and able to continuously learn from past events and management interventions. As explored in **Section 1.3**, Palau has demonstrated that protecting biodiversity, ecosystems, and the security of its people is the priority. However, the capacity of the organisations responsible for reef management to effectively plan, monitor, reflect, learn and rapidly adapt or respond to what lies ahead continues to lag both at the institutional and operational levels.

### Sub-actions:

Adaptive management is a broad topic and can look different from place to place. There are many different types of adaptive management including Strategic Adaptive Management, Adaptive Co-Management or Adaptive Institutional Capacity. Given this wide variation in focus areas and approaches, this action requires some additional scoping in order to clearly define the work and determine what will work best in the context of Palau's changing climate and the vulnerabilities that the community faces because of this. Scoping will be the first step and the rest will follow including the following actions:

- 1) Using the institutional capacity assessment which was previously funded by RRI as a starting point, collaborative conversations will be held to further identify and map barriers to adaptive management to inform detailed work planning and training for all levels of KSG. These collaborative conversations will occur across all departments of Koror State to ensure silos are broken and new and efficient channels of communication can be established (this will be increasingly more important as climate disasters become more frequent and intense), and state wide systems (including data management and Monitoring, Evaluation and Learning systems) can be established.
- 2) Recruit and hire communications programs officer who will develop and lead a Coordinated Communications Awareness and Outreach Plan for more effective engagement both internally and externally with local and international communities.
- 3) Develop an Organisational Adaptive Management Strategy and Professional Development Plan and begin internal training to build the skills and capacity of all staff to institutionalise adaptive management practices.

**Indicative implementation dates:** October 2023 – September 2024

**Budget:** USD\$150,000

**Anticipated outcome:** This action aims to address the gaps in the State's capacity to manage adaptively, apply best practices and establish a learning by doing culture based on strong monitoring and evaluation. It is expected that improving communication both internally at KSG and externally with the community will accelerate learning within the State – particularly in the face of increasing uncertainty, enhance and reduce time frames around decision making and foster deeper partnerships with the community for shared decision making and increased stewardship.

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## Action Alignment

### RESILIENCE CHALLENGE

*Resilience Challenge 3 - Adaptive Management*

### RESILIENCE FRAMEWORK ATTRIBUTES

- Rules & Regulations
- Representation & Inclusion
- Leadership & Management
- Accountability and Equity
- Knowledge & Stewardship
- Networks & Relationships



## Action 2. Enhancing sustainable financing mechanisms to ensure resilient and on-going management

*Partners: Koror Department of Treasury and Finance, Palau Conservation Society, The Nature Conservancy*

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**Background:** Koror State Government has grown and prospered from revenue derived from the State's Rock Island User Fee (mostly from tourists) as its primary source of income. The calamitous impact of the COVID-19 global pandemic – and associated shut down of tourism - demonstrated the risks of the State's reliance on a single revenue stream - the Rock Islands User Fee. The result of this loss of revenue was the cutback of management operations within the RISL. As there are increasingly more risks and possible disruptions within global markets it will be essential to build more redundancy and more income streams for generating revenue for reef management in Palau. There are several grant options available locally and potentially some more complex but impactful innovative finance options available globally. These options should be investigated, assessed and implemented where feasible and the current Rock Islands User Fee should be assessed and adapted if there is room for improvement.

### **Sub actions:**

- 1) Conduct an economic analysis of the existing user fee structure and State laws and develop a budget linked to the current RISL management plan broken down to specific activities/programming areas, and with priorities and budget scenarios (including climate related scenarios such as an extreme bleaching or storm event) to implement a result-based budgeting process linked to the RISL management plan and changing climate conditions.
- 2) Improve capacity of the State to apply for grant opportunities, including hiring an additional accountant within the Finance Department for the sole focus on special projects and grants accounting. Assess current membership in and financing opportunities associated with Palau's Protected Areas Network
- 3) Investigate a range of innovate finance mechanisms, including climate finance, to determine suitability for Koror State, it's people and the reef ecosystems it manages, and reinvest revenue into a fund or other structure where appropriate

**Indicative implementation dates:** October 2023 – September 2024

**Budget:** USD\$150,000

**Anticipated outcome:** This action aims to identify and secure new sources of revenue streams for sustainable financing, diversify revenue and reduce reliance on the Rock Islands User Fee.

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## Action Alignment

### RESILIENCE CHALLENGE

*Resilience Challenge 4 - Sustainable Financing*

### RESILIENCE FRAMEWORK ATTRIBUTES

- Rules & Regulations
- Leadership & Management
- Accountability & Equity



## GOAL B – The value of the natural, cultural and historical sites as the legacy of the people of Koror State are maintained and preserved

The RISL has unique biological and ecological attributes, making the RISL one of the most diverse marine ecosystems globally. In addition, there are cultural and historical sites within RISL that define Palauans' human settlement and connections to clans and communities throughout Palau. These unique attributes contributed to its inscription into UNESCO's World Heritage Area and are essential to maintain in order to showcase the uniqueness of Koror's diverse marine ecosystem as well as the cultures of Palau.

