

# GUIDEBOOK ON ENVIRONMENTAL LAW: REPUBLIC OF THE MARSHALL ISLANDS



# FOREWORD

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Careful natural resources management has been part of Marshallese traditional culture for thousands of years as inevitably our way of life has been closely connected with the processes and cycles of the natural world on land and the sea. Today, some of the most pristine examples of coastal and marine ecosystems in the world are found in the Republic of Marshall Islands (RMI). However, in recent years, those conditions have become threatened by misuse and over exploitation. Environmental problems caused by a failure to properly manage the various forms of waste now created as part of modern life are all too apparent. Clean water supply and sanitation have become increasingly problematic. Overfishing, particularly in nearshore areas, is a constant concern, as is the adequacy of the protection of our coral reefs and vegetation.

The RMI Government has acceded to many important international agreements dealing with the environment such as the 1992 United Nations Convention on Biological Diversity, the 1971 Convention on Wetlands of International Importance and the 1992 United Nations Framework Convention on Climate Change. National environmental institutions have been established including, in 1984, the National Environmental Protection Authority (RMI EPA) and, in 1988, the Marshall Islands Marine Resources Authority (MIMRA).

In response to increasing needs, the RMI Government and local communities have strengthened their commitment to improving environmental protection and resource management systems. A number of policy documents have been released including 'Vision 2018' - the first segment of the Government's Strategic Development Plan for sustainable development from 2003-2018, the '2008 Coastal Management Framework' and 'Reimaanlok – Looking to the Future, National Conservation Area Plan for the Marshall Islands, 2008'.

Another example of this commitment is the signing of the 2006 Micronesia Challenge, a commitment by RMI together with the Federated States of Micronesia, the Republic of Palau, Guam, and the Commonwealth of the Northern Marianas Islands to preserve the natural resources that are crucial to the survival of Pacific traditions, cultures and livelihoods.

This Guidebook is intended as a contribution towards the RMI Government's commitment to enhance the protection of the environment and natural resources management in RMI.

It should be noted that at the time of printing this Guidebook, the RMI Government was in the process of introducing the Sustainable Development Regulations, which were to replace the Earthmoving Regulations 1989. A copy of the Sustainable Development Regulations were not publicly available and the date those regulations were to commence were also not known at the time of printing.

## ACKNOWLEDGMENTS

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## DISCLAIMER

This publication is intended to provide general information about environmental laws in the RMI. While all care has been taken in the preparation of this Guidebook, it is not a substitute for legal advice in individual cases.

## CURRENCY

The information contained in this Guidebook is current as at 15 May 2013.

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# ABOUT THIS GUIDEBOOK

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## PURPOSE

The purpose of the Guidebook is to help increase awareness and understanding by the citizens of the Republic of Marshall Islands (RMI) of environmental legislation that has been passed for environmental protection and conservation of natural resources. The Guidebook has been prepared as a user-friendly reference book that summarises the rights, prohibitions and obligations that arise in relation to particular priority areas for environmental protection and natural resources management.

The public is often unaware of the role that they can take in enhancing environmental protection. The Guidebook seeks to increase the public's awareness by summarizing provisions that have direct relevance for the community. However, it does not provide a critique of the adequacy of the legislation that currently applies, nor does it analyse how legislation may be interpreted in any particular situation.

PART ONE introduces the background to environmental protection and conservation of natural resources in RMI and briefly touches on some of the issues that are of most pressing concern.

PART TWO is divided into seven environmental themes critical to RMI. Each theme is introduced and then followed by a framework that identifies any formally acknowledged RIGHTS and what MUST or MUST NOT be done by members of the community.

## AUDIENCE

This Guidebook has been provided for the national government of RMI but has been primarily written for the general public, which includes private individuals; land owners; developers; businesses; shipping interests; fishers; hospitals; and farmers. It is hoped that it will be translated into Marshallese and widely distributed across RMI by the national government including to communities in outer islands and urban areas; non-government organisations; educational institutions; and community groups as well as stakeholders within national and local government.

We used a colour coded system to distinguish between different information boxes:

### DEFINITION BOXES

Definitions of particular terms taken from legislation.

### REMINDER

General or secondary information related to the issue.

### CHECKLIST

Information required for specific permits or notification as set out in legislation.

# ACRONYMS

CITES	Convention on the International Trade in Endangered Species 1971
EIA	Environmental Impact Assessment
FSM	Federated States of Micronesia
IUCN	International Union for the Conservation of Nature
MIMRA	Marshall Islands Marine Resources Authority
OPS	Office of Planning and Statistics
RMI	Republic of Marshall Islands
RMI EPA	Republic of Marshall Islands Environmental Protection Authority
SPREP	Secretariat of the Pacific Regional Environment Programme

# MAP OF THE REPUBLIC OF MARSHALL ISLANDS

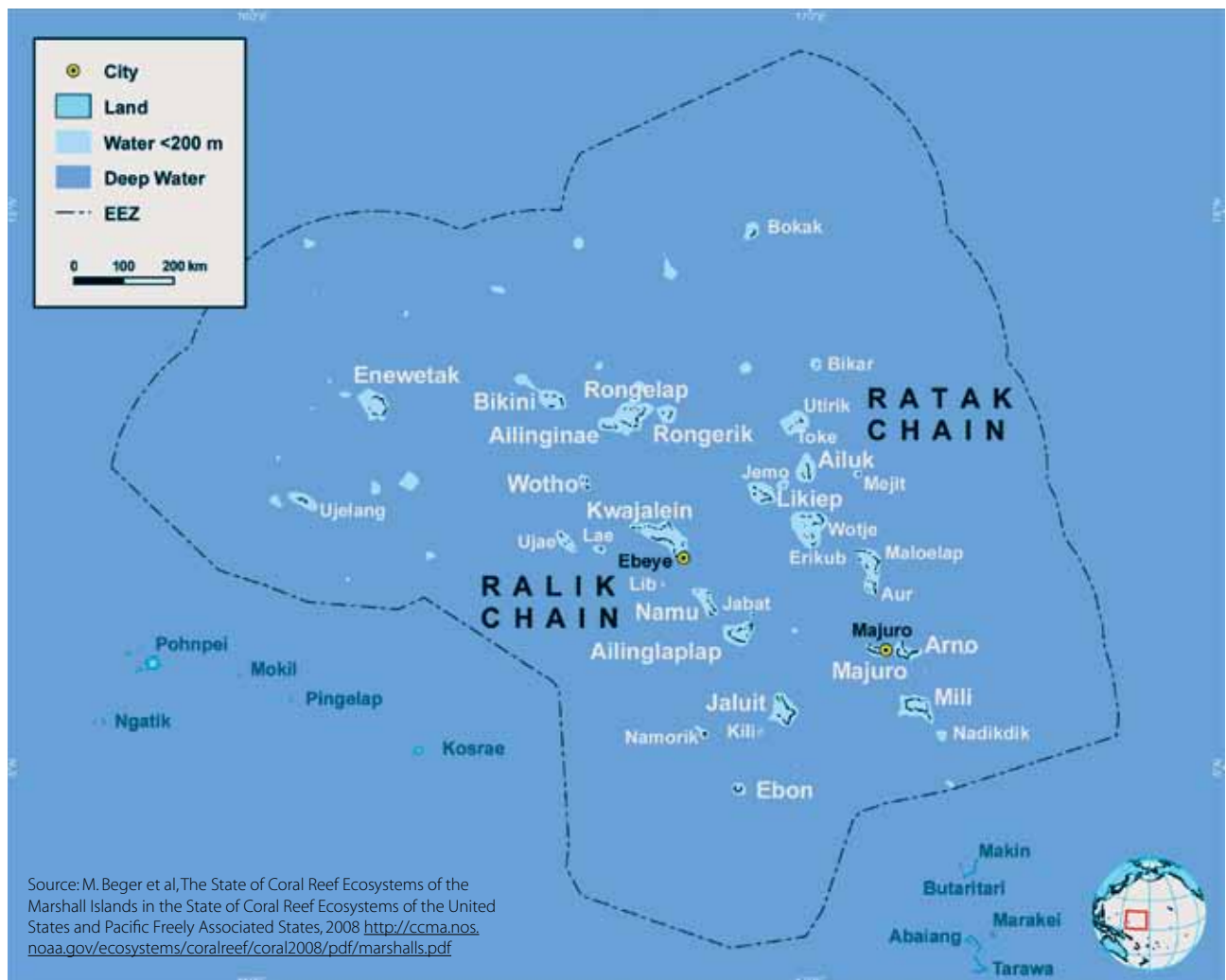




Photo:DJ



PART ONE

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# INTRODUCTION



# PART ONE: INTRODUCTION

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## 1. THE IMPORTANCE OF PROTECTING THE ENVIRONMENT AND CONSERVING OUR NATURAL RESOURCES

Although the Republic of the Marshall Islands (RMI) spreads across 822,779 square miles of the Pacific Ocean, its land mass is only 70 square miles in total and its maximum elevation is 2 metres. These facts alone make human life in RMI particularly reliant on stable conditions in the natural environment on land and sea, and provide a strong reason for looking after and preserving the conditions that have to date provided for the flourishing of Marshallese society.

Marshallese traditional life has been based for thousands of years on subsistence fishing and agriculture; traditional ways ensured that we lived in harmony with, and could be sustained by, our natural environment. However, in recent years, those traditional practices and knowledge have started to be lost in some parts of RMI and, particularly in urbanised areas, communities have become more reliant on imported food and goods than natural resources found locally. Whilst there are benefits of modern life, including access to education, telecommunications and connection with the outside world, it has led to new behaviour that is frequently damaging to the natural environment such as disposal of waste that pollutes our seas.

We need to find a balance to our way of life that allows for the benefits from development, but which does not destroy the environmental support system upon which we are so heavily dependent. The natural resources that have sustained us through the generations need to be preserved so that we are in a stronger position to continue to flourish and withstand the uncertainties of the future.

To do so, we need to protect crucial components of the environment such as marine water quality as well as the ecosystems that provide what are sometimes called 'ecosystem services', that is, the services that are provided to humans by ecosystems. Examples are the services provided by mangrove forests in protecting against erosion and providing a nursery for fish or the services provided by coral reefs in providing a buffer against storm surges and providing reef fish for daily consumption.

There are also many wondrous things to be seen across the 1,225 islands and 870 reef systems of the Marshall Islands including over 800 species of fish and 160 species of coral. Increasingly, the significance of sites in the RMI is being recognised globally. These places should be preserved for future generations so that our children also have the opportunity to marvel at the wonder of the natural beauty that can be found across the Marshall Islands.

## 2. WHY WE NEED NATIONAL ENVIRONMENTAL LAW AND INSTITUTIONS

The Preamble to the **Constitution of the Republic of the Marshall Islands** states as follows:

*We have reason to be proud of our forefathers who boldly ventured across the unknown waters of the vast Pacific Ocean many centuries ago, ably responding to the constant challenges of maintaining a bare existence on these tiny islands, in their noble quest to build their own distinctive society. This society has survived, and has withstood the test of time, the impact of other cultures, the devastation of war, and the high price paid for the purposes of international peace and security.*

*All we have and are today as a people, we have received as a sacred heritage which we pledge ourselves to safeguard and maintain, valuing nothing more dearly than our rightful home on the islands within the traditional boundaries of this archipelago.*

These words mean that government of the RMI has a responsibility to safeguard and maintain our sacred heritage and ensure that the islands of RMI can continue to provide a home to the people of the Marshall Islands for generations to come. The only way that the government can meet this responsibility is to have an effective system of environmental law and institutions to protect the environment and provide for the management of natural resources use.

The legal system offers a consistent and coordinated approach to managing our impact on the environment. Laws declare the RIGHTS of the public. They also explain steps that must be taken as obligations (YOU MUST) and actions that are prohibited outright (YOU MUST NOT) or prohibited unless permission is granted by the government. If permission is granted by an authorised agency, it will be done through issuing a permit and there may be conditions attached to the permit that must be complied with. Laws also establish when an offense has occurred, the components of the offense and the penalties that apply. They also provide for enforcement action to be taken by regulatory agencies.

Laws are needed to establish institutions such as the **Office of Environmental Planning and Policy Coordination**, which is an advisory body to the Office of the President, Cabinet and the Ministries and government agencies on matters related to environmental planning and policy generally. Laws also establish regulatory authorities such as the **Republic of Marshall Islands Environmental Protection Authority (RMI EPA)** and the **Marshall Islands Marine Resources Authority (MIMRA)** and set out their powers, duties and functions. These authorities are responsible for formulating government regulations on environmental protection, which become law when approved by the relevant Minister. Acts and regulations impose obligations on the community and can also impose obligations on government to take certain actions and can also guide decision-making so as to create accountability mechanisms against which decisions by government can be assessed.

Laws can also provide for other ways of managing the environment through establishing a framework for cooperation such as when a community establishes a community-based conservation program to protect a coral reef near their atoll or a management scheme for sustainable fishing in a nearshore area. They can introduce financial incentives that will encourage people to 'do the right thing' such as container deposit legislation or tax breaks to install water storage systems or improved energy efficiency in electrical appliances.

### 3. ENVIRONMENTAL ISSUES IN THE REPUBLIC

Some of the environmental issues in the RMI can be easily observed. At the day-to-day level, difficulties with the availability of **water** supply through public water systems and ground water are experienced by many people. Poor **sanitation** and poor management of **animal waste** has also led to problems with water quality. **Ground water** is being affected by contamination and salt water intrusion from rising sea levels. **Littering** and the incorrect disposal of **solid waste** are clearly visible. Other less obvious problems relate to a failure to properly dispose of **hazardous and toxic waste** and the use of **pesticides** and other pollutants known as persistent organic pollutants (POPs).

In urban areas, protection of **marine water quality** is a concern for human health reasons as well as the impact that poor water quality has on **nearshore ecosystems**. In some areas, marine water quality has been degraded from the impact of sewage and other forms of domestic and animal waste. Development along the coastline has caused **sedimentation** from runoff when not controlled properly. More directly, **dredging activity** will create turbidity and high levels of suspended solids that destroy coral reefs unless carefully controlled. These activities need to be managed through the implementation of a permit process and, where required, environmental impact assessment and ongoing monitoring. **Loss of vegetation** along the foreshore can also lead

to erosion, siltation and degradation of marine water quality. In addition, sources of marine pollution may come from **boats and ships** by the release of **waste water, sewage** or **oil spills**.

Another serious concern in the RMI derives from the impact of human activity on the integrity of **ecosystems** particularly on land and in coastal areas. The impact on terrestrial ecosystems from land development is apparent due to increasing density of populations in urban areas, loss of vegetation, some of which are useful food-bearing plants, and reduced populations of species such as the Ratak Micronesian pigeon from Wotje and Majuro. All the problems mentioned above will have a negative impact on coastal ecosystems and the services they provide to the community. In addition, **overfishing** in nearshore fisheries has depleted the availability of fish for subsistence use. In the open seas, overfishing has also resulted in declining fish catch for commercial fishing operations.

Some species have been identified as in need of particular attention as **endangered species** including turtles, sponges and oysters, and trochus. Marine mammals have also been given special protection and the whole of the RMI has been declared free of shark fishing to help stop the rapid decline in the shark population.

#### 4. IMPACTS FROM CLIMATE CHANGE

Climate scientists are in agreement that increasing levels of greenhouse gases in the earth's atmosphere are causing the earth's temperature to rise and the climate system to change. Greenhouse gases are carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF<sub>6</sub>). Most attention has been given to carbon dioxide that is emitted by the burning of fossil fuels, namely coal, oil and gas.

As a result of rising temperatures, weather patterns are changing and trends towards more severe storms and droughts have already been noticed around the world. This is likely to also impact on the RMI with changes in precipitation patterns resulting in more extreme droughts, particularly in the northern islands. This will worsen existing problems with water supply. More severe storms are likely to **damage the coastline**, which means that measures need to be taken to strengthen the coastal buffers, some of which have been weakened by poor environmental management to date. **Sea levels** have been rising in RMI at the rate of 3 mm per year, which is likely to threaten mangrove areas and accelerate coastal erosion where measures have not been taken to strengthen the foreshore. Clearly, action needs to be taken in the near future to prepare for ongoing sea level rises.

The other impacts of climate change concern the quality of the marine environment and threats to marine ecosystems. Firstly, **rising ocean temperatures** pose a threat to coral reefs, which are particularly vulnerable to temperature changes. Secondly, it is estimated that between 30-40% of increasing levels of carbon dioxide are absorbed by oceans, rivers and lakes and some of this results in increasing **ocean acidity**. In 2010, it was estimated that in the previous 15 years, acidity has increased 6 per cent in the upper 100 meters of the Pacific Ocean from Hawaii to Alaska. This is expected to particularly affect corals and animals such as clams and mussels that will have trouble building their skeletons and shells but could have more wide-ranging impacts.

These scenarios mean that all possible measures need to be taken now to protect our ecosystems so as to minimize their vulnerability to future threats. The **Office of Environmental Planning and Policy Coordination** is the national focal point in the coordination, management and implementation of all international environmental projects and programs to support adaptation to climate change.

