TERRITORY
of
AMERICAN SAMOA

State of the Environment Report

2002

PREFACE

For centuries before industrialization, Samoans have made use of the islands' natural resources. The lush rainforests and diverse coral reefs of the Territory are part of Samoa's culture and heritage. Today, our modern lifestyle does not depend on these forests and reefs. Yet, these resources still have great value. They provide us with recreation and respite from the modern world, as well as food, traditional medicine, and materials. Our resources are now threatened as population grows and the impacts of modern economic and social pressures intensify. Remember that we are still a part of the natural world and will reap the consequences of our careless treatment of it.

The *2002 State of the Environment Report* is a brief "environmental report card" on the resources of the Territory. This report is designed to provide American Samoan residents and policy makers with a foundation on which to build their understanding of environmental management issues. It is presented in a readable, non-technical format to help citizens assess the Territory's progress towards meeting its environmental goals and challenges.

This report is not all-inclusive. There are environmental issues that may be of interest and concern to the public in addition to those featured here. We urge policy makers and government departments to examine all of the environmental issues contained in the report, as well as others that may be of personal interest. For brevity and accuracy, we have focused on areas that are currently being researched and provide a meaningful overview of environmental conditions.

This document should be considered a foundation for discussion, concern, further research, and action. While the report notes a few positive trends, most trends are downward. As a people, we must recognize that we are responsible for the condition of our environment. Ideally, this report will encourage you, the reader, to cooperate with your family, village, and community to reduce the harm that we do to the beautiful islands of American Samoa. Ultimately, effective change will only come from the Samoan people, not from the government. Only through a combined community effort can we enhance and conserve our natural resources.

Many agencies and individuals assisted with the development of this report. The American Samoa Environmental Protection Agency gratefully acknowledges the contributions of the following:

Fred Brooks, *American Samoa Community College Land Grant*
Flinn Curren, *Department of Marine and Wildlife Resources*
Nancy Daschbach, *Fagatele Bay National Marine Sanctuary*
Michael Dworsky, *American Samoa Power Authority*
Marie-Claude Filteau, *Department of Marine and Wildlife Resources*
Marc Marquis, *American Samoa Environmental Protection Agency*
Kris McPhee, *American Samoa Power Authority*
Bronwyn Mitchell, *Department of Commerce, American Samoa Coastal Management Program*
Joshua Seamon, *Department of Marine and Wildlife Resources*
Ruth Utzurrum, *Department of Marine and Wildlife Resources*
Stassia Samuels, *National Park of American Samoa*
Joshua Craig, *American Samoa Environmental Protection Agency*

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AMERICAN SAMOA
STATE OF THE ENVIRONMENT REPORT 2002

MARINE RESOURCES

TERRESTRIAL RESOURCES

AIR & WATER RESOURCES

ENVIRONMENTAL ISSUES

INTRODUCTION

The 2002 State of the Environment Report is divided into four sections: Marine Resources, Terrestrial Resources, Air and Water Resources, and Environmental Issues facing American Samoa. At the beginning of each topic is a box containing a "letter grade" followed by an upward (⬆) or downward (⬇) facing arrow indicating the topic's trend.

The letter grades (A, B, C, or D) are used to provide the reader with the status of the resource or issue. The reader is encouraged to read the entire text for a greater understanding of the letter grade and to pursue further research of each topic. The grades can be interpreted as follows:

A — *The resource has been little, if at all, affected by human and/or natural actions and continues to exist in an undamaged state.*

B — *The resource has been affected by human and/or natural actions, however appears to be in good condition and continues to function.*

C — *The resource has been seriously affected by human and/or natural actions and is in danger of being permanently affected or depleted unless effective conservation measures are implemented.*

D — *The resource has been severely damaged by human and/or natural causes or has been depleted almost beyond recovery. The Territory is in imminent danger of losing this resource. Recovery and conservation measures should be implemented immediately.*

Following each letter grade is an arrow, which indicates the resource or issue trend (whether it is "improving" or "decreasing" in amount or quality). For an explanation of the causes the trends, please refer to the topic text. For additional information on the state of any resource or current trend, please contact the appropriate government agency.