### Action 3. Building resilience through the preservation of cultural and historical sites and practices

*Partners: Bureau of Arts & Culture, The Department of State and Cultural Affairs*

**Background:** The Rock Islands or "Ocheall", meaning "rocky place", is a living archive of and connection to Palau's culture and migration history through the prehistoric rock paintings and archaeological remains of abandoned settlements. The people of Koror and other areas of Palau trace their ancestry to the Rock Islands and oral histories of these areas recount the movement of people from the Rock Islands through Palau. These oral histories place social groups and customary practices. Evidence of earliest human activity in the Rock Islands is believed to date back to 650AD<sup>xvii</sup>. While uninhabited today, the connection of families, clans and villages to the rock islands has implications to chiefly titles and property ownership. Today, oral histories are accepted by Palau's courts, and become important in court when there are disputes over rights to chiefly titles or properties.

The significant aesthetic and cultural values of the landscape of the Rock Island Southern Lagoon are integral to the identity of the nation as well as the cultural practices and knowledge. However, climate change and human-induced actions are degrading historical and cultural sites, leading to the loss of cultural practices and knowledge. Given the significance of cultural sites, the need to protect these sites is critical. Long term protection and management requirements for the site include preventing negative impacts from tourism, maintaining access restrictions to vulnerable areas, ensuring visitor numbers are within the capacity of the site, and mitigating adverse effects from weathering, climate change and development of infrastructure and facilities in Koror. However, these precious sites are not systematically preserved or maintained and there are no standard operating procedures - based on best practice guiding work on cultural sites within the RISL. This action will ensure management institutions have the capacity to properly maintain the assets, a plan will be in place to guide management and community engagement, storytelling will be prioritised to ensure knowledge is passed down to the next generation and a database of assets will be established.

#### Sub-actions:

- 1) **Develop** standard operating procedures for site maintenance and preservation which is based on global best practice, train departmental staff in these methodologies and build capacity for effective management of cultural assets.
- 2) **Develop** a database of cultural sites, legislate maintenance of sites and establish annual workplans to ensure proactive management. Conduct pilot projects to test protocols and methodologies and adapt as needed.
- 3) **Enable** community partnerships to implement pilot projects fostering traditional stewardship of cultural assets and host cultural storytelling events bringing the old and young together to pass knowledge on

**Anticipated outcome:** The value of cultural and historical sites and practices are maintained and preserved as the legacy of the people of Koror State. To ensure the Department of State & Cultural Affairs has the skills, knowledge and tools to develop plans, integrate technical assistance, to effectively maintain and preserve cultural resources of the RISL.

**Indicative implementation dates:** October 2023 – September 2024

**Budget:** USD\$170,000

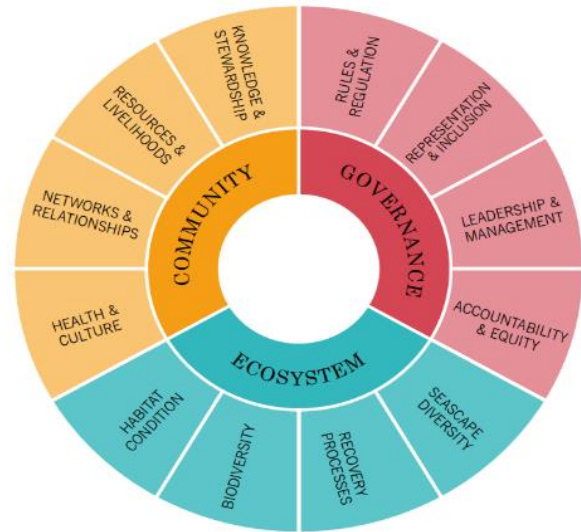
### Action Alignment

## RESILIENCE CHALLENGE

*Resilience Challenge 1 - Preservation of cultural and historical sites and practices*

## RESILIENCE FRAMEWORK ATTRIBUTES

- Health & Culture
- Network & Relationships
- Knowledge & Stewardship
- Rules & Regulations
- Representation & Inclusion
- Leadership & Management



## **GOAL C – Strengthened social and economic resilience and wellbeing of Koror communities through healthy ecosystems and biodiversity of the RISL**

The people of Palau and the national economy depend on the RISL resources for food security, livelihoods, connection to culture and tourism revenues. It is crucial to ensure effective policies so that Palauans continue to derive benefits from fisheries and income from tourism that contribute to the social and economic resilience of the people of Koror and Koror State Government.