## 5. REGIONAL INITIATIVES AND INTERNATIONAL ACTIONS

The government of RMI is not working alone on these issues. As RMI is such a small nation, there are benefits in working together with other Pacific island nations and, particularly, with Micronesian States given that we share many of the same concerns. The **Office of Environmental Planning and Policy Coordination** is the national focal point of contact in all regional and international cooperative actions.

RMI has been actively involved in regional initiatives responding to the challenges posed by climate change, for example:

- Pacific Islands Framework for Action on Climate Change (PIFACC) 2006-2015
- Pacific Regional Environment Program Strategic Plan 2011-2015
- Pacific Adaptation to Climate Change Project (PACC) 2009-2013.
- Micronesia Challenge Conservation Program 2006.

Micronesia Challenge Conservation Program is a commitment by Federated States of Micronesia (FSM), RMI, Palau, Guam and the Commonwealth of the Northern Marianas Islands to preserve their natural resources by effectively conserving at least 30 per cent of nearshore marine resources across the region of Micronesia by 2050.

An example of action taken by the Government in support of its international obligations is the passing of the *Ozone Layer Protection Regulations 2004*, which were promulgated to implement RMI's commitment to implement the *1985 Vienna Convention for the Protection of the Ozone Layer* and the *1987 Montreal Protocol on Substances that Deplete the Ozone Layer*.

In addition, the Government is also taking an active role internationally on climate change issues through the international forums provided for under the *1992 United Nations Framework Convention on Climate Change* and has appeared before the United Nations Security Council to argue that the climate change is an issue that threatens global security and should be placed on the agenda of the Security Council.

## 6. YOU AND YOUR COMMUNITY'S ROLE

With our small government in RMI, and limited sources of revenue, environmental institutions are often under-resourced. This means that the government has to rely on support from the community. Support can come in the form of making sure that you and your family **act in an environmentally friendly way**. This can involve simple steps such as proper disposal of your garbage, repairing your septic tank or outdoor privy, or picking up plastic bags or other rubbish that you see in public areas.

Where you see that something is happening that is possibly damaging to the environment, you should **report it to the relevant authority**, either within Local Government or at the national level. For example, if you see someone dumping waste or mining for sand you should report this activity to the RMI EPA or Local Government so that they can check whether permission has been granted and if the conditions in the permit are being complied with.

From time to time the government will need to conduct **community consultations** about proposals it is considering. It needs you to be involved in this process, so take an interest in the goings on around you and what the government is planning to do. **Attend community consultations and give your point of view**. If necessary, **stand up** for the environment and your community's interests.

You can also take steps to **urge your local and national government to improve their performance**, for example, by giving more attention to repair of public facilities and more effective

management of solid waste disposal. You could also **urge the government to introduce new measures** such as recycling (glass, paper and organic waste) and composting toilets. Some of these ideas and simple management practices are listed in the Guidebook under GOOD PRACTICES FOR LOCAL MANAGEMENT in Appendix 2.

The community can also ensure good environmental practices that are not necessarily set out in legislation. One of the benefits of being a small country is that **individual actions do count**.

You can take steps at the community level, such as encouraging your local community to voluntarily reduce use of plastic (e.g. don't accept plastic bags at the supermarket), join in a clean-up campaign, encourage composting food waste so that it does not go to landfill, and make sure your community does not allow trees and other vegetation to be cleared along the foreshore.

On another level, you could take an interest and encourage other people to **monitor changes in the environment** that may be occurring around you. For example, be observant about tide levels and the conditions of vegetation and erosion along the shoreline and join community monitoring activities.

You can also **learn** about traditional Marshallese practices and **enjoy** the wondrous things that exist in the natural and cultural heritage of the RMI that need to be protected for future generations.



Photo: DJ

## 7. LEGISLATION: ACTS & REGULATIONS COVERED IN THE GUIDEBOOK

The following Acts and Regulations are mentioned in this Guidebook. Relevant laws are listed at the beginning of each theme in chronological order with related Acts and Regulations placed in the same line.

### ACTS

- Animal and Plant Inspection Act 1966
- Betelnut Prohibition Act 2010
- Civil Liability for Oil Pollution Damage Act 1993
- Coast Conservation Act 1988
- Endangered Species Act 1975
- Fisheries Act 1997
- Fisheries Enforcement Act 1997
- Fishing Access and Licensing Act 1997
- Food Safety Act 2010
- Littering Act 1982
- Marine Zones (Declaration) Act 1984
- Maritime Administration Act 1990
- Marshall Islands Marine Resources Authority Act 1997
- National Environmental Protection Act 1984
- Office of Environmental Planning and Policy Coordination Act 2003
- Planning and Zoning Act 1987
- Public Health, Safety and Welfare Act 1966
- Public Lands and Resources Act 1966
- Quarantine Restrictions Act 1966
- Tuna and Game-Fish Conservation Zone Act 1996

### REGULATIONS

- Earthmoving Regulations 1989
- Environmental Impact Assessment Regulations 1994
- Marine Water Quality Regulations 1992
- Marshall Islands Fisheries Regulations 1998
- Ozone Layer Protection Regulation 2004
- Pesticides and Persistent Organic Pollutants (POPS) Regulations 2004
- Public Water Supply Regulations 1994
- Solid Waste Regulations 1989
- Toilet Facilities and Sewage Disposal Regulations 1990



Photo: Vainuupo Jungblut/SPREP



PART TWO

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# ENVIRONMENTAL THEMES



# 1. MANAGING WASTE

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In the past, waste could be disposed of in the open and this posed no problems for the community or the environment. People did not live so close together and waste was biodegradable, meaning that it was made up of organic matter that would decompose naturally and not cause any offensive odor or nuisance to the community.



Photo: DJ

In recent decades, waste disposal has posed risks to human health due to the great quantity of waste that has accumulated in comparison to the limited land that exists in RMI. Waste mixed with organic waste also tends to attract vermin such as rats, mice, cockroaches and other insects. Some insects can spread disease such as mosquitos that spread dengue fever. In addition, collection of waste mixed with organic matter creates odors and nuisances that are unhealthy, particularly when close to dwellings and human activity.

Improper management, storage or disposal of solid waste also impacts on the environment as it can contaminate soil and pollute groundwater, freshwater and marine waters.

**'Solid Waste'** has been defined as 'garbage, refuse, and other discarded solid materials including solid waste materials resulting from industrial and commercial operations, and from community

## REMINDER:

Solid Waste does not include domestic sewage or other substances in water, such as silt, dissolved or suspended solids in industrial waste water effluents, or other common water pollutants.

activities, but does not include solid or dissolved material in domestic sewage or other substances in water sources, such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows or other common water pollutants. This includes liquid waste materials such as waste oil, pesticides, paints, solvents, and hazardous waste.' (*Solid Waste Regulations 1989* Subregulation 4(II))



Photo: DJ

**‘Pollution’** has been defined as any direct or indirect alteration of the physical, thermal, chemical, biological or radioactive properties of any part of the environment by the discharge, emission or deposit of wastes so as to affect any beneficial use adversely or to cause a condition which is hazardous or potentially hazardous to public health, safety or welfare, or to animals, birds, wildlife, aquatic life or to plants of every description (National Environmental Protection Act 1984, §103).

The authorities that control and manage solid waste are:

- The Ministry of Public Works - is responsible for the collection and disposal of solid waste
- The RMI EPA – regulates the proper disposal of waste through issuing Solid Waste Disposal Facility Permits and monitoring public and private landfills.

The following Acts and Regulations set out the legal framework in RMI for managing waste:

ACTS	REGULATIONS
<i>Littering Act 1982</i>	
<i>National Environmental Protections Act 1984</i>	<i>Solid Waste Regulations 1989</i>
	<i>Marine Water Quality Regulations 1992</i>
	<i>Pesticides and Persistent Organic Pollutants (POPS) Regulations 2004</i>
<i>Planning and Zoning Act 1987</i>	
<i>Betelnut Prohibition Act 2010</i>	

The following topics are outlined below:

1. Litter
2. Solid waste
3. Hazardous and toxic waste
4. Pesticides and Persistent Organic Pollutants (POPs)

## 1.1 LITTER

Litter goes beyond dropping of minor rubbish such as scraps of paper or plastic wrappings and overlaps with waste. Littering is covered by the Solid Waste Regulations 1989.

### YOU MUST NOT

- ✗ Litter in a public road or public place;
- ✗ Litter on any private land near or adjacent to any public road or public place;
- ✗ Litter on or in a beach, the foreshore or the lagoon;
- ✗ Litter in the sea, in such a way that the thing dumped, thrown away, placed or left can be reasonably expected to be carried to land or into the lagoon; or
- ✗ Assist or associate in the commission of any of the above offenses.

#### Penalty:

- fine not less than \$50 and not more than \$1,000;
- term of imprisonment not exceeding six (6) months, or both; and
- an order to remove and properly dispose of anything dumped, thrown away, placed or left.

## 1.2 BETELNUT

'Betelnut' refers to the fruit or nut of any variety of the palm 'Areca catechu.' Whilst betelnut may be imported for personal consumption, strict prohibitions in regard to its use, importation and distribution have been imposed. Any betelnut found in the possession of a minor will be presumed to be the property of that minor person and will be confiscated.

### YOU MUST NOT

- ✗ Import for sale or distribute betelnut.

#### Penalty:

- for a first offender, up to 30 days imprisonment or \$100 fine or both; and
- for a repeat offender, up to 3 months imprisonment or \$300 fine or both.

- ✗ Publicly be in possession of or use betelnut in any form if you are a minor.

#### Penalty:

- for a first offender up to 5 days community service or \$100 fine; and
- for repeated offender, up to 10 days community service or \$200 fine.

- ✗ Discharge betelnut spittle, substances or refuse in places accessible to the public.

#### Penalty:

- a fine not less than \$50 and or community service for one week.

#### DEFINITION:

'Littering' means the 'unauthorized dumping, throwing away, placing or leaving of refuse of any kind, or any object or substance which tends to pollute, mar or deface, and includes a vehicle or a part of a vehicle - *Littering Act 1982 §202.*

#### REMINDER:

If the occupant of a vehicle litters the driver has also committed an offense and both the occupant and driver can be penalised.

## 1.3 SOLID WASTE

In the urban areas of Majuro and Ebeye there are two public land fills that receive solid waste which are run as State-Owned Enterprises. The Solid Waste Regulations 1989 were passed to establish minimum standards for the design, construction, installation, operation and maintenance of solid waste storage, collection and disposal systems. As such they are primarily applicable to entities that carry on these activities and not directly relevant to the community. However, it is helpful for the community to know the obligations that should be fulfilled to protect public health and the environment. In addition, there are some provisions that apply to the design of buildings and facilities.

### YOU MUST NOT

- ✗ Deposit solid waste in, on or along a road, right-of-way, street, trail, turnaround, drainage structure, water body, public recreational facility or any other public or private property unless
  - the property is an authorized solid waste disposal facility; or
  - the solid waste is deposited in a public litter receptacle.

Any violation of the provisions of the Regulations or any permit, requirement or order is subject to enforcement action by the RMI EPA.

#### General Penalties include:

- revocation of a permit issued under these regulations;
- cease and desist order;
- civil penalty, fixed by the RMI EPA, not more than \$10,000 for each day on which the violation continues;
- institution of civil proceedings to restrain the violation.

## SOLID WASTE STORAGE

### YOU MUST

- ✓ Store solid waste in such a manner that it does not constitute a fire, health, or safety hazard or provide food or harborage for vectors, and shall be contained or bundled so as not to result in spillage.
- ✓ Secure solid waste containing food wastes in covered or closed containers which are non-absorbent, leak proof, durable, easily cleanable (if reusable), and designed for safe handling.
- ✓ Use containers of an adequate size and in sufficient numbers to contain all food wastes, rubbish, and ashes that a residence or other establishment generates in the period of time between collections.
- ✓ Store bulky wastes by removing all doors from large household appliances and covering items to reduce problems of attracting nuisances and reduce the accumulation of solid waste and water in and around them.
- ✓ Provide for storage space to accommodate the volume of solid waste that is anticipated. The storage area must be designed to be easily cleaned and maintained and allow for efficient, safe collection.

## SOLID WASTE COLLECTION

The collection vehicle operator is responsible for immediately cleaning up all spillage caused by solid waste collection operations, for protecting private and public property and creating no undue disturbance of the peace and quiet in residential areas.

### YOU MUST

- ✓ Use equipment in such a manner as to minimize health and safety hazards to solid waste management personnel and the public.
- ✓ Maintain collection vehicles according to manufacturers' recommendations, and receive periodic vehicle safety checks.
- ✓ Collect waste with a frequency sufficient to inhibit the propagation of attraction of vectors and the creation of nuisances.
- ✓ Solid waste that contains food wastes shall be collected at a minimum of once during each week.
- ✓ Ensure bulky wastes are collected at a minimum of once every 3 months.
- ✓ Keep records detailing costs associated with the collection system.

## SOLID WASTE DISPOSAL

The person owning, operating or managing the property, premise, business establishment or industry where solid waste is accumulated is responsible for the aesthetic, non-hazardous and sanitary storage of solid waste.

### YOU MUST

- ✓ Obtain a certificate of compliance with land zoning requirements and uses.
- ✓ Obtain a permit from the RMI EPA in accordance with the *Solid Waste Regulations 1989* to establish, modify, or operate any solid waste disposal facility or a part of such a facility or any extension or addition to such a facility.
- ✓ Operate the facility in compliance with the standards set out in the *Solid Waste Regulations 1989*.

### CHECKLIST FOR OBTAINING A SOLID WASTE DISPOSAL FACILITY PERMIT:

1. Detailed plans and specifications for the facility;
2. Certification of compliance with existing land use and zoning requirements;
3. An environmental assessment of the proposed site;
4. An operations plan;
5. Applications shall be made no later than 60 calendar days before the beginning of operation; and
6. Applications shall be accompanied by a non-refundable processing fee of \$100

## 1.4 HAZARDOUS WASTE

### YOU MUST

- ✓ Notify RMI EPA in writing of an intention to dispose of hazardous waste.
- ✓ If operating a facility that accepts hazardous waste materials for disposal, follow the standards of Solid Waste Regulations 1989 as to prevention of damage to human health or the environment.

- ✓ Incinerate, sterilized or otherwise render safe before removal for final disposal any infectious or pathological waste.
- ✓ If toxic, caustic, volatile or flammable waste is delivered directly to a landfill:
  - (i) Render the waste non-hazardous by chemical neutralization or stabilization before final disposal;
  - (ii) Dispose of the waste in a special trench or pit that is designed to retain the waste
  - (iii) Mark the burial area with adequate warning signs; and
  - (iv) Record the burial site in the final plan and make it part of the legal description of the property.
- ✓ Mix dewatered sludge from water treatment plans and dewatered digested sludge from waste water treatment plants with other deposited solid wastes at the landfill to prevent localized leaching
- ✓ Submit a hazardous waste management plan to the RMI EPA before beginning an activity or modification to an existing activity which may cause the generation of hazardous waste. You **must not** begin the new or modified activity until after approval has been given in writing.
- ✓ If you are a generator of waste oil, adopt all practical measures to reduce waste quantities and to reuse or recycle waste oil to the maximum extent possible.
- ✓ Notify the RMI EPA within 24 hours and take reasonable mitigation measures in the event of an accidental spill or discharge of hazardous materials into marine waters of the RMI.

#### DEFINITION:

'Hazardous waste' is a type of solid waste. It is defined in the *Solid Waste Regulations 1989* as any waste or combination of wastes which pose a substantial present or potential hazard to human health or living organisms because such wastes are non-degradable or persistent in nature, or because they can be lethal, or because they may otherwise cause or tend to cause detrimental cumulative effects (Subregulation 4(o)).

In the *Marine Water Quality Regulations 1992* hazardous waste is stated to include petroleum products, pesticides, radioactive substances, biological substances and toxic chemicals (*Marine Water Quality Regulations 1992* Subregulation 30(b)).

#### YOU MUST NOT

- ✗ Dispose of hazardous waste without written approval of the RMI EPA.
- ✗ If toxic, caustic, volatile or flammable waste is delivered directly to a landfill, allow smoking or open flames when the waste is being disposed of.
- ✗ Dump raw sewage sludge and septic tank pumpings at a solid waste disposal facility.
- ✗ Store, dispose or accumulate hazardous substances in such a manner that the substances may enter the marine waters without approval of the RMI EPA.
- ✗ Fail to notify the RMI EPA within 24 hours or fail to take measure to reduce impact of hazardous waste spill into marine water.

#### Penalty:

- cease and desist order; and
- civil penalty, fixed by RMI EPA, of not more than \$10,000 for each day on which the violation continues.

## 1.5 PESTICIDES AND PERSISTENT ORGANIC POLLUTANTS

Pesticides are substances meant for eradicating pests, most commonly to protect plants against weeds, diseases or insects. A pesticide is usually a chemical or biological agent that deters, incapacitates, kills or otherwise discourages pests. Although there are benefits, some pesticides are toxic to humans and other animals.