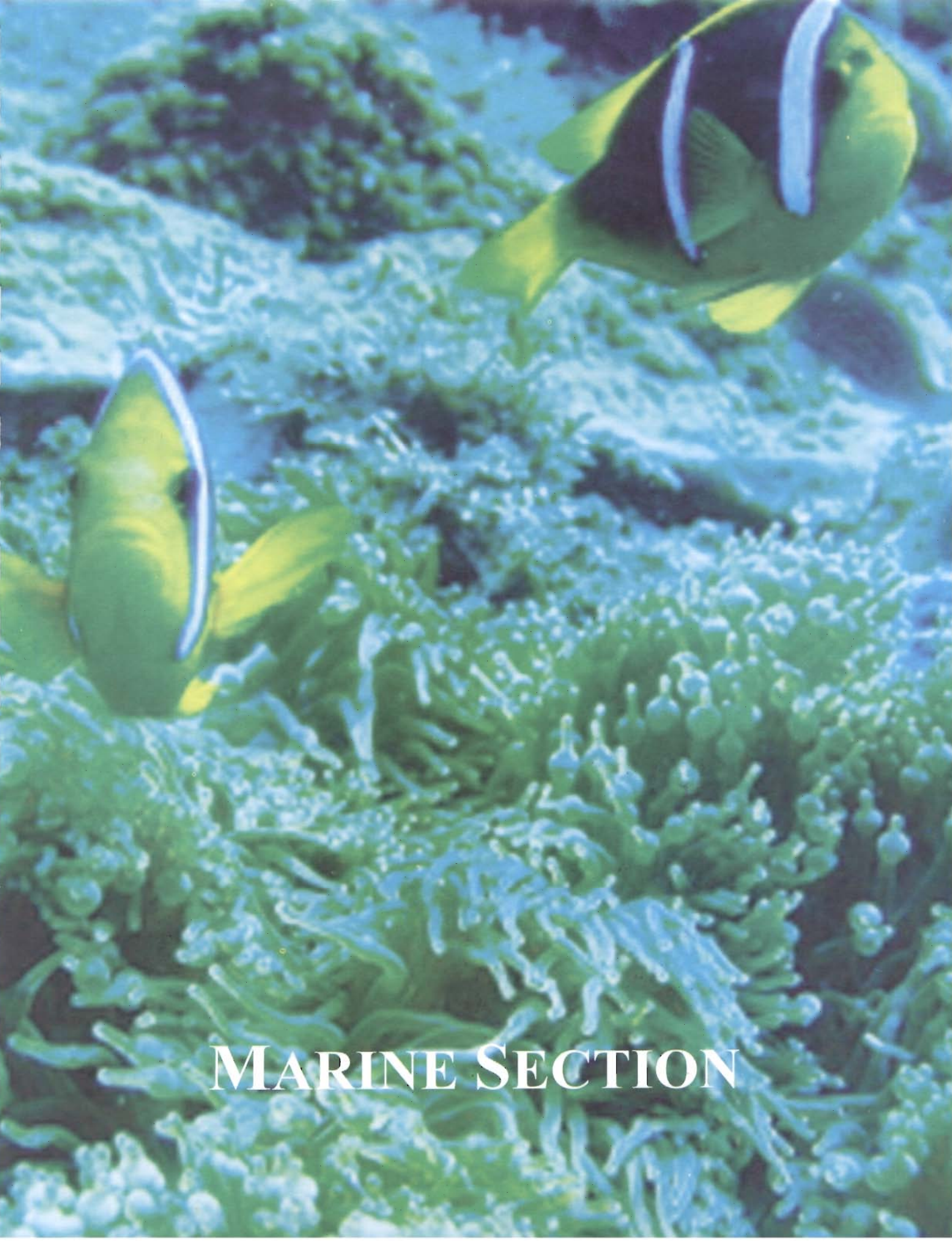
⬆ — *The resource is experiencing an upward trend, indicating that it is either improving in quality and/or increasing in quantity. In the Environmental Issues Section, an upward arrow indicates an improvement in the issue.*