### **Action 4. To operationalize the Koror Fisheries Management Plan to increase the resilience of coastal fisheries resources in the RISL**

*Partners: The Department of Conservation and Law Enforcement, Palau Conservation Society, Bureau of Fisheries, Palau International Coral Reef Center, The Nature Conservancy*

**Background:** The RISL is one of the most prolific coral reef ecosystems, thus a seemingly endless fish basket for the largest urban population of Palau. As a result, Koror waters are intensely fished for subsistence and domestic commercial purposes. Fishermen are expressing concern about declining fish stocks. Research from 2012 to 2017 confirmed not only are the Koror waters overfished, but all of Palau's waters are overfished. Koror has followed two other states of Palau to develop a coastal fisheries management plan. The State created a community planning team composed of traditional chiefs and fishers (men and women) to develop a Fisheries Management Plan (FMP). The team worked closely with scientists, researchers, and managers from the local fisheries agency partnership group to develop and complete the Plan with community support and endorsement. The FMP was the first for Koror State and has the potential for impactful on-ground outcomes, due to the fact that it is a multi-species plan, expertly drawing on traditional and contemporary knowledge, and the first time that fish catch has been regulated in Palau's most populous state where fish are the cornerstone of culture and tradition. This action will see the FMP transition from a plan on the shelf to on-ground engagement, operation, and implementation of regulations which were designed based best practices and traditional conservation ethics.

#### **Sub-actions:**

- 1)** Build capacity at Koror State for local level fisheries management including hiring a fisheries coordinator, coordinating with other key stakeholders (such as PICRC) to design shared responsibility around monitoring and evaluation
- 2)** Strengthen enforcement capability at KSG including installing demarcation bouys around closed areas and embedding new monthly full moon surveillance routines into existing surveillance program
- 3)** Develop a community engagement plan with the Ministry of Education, fishermen and boaters and carry out engagement activities which build awareness of new regulations and help to communicate the tangible and intangible value of fisheries and traditional conservation ethics.

**Indicative implementation dates:** September 2023 – February 2025

**Budget:** USD\$150,000

**Anticipated outcome:** This action aims to strengthen and sustain engagement of community participation in fisheries and management and communicate the tangible and intangible value of fisheries and traditional conservation ethics.

## Action Alignment

### RESILIENCE CHALLENGE

*Resilience Challenge 2 - Managing Fisheries*

### RESILIENCE FRAMEWORK ATTRIBUTES

- Habitat Condition
- Recovery Process
- Seascape Diversity
- Biodiversity
- Rules & Regulations
- Representation & Inclusion
- Leadership & Management
- Health & Culture
- Resources & Livelihoods
- Knowledge & Stewardship







3

## Implementing the Resilience Strategy



## 3 IMPLEMENTING THE RESILIENCE STRATEGY

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### 3.1 AN INVITATION TO ALL TO BUILD THE RESILIENCE OF THE RISL

This Resilience Strategy identifies four Actions that will build resilience of the Rock Islands Southern Lagoon and the Koror community. The Actions identified in this Strategy have secured funding through a Resilient Reefs Initiative Design and Funding Round. However, more actions could be designed and implemented to address the remaining Resilience Challenges identified in Table 2.

In particular, Resilience Challenge 5 relates to sea level rise, inundation and flooding and the impact on vulnerable communities. Mangrove and reef restoration have been identified as potential solutions to help reduce inundation and protect coastal communities. Restoration of a range of ecosystems will be increasingly important, particularly as El Nino conditions worsen of the next 2-3 years.

This Strategy provides a strategic and coordinated framework that is based on deep community engagement and has leadership buy in. Other partners could therefore pick this up and advance the work. At a time when adsorptive capacity is low and duplication and lack of coordination are at an all-time high, this Strategy is more important than ever.

Appendix B outlines the gaps and opportunities for future work to advance the RISL's resilience, which became evident through mapping the Resilience Challenges against other Koror State Government planning documents and the Sustainable Development Goals. For example, further work is required to address marine pollution and the diversification of the tourism sector. Strong technical and governance bodies have been set up to support this Strategy and could be built on to accelerate action.

### 3.2 A CONSIDERED APPROACH TO IMPLEMENTATION

The Koror State Government has limited adsorptive capacity and - as is common in many public sector institutions around the world - staff are often at oversubscribed. Given that this Strategy outlines four funded Actions that will be implemented between 2023 – 2025 it is recommended that future funding and partnerships linked to this Strategy carefully consider timing as well as funding operational gaps such as personnel and staff time. Although not a common line item in funding and grant rounds, these gaps are key to building the enabling environment and ensuring that actions are delivered to achieve long term outcomes. Careful consideration of timing and real funding gaps by philanthropists and donors when partnering with KSG will empower the KSG to work efficiently and effectively within its constraints by staging and sequencing actions realistically while also considering competing priorities.