**Persistent organic pollutants (POPs)** are a group of chemicals identified as posing the greatest dangers to human health and the environment. They are very hard to destroy and are resistant to degradation by chemical, physical or biological means. They are bioaccumulative in humans, animals and plants. They include organochlorine pesticides, hexachlorbenzene waste and polychlorinated biphenyls (PCBs) and dioxins. Disposal methods include burning in high temperature incinerators but other alternative methods are available. Nine of the twelve POPs listed in the *Stockholm Convention on Persistent Organic Pollutants 2001* are pesticides.

The government has sought to establish a system to control the importation, distribution, sale and use of pesticides within RMI by passing the *Pesticides and Persistent Organic Pollutants Regulations 2004* and to ban or restrict the use of twelve of the world's most highly toxic POPs.

### YOU MUST NOT

- ✗ Import, sell or distribute, or receive and deliver or offer to deliver:
  - any pesticide or POP which is adulterated or misbranded; or
  - any banned pesticide or POP.
- ✗ Alter or destroy any labelling without the approval of the RMI EPA to correct an improper label or labelling.
- ✗ Refuse to keep any records required under the *Regulations*.
- ✗ Refuse to allow the inspection of any records or establishment.
- ✗ Refuse to allow the RMI EPA to observe pesticide use, investigate pesticide misuse, or to take a sample.
- ✗ Use any pesticide or POP in a manner inconsistent with its labelling, unless under an experimental use permit.
- ✗ Use any pesticide under an experimental use permit in a manner contrary to the provisions of such permit.
- ✗ Violate any order issued under *Pesticide and Persistent Organic Pollutants (POPS) Regulation 2004*.
- ✗ Violate any ban or prohibition issued under the *Regulations*.
- ✗ Knowingly falsify an application for certification, license, or experimental use permit, or any records.
- ✗ Sell or distribute restricted use pesticides unless licensed to do so.

### DEFINITION:

**'Persistent Organic Pollutants' (POPS)** are twelve pollutants targeted by the *2001 United Nations Stockholm Convention on Persistent Organic Pollutants* as posing a significant threat to health and the environment and which share the properties of being highly toxic, persistent in the environment, evaporative and able to travel long distances through the air and water, and subject to bioaccumulation - *Pesticides and Persistent Organic Pollutants Regulations 2004* - Subregulation 4(ee).



- ✗ Sell or distribute any restricted use pesticide to any person other than a licensed dealer or a certified applicator.
- ✗ Use, store, transport, mix, or discard any pesticide or POP or the containers of pesticide or POP in such a way as to pose a hazard to human health or the environment.
- ✗ Use or apply restricted use pesticides unless certified to do so.
- ✗ Engage in an activity related to pesticides without a permit issued by the RMI EPA.
  - **Penalty:** Civil penalty of \$500 per day the activity is conducted without a permit.

#### General Penalties:

- revocation of a permit issued;
- cease and desist order;
- imposition of a civil penalty, fixed by the RMI EPA, of not more than \$10,000 for each day on which the violation continues; and
- any other action authorized by the *National Environmental Protection Act 1984*.

#### YOU MUST

- ✓ Obtain a written certification from the RMI EPA that demonstrates your theoretical and practical knowledge on pesticides if you seek to use or supervise the use of restricted use pesticides.
- ✓ Obtain a permit (licensed dealer) from the RMI EPA if you want to import, sell or distribute restricted use pesticides (processing fee: \$100).
- ✓ If you are a certified commercial applicator, keep and maintain for a period of not less than two (2) years records of the use of restricted use pesticides.
- ✓ If you are a licensed dealer, keep and maintain for a period of not less than two (2) years records of the receipt and sale or distribution of restricted use pesticides.
- ✓ Obtain an experimental use permit to conduct small-scale laboratory or field tests of an unregistered pesticide.

#### DEFINITION:

**‘Commercial applicator’** means a certified applicator (whether or not he or she is a private applicator with respect to some uses) who uses or supervises the use of any pesticide which is classified restricted use for any purpose or on any property other than as provided by paragraph (ff) (i.e. a private applicator) – *Pesticides and Persistent Organic Pollutants Regulations 2004* - Subregulation 4(j).

**‘Private applicator’** means a certified applicator who uses or supervises the use of any pesticide which is classified for restricted use for the purpose of producing any agricultural commodity on property owned or rented by him or her, or (if applied without compensation other than trading of personal services between producers of agricultural commodities) on the property of another person – *Pesticides and Persistent Organic Pollutants Regulations 2004* – Subregulation 4(ff).

## 2. SANITATION

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'Sanitation' concerns the 'disposal of human excrement'. Improper sanitation practices in RMI pose serious threats to human health and the environment. A good understanding of minimum standards for toilet facilities and sewage disposal will help minimize water pollution, health hazards and public nuisance.

Efforts to improve sanitation have been the subject of policy making in recent years. 'Improved sanitation' is the use of any of the following facilities: flush or pour-flush to a piped sewer system, septic tank or pit latrine; ventilated improved pit (VIP) latrine; pit latrine with slab; or a composting toilet. In comparison, 'unimproved sanitation' is the use of any of the following facilities: flush or pour-flush not piped to a sewer system, septic tank or pit latrine; pit latrine without a slab or open pit; bucket; hanging toilet or hanging latrine; shared facilities of any type; no facilities' or bush or field.

**The Ministry of Public Works** is responsible for water supply and sanitation utilities. In 1989, the Minister granted a water and sewer franchise to Majuro Water and Sewer Company (MWSC) that includes potable water, salt water and sewer systems. In Kwajalein, the Kwajalein Atoll Joint Utility Resources (KAJUR) manages the water and sewerage activities on Ebeye Island.

The authorities that are responsible for effective sanitation in RMI are therefore:

- **Ministry of Public Works**
- **The Ministry of Health**
- **The RMI EPA**

The following Acts and Regulations regulate the provision of sanitation:

ACTS	REGULATIONS
<i>Public Health, Safety and Welfare Act 1966</i>	
<i>National Environmental Protections Act 1984</i>	<i>Toilet Facilities and Sewage Disposal Regulations 1990</i>

The following topics are outlined below:

1. Sanitation generally
2. Types of facilities

### 2.1 SANITATION GENERALLY

#### YOU MUST NOT

- ✗ Deposit human excrement in the vicinity of a dwelling or in or within five hundred (500) yards of any village in a place other than an approved latrine or toilet. This is an offence under the *Public Health, Safety and Welfare Act 1966*.

#### Penalty:

- fine not more than \$500;
- imprisonment not exceeding one year, or both.

- ✗ Dispose of treated, semi-treated or untreated sewage or excrement into any pond, well, reservoir, body of water, or onto the ground, whether public or private, unless it is clearly shown that such activity is necessary for economic and social value, or for research purposes and that the said activity poses no public health hazard.

**General Penalties include:**

- revocation of a permit;
- cease and desist order;
- the imposition of a civil penalty, fixed by the RMI EPA, not more than \$10,000 for each day on which the violation continues.
- the institution of civil proceedings to restrain the violation; and

Under the *Toilet Facilities and Sewage Disposal Regulations 1990* there are three types of legally regulated toilet and sewage facility systems:

- **Type 1:** a toilet which is flushed with water and connected to a public sewerage system.
- **Type 2:** a toilet which is flushed with water and connected to a private septic tank.
- **Type 3:** a privy (outside benjo).

The owner of a property is responsible for the structural completeness, good repair, and maintenance of toilet and sewerage facilities.

**YOU MUST**

- ✓ Obtain a permit from the Health Authority for each toilet disposal facility you intend to include in a building you will construct.
- ✓ Select a **Type 1** facility when water is available from a public works division together with a sewerage system.
- ✓ Select a **Type 2** facility where water is available from a public works division but a sewerage system is not available.
- ✓ Construct at least a **Type 3** facility in the absence of water and sewerage systems available to the public.
- ✓ Ensure that all toilet seats have a close-fitting cover.
- ✓ Provide ventilation for each **Type 1** and **Type 2** facility to extend outside the building and be not less than six feet high measured from ground level.
- ✓ Maintain toilet and sewage facilities in good repair and in a clean and sanitary condition.

**CHECKLIST FOR PERMIT FOR TOILET DISPOSAL FACILITIES:**

1. Plot plan showing direction and approximate slope of surface, location of all present and proposed structures, drainage channels, utilities, roads, surface water and sewage facilities.
2. Description of the complete installation of toilet facilities and sewage disposal including quality, kind and grade of material, equipment and method of assembly and installation.
3. Applications shall be made no later than 30 calendar days before the building construction is scheduled to begin.
4. Applications shall be accompanied by a non-refundable processing fee of \$25.00.



Compare the quality of the reef at Majuro (left) with Rongelap (right). The decline of reef quality in Majuro can be largely attributed to a failure to manage sanitation and waste. Photo: DJ

## 2.2 TYPES OF FACILITIES

### Type 1 Facilities – flushed toilet connected to a public sewerage system

#### YOU MUST

- ✓ Comply with the requirements and specifications established in the permit.
- ✓ Safely operate, maintain, modify, inspect, clean and repair the system.
- ✓ Keep records of equipment and operations.
- ✓ Keep a written plan for emergencies.
- ✓ Collect environmental data.
- ✓ Immediately clean up any surface leakage from the system.
- ✓ Operate a sewage truck to be used to pump public and private septic tanks for disposal in the sewerage system.

### Type 2 Facilities – flushed toilet to a private septic tank

#### YOU MUST NOT

- ✗ Locate, construct or maintain a septic tank or seepage pit so as to contaminate any potable water supply.
- ✗ Locate a septic tank or seepage pit at a horizontal distance of less than 15 feet from any body of water.
- ✗ Locate a septic tank or seepage pit less than 100 feet from any well, without the written permission of the RMI EPA.
- ✗ Allow for liquid depth which is less than thirty inches and more than seventy-two inches.
- ✗ Put a structure or obstruction near the tank that will interfere with accessibility.
- ✗ Place a cover over any septic tank system or seepage pit before it has been inspected and approved by the RMI EPA or its authorized representative.

## YOU MUST

### *Construction*

- ✓ Make a hole large enough to permit the proper placement of the tank and backfill.
- ✓ Place the tank on a solid base that will not settle and will be level.
- ✓ Construct a septic tank that is sound, durable, and made of watertight materials that are not subject to excessive corrosion or decay.
- ✓ Design the septic tank to be watertight below the liquid level and to withstand all expected physical forces, to provide for settling of solids, accumulation of sludge and scum, and access for appropriate inspection and cleaning.
- ✓ Construct the septic tank from precast reinforced concrete, poured-in-place concrete, a concrete block or materials approved by the RMI EPA.
- ✓ Provide a substantial and watertight cover to the septic tank.

### *Absorption and storage*

- ✓ Conduct effluent to the storage system through watertight PVC pipes and fittings.
- ✓ Install distribution pipes for gravity flow absorption systems that are four inches in diameter, perforated, and of material capable of withstanding corrosive action by sewage and sewage-generated gases.
- ✓ Make one foot minimum separation between the trench bottom and the maximum groundwater table.
- ✓ Ensure that the scum storage volume consists of 15 per cent or more of the required liquid capacity of the tank and is provided in the space between the liquid surface and the top of inlet and outlet device.

### *Servicing and cleaning*

- ✓ Install the septic tank in a location that is accessible for servicing and cleaning.
- ✓ Provide properly placed manhole coverings not less than eighteen inches in diameter and handhole openings not less than six inches in diameter for cleaning purposes.

## Type 3 facilities – privy/benjo

### YOU MUST NOT

- ✗ Locate, construct or maintain a Type 3 facility so as to contaminate any potable water supply.
- ✗ Locate a Type 3 facility at a horizontal distance of less than fifteen (15) feet from any body of water.
- ✗ Put a Type 3 facility in use until it has been inspected and approved by the RMI EPA or its authorized representative.
- ✗ Allow the level of excreta to reach within two feet of the ground surface without replacing or properly sealing the facility and filling it with earth.

### YOU MUST

- ✓ Construct a privy/benjo of such material as will prevent access to human excreta by rodents, flies or other vectors.

- ✓ Minimize odor, environmental pollution, health hazards, and public nuisance.
- ✓ Cover non-water carriage excreta disposal pits as necessary with earth or lime to exclude flies and prevent odor.

**General Penalties include:**

Violation of any provision in the regulations or a permit, requirement or order can be the subject of enforcement action by the RMI EPA. This enforcement action may include:

- revocation of a permit;
- cease and desist order;
- civil penalty, fixed by the RMI EPA, not more than \$10,000 for each day on which the violation continues;
- civil proceedings to restrain the violation.

Failure to have a permit and engaging in activity without a permit can lead to a civil penalty of \$100 per day for each day the activity is conducted without a permit.

### 3. FRESH WATER SUPPLY

Sufficient water availability in the Republic of Marshall Islands (RMI) is crucial for human survival. For thousands of years Marshallese people were able to live with the restricted quantity of fresh water supply stored in atoll lenses; this natural system also allowed us to sustain agriculture and survive in difficult times during typhoon strikes.

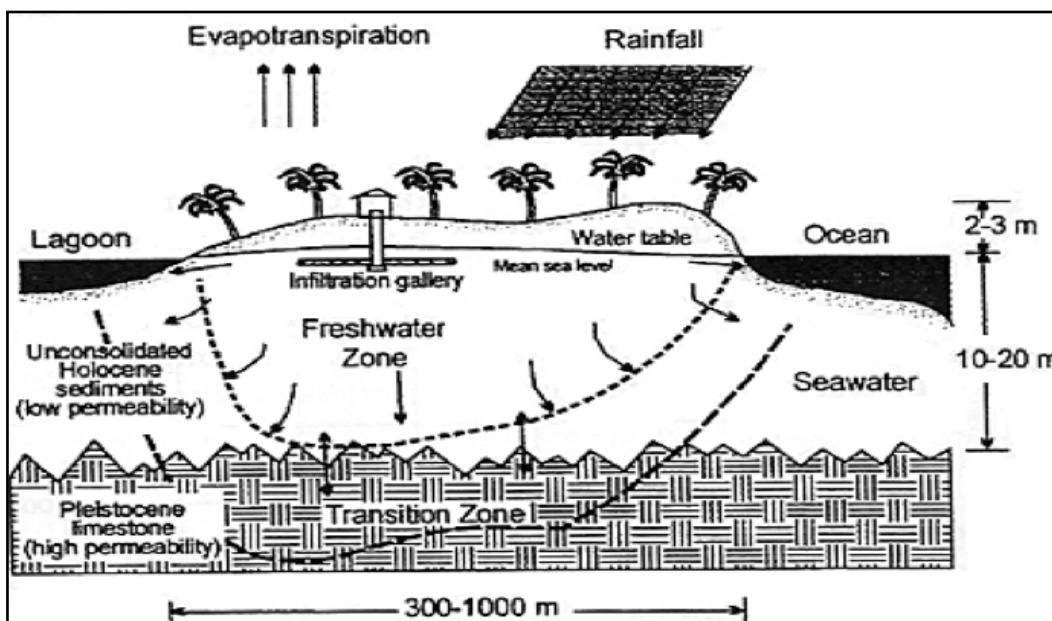


Figure 1: Cross section through a small coral island showing main features of a freshwater lens (exaggerated vertical scale)<sup>1</sup>

In recent years, these reservoirs have not been able provide sufficient water quantity to meet increasing demand, which has been caused by rising population numbers and increasing urbanization. Drought, which may be attributable to climate change, is also a factor, particularly in the northern islands of RMI.

The RMI National Government has found other water sources by encouraging the use of rainwater catchment systems throughout the islands. At present, rainwater tanks supply 70% of the water used for drinking and other uses. The principal management issues related to fresh water are its supply – ‘how to take’ – and its distribution – ‘how to deliver’ – to the community.

The legal framework for managing water supply is set out in the following Acts and Regulations:

ACTS	REGULATIONS
<i>National Environmental Protections Act 1984</i>	<i>Public Water Supply Regulations 1994</i>
<i>Food Safety Act 2010</i>	

Authorities that oversee the supply and distribution of fresh water are as follows:

- **The Ministry of Public Works** - in charge of development and maintenance of public water utilities
- **The National Environmental Protection Authority (RMI EPA)** – responsible for regulating

<sup>1</sup> United Nations Environment Program, Newsletter and Technical Publications, Part D Annex 4, Groundwater Assessment Technologies <http://www.unep.or.jp/ietc/Publications/techpublications/TechPub-8d/assessment.asp> [accessed 5 May 2013]

water quality

- **The Ministry of Public Health** - administers the health and safety aspects of packaged water distribution.

The following topics are outlined below:

- **Public Water Systems**
- **Bottle Water Production**
- **Use of water in food businesses**
- **Supply of drinking water during emergencies**

### 3.1 PUBLIC WATER SYSTEMS

**A Public Water System** means a system for the provision of piped water for human consumption that has at least fifteen (15) service connections or regularly serves at least twenty-five (25) individuals daily, including:

- the water supply resource used;
- any collection, treatment, storage and distribution facilities under the control of the operator of the system, which are used primarily in connection with that system; and
- any collection or pre-treatment storage facilities whether or not under the control of such a system, which are used primarily in connection with such a system.