⬇ — *The resource is experiencing a downward trend, indicating that it is either declining in quality and/or decreasing in quantity. In the Environmental Issues Section, a downward arrow indicates that the issue is getting worse.*

STATE OF THE ENVIRONMENT 2002
OVERVIEW

Below are the topics of the State of the Environment Report along with their status (letter grade) and trend (arrow). For a more in-depth review, please refer to the appropriate page in the report. Although a few resources are improving, it should be noted that the majority of the resources are being severely impacted by human activities and that environmental issues are getting worse, not better. Regardless of the letter grade or trend, the best time to act and conserve these resources or address these issues is now.

RESOURCE OR TOPIC	STATUS	TREND	UPDATE
Marine Resources			
Coral Reefs	C	⬆	Reefs are slowly recovering from a series of natural disasters.
Marine Protected Areas	C	⬆	Enforcement inadequate. Village conservation expanding.
Pago Pago Watershed	D	⬆	Water quality is improving, but serious threats continue.
Reef Fisheries	C	⬇	SCUBA fishing ban may improve reef fish populations
Ocean Fisheries	C	⬇	Overfishing remains a threat. Catches are decreasing.
Giant Clams	C	⬇	Enforcement continues to be a problem with overfishing.
Sea Turtles	C	⬇	Laws protecting turtle habitats need to be enforced.
Whales	C	⬇	Unexpectedly slow recovery from early fishing pressures.
Terrestrial Resources			
Rainforest	B	⬇	Although much forest remains, serious threats exist.
Vertebrate Wildlife	B	⬇	Several species becoming rare, fruit bats making a comeback
Wetlands	D	⬇	Seriously threatened by development and filling.
Introduced Species	B	⬇	Numerous introduced species continue to plague islands
Air & Water Resources			
Air Quality	A	⬇	Generally excellent. Cannery odors present in harbor.
Water Quality	C	⬇	Threatened by development, lack of enforcement.
Drinking Water	B	⬇	Water generally good. Numerous potential threats exist.
Environmental Issues			
Population Trends	D	⬇	Rate of population increase cause for serious alarm.
Climate Change & Global Warming Effects	C	⬇	Impacts of climate change might be heavily felt in American Samoa.
Solid Waste & Landfill	C	⬇	Solid waste increasing. Need for waste reduction measures
Hazardous Materials	C	⬇	Amounts climbing as population and development grows.
Plant Diseases	B	⬇	Territory recovering from taro blight. Many potential threats.



MARINE SECTION

CORAL REEFS

Status	Trend
C	⬆

American Samoa's coral reefs bound all of the seven islands of the Territory, along with some associated offshore banks. This highly diverse coral reef ecosystem has provided resources to Samoans for thousands of years, however our reefs are now in danger. In the past 25 years, this once abundant ecosystem suffered a series of catastrophic natural disasters. These included:

1978-79	crown of thorns starfish *(alamea)* invasion: an extraordinary population explosion of these coral eating animals.
1986	Hurricane Tusi
1990	Hurricane Ofa
1991	Hurricane Val
1994	coral bleaching probably caused by an El Nino warm water event
1998	reef flat bleaching and die-off caused by El Nino low tide event

Recently, another coral bleaching event has occurred in the Territory. In spite of the natural disasters, surveys of territorial coral reefs indicate coral recruitment is high and many areas are recovering. However, in some areas, chronic human impacts have impeded recovery of our coral reefs and constitute major threats to these ecosystems. These impacts include: poor water quality, particularly in Pago Pago Harbor and other embayments with large associated villages, destructive fishing practices (dynamiting and use of poisons) and overfishing (most significantly by the night SCUBA near shore fishery). In the last two years, however, bans on both live rock harvest and spear fishing with SCUBA gear have been implemented. Additionally, land-based activities severely impact coral reefs through erosion and sedimentation.