This Resilience Strategy includes a review cycle to monitor progress and make necessary adjustments. The implementation period for the four funded Actions is scheduled from September 2023 to mid-2025, with specific milestones to be achieved within 18 months. Additionally, a comprehensive two-year review will be conducted in alignment with the review of the RISL Management Plan. This review cycle allows the opportunity to adapt to changing circumstances and challenges, making the necessary improvements to achieve the Actions effectively.



### 3.3 IMPLEMENTATION THROUGH PARTNERSHIPS

The Koror State Government enjoys and benefits from many agency partners, businesses, NGOs and community groups. In this process, 13 partners assisted in developing the Actions. Five of these partners, agencies and NGOs have committed to assisting KSG in the implementation of the Actions.

The partners bring a wealth of experience and expertise from their fields to help ensure the successful implementation of the Actions. The partners include the Bureau of Arts and Culture, Bureau of Fisheries, Palau Conservation Society, Palau International Coral Reef Center and The Nature Conservancy, Koror Office of the Governor, Koror Department of Conservation and Law Enforcement and Koror Department of Treasury and Finance.

Collaboration and learning are essential for the successful implementation of this Resilience Strategy. When working with implementing partners, it will be necessary to gather feedback along the way, value shared learning and use the input to drive adaptation, innovation and improved implementation.

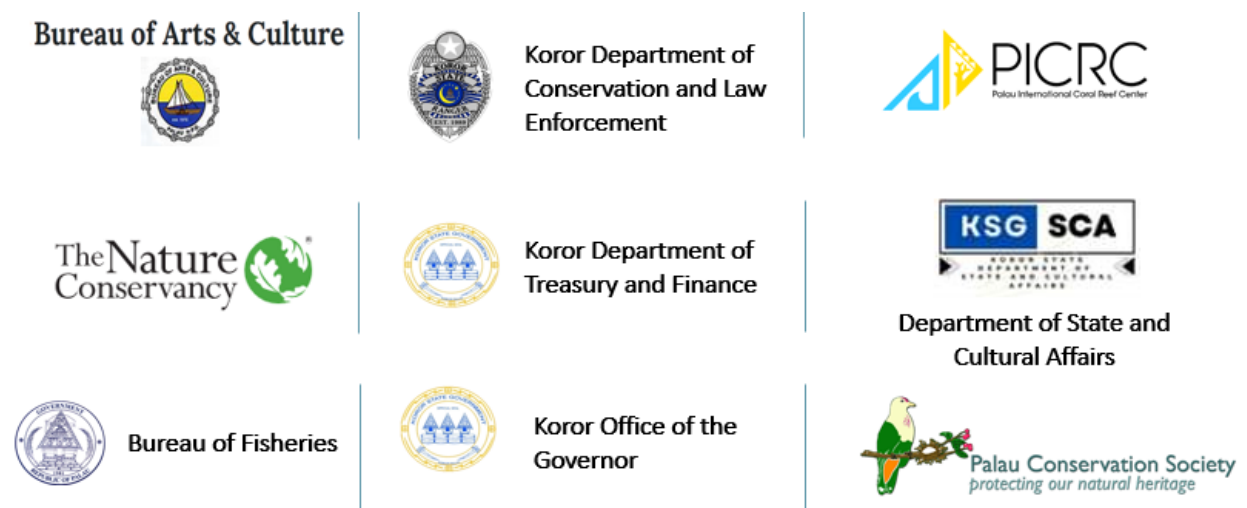


Figure 16 Implementing Partners



### 3.4 PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS

Palau committed to achieving the 17 Sustainable Development Goals (SDGs) and embraced the United Nations 2030 Agenda. Palau was one of the first Pacific Island nations to craft a Voluntary National Review (VNR) of SDGs. The review found that while Palau is on track to realize many SDG targets, others need additional effort. This Resilience Strategy aligns with three SDG goals and focuses on five targets with localized objectives. This Strategy will directly contribute to progress on the SDGs and will contribute to the reporting undertaken at the national-level on Palau's progress against these targets. Figure 17 below outlines this Strategy's alignment with the SDG goals.