#### CHECKLIST FOR PUBLIC WATER SYSTEM NOTIFICATION TO THE RMI EPA:

1. Name and address of person who intends to construct or modify the public water system;
2. Name and address of person who will be the supplier of water to the public;
3. Location of proposed water source or sources;
4. Type of source – i.e. spring, stream, well, roof catchment, ground catchment, other;
5. Estimated capacity of source;
6. Horizontal area of proposed catchment.

#### THE SUPPLIER MUST

- ✓ Notify the RMI EPA that they intend to initiate the construction of a new public system or increase the capacity of or modify an existing public water system.
- ✓ Submit a processing fee of \$250 to the RMI EPA for the issue of a Public Water System Permit.
- ✓ Comply with accepted engineering practices in all work performed on a public water supply.
- ✓ Comply with the conditions of the Water System Permit.
- ✓ Notify the RMI EPA in cases of emergencies.
- ✓ Respect water quality parameters established in the *Public Water Supply Regulations 1994*.
- ✓ Disinfect and filter the water if operating public water systems using surface water, or groundwater under the direct influence of surface water, or both.
- ✓ Rely on laboratories approved by the RMI EPA for quality measurements.

#### REMINDER:

The duration of the permit is 3 years.

#### THE SUPPLIER MUST NOT

- ✗ Build, operate or modify a public water system without a valid permit from the RMI EPA.



**Penalty:**

- Any person engaged in one of these activities without such permit shall be subject to a civil penalty of up to \$500 per day for each day the activity is conducted without a permit.
- ✗ Violate any permit conditions, or provisions of the Public Water Supply Regulations 1994.

**General Penalties:**

- cease and desist order;
- civil penalty that does not exceed \$10,000 for each day on which the violation continues; and
- civil proceedings to restrain the violation.
- ✗ Use pipe, solder, flux or fittings that are not 'lead free' in the public water system, or in a building connected to a public system.
- ✗ Contaminate public water supplies with toxic or poisonous materials.

**Penalty:**

- Criminal prosecution as well as the general penalties established for the other violations. The civil penalty shall be for the number of days the public water supply remains contaminated.

**DEFINITION:**

'Lead free' means:

- flux and solder may not contain more than 0.2% lead
- pipe and fittings may not contain more than 8% lead - *Public Water Supply Regulation - Subregulation 7(d)*.

### 3.2 BOTTLED WATER PRODUCTION

Bottled water producers ARE RESPONSIBLE for the contents and safety of bottled water produced in RMI and MUST ENSURE that bottled water testing and all other required procedures are conducted in accordance with the *Public Water Supply Regulations 1994*.

**A BOTTLED WATER PRODUCER MUST**

- ✓ Obtain a permit from the RMI EPA.
- ✓ Allow the RMI EPA to inspect your establishment at reasonable times and not less than twice a year.
- ✓ Meet the requirements for the operation and maintenance of water supply facilities and for self-monitoring including permissible analytical techniques set out in the Public Water Supply Regulations 1994.
- ✓ Comply with contaminant levels and specified treatment techniques established in the Public Water Supply Regulations 1994.
- ✓ Rely on laboratories approved by the RMI EPA for quality measurements.

**A BOTTLED WATER PRODUCER MUST NOT**

- ✗ Produce bottle of water without a permit.
- ✗ Violate the conditions, contaminant levels and specified treatment techniques, established in the permit and regulations.

### 3.3 USE OF WATER IN FOOD BUSINESSES

The *Food Safety Act 2010* administered by the **Ministry for Health** provides for the health, safety and welfare of the people by prohibiting the importation, production, processing, handling, distribution, and domestic trade of unsafe, unwholesome and poor quality food. Food includes water –which would also cover, for example, **water used in the preparation of food** in restaurants.

The following rules apply to any person who intends to operate a food business. Operators of food businesses have an obligation to put in place procedures as prescribed in the regulations, and any additional precautions necessary, to ensure the safety of food imported, exported, processed, handled, stored, displayed or sold by the business.

Food that carries a use-by date or a minimum durability date, or is required by regulations to carry such a date, shall bear the date in a manner that is easily visible and likely to be read and understood by an ordinary consumer under customary conditions of purchase and use.

All food handlers must, prior to starting work in a food business, undergo training in how to meet safety requirements in handling food, be cleared by medical examination and hold a health certificate.

#### FOOD BUSINESSES MUST

- ✓ Register with the Ministry of Health before initiating operations - NO FEE for registration.
- ✓ Obtain a license, and meet its requirements and standards.
- ✓ Display the license in all premises.
- ✓ Respect conditions of inspection, analysis and destruction established in the *Food Safety Act 2010*.

#### FOOD BUSINESSES MUST NOT

- ✗ Produce, process, handle, store, display or sell packaged water that is unfit for human consumption, adulterated, damaged, deteriorated, or perished.
- ✗ Produce, process, handle, store, display or sell packaged water under unsanitary conditions.
- ✗ Make the 'best before' date not easily visible.
- ✗ Refuse or fail to give to a food inspector all reasonable assistance or information.
- ✗ Make a false or misleading statement, either verbally or in writing, to any food inspector in the performance of his or her functions.
- ✗ Give, pay, or offer, directly or indirectly, to any food

#### DEFINITION:

**'Food'** means any substance whether processed, semi-processed or raw, which is intended for human consumption, and includes drinks, **packaged water**, among others. It also includes any **substance which has been used** in the manufacture, preparation or treatment of food - *Food Safety Act 2010* §1902(f).

**'Food business'** includes restaurants, bakeries, caterers, food wholesalers and retailers, fish vendors, food sellers, meat butcheries, food processors, food importers and food exporters - *Food Safety Act 2010* §1902 (g).

#### DEFINITION:

**'Adulterated'** under *Food Safety Act 2010* §1902 (a) includes:

- Contains or is mixed with a substance that reduces its properties as compared to a normal or non-deteriorated state;
- Contains a substance that is not permitted in food;
- Contains a hazard or any physical, chemical or biological agent that is likely to be injurious to the health of consumer whether added with intent or otherwise; and
- Is in a damaged package.

inspector money or other thing of value with intent to influence his decision.

**Penalty:**

- Individual, \$1,000 for a first offense, and \$2,000 or 3 years imprisonment for a second or subsequent offense; and
- Body corporate, \$5,000 for a first offense, and \$10,000 for a second or subsequent offense.

### 3.4 SUPPLY OF DRINKING WATER DURING EMERGENCIES

The types of emergencies that can occur with respect to water supply are when there is:

- a foreign substance in a water supply;
- a natural or other disaster; or
- water rationing.

#### Foreign substances in a water supply

An emergency will occur when a public water supply system becomes non-potable because of the presence of a toxic or other substance that cannot be removed by existing treatment methods and which, if ingested, might be injurious to the health of consumers.

In this type of emergency, the RMI EPA is to:

1. supervise the operations described in the relevant *Regulation*; and,
2. document circumstances surrounding the contamination, including its cause and identification of any person(s) implicated in such contamination.

#### THE SUPPLIER MUST

- ✓ IMMEDIATELY close off the supply to distribution, and NOTIFY the RMI EPA and water consumers.
- ✓ Deliver disinfected water (to the satisfaction of the RMI EPA) from other suitable sources to such public consumers at hospitals, clinics and similar institutions.
- ✓ Identify the nature and source of the pollutant under the supervision of the RMI EPA.
- ✓ Advise individual consumers to find other emergency sources.
- ✓ Advise individual consumers to disinfect their emergency water supply.

#### Natural or other disaster

When a supply system is inactive due to a major mechanical failure, typhoon, earthquake or similar disaster, the RMI EPA is to supervise operations.

#### REMINDER:

Parameters for contamination evidence are:

- Odor
- Taste
- Color
- Chemical tests
- Extensive fish kills
- Other evidence

#### REMINDER:

##### HOW TO DISINFECT WATER:

- Boil the water at a rolling boil for one (1) minute or more, or
- Add one/half teaspoon of near 5% strength sodium hypochlorite solution (for example, Chlorox or Purex) to one gallon of clear odorless water, stir and let it set thirty (30) minutes before using, or
- As prescribed by RMI EPA

## THE SUPPLIER MUST

- ✓ Notify the RMI EPA and water consumers by the quickest available means of communication.
- ✓ Deliver disinfected water from suitable sources to public consumers at hospitals, clinics and similar institutions. The water so delivered shall be disinfected to the satisfaction of the RMI EPA.
- ✓ Advise consumers as to where potable water from the plant or system may be obtained if such is obtainable.
- ✓ Advise consumers where other water sources may be found if potable water is not available from the system.
- ✓ Advise individual consumers to disinfect their emergency water supply.

### REMINDER:

The supplier shall keep on hand sufficient disinfectant to supply to those consumers that may not have access to such disinfectants.

## Water rationing

Water rationing will be required if water becomes non-potable because it has become contaminated by infiltration from groundwater or does not meet bacterial quality standards. In such a situation, the RMI EPA is to supervise the operations.

## THE SUPPLIER MUST

- ✓ Notify the RMI EPA and water consumers.

### REMINDER:

A failure to comply with any drinking water regulation (including monitoring requirements) must be reported to the RMI EPA by the end of the next business day.

Test results must be reported within forty (40) days following a test, measurement or analysis required to be made by regulations.

# 4. LAND AND COASTAL MANAGEMENT

From a social and economic point of view, development contributes to the welfare of RMI by providing essential services and employment opportunities. However, particularly in RMI where there is such limited land and the people are so dependent on natural resources, the government has an important role to play in controlling new developments and ensuring that negative impacts such as water pollution, coastal erosion, loss of vegetation and destruction of coral reefs is kept to a minimum.

The problem of coastal erosion exists throughout RMI. It is most acute in urban atolls but is starting to occur throughout the outer islands and is evident on nearly every atoll due to storm surges, sea level rises, land clearing and removal of protective indigenous vegetation. In urban areas, coastal erosion is often caused by the uncontrolled and unplanned reclamation of land.

Controlling development that leads to coastal erosion is fundamental; however, additional steps to bolster and strengthen the coastline will be a crucial part of adaptation to climate change, particularly to defend against rising sea levels. Eroding coastlines and, indeed all coastlines, need to be reinforced, where possible through ecosystem-based approaches such as strengthening shoreline vegetation and coral reefs. In other areas, land will need to be raised and sea walls constructed.

The significance of environmental impact may need to be assessed before a decision is made to allow a proposed development to go ahead. Controls may need to be imposed by government during the building or construction process, or on the final activity itself. If negative impacts cannot be controlled and they outweigh the positive benefits, then government has the option of not allowing the proposed development to go ahead.

Understanding how development proposals are considered by government in the approval process will help Marshallese people to harmonize progress and conservation needs. The Authority that oversees environmental assessment is the RMI EPA.

The legal framework for land use planning and development control is set out in the following Acts and Regulations:

ACTS	REGULATIONS
<i>Public Lands and Resources Act 1966</i>	
<i>National Environmental Protection Act 1984</i>	<i>Earthmoving Regulations 1989</i>
	<i>Environmental Impact Assessment Regulations 1994</i>
<i>Planning and Zoning Act 1987</i>	

**DEFINITION:**  
**'Land development'** means 'the construction, installing, placing, planting, or building of surface structures, land reclamation, navigation channels, harbours, utility lines, piers, shopping centres and malls, causeways, recreational areas, apartment complexes, hotels, schools, roads, parking areas, or any other similar activity'  
 - *Earthmoving Regulations 1989* - Subregulation 3(n).



Pristine beach in Mejjatto, outer island. Photo: DJ

The following topics are outlined below:

1. **Land abutting the sea**
2. **Earthmoving**
3. **Coastal development**
4. **Environmental Impact Assessment**
5. **Building construction.**

## 4.1 LAND ABUTTING THE SEA

There are obligations to protect resources on public land that apply to everybody. 'Public land' is land which has been acquired by the government for public purposes and includes land which was owned or maintained by the Japanese government during the Japanese administration. The Japanese law that stated that all marine areas below the ordinary high watermark belong to the government has been confirmed by Marshallese law with certain exceptions.

The owner of land abutting the ocean or a lagoon has RIGHTS in relation to marine areas below the ordinary high water mark. Such an owner has a right to fill in, erect, construct and maintain piers, buildings, or other construction on or over the water or reef abutting the land and has ownership and control of such construction.

However, the right is only granted to the person or group of persons who held the same right at the time it was abolished by the Japanese administration. Also, the extent of the right is governed by the local customary law in effect at the time it was abolished.

A proviso also applies as follows:

### **THE LAND OWNER MUST**

- ✓ Obtain written permission of the Chief Secretary before beginning construction.

Despite the rights mentioned above, there is no **right in the general public** to clear mangrove trees or land abutting the ocean or lagoon.

## THE LAND OWNER MUST NOT

- ✗ Misuse, abuse, destroy or carry away mangrove trees or land abutting the ocean or lagoon, or commit any act causing damage to such mangrove trees or land.

## 4.2 EARTHMOVING

### DEFINITION:

**'Ordinary high water mark'** is 'that mark that will be found by examining the sand or rocks on the beach frontage and foreshore and ascertaining where the presence and action of waters are so common and usual as to mark upon the sand or rocks a character distinct from that of the abutting land - *Public Lands and Resources Act 1966* §101A(e).

Earthmoving is important in RMI because all construction requires building materials in the form of aggregate, that is, sand, gravel and crushed stone that is used to make concrete and asphalt. Unless this material is imported, it must be sourced within RMI itself. This means that it must come from the land or seabed. This kind of activity will always be destructive of ecosystems that exist on the land or seabed that is being excavated or dredged. For example, if a coral reef is dredged it will totally destroy the reef. As mentioned in Part 1, reefs provide important ecosystem services in that they create a buffer against storm surges and are a source of reef fish for daily subsistence.

The *Earthmoving Regulations 1989* apply to any construction or other activity that 'disturbs or alters the surface of the land, a coral reef or bottom of a lagoon'. All persons who engage in earthmoving activities must comply with the provisions of the *Earthmoving Regulations 1989* and must apply for approval. Applications for an earthmoving permit for projects with a total cost of less than \$50,000 involve a non-refundable processing fee of \$200. Applications for projects with a total cost of \$50,000 involve a non-refundable processing fee of one per cent of the project cost.

At any time during the permitting process, the RMI EPA may convene a public hearing for the purpose of determining the facts on which to base a decision. They must give adequate notice of the hearing or hearings to the community and provide an adequate opportunity to community members to appear and be heard at such a hearing. Interested persons may also provide written comments and the RMI EPA must give adequate opportunity for this to occur.

This is a complex area of law and other legislation may also apply such as the *National Environmental Protection Act 1984*, the *Coast Conservation Act 1988*, the *Historic Preservation Act 1991* and the *Tourism Act 1991*. The *Environmental Impact Assessment Regulations 1994* outlined below at 4.4 apply to earthmoving activities and there is a provision in the *Earthmoving Regulations* stating that the earthmoving permit application cannot be approved until an Environmental Impact Assessment is approved by the RMI EPA. This legislation is technical; it should be read carefully as the following is only a summary.

### DEFINITION:

**'Earthmoving activity'** means 'any construction or other activity which disturbs or alters the surface of the land, a coral reef or bottom of a lagoon, including, but is not limited to, excavations, dredging, embankments, land reclamation in a lagoon, land development, subdivision development, mineral extraction, ocean disposal, and the moving, depositing or storing of soil, rock, coral or earth' – *Earthmoving Regulations 1989* - Subregulation 3(h).



Photo: DJ

## THE LAND DEVELOPER MUST

### Permits

- ✓ Apply for a permit no later than one month before the proposed commencement of earthmoving activity.
- ✓ Obtain a permit from the RMI EPA for the proposed activity unless it involves plowing or tilling for agricultural purposes.
- ✓ Consider whether you need to prepare an environmental impact assessment when applying for an earthmoving permit.
- ✓ Obtain a permit from the Historic Preservation Office if earthmoving may affect cultural resources.

### DEFINITION:

**'Cultural resource'** means 'a historical, architectural, archaeological or cultural site, remain, or artefact, including any place or object that enhances the knowledge or preservation of the environmental and cultural heritage of the Marshallese people' - *Earthmoving Regulations 1989* - Subregulation 3(F).

### Design and plan

- ✓ Design erosion control, sedimentation control and cultural preservation measures to effectively prevent accelerated erosion, accelerated sedimentation and adverse impact on cultural resources.
- ✓ Set out the erosion and sediment control measures in a plan and make it available at all times at the site of the activity and file the plan with the RMI EPA.
- ✓ Attend any meetings as requested by the RMI EPA together with other interested parties to determine the scope of the plan.
- ✓ Obtain the services of a person trained, experienced and certified, if applicable, in erosion and sedimentation control methods and techniques to prepare the erosion and sediment control plan.
- ✓ Consider in the erosion and sedimentation control plan all factors that contribute to erosion and acceleration.

