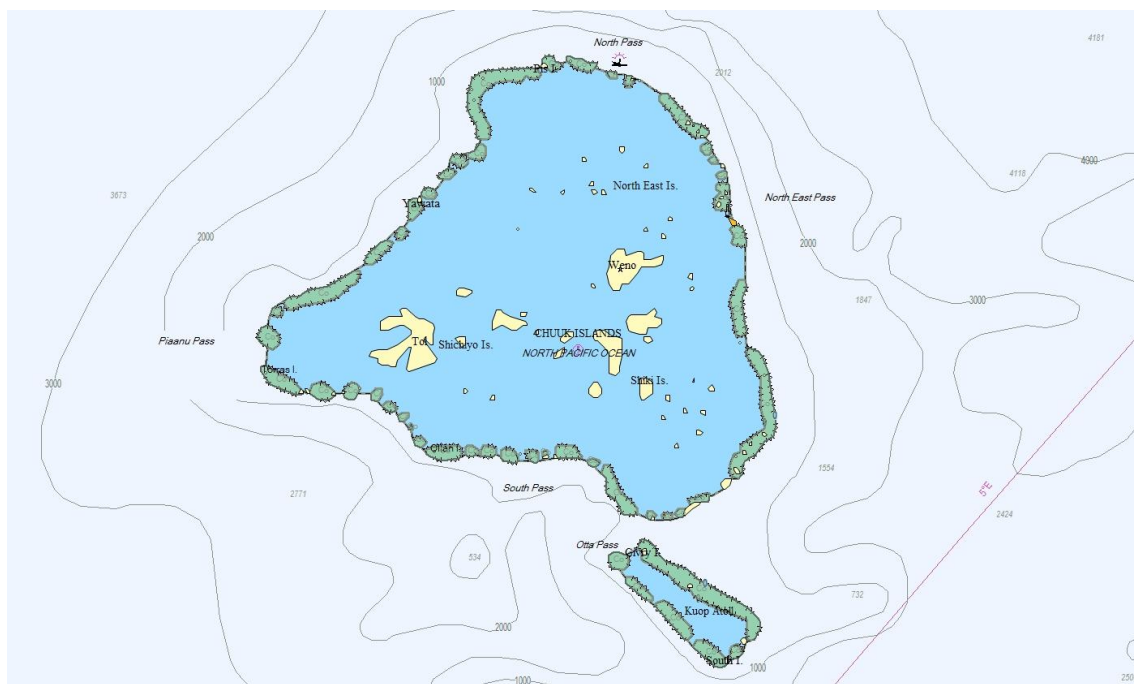

**STRATEGIC ENVIRONMENTAL ASSESSMENT
AND POTENTIAL FUTURE SHORELINE IMPACTS OF
THE OIL SPILL FROM WWII SHIPWRECK *HOYO MARU*
CHUUK LAGOON- FEDERATED STATES OF MICRONESIA**



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EXECUTIVE SUMMARY

For many years locals have indicated that a WWII vessel in Chuuk lagoon was leaking causing deleterious effects on the surrounding coastline and fisheries. SPREP by the FSM government to provide technical advice surrounding the issue of WWII shipwrecks and as such a Strategic Environmental Assessment (SEA) was conducted.

Anthony Talouli, the Marine Pollution Advisor from SPREP conducted on-site assessments in search of any shoreline oil. The shoreline survey did not come up with any oil even though there was a strong odour of oil coming from the position of the vessel and a visual sheen was also seen on the surface of the water.

Asia-Pacific ASA (APASA) was asked for assistance in order to model the possible direction and impacts of any further spills from the Hoyo Maru. The results clearly indicated that the shorelines of Fefan Island would be most dramatically affected by any oil coming from the Hoyo Maru due to the dominance of the winds and the proximity to the vessel. The modeling also showed that the oil would reach Fefan Island rapidly thus allowing for limited response options in a short amount of time.

A number of recommendations are provided for the government of FSM and technical assistance was provided on-site to assist with any further spills.