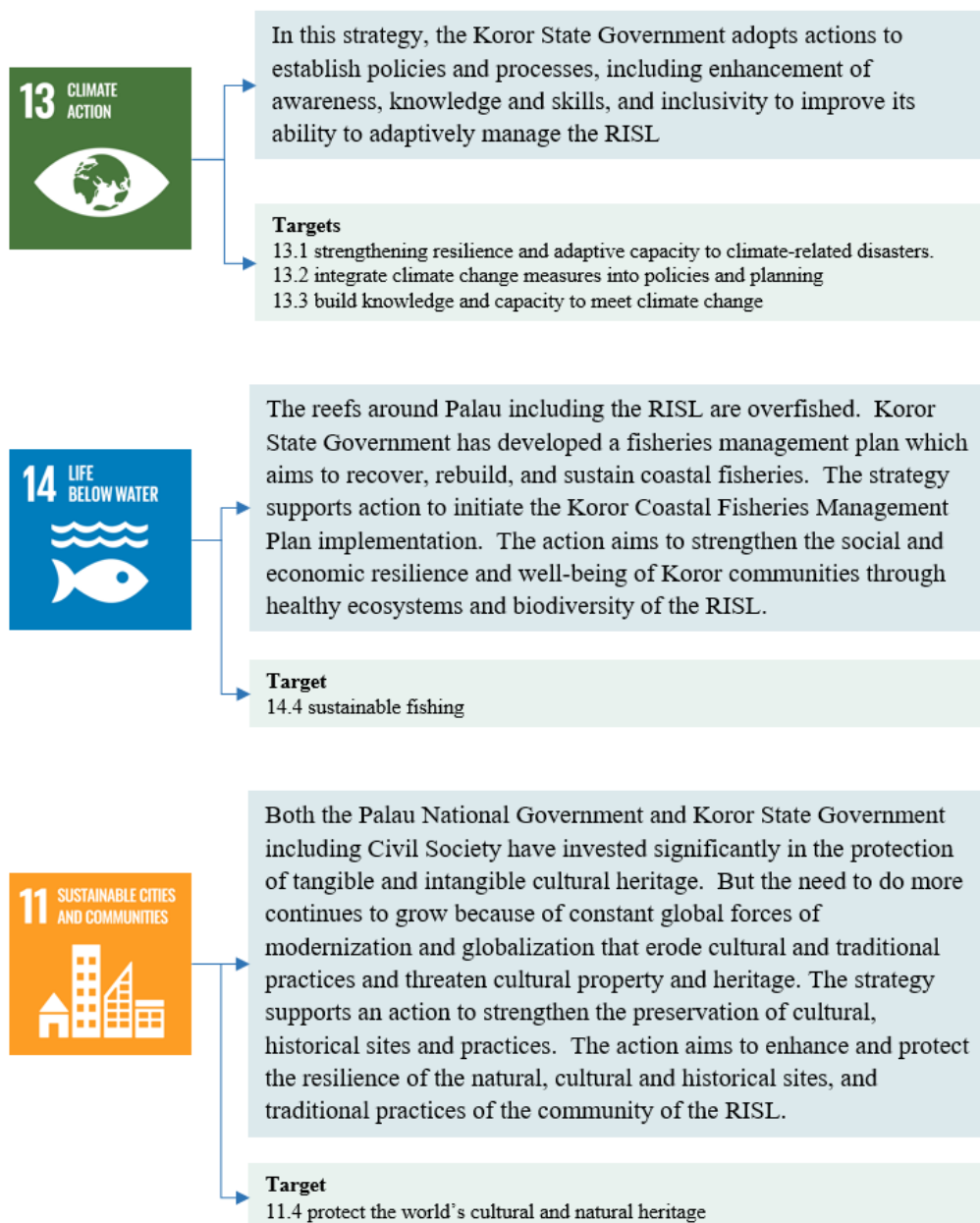
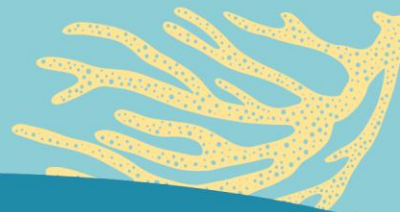


Figure 17 RISL Resilience Strategy alignment to SDG goals



# Appendix

**A**



# Appendix A

This section outlines the problem statements that this Strategy seeks to address to build the resilience of the RISL. These problem statements are referred to as ‘Resilience Challenges’.

Nine priority challenges were initially identified through the Resilience Summary<sup>xviii</sup>, which provided a baseline understanding of resilience in the RISL. The Steering Committee then prioritized challenges with inputs from the consultation meetings with the community Focus Groups to align on four priority Resilience Challenges.

Table 2 Resilience challenges, as identified in the Resilience Summary<sup>xiv</sup>