### Conduct of activities

- ✓ Conduct earthmoving activity in such way to prevent accelerated erosion, accelerated sedimentation and disturbance of potential cultural resources.
- ✓ Implement and maintain erosion control, sedimentation control and cultural preservation



measures so as to effectively prevent accelerated erosion, accelerated sedimentation and adverse impact on cultural resources (see the Earthmoving Regulations for detailed requirements).

### Completion

- ✓ Stabilize the areas disturbed to prevent accelerated erosion and sedimentation upon completion of the project.
- ✓ Remove all unnecessary or unusable control facilities, grade the area and stabilize the soil upon completion of stabilization.

### HOW ADEQUATE IS THE EROSION AND SEDIMENT CONTROL PLAN?

**Have the following been considered?** – see *Earthmoving Regulations 1989*, Regulation 8.

1. the topographic or hydrographic features, or both, of the project area;
2. the types, depth, slope and area of the soils, coral and reef;
3. the original state of the area as to plant and animal life and ecosystem functioning;
4. whether any living coral reef, sea grass bed, mangrove, freshwater lake, sandy beach, or other valuable ecosystem may be affected by the earthmoving;
5. the proposed alteration to the area;
6. the amount of runoff from the project area;
7. the staging of earthmoving activities;
8. temporary control measures and facilities for use during earthmoving activity;
9. permanent control measures and facilities for long-term protection;
10. a maintenance program for the control facilities including disposal of materials removed from the control facilities or project area;
11. whether a designated coastal area of special concern is in the vicinity;
12. whether cultural resources are in the vicinity;
13. whether designated tourism or fishery resources are in the vicinity; and
14. the presence and vulnerability of nearby beaches to erosion.

### THE LAND DEVELOPER MUST NOT

- ✗ Engage in earthmoving activity without a permit

#### Penalty:

- Civil penalty of \$100 for each day the earthmoving activity is conducted without a permit.

- ✗ Violate any provision of the Regulations or any permit, requirement or order issued.

#### General Penalties:

- revocation of an earthmoving permit;
- cease and desist order;
- civil penalty not more than \$10,000 for each day on which the violation continues;
- institution of civil proceedings.

## 4.3 COASTAL DEVELOPMENT

### REMINDER:

#### Does the project involve earthmoving activity in a lagoon, reef or body of water?

The RMI EPA may require a land developer to map and describe existing ecosystems, plants, animals, the coastal zone management boundary and coastal areas of special importance as well as maximum and minimum turbidity.

'Development activity' as described in the *Coast Conservation Act 1988* is any activity likely to alter the physical nature of the coastal zone in any way, and includes the construction of buildings and works, the deposit of wastes or other material from out-falls, vessels or by other means, the removal of sand, coral, shells, natural vegetation, sea grass or other substances, dredging and filling, land reclamation and mining or drilling for minerals' (§302(f)).

One of the key concerns in coastal development is to avoid creating a situation where erosion will occur. As mentioned in the introduction to this part, in urban areas, coastal erosion is often caused by uncontrolled and unplanned land reclamation. Efforts by the government to control land reclamation sometimes conflict with understanding of the rights mentioned above at 4.1.

### THE DEVELOPER MUST

#### Permits

- ✓ Obtain an environmental permit from the RMI EPA before engaging in any development activity other than prescribed development activity within the Coastal Zone.
- ✓ Obtain a permit from the RMI EPA for the occupation of the foreshore or seabed.
- ✓ Consider whether to prepare an environmental impact assessment before applying for an earthmoving permit.

#### DEFINITION:

'Coastal Zone' means 'the area laying within a limit of twenty five (25) feet landwards of the mean high water line and a limit of two hundred feet seawards of the mean low water line' - *Coast Conservation Act 1988* §302(c).

#### Proposed development

- ✓ Ensure the proposed development is consistent with any Coastal Zone Management Plan that applies to the area and, if none exists, it **must not** have any adverse effect on the stability, productivity and environmental quality of the Coastal Zone.

#### Construction

- ✓ Comply with any conditions attached to the permit.
- ✓ Where a condition requires the execution of a scheme of work, execute the scheme of work.
- ✓ Comply with any the corrective measures specified in a cease and desist order issued by the RMI EPA during construction.

## THE DEVELOPER MUST NOT

✘ Engage in any development activity other than a prescribed development activity.

### Penalty:

- fine of not less than \$500 and not more than \$5,000; or
- imprisonment for a term not exceeding one year, or both.
- In the case of a second or subsequent offense, a fine of not less than \$1,000 and not more than \$10,000 or imprisonment for a term not exceeding two years, or both. Additional fine not more than \$500 for each day on which the offense continues.

✘ Fail to comply with a notice sent by the RMI EPA, resist or obstruct the RMI EPA in the exercise of any power, fail to furnish returns and information when required or make any false or incorrect statement, in any return or information furnished to the RMI EPA.

### Penalty:

- fine of not less than \$1,000 and not more than \$5,000, or
- imprisonment for a term not exceeding six (6) months, or both.
- Additional fine not more than \$500 for each day on which the offense continues.

✘ Erect or construct any unauthorized structure, house, hut, shed or other building on any part of the Coastal Zone or fail to take down and remove the unauthorized structure within the time specified.

### Penalty:

- Upon order of the court, the RMI EPA can recover the expenses incurred in taking down and removing the unauthorized structure.

**NB: Additional penalties:** Fine not more than \$500 for each day on which any of the above offenses continue.



Photo: DJ

## 4.4 ENVIRONMENTAL IMPACT ASSESSMENT

### What is EIA?

Environmental impact assessment (EIA) is a process that has been developed to examine and evaluate the environmental effect of a proposed activity that is considered likely to **significantly affect the environment**.

Through this process, potential environmental impacts are identified and assessed. Based on the assessment, the government can decide how to respond to the predicted negative impacts. If the negative impacts can be reduced, then conditions of an approval will require such steps to be taken so as to achieve this result. Depending on how effectively any negative impacts can be managed, the government has the option of deciding not to allow the development to go ahead. The EIA should provide an assessment of alternatives to the proposed development as well as information about monitoring predicted and actual impacts. It should include procedures for monitoring compliance with the conditions of approval and provide a process for ongoing environmental management after the development has been completed.

The EIA informs government decision-makers and the general public about the predicted outcomes should a development be approved. If you are a member of a community that may be affected by a proposed development or have an interest in the development, you have RIGHTS to participate in the process of preparing and considering the EIA and these will be explained below. The Chairman of the RMI EPA must either approve or disapprove the EIA in writing and provide reasons for doing so.

In the RMI, the framework for EIA is set out in the *National Environmental Protection Act 1984* and detailed in the *Environmental Impact Assessment Regulations 1994* (the EIA Regulations).

## Obligations on the Proponent

The Proponent has to prepare and submit the EIS to the RMI EPA for approval. The following outline sets out what the Proponent must and must not do. The EIA Regulations are detailed and technical; they need to be read carefully as the following is only a summary.

### THE PROPONENT MUST

#### At inception

- ✓ During the planning stages of a proposed development, determine whether the development falls into the category of a 'proposed development activity'.
- ✓ If so, prepare and submit a Preliminary Proposal to the General Manager (GM) of the RMI EPA.
- ✓ Submit the Preliminary Proposal to the RMI EPA regardless of whether any permits for the proposed development activity are required under RMI law.

#### Scoping

- ✓ Must embark on the EIA scoping process if the RMI EPA determines that the proposed development activity 'may have a significant effect on the environment'.
- ✓ Notify and request scoping comments from the public as required by the GM of the RMI EPA.
- ✓ Make a representation at a scoping meeting called by the GM of the RMI EPA.
- ✓ Submit the written scope of the EIA to the GM of the RMI EPA.

#### Draft EIA

- ✓ Must complete the EIA in a timely manner if written approval of the scoping document has been received from the RMI EPA.
- ✓ Submit a draft EIA to the RMI EPA and complete any additional studies or provide any additional materials required by the RMI EPA before finalisation.
- ✓ Subject the draft EIA to public scrutiny as required by the RMI EPA.
- ✓ Observe guidelines, directions, policies or issues identified by the RMI EPA regarding the protection, conservation and management of the environment in the formulation of the EIA.
- ✓ Include in the EIA a description of the type of proposed development activity, a statement of its underlying purpose, and the long-term and short-term objectives sought by the proponent, a justification of the rationale for the proposed development activity, including such supporting information as appropriate.

#### DEFINITION:

'The proponent' means the person proposing and assuming responsibility for any proposed development activity' – *EIA Regulations* - Subregulation 4(o).

'The inception' of a proposed development activity is the stage at which the Proponent has a development goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated - *EIA Regulations* - Subregulation 5(a).

The 'scoping process' is the process of determining the range of actions, alternatives, and impacts that will be considered in the EIA - *EIA Regulations* - Subregulation 4(r).

- ✓ Include the environmental impacts of the proposed **development alternatives** in comparative form.
- ✓ Include a description of the environment in the vicinity of the proposed development activity as it exists before the commencement of the proposal and as it is projected to exist if no proposed development activity is initiated.
- ✓ Specifically refer to related projects in the region, both public and private, existing and planned.
- ✓ Discuss possible conflicts or inconsistencies between the proposed development activity, competing activities, and objectives of applicable national, regional or local land use plans, marine use plans, policies and controls for the area concerned.
- ✓ Include a sound scientific analysis of the environmental consequences of the alternatives including the proposed action.
- ✓ Include a list of names of the people who organized and prepared the EIA, and their qualifications and include the specific people responsible for particular analyses or background papers.

#### REMINDER:

**Alternatives** include alternative sites, designs and scales

(check Regulation 21 of the EIA Regulations for the details that are required by the Proponent).

#### CHECKLIST FOR ANALYSING THE ENVIRONMENTAL CONSEQUENCES:

(see *EIA Regulations*, Regulation 23)

1. Direct environmental effects and their significance;
2. Indirect environmental effects and their significance;
3. A description of the relationship between short-term uses of the environment and the maintenance an enhancement of long-term productivity;
4. Consideration of cumulative environmental impacts;
5. Natural or depletable resources requirements and the potential for their conservation;
6. Urban quality, scenic quality, historic and cultural resources, and the design of the built environment;
7. Impact on population and human uses of the land;
8. Alterations to ecological systems;
9. Projected pollution of the environment;
10. Means to mitigate adverse environmental impacts;
11. Description of any unavoidable adverse environmental impacts;
12. An analysis of the costs and benefits that may result from the proposed development activity; and
13. Identification of any irreversible or irretrievable commitments of resources required for the proposed development activity.

### *EIA review and approval*

- ✓ Include studies and contents related to the modifications that have been sought by the RMI EPA when required to revise an EIA.
- ✓ Submit the Final EIA to the RMI EPA with all of the particulars required for an EIA and, in addition: the alternative selected by the proponent; mitigation measures; monitoring schedules; and other commitments as required by the RMI EPA.

### *After EIA approval*

- ✓ Provide plans and specifications of the construction for approval before soliciting bids or starting construction if required by a regulatory entity. The plans and specifications are to include:
  - ✓ a description of required mitigation and monitoring measures including an Environmental Protection Plan;
  - ✓ plans modified after completion of the construction of the development activity to indicate the actual construction history, called 'As-built plans'; and
  - ✓ other technical information as required.
- ✓ Monitor the process of construction.
- ✓ If required by the RMI EPA, after completion of construction, provide an independent examination and report known as an environmental audit including:
  - ✓ a description of the actual environmental effects of the completed activity;
  - ✓ identification of those impacts inadequately or inaccurately addressed in the EIA; and
  - ✓ recommended corrective action as required.

### **THE PROPONENT MUST NOT**

- ✗ Submit a Preliminary Proposal to the RMI EPA later than the date of first submission of the proposed development activity to any entity of Government or the date of first public notification of the proposed development activity.
- ✗ Take any action concerning the proposed development activity that will have an adverse environmental impact or limit the choice of reasonable alternatives until a determination on the Preliminary Proposal is issued.
- ✗ Proceed with preparing the draft EIA before the RMI EPA has approved the scope of the EIA.
- ✗ Take any action related to the development once notified that an EIA is required or take any action related to the EIA in the phase of EIA submission preparation (some exceptions apply).

### **General Penalties include:**

- cease and desist order;
- civil penalty, fixed by the RMI EPA, not more than \$10,000 for each day on which the violation continues.

### **The community's role in EIA**

If you are a member of a community affected by a proposed development or have an interest in the development, you have RIGHTS to participate in the process of preparing and considering the EIA. These rights include the following:

## YOU MAY

- ✓ **Respond to any request made by the Proponent** to comment on the scoping document. You may want to consider the following:
  - Will the full range of alternatives be considered in the EIS?
  - Has the Proponent covered the full range of scientific studies that need to be completed?
  - Does the Proponent intend to consider all the mitigation measures that are available?
  - Does the scoping document provide for sufficient public involvement during the EIA process?
- ✓ **Inspect the draft EIA made available to the public.** Aspects you may want to consider could include the following:
  - Does the draft EIA adequately consider all the relevant alternatives?
  - Is the description of the environment in the vicinity of the proposed development activity adequate?
  - Does the draft EIA adequately describe the impact on your local community and your local environment?
  - How sound is the analysis of the environmental consequences?
- ✓ **Request to receive a copy of the draft EIA** before any public hearing on the basis that you are from an affected community or have an interest in the proposed development.
- ✓ **Make a written comment to the RMI EPA** concerning any aspect of the Draft EIA.
- ✓ **Participate in a public hearing** called by the GM of the RMI EPA to consider the draft EIA. Adequate notice of the hearing must be given by the GM and you must be given adequate opportunity to appear and be heard, and adequate opportunity to provide written comment.

### REMINDER:

The GM of the RMI EPA is obliged to publish in the Government Gazette (or if the Gazette is not published on a regular or timely basis, by notice published in one or more national newspapers):

- (a) the place & times at which the **draft EIA** is available for inspection;
- (b) the date, time and location of any **public hearing**; and
- (c) **invite the public to make its comments**, if any, within 30 days from the date on which the notice is first published – *EIA Regulations* - Regulation 25.

The GM must assess and consider comments received from the public.

- ✓ **Participate in any public hearing** if a cease and desist order is issued at a later date.
- ✓ **Seek legal advice from a private lawyer or a non-government organisation.**

## 4.5 BUILDING CONSTRUCTION

The quality of building construction should comply with standards of design and construction such as fire prevention and the provision of water supply and sanitation to buildings and these requirements are set out in a Building Code. Under the *Planning and Zoning Act 1987*, the formulation of restrictions on buildings has been allocated to each local government. Local government is expected to pass ordinances, for example, on matters specifying requirements for rainwater catchment or stipulating the minimum requirements in location and size of structures or



## REMINDER:

Any person who violates any provision of the EIA Regulations or any requirement, order, recommendation or decision issued thereunder, shall be subject to enforcement action by the RMI EPA. Enforcement action includes a **Cease and Desist Order**. The RMI EPA must arrange a public hearing to determine the authenticity of the facts upon which the order was made. Adequate notice of the hearing, and an adequate opportunity to appear and be heard at the hearing, shall be given to **all interested persons**. See EIA Regulations – Regulation 41.



Photo: DJ

providing for adequate light or air. Separate provision is made for a Marshall Islands Building Code that is to be formulated by the Minister of Public Works.

## YOU MUST

- ✓ Obtain a permit to construct any house, building or any structure whether temporary or permanent.
- ✓ Obtain a permit to make any alteration, addition or extension to any existing house, building or structure.
- ✓ Respect the conditions established in the permit.

## DEFINITION:

**'Building'** includes any enclosed structure built, erected, framed or designed for housing, shelter, and support of persons, animals or property – *Planning and Zoning Act 1987, §202(a)*.

- ✓ Commence construction of the building so described in the permit within ninety (90) days or complete the construction within two (2) years from the date of issuance of the permit, or obtain another permit.

## **YOU MUST NOT**

✗ Without having obtained a permit -

- construct any house, building or any structure (whether temporary or permanent) or
- make any alteration, addition or extension to any existing house, building or structure.

**Penalty:** Fine not more than \$500.

✗ Occupy any new house, building or structure (whether temporarily or permanently) unless you have obtained a Certificate of Conformity.

**Penalty:** Every person who so occupies is liable to a fine not more than \$500.

✗ Fail to comply with an order of the Building Officer and with the formulations of the Building Code.

**Penalty:** Fine of not more than \$500, or thirty (30) days imprisonment, or both. Each day of the violation shall constitute a separate offense.

# 5. MARINE WATER POLLUTION

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Marine water quality will be degraded by activities on land, including poor sanitation and improper waste management as well as by direct discharges of pollution from land. However, boats and ships are another source of marine pollution. This can occur when sewage or other waste is discharged directly to the sea. An oil spill, more likely to occur during heavy ship traffic or in stormy weather, will have a potentially serious impact. It will also create difficulties for cleaning up the shoreline and marine environment.

