

# NIUE STATE OF ENVIRONMENT REPORT

## 2019

### SUMMARY



Photo: Huggard Tongatule

## Charting our Journey

All journeys must begin with a starting point.

The Niue State of the Environment (SoE) Report provides our starting point, helping guide us as we journey towards our National Development Goals.

Our SoE examines the major drivers of change to our environment that emerge from global, regional and national factors. It evaluates the main environmental pressures created by these drivers, and examines their environmental impact. Our SoE also provides us with recommendations, or actions that we can take as a nation to improve our environment as we voyage towards progress.

At all parts of our journey, we should refer to our SoE Report to help us make informed decisions to better our country. The more we understand the contents within these pages and use them to inform our decision making, the closer we are to achieving our goals together.



# Niue State of Environment Report

Our SoE provides us with the chart to:

- Understand the drivers, pressures, state and trends of our environment and accurately report on these.
- Make informed decisions to improve environmental conditions in Niue.
- Develop and implement policies, programmes and projects to improve environmental challenges in Niue.
- Understand financial implications for which the Niuean Government and development partners can identify areas that require financial input.
- Work together to monitor and update the SoE Report.

## Wayfinding our Journey

Our SoE Report spans seven themes and 26 sub-topics. For example, the *Atmosphere and Climate* theme has the sub-topics of *Greenhouse Gas Emissions*, *Ozone Depleting Substances* and *Physical Climate Trends*.

Each of these sub-topics is measured against five drivers and three pressures to provide us with the ‘state’ of each theme, the ‘impact’, and our ‘responses and recommendations’ in Niue.

Indicators then inform the sub-topics. Each indicator is given a status rating that lets us know if the indicator is in good, fair or poor condition. Another rating ranks the quantity and quality of the data that helped inform the indicator’s condition. If there are limited or low-quality data, then a low confidence rating is given.

To track Niue’s progress on environmental outcomes, each indicator is linked to targets under relevant Multilateral Environmental Agreements, Sustainable Development Goals and the Niue National Strategic Plan.

| THEMES                 | SUB-TOPICS                                                                                   |
|------------------------|----------------------------------------------------------------------------------------------|
| Atmosphere and Climate | Climate Adaptation<br>ODS and GHGs<br>Physical Climate                                       |
| Land                   | Forests<br>Agriculture<br>Wetlands                                                           |
| Marine                 | Offshore Environment<br>Inshore Environment<br>Protected Areas<br>Marine Mammals and Turtles |
| Biodiversity           | Endemic and Native Species<br>Invasive Species<br>Protected Area                             |
| Culture and Heritage   | Traditional Knowledge<br>Traditional Sites                                                   |
| Built Environment      | Water and Sanitation<br>Solid Waste<br>Energy                                                |

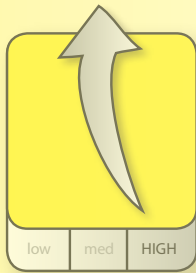
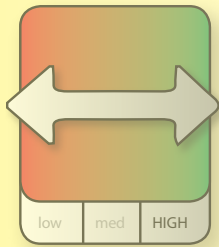
| DRIVERS                                                                   |
|---------------------------------------------------------------------------|
| Population Demographics and Migration                                     |
| Globalisation and Geography                                               |
| Economic and Technological Development                                    |
| Traditional and Contemporary Values, Attitudes, Lifestyles and Governance |
| Climate Change and Variability                                            |

| PRESSURES             |
|-----------------------|
| Land Development      |
| Resource Extraction   |
| Consumption and Waste |

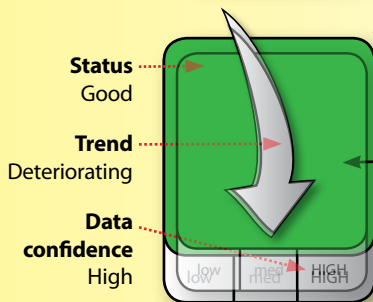
**Drivers** are what influence the changes in our environment, such as industries. These drivers can lead to **environmental pressures** occurring, or trends, such as population growth or pollution.

These **pressures** then influence factors in the **current environmental state**, or conditions, such as water and air quality.

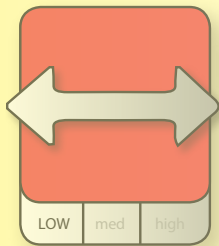
The **current environmental state** then has impacts for animals, humans and the overall environment, such as biodiversity changes or health problems.