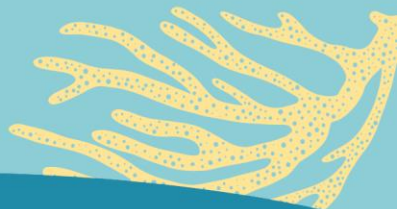
Resilience Challenge	Description
<b>Resilience Challenges (in order of priority)</b>	
<b>Resilience Challenge 1: Cultural and Historical Sites and Practices are being degraded and lost</b>	<p>Climate change and human-induced actions are degrading historical and cultural sites, leading to cultural practices and knowledge loss.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Climate change impacts, natural weathering, loss of awareness, limited conservation and lifestyle changes are causing this degradation.</li> <li>• There is an opportunity to restore historical and cultural sites by developing site plans and increasing awareness in promoting traditional stewardship.</li> </ul>
<b>Resilience Challenge 2: Reef fish stocks are declining</b>	<p>Fisheries management needs to balance community fishing needs while protecting current and future fish stocks.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Fishers and the community rely on the reef for their livelihood and subsistence.</li> <li>• Due to overfishing and natural and non-natural catastrophes, there is a decline in fish stocks and invertebrates.</li> <li>• There is an opportunity to improve the regulation and scientific monitoring for protective measures to restore the reef's health.</li> </ul>
<b>Resilience Challenge 3: Management can be slow to respond and does not currently include a culture of learning and adapting as the climate and other threats change and intensify</b>	<p>Site managers should have the skills and capacity to regularly review and update management interventions and strategies as new evidence and learning emerges.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• There is a need to build the site manager's capacity and leadership skills to manage the reef effectively and efficiently with emerging science.</li> <li>• There is currently a gap between science data, policy, and management regulations.</li> <li>• There is an opportunity for increased awareness, training, and information sharing. There is an opportunity for co-management between communities, partners, and neighbouring states. In addition, the opportunity to strengthen the consistency of institutional capacity.</li> </ul>
<b>Resilience Challenge 4: State Financing is primarily based on tourism and is vulnerable to market shocks and volatility</b>	<p>There is a need for sustainable financing to ensure that management activities and programs have funding to continue implementation.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Many initiatives can be progressed to build the resilience of the RISL. However, current funding arrangements are currently not sufficient.</li> <li>• In addition to managing the RISL, the Koror State Government has many other competing resource priorities. Therefore, funding must come from multiple sources.</li> <li>• There is the opportunity to assess current funding mechanisms and explore new revenue-generating activities.</li> </ul>
<b>Other Resilience Challenges identified through the RRI process</b>	

Resilience Challenge	Description
<b>Resilience Challenge 5: Vulnerable communities are impacted by storm surges and sea level rise</b>	<p>Coastal communities are vulnerable to the increasing severity and frequency of storm surge events and sea level rise.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Coastal communities are experiencing and will continue to experience damage to their properties.</li> <li>• Communities live in areas where mangroves previously grew, exposing these communities to increasing sea level rise and storm surges.</li> <li>• There is the opportunity to explore options to protect these coastal communities, including restoring the reef and mangrove species to buffer the impact of waves.</li> </ul>
<b>Resilience Challenge 6: Pollution is impacting the marine environment</b>	<p>There is a need to prevent and manage pollution (e.g. plastics, sewerage) to protect the reef ecosystem.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Pollution, mainly from the land, is impacting the reef ecosystem.</li> <li>• This occurs due to increased land development, including housing and other accommodations.</li> <li>• There is an opportunity for land-use master plans that are both SDG and climate-informed to manage current development pressures.</li> </ul>
<b>Resilience Challenge 7: Local communities are not benefitting from Global Climate Investment</b>	<p>Palau is not realizing the full potential of the increasing global investment in climate mitigation and adaptation initiative.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Palau increasingly identifies climate adaptation and mitigation projects and initiatives requiring national and state investment.</li> <li>• Although global climate funding supports much work already underway locally, this work is often conducted in siloed projects with limited coordination across communities and governments.</li> <li>• There is an opportunity for capacity building in Palau's leadership, local communities and businesses to access global funding for adaptation initiatives. This includes the opportunity for a Governor's climate retreat championed by the Koror Governor.</li> </ul>
<b>Resilience Challenge 8: Ecosystem biodiversity is declining</b>	<p>Ensuring effective response plans are in place to enable recovery in disaster events to protect and manage RISL's ecosystems.</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Unless coral species adapt to warmer conditions, coral reef areas in Palau are currently projected to experience annual severe bleaching by 2048, some areas expect to experience these conditions beginning 2035<sup>xi</sup>.</li> <li>• Marine heatwaves, flooding, typhoons, and human-induced disturbances such as ship-ground and invasive species are causing a significant negative impact on the ecosystem and the communities that rely on them.</li> <li>• Although climate change is outside Palau's control, Palau can control the response and recovery from the events.</li> <li>• There is the opportunity to develop approaches to improve the immediate response to and recovery from disturbance, including response plans that outline procedures and key staff required for deployment following an event (e.g. to limit other pressures on the reef for short periods).</li> </ul>
<b>Resilience Challenge 9: Economic and livelihood opportunities are narrowly reliant on the reef</b>	<p>Tourism and livelihoods rely heavily on the reef, which puts pressure on the ecosystem and increases Palau's vulnerability to external threats (e.g. COVID-19)</p> <p>Explanation:</p> <ul style="list-style-type: none"> <li>• Current economic and social pressures exist on the Palau community, partly due to COVID-19 and limited economic opportunities.</li> <li>• The current economy relies on the tourism revenue attracted by Palau's marine site, relying heavily on the reef ecosystem and habitat.</li> <li>• There is an opportunity to implement a range of economic opportunities, including the potential of aquaculture, alternative livelihoods and others.</li> </ul>