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1. INTRODUCTION

Marine pollution is widely recognised as one of the four major threats to the world's oceans, along with habitat destruction, over-exploitation of living marine resources and invasive marine species. Spills of oil and other chemicals into the marine environment, both from ships and land-based sources, is a significant source of pollution.

The Pacific Island Countries and Territories (PICTs) have agreed to work together, through regional arrangements, in order for marine pollution to be addressed effectively. No single country in the region can address this problem in isolation. The Secretariat of the Pacific Regional Environment Programme (SPREP) as part of its role to assist island members to address environmental issues in accordance with the SPREP Action Plan has developed a comprehensive programme to address marine pollution from ship-based sources. This is called the *Pacific Ocean Pollution Prevention Programme* (PACPOL) which has recently been revised in 2009 for the period 2010-2014.

At the request of the members of the 12th SPREP meeting in 2001, SPREP was required to investigate and formulate a regional strategy to address the pollution risk posed by the many World War II shipwrecks across the Pacific. PACPOL was tasked with formulating a Regional Strategy (Nawadra 2002) to address the issues related to World War II Wrecks. In 2003 the SPREP member countries decided that the secretariat would have no further action on the strategy, and that any further developments be undertaken bilaterally between the flag state and the coastal state with SPREP offering technical assistance only. Essentially any remedial actions, like the removal of oil or environmental damages from WWII shipwrecks would need to be carried out on a bi-lateral basis between the affected country and the shipwrecks flat state.

This report is a strategic environmental assessment of the risks posed by the chronically leaking Hoyo Maru in Chuuk Lagoon, Federated States of Micronesia.

1.1 Aim of Study

The aim of this strategic environmental assessment is to determine the extent of shoreline oiling and potential future oiling coming from the *Hoyo Maru*, a WWII shipwreck located in Chuuk Lagoon- FSM. This in turn will assist the government of FSM to make long-term decisions about the WWII wrecks located in Chuuk Lagoon.

1.2 Objectives

The objective of the strategic environmental assessment is to:

- Assess the extent of oiling to date and provide an impact assessment,
- Determine the resources at risk in the area of the spill and any ecological damage,
- Ascertain the potential impact of a worst case scenario i.e. a catastrophic failure of the wreck resulting in all the oil being spilled into the marine environment,
- Identify potential mitigation/remedial actions that can be taken to protect vulnerable resources,
- Act as a catalyst for the drawing up of bi-lateral or multi-lateral arrangements to address marine pollution issues related to WWII shipwrecks,
- Train and provide capacity building to Chuuk so that they can carry out their own future assessments and monitor the shipwrecks,
- To assess the Chuuk state National Plan (NATPLAN) and capacity to respond to a WWII shipwreck oil spill,
- Provide environmental, technical and spill response advice to the FSM government and agencies.

2. BACKGROUND

2.1 Geographic Area of the Study

The FSM is a Federation of four States in geographic sequence from west to east Yap, Chuuk, Pohnpei and Kosrae. Each State has considerable autonomy for internal administration but all foreign affairs are the responsibility of the National Government.

The FSM consists of more than 600 islands with a total land-mass of 270 square miles. FSM's Exclusive Economic Zone (EEZ) is over one million square miles and consists of rich and bio-diverse marine resources.

The FSM has a population of approximately 107,000 as recorded in the 2000 census.

Chuuk, in the Caroline Islands of FSM, encompasses fifteen large islands, 192 outer islands and 80 islets and has one of the largest lagoons in the world.

2.2 WWII Wrecks in the Pacific Islands

WWII was the single, largest loss of shipping in a relatively short amount of time the world has ever witnessed. As part of the Regional Strategy, SPREP produced a GIS map of all WWII shipwrecks in the Pacific Ocean. The Asia-Pacific region is host to over 3,800 WWII shipwrecks (Monfils 2005) including 330 tankers and oilers.