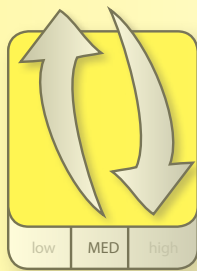
Colour indicates state of Good, Fair and Poor (can be a range)



Arrow indicates trend of Improving, Stable, Deteriorating, Undetermined and Mixed

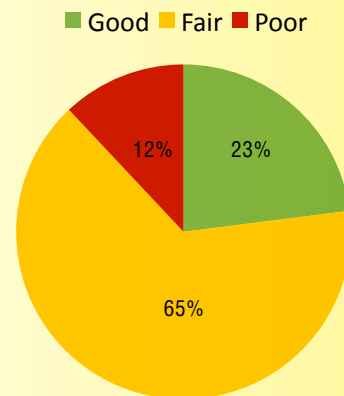


Bottom bar of Low, Medium and High indicates confidence in data and assessment



## Weaving our Legacy

We can use the assessment of these indicators to make informed decisions on development issues, or when creating national policy and legislation. Given the range of themes, their sub-topics and related indicators, our SoE Report can also assist with assessing and creating responses to cross-cutting issues outside of the environment.



Percentage of indicators that are Good, Fair and Poor in the 2019 Niue SoE Report. The status of these indicators was reviewed and a plan created to address and improve environmental conditions in Niue.

# NIUE

## STATE OF ENVIRONMENT REPORT

### 2019

# Embracing our Resilience

Two indicators in our SoE Report highlight current environmental conditions and potential responses in Niue.

**THEME: MARINE**

**SUBTHEME: MARINE CONSERVATION AREAS**

Status: Good

Trend: Improving

Data Confidence: Medium

## IMPACT: MARINE CONSERVATION AREAS

1. Marine-protected areas (MPAs) are an effective management tool that can protect fish diversity, abundance and biomass, while contributing to the replenishment of fishing areas.
2. Conservation areas provide an important management tool for communities and the government to ensure the sustainability of resources.

## STATUS: MARINE CONSERVATION AREAS

1. Niue has a long history of protecting different marine species with legislation in place for many years. Niueans have also occasionally imposed *tapu* and *fono* (traditional bans) in certain areas to show respect, usually in regard to a chief passing away. These bans can last several years.
2. Niue currently has three marine conservation areas: Huvalu Forest's marine component, Anono Marine Reserve and Alofi North to Makefu.

## RESPONSE: MARINE CONSERVATION AREAS

1. Niue's Government recently called for a 40% marine and terrestrial protected area as part of its Exclusive Economic Zone (EEZ), which will benefit species in the Beveridge Reef, including the globally threatened grey reef shark.
2. Niue continues to work towards meeting Aichi Biodiversity Target 11 (protected areas increased and improved). The global target is 10%, with Niue currently at 2.7%.
3. At least five villages have expressed interest in setting up marine conservation areas, and these villages are working with fisheries staff to identify conservation sites.

## RECOMMENDATIONS: MARINE CONSERVATION AREAS

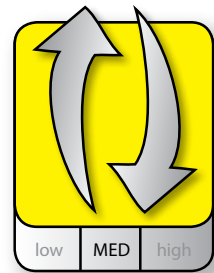
1. If conservation areas achieve their intended outcomes, management needs to be implemented to monitor progress. Management measures should include effective enforcement of conservation area rules and ongoing monitoring of biological parameters to change.
2. Legislative support is critical to maintaining conservation areas, especially community *tapu* and *fono* areas.
3. Details for the 40% of the EEZ designated for protection need to be defined and communicated to all stakeholders. There is still confusion about some of the protected areas around the coast and villages; therefore, a national consultation between the government and communities needs to take place so that formal recognition and support can be provided.
4. To meet Aichi Target 11 (protected areas increased and improved), Niue can help ensure existing conservation areas are protecting important biodiversity and ecosystem services.
5. A potential site villages can consider for a marine conservation area is Tamakautoga, which scientific surveys have found to be productive and diverse in marine life.



**Status**  
Good

**Trend**  
Improving

**Data confidence**  
Medium

**Status: Fair**    **Trend: Mixed**    **Data Confidence: Medium****Status**  
Fair**Trend**  
Mixed**Data confidence**  
Medium

### IMPACT: WATER QUALITY

1. Water quality is affected by many human and environmental factors, including climatic impacts. Inundation of groundwater, due to sea level rise, can alter the trace elements and taste of water.
2. If machinery is not sterilised and the water system not properly cared for, faecal matter can contaminate the water source.
3. The hardness of water can lead to scale deposits in pipes, hot water cylinders and jugs, and can also cause excessive soap consumption and form scum, though water's hardness does not have harmful health effects.
4. During and after heavy rains, bacteria and harmful microorganisms, such as total coliform and *E. coli*, can contaminate groundwater.
5. The risk of contaminating the water system is highest during water extraction, storage and distribution, particularly concerning storage tanks and pipes that supply water to households.
6. Some agricultural activities near bore water extraction areas can contaminate the underground water table with herbicides and other chemicals.