# Appendix

# B





## Appendix B

### Alignment of the RRI Resilience Challenges with other planning documents and identified funding and action gaps

RRI Resilience Challenge	RISL Management Plan (2023) Goals and supporting management strategies	The Palau Climate Change Policy – ‘Visions’	Palau’s Protected Areas Network Objectives	Sustainable Development Goals and UNESCO OUV criteria	Funding / action gaps <sup>1</sup>
<b>Resilience Challenge 1: Cultural and Historical Sites and Practices are being degraded and lost</b>	<p>Goal B. Keeping values and legacy.</p> <p>Management Strategy 2 – Protection and sustainability of diversity</p>	<p>The people of Palau are resilient to climate change /disasters and continue to protect and benefit (equitably) from our diverse natural and cultural heritage.</p> <p>Future Palauan generations will be proactive, knowledgeable and accountable and will use traditional and new adaptation and mitigation tools to promote positive behaviour change.</p>	<p>Nurture and sustain Palauan culture by preserving and maintaining the landscapes, artifacts and oral traditions associated with the stonework village sites in the RISL, and preserve Koror’s historical sites.</p>	<p><b>SDG 11</b></p> <p>Target 11.4 protect the world’s cultural and natural heritage</p> <p><b>UNESCO Criterion (iii) –</b> cultural tradition</p>	<p><b>Funded project:</b> Action 3. Building resilience through preservation of cultural and historical sites and practices</p> <p><b>Further funding and partnership required can address this Challenge. Options include:</b></p> <p>Adaptation Plan to manage tangible cultural and historical assets.</p> <p>Documentation of traditional practices of management and use of natural resources.</p>
<b>Resilience Challenge 2: Reef fish stocks are declining</b>	<p>Goal B. Keeping values and legacy.</p> <p>Management Strategy 2 – Protection and sustainability of diversity.</p>	<p>The people of Palau are resilient to climate change / disasters and continue to protect and benefit (equitably) from our diverse natural and cultural heritage.</p>	<p>Maintain the full range and richness of biological diversity, species habitats, ecological processes and high environmental quality of the RISL.</p>	<p><b>SDG 14</b></p> <p>Target 14.4 sustainable fishing</p>	<p><b>Funded project:</b> Action 4. To operationalize the Koror Fisheries Management Plan to increase the resilience of coastal fisheries resources in the RISL.</p>

<sup>1</sup> - Note that any additional or future actions must be designed through deep engagement with the community and local governance.

RRI Resilience Challenge	RISL Management Plan (2023) Goals and supporting management strategies	The Palau Climate Change Policy – ‘Visions’	Palau’s Protected Areas Network Objectives	Sustainable Development Goals and UNESCO OUV criteria	Funding / action gaps <sup>1</sup>
		A resilient, sustainable and food secured Palau.	Subsistence and commercial fishing and other extractive activities in the RISL are environmentally and economically sustainable and culturally compatible, and provide continued benefits to the people of Koror and Palau	<b>UNESCO Criterion (v) –</b> traditional human settlement	<b>Further funding and partnership required can address this Challenge.</b> <b>Options include:</b> Vulnerable Marine Species Management
<b>Resilience Challenge 3: Management can be slow to respond and does not currently include a culture of learning and adapting as the climate and other threats change and intensify</b>	Goal A. Elevating community and institution.  Management Strategy 6 – Koror State Government institutional capacity development	N/A	Improve the institutional capacity of Koror State Government to effectively manage the RISL, focusing on strengthening regulatory frameworks, enforcement and surveillance, and building relationships and communication with key organizations and stakeholders relevant to the implementation of activities.	<b>SDG 13</b>  Target 13.1 strengthening resilience and adaptive capacity to climate-related disasters  <b>UNESCO Criterion (v) –</b> traditional human settlement	<b>Funded project:</b> Action 1. Adaptively manage the Rock Island Southern Lagoon  <b>Further funding and partnership required can address this Challenge.</b> <b>Options include:</b> Long-term human resource capacity building and training.
<b>Resilience Challenge 4: State Financing is primarily based on tourism and is vulnerable to market shocks and volatility</b>	Goal C. Strong social and economic wellbeing.  Management Strategy 5 – Tourism and economic development.	To have a responsible, dynamic, transparent, sustainable and profitable climate / disaster resilience low-carbon economy.	N/A	<b>SDG 13</b>  Target 13.1 integrate climate change measures into polices and planning  <b>UNESCO Criterion (v) –</b> traditional human settlement	<b>Funded project:</b> Action 2. Enhancing sustainable financing mechanism to ensure a resilient financing support for the RISL