The Coral Reef Advisory Task Force was established by Governor Tauese Sunia to provide management expertise from all agencies whose mandates include coral reef issues. The Task Force identified the following actions designed to protect our coral reef resources:

- Establish a network of marine protected areas;
- Monitor the total harvest of coral reef resources;
- Implement a step-wise recovery plan for Pago Harbor;
- Fully assess all land-based developments for their potential impacts to coastal waters.

For more information on the state of coral reefs in American Samoa and the recommendations listed above, please refer to the "5-Year Plan for Coral Reef Management in American Samoa" by the American Samoa Coral Reef Task Force, 1999.

Status	Trend
C	⬆

MARINE PROTECTED AREAS

The United States Coral Reef Initiative has adopted the position that all US States and Territories designate at least 20% of their coral reefs as fully protected "no-take" areas, the strictest definition of a marine reserve or protected area. "No-take" areas are places where no fishing, either subsistence or commercial, is permitted. This recommendation is based on the assessments of the health of coral reefs worldwide and in US waters. Coral reef health has been declining for decades and up to 10% worldwide are destroyed beyond recovery. At least 50% of remaining reefs are seriously threatened from a variety of causes. Other types of protection describe limits on types of fishing, extraction, and access to the marine resources necessary to protect threatened species. The Government of American Samoa supports the 20% "no-take" position, and the Coral Reef Advisory Group is developing a strategy to achieve that goal.

There are examples of "no take" areas acting as nurseries for nearby reefs. No-take areas help decrease losses from heavy fishing, and may provide a natural hatchery source for organisms such as corals and giant clams. Other protection levels can also help to restore marine populations. Closing an area to a specific type of fishing may reduce pressure enough for the target species to recover. This closure could be site and/or time specific (during spawning, for example). For these and other reasons, protected areas benefit more than the limits of the area boundary. American Samoa has several types of marine protected areas, or MPAs, as described in the table below.

Protection varies among sites. Approximately 5% of the reefs have official status as protected areas, and of these, only Rose Atoll is a "no take" preserve, which accounts for less than 1% overall.

MPA Site	Management	Location & Size	Type of Protection
Fagatele Bay National Marine Sanctuary	American Samoa Department of Commerce and the National Oceanic and Atmospheric Administration	Fagatele Bay, 0.25m²	Fully protects all invertebrates, including corals, prohibits some fishing
National Park of American Samoa	National Park Service	North side of Tutuila - Vatia to Fagasa out to 60 ft depth; Ofu south shore from airport to east end; Tau south shore	No commercial fishing permitted, no take of coral
Rose Atoll Wildlife Refuge	Depart. of Marine and Wildlife Resources and the US Fish and Wildlife Service	Rose Atoll lagoon and outer reef to 100m	Fully protected from any extraction, no anchoring or visitors allowed
Ofu Territorial Park	Depart. of Marine and Wildlife Resources (DMWR)	Reef in front of Ofu airport to western corner of island	Subsistence fishing only permitted

Recommendations for Marine Protected Areas include:

- Secure funding and hire full-time enforcement officers. Enforcement has been weak or non-existent for all sites and is inadequate. There are no full-time dedicated enforcement officers at any MPA. The DMWR and the NOAA provide some enforcement for the National Marine Sanctuary and Rose Atoll. The National Park and Ofu Territorial Park have no on-site enforcement presence.
- Create additional MPAs in American Samoa. Workshops in 2002 discussed strategies for the creation of no-take zones and the expansion of the successful DMWR community based fisheries management program.