### STATUS: WATER QUALITY

1. Niue's water contains trace elements, including chloride, sulfate, calcium, iron, magnesium and sodium.
2. Chloride plays an important role in the hardness of Niue's water, which ranges from 149 to 396 ppm. Soft to moderately hard water is 0-120 ppm.
3. Data from 2011-2016 on total coliform and *E. coli* show contamination in some bores, reservoirs and taps, though there was a downward trend in the number of contaminated sites during this same period.

### RESPONSE: WATER QUALITY

1. Water is being tested on a quarterly basis through a joint effort between the Department of Utilities and Department of Health. However, the lack of both staff and funding is a challenge in conducting this testing. Results showed normal levels of trace elements, and bacterial contamination was present in most of the samples tested.
2. Sites contaminated with total coliform and *E. coli* were investigated and tanks cleaned before water became available for human consumption.

### RECOMMENDATIONS: WATER QUALITY

1. Regular surveys of vulnerable points in the water system need to be conducted to detect any contamination. A remedial plan must be developed to ensure that responsible officers and agencies understand their roles and what needs to be done to rectify the problem.
2. Water points, where faecal contamination is detected, must be rectified and sources identified and removed.
3. Niue could secure funding resources to allow the water authority to undertake surveys and implement the drinking water safety plan.
4. Microbial analysis of bore water should remain the priority parameter for testing as stated in the Niue drinking water quality monitoring programme.
5. Three government departments can help manage groundwater in Niue: the Department of Utilities, the Department of Health and the Department of Environment.
6. Communities can help remove domestic and chemical wastes from coastal areas.

# Navigating our Future

Our voyage does not end here, it is only beginning.

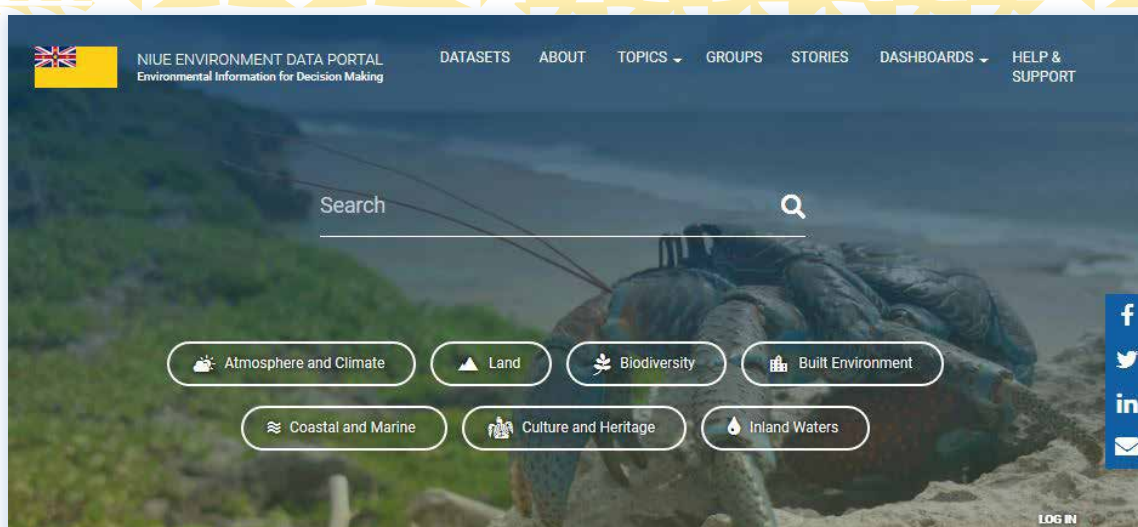
Our SoE can assist Government, individuals, civil society and the private sector to make better informed decisions regarding their relationship to and use of our environment.

Building on our SoE Report, the Department of Environment in Niue is establishing a data portal and additional reporting tool to integrate our SoE Report indicators with Sustainable Development Goals, Multilateral Environmental Agreements and other reporting requirements. Our SoE also guides the creation of National Environmental Management Strategies.

Through these tools, we will have information available for our people to make informed decisions. We will also be able to provide timely reports on the SoE while meeting our obligations as Parties to many environmental conventions.

As we begin, so we end: The more we all open our SoE Report pages and make use of its contents in all aspects of decision making, the closer we become to achieving positive environmental outcomes for Niue and her people.

<https://niue-data.sprep.org/>



The Secretariat of the Pacific Regional Environment Programme (SPREP)  
PO Box 240, Apia, Samoa  
+685 21929  
sprep@sprep.org  
www.sprep.org  
*A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures.*



Environment Department  
Fonuakula  
Alofi, Niue  
+683 4021  
www.biodiversity.nu



States funded by the European Union  
Caribbean and Pacific Group of  
An initiative of the African,