RRI Resilience Challenge	RISL Management Plan (2023) Goals and supporting management strategies	The Palau Climate Change Policy – ‘Visions’	Palau’s Protected Areas Network Objectives	Sustainable Development Goals and UNESCO OUV criteria	Funding / action gaps <sup>1</sup>
<b>Resilience Challenge 5: Vulnerable communities are impacted by storm surges and sea level rise</b>	<p>Goal A. Elevating community and institution.</p> <p>Management Strategy 1- Facilitation of community participation and inclusion.</p>	To conserve and protect the island nation and it’s communities from climate change and disaster impacts.	N/A	<p><b>SDG 13</b></p> <p>Target 13.1 strengthening resilience and adaptive capacity to climate-related disasters</p> <p><b>UNESCO Criterion (v) –</b> traditional human settlement</p>	<b>Further funding and partnership required to address this Challenge.</b>
<b>Resilience Challenge 6: Pollution is impacting the marine environment</b>	<p>Goal B. Keeping values and legacy.</p> <p>Management Strategy 2 – Protection and sustainability of diversity</p>	<p>Healthy people in resilient communities.</p> <p>The people of Palau are resilient to climate change / disasters and continue to protect and benefit (equitably) from our diverse natural and cultural heritage.</p>	Maintain the full range and richness of biological diversity, species habitats, ecological processes and high environmental quality of the RISL	<p><b>SDG 11</b></p> <p>Target 11.4 protect the world’s cultural and natural heritage</p> <p><b>UNESCO Criterion (vii) -</b> superlative natural phenomena</p>	<p><b>Further funding and partnership required to address this Challenge.</b></p> <p>Pollution was identified as greatest threat to the RISL by community members. Currently, KSG responds to marine pollution through clean up trips and operates the recycling centre. In future work KSG could partner with the National Government to progress policies at a national level that reduces plastic waste.</p>
<b>Resilience Challenge 7: Local communities are not benefitting from Global Climate Investment</b>	<p>Goal A. Elevating community and institution</p> <p>Management Strategy 6 – Koror State Government</p>	To have a responsible, dynamic, transparent, sustainable and profitable climate / disaster resilience low-carbon economy.	N/A	<p><b>SDG 13</b></p> <p>Target 13.1 integrate climate change measures into polices and planning</p>	<b>Further funding and partnership required to address this Challenge.</b>

RRI Resilience Challenge	RISL Management Plan (2023) Goals and supporting management strategies	The Palau Climate Change Policy – ‘Visions’	Palau’s Protected Areas Network Objectives	Sustainable Development Goals and UNESCO OUV criteria	Funding / action gaps <sup>1</sup>
	institutional capacity development			<b>UNESCO Criterion (v)</b> – traditional human settlement	
<b>Resilience Challenge 8: Ecosystem biodiversity is declining</b>	<p>Goal B. Keeping values and legacy.</p> <p>Management Strategy 2 – Protection and sustainability of diversity</p>	The people of Palau are resilient to climate change / disasters and continue to protect and benefit (equitably) from our diverse natural and cultural heritage.	Maintain the full range and richness of biological diversity, species habitats, ecological processes and high environmental quality of the RISL	<p><b>SDG 13</b></p> <p>Target 13.3 build knowledge and capacity to meet climate change</p> <p><b>UNESCO Criterion (vii), (ix), (x)</b></p>	<p><b>Further funding and partnership required to address this Challenge. Options include:</b></p> <ul style="list-style-type: none"> <li>• Building system wide capacity for large scale restoration with locally appropriate species and methodologies.</li> <li>• Enhancing the process of adaptation by leveraging the genetic diversity of coral/algal species which enhance heat tolerance.</li> <li>• Developing response procedures for coral bleaching and severe typhoon damage.</li> <li>• Enhancing community awareness of coral bleaching threats and solutions and building capacity for restoration amongst a range of actors</li> </ul>
<b>Resilience Challenge 9: Economic and livelihood opportunities are narrowly reliant on the reef</b>	<p>Goal C. Strong social and economic wellbeing</p> <p>Management Strategy 3 - Subsistence and commercial</p>	A sustainable, culturally sensitive, and adaptive tourism sector that promotes a safe, environmentally-	High quality tourism and recreational activities in the RISL are environmentally and economically sustainable, culturally compatible and	<b>SDG 13</b>	<b>Further funding and partnership required to address this Challenge.</b>

RRI Resilience Challenge	RISL Management Plan (2023) Goals and supporting management strategies	The Palau Climate Change Policy – ‘Visions’	Palau’s Protected Areas Network Objectives	Sustainable Development Goals and UNESCO OUV criteria	Funding / action gaps <sup>1</sup>
	<p>fisheries system management</p> <p>Management Strategy 5 - Tourism and economic development</p>	conscious, economically viable and pristine Palau.	provide benefits to the people of Koror and Palau.	<p>Target 13.3 build knowledge and capacity to meet climate change</p> <p><b>UNESCO Criterion (v) – traditional human settlement</b></p>	Development of alternative livelihood options - and in particular sustainable cultural tourism products that are not dependent on the reef - is a gap and opportunity in Palau at the moment



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