*Marine Water Quality Regulations 1992* were promulgated pursuant to the National Environmental Protection Act 1984 for the purpose of identifying the uses for which marine waters shall be maintained and protected, to specify the water quality standards required to maintain designated uses and to prescribe regulations for implementing, achieving and maintaining the specified marine water quality.

The regulations establish a system for classifying marine waters according to their use. Certain areas are named and given their relevant classification such as in Majuro Atoll, the ocean side apart from the area closely surrounding the Majuro sewage outfall is to be **Class AA**, i.e. protected for oceanic research, support and propagation of shellfish and other marine life, conservation of coral reefs and wilderness areas, compatible recreation and aesthetic enjoyment. They are to 'remain in as nearly their natural, pristine state as possible with an absolute minimum of pollution from any source.'

The authority responsible for marine water quality is the RMI EPA, and the following Acts and Regulations constitute the legal framework under which marine water quality is managed. However, the following important provision in the *Fisheries Enforcement Act 1997* applies to Fishery Waters (see definition in Division 6):

## YOU MUST NOT

- ✗ Directly or indirectly contaminate Fishery Waters in any way and this will include by any act or omissions that is likely to cause damage to or deterioration in the quality of marine resources.

**Penalty:** Fine up to \$500,000 and in addition the Court may order costs of clean-up or damage.

The following is presumed to cause damage to or deterioration in the quality of the marine resources:

1. non-biodegradable trash or debris;
2. the discharge of a poison, chemical or noxious substance, including but not limited to oil, petroleum, solvents, metals or sewage;
3. the introduction of disease to the Fishery Waters.

Aside from the above provision, the legal framework for managing marine water pollution is set out in the following Acts and Regulations:

ACTS	REGULATIONS
<i>Animal and Plant Inspection Act 1966</i>	
<i>National Environmental Protections Act 1984</i>	<i>Marine Water Quality Regulations 1992</i>
<i>Civil Liability for Oil Pollution Damage Act 1993</i>	

The following topics are outlined below:

1. **Marine water pollution from activities on land**
2. **Oil pollution prevention**
3. **Discharges from boats and ships**

## 5.1 MARINE WATER POLLUTION FROM ACTIVITIES ON LAND

Activities on land can create water pollution that comes from non-point source discharges and point-sources discharges. **Non point-source** discharges come from diffuse sources that cannot be linked to any particular activity but result from an accumulation of activities. An example in RMI is water pollution that is caused by poor sanitation practices, from failure to manage animal waste or that can be seen after heavy rainfall from storm water runoff.

In comparison, a **point-source** discharge is a single identifiable source of pollution. Examples would be when sewage is discharged from a pipe into the ocean from a sewage treatment plant or oil is discharged from an oil refinery wastewater pipe. Another example would arise when there is a spill of a hazardous substance into marine waters from land. Such sources of pollution can be regulated through the issuing of permits and enforcement activity.

*Marine Water Quality Regulations 1992* cover pollution prevention measures from both onshore and offshore facilities. The obligations imposed on owners and operators are detailed and technical; they need to be read carefully. The following is only a summary.

### AN OPERATOR MUST

- ✓ Obtain a Pollutant Discharge Elimination System (MIPDES) Permit for creating a point-source discharge in marine waters.
- ✓ Apply for a 'zone of mixing' from the RMI EPA or demonstrate to the RMI EPA's satisfaction that it is not required for a point-source discharge as the applicable water quality standards will be met at the point of discharge.
- ✓ Notify the RMI EPA within 24 hours and take 'reasonable mitigation measures' in the event of an accidental spill or discharge of any hazardous substance.

### DEFINITIONS:

'**Mixing zone**' means a defined area around a point source in which specific water quality criteria may be revised in accordance with the Regulation.

'**Zone of mixing**' is the volume of water near the point of discharge within which the waste immediately mixes with ocean water due to the momentum of the waste discharge and the difference in density between the waste and the receiving water.

*Marine Water Quality Regulations 1992* - subregulation 5(i).

### AN OPERATOR MUST NOT

- ✗ Store, dispose of or accumulate any hazardous substance in such a manner that the substances may enter the marine waters without obtaining written approval of the RMI EPA.
- ✗ Create a point-source discharge in Class AA Waters (see above).

- ✗ Present false or misleading information to the RMI EPA in an application for a mixing zone.
- ✗ Create a point-source discharge without permit.

Civil penalty of up to \$500 per day for each day the activity is conducted without a permit.

**General penalties** for violating any criteria, standard, requirement, or provision of *Marine Water Quality Regulations 1992* for pollution discharges or breach of any permit, requirement or order include:

- revocation of a permit;
- cease and desist order;
- civil penalty, fixed by the RMI EPA, not more than \$10,000 for each day on which the violation continues.

## 5.2 OIL POLLUTION PREVENTION

*Marine Water Quality Regulations 1992* cover oil pollution prevention from both onshore and offshore facilities.

### AN OPERATOR MUST

- ✓ Prepare a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with the requirements of *Marine Water Quality Regulations 1992* if operating onshore or offshore facilities that could reasonably be expected to discharge oil into marine waters, adjoining shorelines or coastal areas.
- ✓ Include a written description of each spill and corrective action taken if there has been one or more spill events within 12 months before submitting the SPCC Plan to the RMI EPA.
- ✓ Install at least one of the types of containment and diversionary structures to prevent discharges as described in the *Marine Water Quality Regulations 1992*.
- ✓ Restrain drainage from diked storage areas by valves or other positive means to prevent a spill or other excessive leakage of oil into the drainage system.
- ✓ Ensure that no tank is used for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage.
- ✓ Ensure that new and old tank installations are, as far as possible, fail-safe engineered.
- ✓ Promptly correct visible oil leaks.

### AN OPERATOR MUST NOT

- ✗ Install new buried metallic storage tanks for oil.
- ✗ Discharge oil into the marine water environment in such quantities harmful to the public health or welfare.
- ✗ Discharge oil that violates applicable marine water quality standards.
- ✗ Discharge oil to cause a film or sheen upon or discoloration of the surface of the marine water.
- ✗ Discharge oil to cause a sludge or emulsion to be deposited beneath the surface of the water.
- ✗ Add dispersants or emulsifiers to oil to be discharged.
- ✗ Engage in an activity without a permit.

Civil penalty of up to \$500 per day for each day the activity is conducted without a permit.

- ✗ Enter or leave RMI with a vessel carrying as cargo more than 2,000 tons of oil in bulk without a valid certificate.

The owner and master of any vessel is subject to a fine not more than \$5,000.

**General Penalties:** for violating any criteria, standard, requirement, or provision of Marine Water Quality Regulations 1992 established for pollution from oil or any permit, requirement or order:

- revocation of a permit;
- cease and desist order;
- civil penalty, fixed by RMI EPA, not more than \$10,000 for each day on which the violation continues; and
- any other action authorized by the *National Environmental Protection Act 1984*.

### 5.3 DISCHARGES FROM BOATS AND SHIPS

The *Marine Water Quality Regulations 1992* cover pollution from vessels. A discharge from a boat or a ship is a form of point-source discharge as it will come from an identifiable source. The following subject areas are covered below regarding water pollution that may come from a boat or a ship:

- Sewage discharges from ships;
- Ballast water and quarantine.

#### Sewage

Discharge of sewage into marine waters is only allowed where the vessel is a non-commercial vessel and the sewage has been treated. In all other situations, the following obligations apply:

#### AN OPERATOR MUST

- ✓ Install a marine sanitation device on a vessel if there is a toilet facility.
- ✓ Ensure that any effluent does not have a value of fecal bacteria greater than the amount established in the *Marine Water Quality Regulation 1992*.
- ✓ Obtain a "Permit to Discharge" before discharging sewage into marine water and pay a fee of \$50.

#### REMINDER:

Maximum content of fecal coliform bacterial for discharge into marine water must not be greater than 200 per 100 milliliters nor suspended solids greater than 150/mg/L - *Marine Water Quality Regulations 1992* - Regulation 28.

#### AN OPERATOR MUST NOT

- ✓ Discharge sewage, whether treated or not, from any vessel into marine waters without obtaining a permit to discharge and being able to show to the satisfaction of the RMI EPA that the proposed activity poses no public health or environmental hazard.

#### Penalty:

- cease and desist order; and
- civil penalty not more than \$10,000 for each day that the violation continues.

**General Penalties:** for violating any criteria, standard, requirement, or provision of the *Marine Water Quality Regulations 1992* for pollution discharges or any permit, requirement or order:

- revocation of a permit;
- cease and desist order;
- civil penalty not more than \$10,000 for each day during which the violation continues; and
- any other action authorized by the National Environmental Protection Act 1984.

### Ballast water and quarantine

Ballast water is water that is contained in the ballast tank within a boat, ship or other floating structure that is filled to provide adequate stability whilst at sea. A ship's ballast water typically contains a range of biological materials, including plants, animals, viruses, and bacteria. This material can include exotic or nuisance species that can cause extensive ecological damage to aquatic ecosystems. In recent years, awareness of the impacts of failure to control the discharge of ballast water has increased.

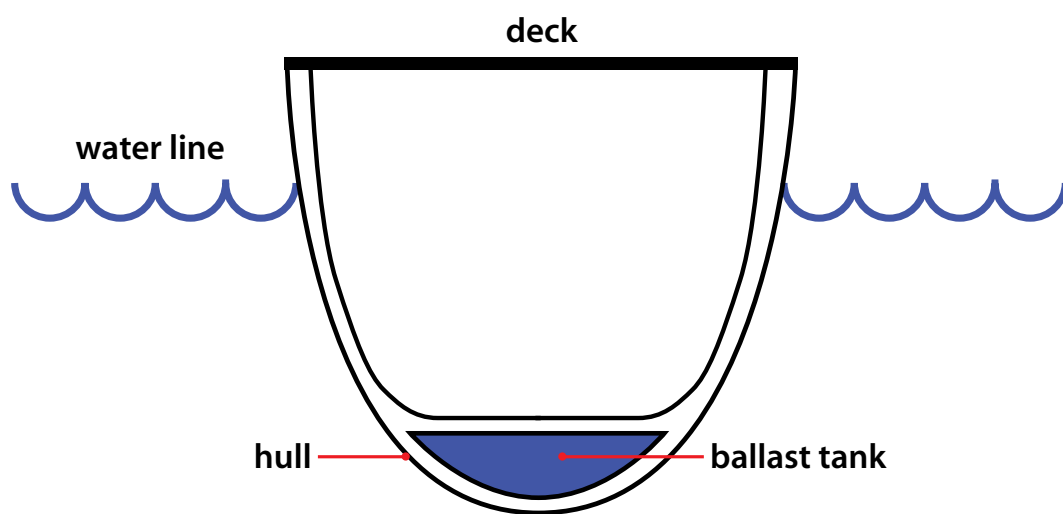


Figure: Cross section of a vessel with a single ballast tank at the bottom.

Inspections of vessels are carried out by agricultural quarantine inspectors pursuant to the *Animal and Plant Inspection Act 1966*. This role is the responsibility of the Chief of Agriculture within the Ministry of Resources and Development. No further detail is provided in the Act regarding ballast water.

### AN OPERATOR MUST

- ✓ Submit your vessel to inspection of ballast water by the quarantine inspectors.
- ✓ Make available cargo manifests and other similar documents concerning your vessel to the agricultural quarantine inspectors if requested to do so.
- ✓ Keep any animals, plants, or other quarantinable material aboard an aircraft or vessel whilst in port or on any island in RMI.
- ✓ Allow your vessel to be sprayed with insecticides or such other treatment as may be deemed necessary by an agricultural quarantine inspector; provided, that the spraying of aircraft with insecticides and the fumigation of ships is subject to public health regulations.

**Penalty:** A person who violates any of the provisions of this Part or any properly issued plant and animal controls, quarantines or regulations shall be guilty of a misdemeanour.

# 6. FISHING

All over the world, fish stocks are being depleted and the RMI is no exception. Nearshore fisheries suffer from overfishing - it is commonly known the fish catch has been reduced in recent times.

The **Marshall Islands Marine Resources Authority (MIMRA)** has responsibility for management and control over living and non-living resources within the Fishery Waters as the Authority.

### DEFINITIONS:

**'Fishery Waters'** means the exclusive economic zone, the territorial sea and internal waters, including lagoons, as described in the *Marine Zones (Declaration) Act 1984*, and any other waters within the jurisdiction of the Republic of the Marshall Islands - *Marshall Islands Marine Resources Authority Act 1997*.§102(31).

The legal framework for fisheries management is set out in the following Acts and Regulations:

ACTS	REGULATIONS
<i>Marine Zones (Declaration) Act 1984</i>	
<i>Fisheries Act 1997</i>	<i>Marshall Islands Fisheries Regulations 1998</i>
<i>Fisheries Enforcement Act 1997</i>	
<i>Fishing Access and Licensing Act 1997</i>	
<i>Tuna and Game-Fish Conservation Zone Act 1996</i>	
<i>Marshall Islands Marine Resources Authority Act 1997</i>	

The following topics are outlined below:

1. **Nearshore fishing rights**
2. **Fishing methods**
3. **Illegal, unreported and unregulated fishing**

## 6.1 NEARSHORE FISHING RIGHTS

As mentioned above at **4.1**, although all marine areas below the **ordinary high watermark** belong to the government, some activities in these marine areas are allowed due to recognized RIGHTS. Rights to erect, maintain and control fish weirs or traps are recognized if such rights existed under local customary law at the time of occupation by the Japanese and they do not interfere with water travel.

An owner of abutting land will have the right to fish in reefs where the general depth of water does not exceed four feet at the mean low water mark if such rights existed under local customary law at the time of occupation by the Japanese and there is no conflict with inherent rights of the government.

As mentioned above, these rights are only granted to the person or group of persons who held the same right at the time it was abolished by the Japanese administration. Also, the extent of the right is governed by the local customary law in effect at the time it was abolished.



## 6.2 FISHING METHODS

The following overview of fishing methods covers poisons and explosives, fishing gear (e.g. prohibition on driftnet fishing and mesh size), control of the live fish trade, commercial sale of endangered species, removal of fish from nets and traps, fish aggregating devices and fishing gear, and the protection of historic sites.

### Poisons and explosives

#### YOU MUST NOT

- ✗ Use, carry or place in the water (or assist somebody in doing so) ANY CHEMICAL, POISON, NOXIOUS SUBSTANCE OR MATERIAL whether of manufactured or natural origin.

#### Penalty:

- For citizens, a fine of not more than \$10,000 or imprisonment up to three months, or both.
- For non-citizens, or a citizen acting on behalf of a corporate entity, a fine of not more than \$250,000 or imprisonment up to six (6) months, or both.

- ✗ Use, carry, place in the water or assist somebody in doing so any DYNAMITE OR EXPLOSIVE SUBSTANCE or device for the purpose of killing, taking, stunning, stupefying or disabling fish to render fish more easily caught.

#### Penalty:

- For citizen, fine of not more than \$20,000 or imprisonment up to six (6) months, or both.
- For non-citizen or citizen acting on behalf of a corporate entity, fine of not more than \$500,000 or imprisonment up to six (6) months, or both.

- ✗ Land, display for sale, sell, deal in, transport, receive or possess any fish or fish product taken with the use of poisoning or explosive substance.

- ✗ When knowing, fail or refuse to give to any authorized officer information on fishing activities that involved the use of poisoning or explosive substance.

- ✗ Take as supply fish or fish product that involved the use of poisoning or explosive substance.

#### Penalty:

- For citizens, fine of not more than \$10,000 or imprisonment up to three months, or both.
- For non-citizen or citizen acting on behalf of a corporate entity, fine of not more than \$250,000 or imprisonment up to six (6) months, or both.

#### DEFINITIONS:

'poisonous', 'chemical' and 'noxious substance' includes hypochlorous acid or any of its salts, including bleaches commonly sold under various trade names such as Clorox and Purex, and bleaching powders, preparations containing rotenone, tephrosin or plant material from *Barrington asiatica*, *coculuferrandianus*, *hura crepitans*, *piscidia erythrina*, *tephrosia purpurea* and *wikstremia* - *Fisheries Act 1997* §214(3).

#### REMINDER:

- Any explosive, poison or other noxious substance found on board any fishing vessel will be presumed by the authority to be used for these purposes.
- All fish or fish products shall be confiscated, and any vessel or vehicle used to transport such fish or fish products may be confiscated.

## Fishing gear

### YOU MUST NOT

#### *Driftnet fishing*

**X** Use a vessel for **DRIFTNET FISHING** activities in the Fishery Waters.

**Penalty:** the operator commits an offense and upon conviction shall be subject to a fine not more than \$500,000.

**Penalty:** the owner, charterer and master each commits an offense and upon conviction shall be fined not more than \$1,000,000.

**X** Engage in driftnet fishing activities any place inside or outside the Fishery Waters if you have a valid registration issued pursuant to the laws of the Republic of the Marshall Islands.

**Penalty:** the owner, charterer and master each commits an offense and upon conviction shall be fined not more than \$1,000,000.

#### *Prohibited fishing gear*

**X** Use for fishing or have on board a vessel any net, the **MESH SIZE** of which does not conform to the minimum mesh size for that type of net.

**Penalty:** Fine of not more than \$250,000, except in the case of a driftnet where the fine shall be not more than \$1,000,000.

**X** Use for fishing or have on board a vessel any fishing gear which DOES NOT CONFORM TO STANDARDS required.

**Penalty:** Fine of not more than \$250,000.

**X** Use for fishing or have on board a vessel **ANY FISHING GEAR WHICH IS PROHIBITED**, not limited to DRIFTNET.

**Penalty:** Fine of not more than \$250,000 except in the case of a driftnet where the fine shall be not more than \$1,000,000.

#### *Export of live fish, fish product and other marine resources*

### YOU MUST NOT

**X** Export any live fish, live rock or viable fish eggs or spawn taken from the Fishery Waters unless it is for personal consumption by immediate family members, does not exceed a total of 100 pounds and is not intended for commercial resale.

**X** Export any fish or fish product caught in the Fishery Waters, unless it is for personal consumption by immediate family members, does not exceed a total of 100 pounds and is not intended for commercial resale.

#### **Penalty:**

- fine of not more than \$100,000, to which fine shall be added an amount equivalent to the current retail value of the fish or fish product in the market for which it is destined; or
- imprisonment for up to six (6) months, or both.

### YOU MUST

**✓** Obtain prior written permission from MIMRA

## *Commercial sale of endangered species*

### **YOU MUST NOT**

- ✗ Land, display for sale, sell, deal in, transport, receive, buy or possess any fish declared as endangered.

#### **Penalty:**

- fine of not less than \$1,000 or not more than \$20,000; and
- imprisonment up to six (6) months, or both; and
- an amount equivalent to the current retail value of the fish or fish product in the market for which it is destined.

## *Removal of fish from nets, traps, etc.*

### **YOU MUST NOT**

- ✗ Remove a fish from a net, trap, pond, enclosure or storage device, unless you are the owner or you are acting with the authority of the owner.
- ✗ Destroy, damage or knowingly or intentionally impair the functioning of any net, trap, pond, enclosure or storage device that belongs to another person.

#### **Penalty:**

- fine of not more than \$5,000;
- imprisonment up to three (3) months, or both; and
- payment of compensation to the owner.

## *Protection of fish aggregating devices and fishing gear*

### **YOU MUST NOT**

- ✗ Destroy, damage or take any part of a fish aggregating device, artificial reef, mooring buoy, float, tray or other device that belongs to another person or installed by MIMRA or a Local Government Council.
- ✗ Anchor or otherwise connect your vessel to a fish aggregating device, mooring buoy or float which belongs to another person or installed by the Government or a Local Government Council.
- ✗ Engage in fishing within 150 feet of a fish aggregating device or artificial reef belonging to another person unless you a citizen resident in the area in which the fish aggregating device or artificial reef is deployed or located.

#### **Penalty:**

- fine of not more than \$5,000;
- imprisonment up to three (3) months, or both; and
- payment of compensation to the owner.
- Take, damage or destroy any fish, fishing vessel or fishing gear belonging to another person.

## Protection of historic sites

### YOU MUST NOT

- ✗ Engage in any fishing activity within 500 meters of any marine area designated as a historic site, or interfere with a landmark or cultural historic property within the meaning of the Historic Preservation Act 1991.

**Penalty:** Fine not more than \$50,000; imprisonment up to six (6) months, or both.

#### DEFINITIONS:

**‘Cultural and historic property’** means any site, structure, district, landmark, building, object, or combination thereof, that is recognized by the government to have historic value: *Historic Preservation Act 1991 §203(d)*.

**‘Historic site’** means those cultural resources and terrestrial, intertidal and submarine sites and landscapes that were produced since the advent of written records in the Marshall Islands and that are of archaeological or historical interest: *Historic Preservation Act 1991 §203(m)*.

**‘Landmark’** means any geographical or geomorphological feature associated with oral traditions or historic events of the Republic: *Historic Preservation Act 1991 §203(q)*.

## 6.3 ILLEGAL, UNREPORTED AND UNREGULATED FISHING

A system of fish licensing is fundamental to ensuring that fishing activity remains within sustainable levels. When fishing activity is unlicensed it will be illegal, unreported and unregulated (IUU).

IUU fishing is a problem in many parts of the world and means that governments have no way of gathering information about extent of fishing or the amount of fish being caught nor is it able to control fishing methods. It is one of the reasons why the world’s fish stocks are being depleted.

In RMI, the system of licensing is set up under the *Fishing Access and Lisensing Act 1997* and is administered by the MIMRA.

Citizens who are engaged in SUBSISTENCE FISHING are not required to hold a license. In addition, fish processing establishments do not require a license when processing for domestic, personal or non-commercial use.

#### CHECKLIST FOR OBTAINING A FISHING LICENSE:

1. The name, call sign, country of registration number, regional register number, name and address of the operator, name of the vessel master, bank reference number;
2. The tonnage, capacity, gear type, processing equipment and such other pertinent information with respect to the characteristics of each vessel as MIMRA may require;
3. If applicable, the access agreement under which such license is sought;
4. In the case of fish processing establishments, the physical location, intended markets, the species and forms to be processed, and preservation methods.

## Licensing

### COMMERCIAL FISHERS MUST

- ✓ Hold a fishing license before undertaking the following activities in the Fishery Waters for the following activities:
  - fishing
  - transshipment, and other related activities
  - mari culture or aquaculture
  - marketing and/or export of any fish or fish product taken from the Fishery Waters
  - fish processing
  - sport fishing
  - commercial pilot fishing
  - marine scientific research
  - exploration and exploitation of non-living marine resources.
- ✓ Obtain an authorization for fishing outside the Fishery Waters.
- ✓ Carry the authorization on the vessel at all times.
- ✓ Notify MIMRA within seven (7) working days of any change of ownership of a vessel or operator of a vessel.

#### REMINDER:

You are not required to hold a fishing license if you are

- a citizen engaging in subsistence fishing; or
- the owner of a fish processing establishment that is limited to domestic, personal or non-commercial use.

### COMMERCIAL FISHERS MUST NOT

- ✗ Engage in fishing, processing or any other activity for which a license is required under the *Fishing Access and Licensing Act 1997* without a license or in contravention of any of its terms or conditions

#### Penalty:

- for citizen not acting on behalf of a business enterprise, a fine of not less than \$20,000 and not more than \$100,000, or imprisonment up to three (3) months, or both;
- for all others, or a person or persons acting for a business enterprise, not less than \$100,000 and not more than \$1,000,000, and such person shall not be permitted to engage in fishing, processing or any relevant activity, or if a license has been issued it will be suspended, for a period of at least three (3) months from the date of conviction; and
- each day of a continuing violation is considered a separate offense.

- ✗ Fail to notify MIMRA of the change of ownership of the vessel.

**Penalty:** Fine not less than \$25,000 and not more than \$250,000.

## Records and information

### COMMERCIAL FISHERS MUST

- ✓ Apply in writing to MIMRA to record your fishing vessel if it is entitled to fly the flag of RMI and you intend to fish in areas beyond the Fishery Waters.
- ✓ Provide complete and accurate information for any permit and registration.

## COMMERCIAL FISHERS MUST NOT

- ✗ Fail to provide information or provide false information to MIMRA when requesting a permit for Marine Scientific Research.

**Penalty:** Fine not more than \$250,000.

- ✗ Provide misleading information for obtaining a permit or making a registration.

**Penalty:** Fine of not more than \$10,000; imprisonment up to six (6) months, or both.

## Vessels controlled by MIMRA

### COMMERCIAL FISHERS MUST

- ✓ If your vessel is seized, take it to the nearest or most convenient port.
- ✓ Allow any authorized observer to board your vessel and assist them in carrying out all his or her duties and functions on board.

### COMMERCIAL FISHERS MUST NOT

- ✗ Possess or arrange to obtain, make any replacement, or fit any part or parts of a vessel previously removed by an authorized officer and held in the custody of the Government of RMI.

**Penalty:** Fine of not more than \$20,000 or imprisonment up to six (6) months, or both.

- ✗ Obstruct an authorized observer or fail to assist him in the exercise of his functions inside the Fishery Waters.

- ✗ Fail to comply with the requirements of any authorized officer or observer and fail to take all reasonable measures to ensure their safety.

- ✗ Furnish false or misleading information to any authorized officer or observer or resist lawful arrest.

**Penalty:** Fine of not less than \$100,000 and not more than \$500,000 or imprisonment for up to six (6) months, or both.

- ✗ Cause an authorized officer, inspector or observer to disembark outside the Fishery Waters.

**Penalty:** Fine not more than \$500,000, plus all costs of repatriation including board and lodging while out of RMI and direct transportation to RMI.

- ✗ Fail to properly maintain a vessel held in custody by the government.

**Penalty:** Fine of not more than \$500,000.

- ✗ Remove a vessel under custody of MIMRA.

**Penalty:** Fine of not more than \$100,000 and liability for the full market value of the vessel.

## Requirements for foreign and domestic fishing vessels

### FOREIGN AND DOMESTIC FISHING VESSELS MUST

- ✓ Operate in the Fishery Waters in such a way that the activities of local and traditional fishermen and fishing vessels are not disrupted or in any other way adversely affected.
- ✓ Obtain an access agreement for entering the Fishery Waters.
- ✓ Provide 72 hours' notice to MIMRA of a request to tranship and submit full reports on

transshipping.

- ✓ Obtain a license for transshipping.
- ✓ Obtain a certification for the products being transhipped.
- ✓ Obtain a license for fishing in the Fishery Waters.
- ✓ Prepare a report when required by MIMRA that includes: gear type used; the noon position of the vessel, the species, size and quantity of fish taken, information on discarded fish.
- ✓ Report information to MIMRA at least 24 hours prior to the estimated time of entry into and departure from the exclusive economic zone; each Wednesday while in the exclusive economic zone; at least 24 hours prior to the estimated time of entry into or departure from port; and upon entry and departure from a closed area.
- ✓ Ensure that any information or data is transmitted continuously and accurately to MIMRA.

### **FOREIGN AND DOMESTIC FISHING VESSELS MUST NOT**

- ✗ Use a vessel for entering or remaining within the Fishery Waters without permission unless the vessel is entering for innocent passage or force majeure.

**Penalty:** Fine not more than \$1,000,000.

- ✗ Disrupt or adversely affect local and traditional fishermen in the Fishery Waters.

**Penalty:** Fine of not more than \$500,000.

- ✗ Tranship at sea under any circumstances.

- ✗ Fail to obtain a license for transshipping.

#### **Penalty for transshipping violations:**

- fine of not less than \$25,000, and not more than \$200,000; and
- an amount equivalent to the current retail value of the fish or fish product in the market for which it is destined.

- ✗ Fail to obtain a license for undertaking the activity listed above in the Fishery Waters.

**Penalty:** Fine not more than \$1,000,000.

### **Marine scientific research**

#### **SCIENTIFIC RESEARCHERS MUST**

- ✓ Obtain a license for undertaking marine scientific research to take samples from the Fishery Waters.
- ✓ Submit information to MIMRA.
- ✓ Donate to MIMRA the marine life harvested from the Fishery Waters not required for further research purposes.

#### **SCIENTIFIC RESEARCHERS MUST NOT**

- ✗ Fail to obtain a license.
- ✗ Fail to provide information to MIMRA.
- ✗ Fail to donate to MIMRA the marine life harvested from the Fishery Waters.

**Penalty:** Fine of not more than \$250,000.

## Mobile transceiver unit requirements & catch certificate

### THE MASTER OF A COMMERCIAL VESSEL MUST

- ✓ Install, maintain and operate a registered mobile transceiver unit on your fishing vessel at all times while in the Fishery Waters and when in areas beyond the Fishery Waters when your fishing vessel is entitled to fly the flag of the Marshall Islands.
- ✓ Comply with manufacturer's specifications and operating instructions and other standards imposed by MIMRA.
- ✓ Ensure that no person tampers or interferes with the mobile transceiver unit and that the mobile transceiver unit is not altered, damaged, disabled or otherwise interfered.
- ✓ Ensure that the mobile transceiver unit is not moved from the required or agreed installed position or removed without the prior written permission of MIMRA.
- ✓ Ensure that the mobile transceiver unit is switched on and operational at all times during the period of validity of the license or authorization, even when the fishing vessel is in its own port.
- ✓ Ensure that reports containing information on your vessel are communicated to MIMRA at intervals of 8 hours in the eventuality that the vessel's mobile transceiver unit has failed to report.
- ✓ Stow the fishing gear and take the vessel directly to a port identified by MIMRA when it is not possible to make any position report immediately and, as soon as possible, report to MIMRA that the vessel is being, or has been, taken to port with gear stowed.
- ✓ Complete the catch certificate which shall accompany all exported wild caught seafood products.

### THE MASTER OF A COMMERCIAL VESSEL MUST NOT

- ✗ Divulge information from a vessel monitoring system, to any person or persons not authorized to receive such information.

**Penalty:** Fine of not less than \$15,000, and not more than \$100,000.

- ✗ Fail to respect what established in the condition of use of Mobile Transceiver Unit.

**Penalty:**

- fine of not less than \$25,000 and not more than \$200,000; and
- license or authorization could be cancelled.

## Port State Measures

Port State Measures (PSM) are requirements established or interventions undertaken by port states that a foreign fishing vessel must comply with as a condition for use of ports within the port state.

### FOREIGN VESSELS MUST

- ✓ Respect the regulations and measures established by MIMRA.

**Penalty:** Fine of not less than \$25,000 and not more than \$250,000.

## Fish processing plants



## **FISH PROCESSORS MUST**

- ✓ Comply with the approved standards issued by MIMRA.
- ✓ Keep records.
- ✓ Provide at all times reasonable access to an authorized officer to inspect the establishment and records.
- ✓ Implement programs required by MIMRA.

# 7. BIODIVERSITY CONSERVATION - SPECIES PROTECTION

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RMI was one of the first countries to ratify the 1992 *United Nations Convention on Biological Diversity* and did so in the same year that it was passed by the General Assembly.

In its country profile to the UN, the RMI government stated that:

*the biodiversity of the Marshall Islands includes 106 species of birds, 37 mammals, 1059 fishes, 728 crabs, shrimps and other crustaceans, 126 starfishes and 40 sponges. Threats to the conservation and sustainable use of biodiversity include the loss of traditional knowledge and skills caused by urbanization and migration, and the spread of invasive alien species.<sup>1</sup>*

## WHAT IS BIODIVERSITY?

According to the **International Union for the Conservation of Nature<sup>2</sup> biological diversity or biodiversity** is the term we use to describe the variety of life on Earth. It refers to the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes. Biodiversity is the foundation of life on Earth. It is crucial for the functioning of ecosystems that provide us with the products and services without which we could not survive – oxygen, food, fresh water, fertile soil, medicines, shelter, protection from storms and floods, stable climate and recreation.

There are many pressures on maintaining biodiversity in the Marshall Islands. In the marine environment overfishing is an important factor. Particularly in the **nearshore marine waters**, pressures come from land-based pollution from poor waste disposal (sewage, animal waste and domestic waste), litter and solid waste. Physical damage to ecosystems from shipping and aggregate mining also affects biodiversity. Other pressures come from imbalances in the ecology (e.g. seaweed destroying coral reefs due to increases in nutrients and outbreaks of the crown of thorns starfish that preys on reef coral polyps).

In the **terrestrial environment** biodiversity is impacted by increasing population density, particularly on the islands of Majuro and Kwajalein, which has led to a loss of trees and vegetation that are vital to sustain the full range of animal and plant life on land. Also, the loss of traditional knowledge can lead to the loss of biodiversity. For example, the preference for foreign pine trees (*casuarina equisetifolia*) over the traditional 'konnat' and 'bob' has led to die off around the pine trees and a loss of habitat for sea turtles.<sup>3</sup> The full extent of biodiversity loss is not known as we lack complete data on the location and extent of many species.

Well-known examples of species loss in the north Pacific include:

- the Purple-capped Fruit-Dove from Ebon (extinct); and
- the Wake Island Rail (extinct).

In Majuro and Mili atoll, the endangered Ratak Micronesian Pigeon (*Ducula oceanica ratakensis*) known as the Mule, which is RMI's only remaining land bird, has been the subject of special conservation measures due to precariously low remaining numbers of birds.

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1 Marshall Islands Country Profile, Convention on Biological Diversity: <https://www.cbd.int/countries/profile/default.shtml?country=mh#status> [accessed 13 May 2013]

2 International Union for the Conservation of Nature: <http://www.iucn.org/what/biodiversity/about/?gclid=CPi09rLUIlLcCFYIVpQod0VAAaA> [accessed 13 May 2013]

3 Republic of the Marshall Islands Biodiversity Clearing House Mechanism RMI Office of Environmental Planning and Policy Coordination (OEPPC) [http://biormi.org/index.shtml?en/threats\\_introduction.html](http://biormi.org/index.shtml?en/threats_introduction.html) [accessed 13 May 2013]

The Authorities with responsibility biodiversity conservation are:

- **Ministry of Resources and Development – Agricultural Division**
- **RMI EPA.**

The legal framework is set out in the following Acts:

ACTS
<i>Public Lands and Resources Act 1966</i>
<i>Animal and Plant Inspection Act 1966</i>
<i>Endangered Species Act 1975</i>
<i>National Environmental Protections Act 1984</i>
<i>Marine Mammal Protection Act 1990</i>
<i>Tuna and Game-Fish Conservation Zone Act</i>
<i>Fisheries Act 1997</i>

The following topics are outlined below:

1. **Protection of Endangered Species**
2. **Protected marine life**
3. **Conservation Zones**
4. **Quarantine.**

## 7.1 PROTECTION OF ENDANGERED SPECIES

A way of seeking to protect biodiversity is to establish protections for particular species that are listed in legislation. The phrase that is often used is 'endangered species' and this can apply to plant and animal life. RMI passed the *Endangered Species Act in 1975*. The list of protected species is reproduced in Appendix 1.

### YOU MUST NOT

- ✗ Take, engage in commercial activity, withhold possession of, or export any threatened or endangered species of plant or animal or parts of such plants or animals.
- ✗ Import exotic plants and animals or parts of such plants or animals into RMI except under permit by the Secretary of Resources and Development.

**Penalty:** Fine of not more than \$10,000 or to a term of imprisonment not exceeding one year, or both.

### YOU MUST

- ✓ Obtain a permit from the Secretary of Resources and Development for taking possession of, or export of species of endangered or threatened plants and animals or parts for scientific purposes.

### DEFINITIONS:

'**Endangered species**' means any species that is in danger of extinction throughout all or a significant portion of its range - *Endangered Species Act 1975* §302(c).

'**Threatened species**' means any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range - *Endangered Species Act 1975* §302(m).

## 7.2 PROTECTED MARINE LIFE

Certain marine species have been granted legal protection in RMI by the *Fisheries Act 1997* as set out below:

### Turtles



In RMI, catching marine turtles is only permitted for subsistence purposes, which means for direct consumption that is necessary for survival.

Even so, a number of prohibitions apply as follows:

#### YOU MUST NOT

- ✗ Take or kill hawksbill turtles (jōbake) when their shells are less than 27 inches when measured over the top of the carapace shell lengthwise.
- ✗ Take or kill green turtle (wōn) when their shells are less than 34 inches when measured over the top of the carapace shell lengthwise.
- ✗ Take or kill hawksbill turtles, sea turtles or their eggs while on shore.
- ✗ Buy, sell, display for sale, offer for sale or otherwise market any turtle or turtle product.

#### Penalty:

- fine of not more than \$10,000;
- imprisonment up to 6 months, or both.



## Sponges and oysters

### YOU MUST NOT

- ✗ Take a sponge or molest artificially planted or cultivated sponges except with permission from the Authority.
- ✗ Take black-lip mother of pearl oyster shell with less than four inches in diameter across the nacre.
- ✗ Take black-lip mother of pearl oyster shell from the 1 August to 31 December inclusive.

#### Penalty:

- fine of not more than \$10,000;
- imprisonment up to 6 months, or both.

### YOU MUST

- ✓ Obtain permission from the Authority before taking or molesting an artificially planted or cultivated sponge.
- ✓ Obtain permission before taking for scientific purposes a black-lip mother of pearl oyster of any size and at any time.



## Trochus

### YOU MUST NOT

- ✗ Take or harvest trochus or intentionally or recklessly interfere with the growth of trochus in the Fishery Waters without a license.
- ✗ Take trochus with a shell smaller than 3 inches or out of season.
- ✗ Remove and transport trochus from an area for the purpose of its introduction, transplanting or propagation in any other area without permission.
- ✗ Acquire, accumulate or hold trochus or any part for the purpose of sale, marketing or export without a permit that states the maximum tonnage to be sold or exported and the period of time during which such export is permitted.

### Penalty:

- fine of not more than \$10,000 or imprisonment up to six (6) months, or both; and
- liable for the market value of any trochus or part held.

### YOU MUST

- ✓ In order to take or harvest trochus, obtain a fishing license that specifically authorizes the taking or harvesting of trochus.
- ✓ Be a RMI citizen living in an area in which, in accordance with customary law, you have a right to fish.
- ✓ Only take or harvest trochus whose shell is greater than three inches in diameter at the base.
- ✓ Only take or harvest trochus during the open season.
- ✓ Obtain a permit for removing and transporting trochus from an area for the purpose of its introduction, transplanting or propagation in any other area.
- ✓ Obtain a permit for underwater operations that may interfere with a trochus bed. The authority will grant the permit only if the operations are in the public interest.
- ✓ Obtain a permit to acquire, accumulate or hold trochus or any part for the purpose of sale, marketing or export.

### Marine Mammals

Protection of marine mammals is provided by the *Marine Mammals Protection Act 1990*.

### TUNA FISHERS MUST

- ✓ If the carrying capacity of your fishing vessel is 400 tons or greater obtain a permit associated with marine mammals to fish in the eastern tropical Pacific Ocean bounded by 40 degrees south latitude, by 40 degrees north latitude and by 160 degrees west longitude.
- ✓ Keep records of fishing activities involving tuna and marine mammals according to the requirements of the international program designated by the RMI Government.
- ✓ Do a back-down manoeuvre (moving vessel in reverse) when a marine mammal is captured in a tuna set.
- ✓ Undertake manoeuvres necessary to avoid the collapse of the net in order to prevent a marine mammal from being trapped.
- ✓ Undertake manoeuvres for the release and rescue of a marine mammal that is not released during a back-down manoeuvres, such as the use of speedboats to force the marine mammal toward the back-down channel.

### REMINDER:

The species of protected marine mammals are:

- (a) the offshore spotted dolphin;
- (b) the coastal spotted dolphin;
- (c) the eastern spinner dolphin;
- (d) the white-belly spinner dolphin;
- (e) the Costa Rican spinner dolphin;
- (f) the common dolphin;
- (g) the striped dolphin; and
- (h) any other species of small toothed cetaceans, captured in the course of commercial fishing operations in the eastern tropical Pacific Ocean - *Marine Mammals Protection Act 1990* §203.

- ✓ Remove all live marine mammals from the net before sack up and brailing the tuna on board the vessel.
- ✓ Use lights capable of producing a minimum of 140,000 lumens of output for use in darkness to carry out marine mammal rescue procedures.
- ✓ Restrict the use of explosive devices to influence the movements of dolphin to those devices that contain less than 40 grains (2.592 grams) of explosive material and insure that the devices are discharged in a manner that precludes any harm to dolphins.

### TUNA FISHERS MUST NOT

- ✗ Brail or sack up live mammals.
- ✗ Make tuna sets associated with marine mammals involving pure schools of eastern spinner dolphin, coastal spotted dolphin, and on any other pure schools of marine mammals except offshore spotted dolphin, striped dolphin, and common dolphin.

#### Penalty:

- civil penalty of not more than \$1,000,000 for each violation. Each day of a continuing violation is a separate offense; and
- forfeiture of the fishing permit to fish for tuna in the eastern tropical Pacific Ocean.

## 7.3 CONSERVATION ZONES

### Tuna



Tuna fisheries in the Marshall Islands are based on three tuna species:

- Skipjack tuna
- Yellowfin tuna
- Bigeye tuna

In the RMI a **Tuna and Game-Fish Conservation Zone** has been established and comprises those parts of the sea having, as their inner limits, the base lines of Kwajalein and Majuro Atolls and, having as their outer limits, a line drawn 50 nautical miles seaward from such base lines. There are specific obligations and prohibitions that apply within the zone.

### TUNA FISHERS MUST

- ✓ Obtain a valid license for fishing with your fishing vessel in the Tuna and Game-Fish Conservation Zone. This license is not required for vessels engaged in sport fishing and subsistence fishing activities.

### TUNA FISHERS MUST NOT

- ✗ Fish in the Tuna and Game-Fish Conservation Zone without a license.

**Penalty:** Civil and criminal penalties apply.

## Sharks



In October 2011, pursuant to the *Fisheries Act 1997*, MIMRA declared the Fishery Waters of RMI to be a shark sanctuary. This is particularly important as scientists estimate that reef shark populations in the Pacific have plummeted 90 to 97 per cent from historic levels largely due to being heavily fished for export, mainly for their fins.

### YOU MUST NOT

- ✗ Engage in commercial shark fishing anywhere in the RMI.
- ✗ Catch, capture or intentionally engage in fishing for shark or any part thereof or intentionally remove the fins or tail of any shark or otherwise mutilate or injure any shark anywhere in the RMI.
- ✗ Possess, receive, sell, transfer, store or have on board or tranship any shark, shark fins or any other parts of shark.
- ✗ Use or cause to be used a wire trace.

### Penalty:

- fine of not less than \$25,000 and not more than \$200,000; and
- an amount equivalent to the current retail value of any confiscated shark fin in the market for which it was destined.

### YOU MUST

- ✓ Obtain a license or permit from the MIMRA to conduct research or carry out activities on sharks.
- ✓ Respect the conditions of the license.
- ✓ Immediately release any shark that is inadvertently caught or captured whether the shark is dead or alive.

### REMINDER:

Any shark or any part of a shark found aboard a vessel is presumed by MIMRA to be in violation of RMI law, unless you demonstrate the possession of a license or a permit.



## 7.4 QUARANTINE

The RMI's environment is particularly vulnerable to the effects of introduced species.<sup>4</sup> Some examples of invasive species infestations in the RMI have been the infestations of the tangantangan and the spiralling whitefly. The *Animal and Plant Inspection Act 1966* provides for quarantine inspections to prevent the introduction and further dissemination of injurious insects, pests, and diseases.

### YOU MUST

- ✓ Provide for inspection by agricultural quarantine inspectors all animals and plants including seeds, fruits, vegetables, cuttings, etc., entering or transported within the RMI. They may be refused entry into or movement within the RMI if they are known to be, or are suspected of being, infected or infested with disease or pests.
- ✓ Provide cargo manifests and other similar documents concerning aircraft and vessels traveling in the RMI to agricultural quarantine inspectors upon request.

### YOU MUST NOT

- ✗ Interfere with or refuse to submit to inspection of any goods entering the RMI.

**Penalty:** Misdemeanor.

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<sup>4</sup> Website of Office of Environmental Planning and Policy Coordination: <http://biormi.org/oeppc/index.oeppc> [accessed 13 May 2013].

# APPENDIX 1: PROTECTED SPECIES IN THE RMI

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## **PORIFERA (Sponges)**

Scientific name: *Porifera*  
Common name: All sponges  
Range or habitat: marine  
Reasons for protection: commercial  
Also endangered by other agencies: ?

## **MOLUSCA**

### ***Gastropoda***

Scientific name: *Trochus niloticus* (syn. *Trochus maximus*)  
Common name: Commercial top shell  
Range or habitat: marine  
Reasons for protection: commercial, closed season  
Also endangered by other agencies: ?

### ***Bivalvia***

Scientific name: *Pictada margaritifera*  
Common name: Black-lip pearl oyster  
Range or habitat: marine  
Reasons for protection: commercial, closed season  
Also endangered by other agencies: ?

## **REPTILIA**

Scientific name: *Eretmochelys imbricata*  
Common name: Hawksbill turtle  
Range or habitat: marine, northern atolls  
Reasons for protection: RMI endangered species  
Also endangered by other agencies: IUCN, US

Scientific name: *Dermochelys coriacea*  
Common name: Leatherback turtle  
Range or habitat: marine, vagrant  
Reasons for protection: RMI endangered species  
Also endangered by other agencies: IUCN, US

Scientific name: *Chelonia mydas*  
Common name: Green sea turtle  
Range or habitat: marine, nests on northern atolls  
Reasons for protection: no commercial activities  
Also endangered by other agencies: IUCN, US

Scientific name: *Caretta caretta*  
Common name: Loggerhead turtle  
Range or habitat: marine, vagrant  
Reasons for protection: no commercial activities  
Also endangered by other agencies: IUCN, US

Scientific name: *Lapidochelys olivacea*  
Common name: Pacific Ridley turtle  
Range or habitat: marine, vagrant  
Reasons for protection: no commercial activities  
Also endangered by other agencies: IUCN, US

## **AVES (BIRDS)**

Scientific name: *Ducula oceanica ratakensis*  
Common name: Ratak Micronesia Pigeon  
Range or habitat: Amo, Miliextirpated on Maloelap, Wotje, Majuro  
Reasons for protection: RMI endangered species  
Also endangered by other agencies: US

## **MAMMALIA (MAMMALS)**

### ***Cetacea (whales, dolphins and porpoises)***

Scientific name: *Stenella attenuata attenuata*  
Common name: Offshore spotted dolphin  
Range or habitat: marine, transient?  
Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing  
Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Stenella attenuata graffmani*  
Common name: Coastal spotted dolphin  
Range or habitat: marine, transient?  
Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing  
Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Stenella longirostris orientalis*  
Common name: Eastern spinner dolphin  
Range or habitat: marine, transient?  
Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing  
Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Stenella longirostris longirostris*  
Common name: Whitebelly spinner dolphin  
Range or habitat: marine, transient?  
Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of

commercial fishing

Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Stenella longirostris centroamericana*

Common name: Costa Rica spinner dolphin

Range or habitat: marine, transient?

Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing

Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Delphinus delphis*

Common name: Common dolphin

Range or habitat: marine, transient?

Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing

Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Stenella coeruleoalba*

Common name: Striped dolphin

Range or habitat: marine, transient?

Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing

Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Cetacea spp.*

Common name: All other species of small toothed cetaceans-

Range or habitat: marine, transient?

Reasons for protection: *Marine Mammal Protection Act 1990*, protection in the course of commercial fishing

Also endangered by other agencies: C.I.T.E.S., IUCN

Scientific name: *Balaenoptera musculus*

Common name: Blue whale

Range or habitat: marine

Reasons for protection: RMI endangered species

Also endangered by other agencies: C.I.T.E.S., IUCN, US

Scientific name: *Physeter catodon*

Common name: Sperm whale

Range or habitat: marine

Reasons for protection: RMI endangered species

Also endangered by other agencies: C.I.T.E.S., IUCN, US

## REFERENCES

National Biodiversity Team of the RMI, 2000. The Marshall Islands - Living Atolls Amidst the Living Sea/ The National Biodiversity Report of the Republic of the Marshall Islands. © RMI Biodiversity Project. ISBN 982-9045-02-1, St. Hildegard Publishing Company, Santa Clarita, CA, USA.

# APPENDIX 2 – SOME GOOD PRACTICES FOR LOCAL MANAGEMENT

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## WASTE

- ✓ Reduce and recycle waste
- ✓ Clean and reuse plastic containers
- ✗ Don't accumulate rubbish in your yard
- ✓ Leave your waste in containers while waiting for collection
- ✓ Keep waste containers closed
- ✓ Join in or help organise a cleanup campaign

## SANITATION

- ✓ Always use a toilet facility
- ✓ Clean your toilet facility every week
- ✓ Control the liquid level of your septic tank
- ✓ Arrange to have your septic tank de-sludged
- ✓ Close your privy
- ✗ Don't dispose piggy waste or other farm waste in the ocean or lagoon
- ✓ Use a composting toilet...they save water, are clean and provide fertilizer.
- ✓ Urge you government to support composting toilets

## FRESH WATER

- ✓ Before drinking always smell and taste the water, and check if it is clear
- ✓ Always boil water if you are not sure that it is safe
- ✓ Keep your roof catchment clean
- ✗ Don't waste drinkable water
- ✓ Keep your water tanks/bottles closed and in a cool place

## DEVELOPMENT

- ✓ Keep your building sites clean
- ✗ Don't allow runoff to enter the lagoon
- ✓ Build your house at a safe distance from next door
- ✓ Ask to your local government council for information on how to build your house legally and safely
- ✓ Use non toxic building materials
- ✓ Always include a toilet facility

## PROTECTING MARINE WATER QUALITY

- ✗ Don't put anything into the lagoon or ocean.
- ✓ Encourage your friends, family and colleagues to do the same.
- ✓ If you see anyone polluting the lagoon or ocean report it to RMI EPA immediately.
- ✓ Monitor the quality of the water around beaches near you.
- ✓ Motivate others to care about marine water quality.

## FISHING

- ✓ Only fish the catch that you need – avoid bycatch
- ✓ Take initiatives for protect fish in your coral reef... study how it functions and help keep the reef clean.
- ✓ Report any suspicious activities to do with live fish trade or endangered species to MIMRA

## BIODIVERSITY

- ✓ Protect all indigenous plants and animals
- ✓ Learn about our endangered species
- ✓ Plant indigenous trees and bushes along the shoreline – not pine trees
- ✓ Learn about traditional medicines that come from our local plants
- ✗ Don't bring foreign plants, seeds or other food products into rmi or take them between the islands of RMI

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Our vision: The Pacific environment,  
sustaining our livelihoods and natural  
heritage in harmony with our cultures.