The international community is becoming increasingly aware of the problem of sunken wrecks and the potential pollution threat. It was only in March 2004 that the International Maritime Organization (IMO) OPRC (Oil Pollution Preparedness, Response and Cooperation) Technical Group acknowledged this problem and encouraged "regional centres and secretariats... to assess the situation regarding WWII wrecks that may cause oil pollution on their respective sea areas" (IMOC 2004).

2.3 Shipwrecks of Chuuk Lagoon

The FSM became one of the scenes for the "Pacific Theatre of WWII." Names such as Pearl Harbour, Midway, the Coral Sea, Guadalcanal, Truk Lagoon (now called Chuuk Lagoon), Betio and Iwo Jima were previously unheard of names

that were immortalised as places where the main battles of this theatre were fought (Figure 1). The Pacific Island people were caught in the crossfire and many are the sad and heroic tales of what they had to endure.

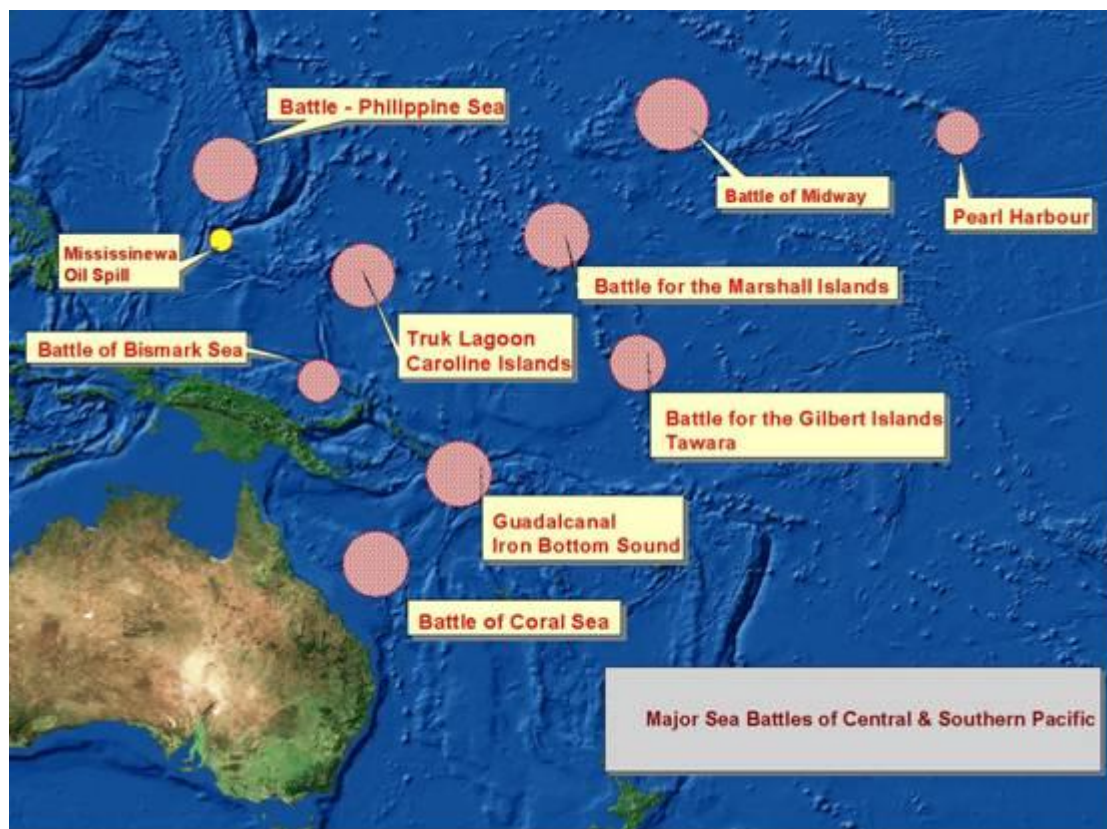


Figure 1: Major sea battles of WWII in the Pacific

More than 65 years have passed since the end of World War II and the protagonists have long since returned to their homes and countries. The FSM people have rebuilt their lives and nation. However, every once in a while we are reminded of that War by the unwanted legacy it left behind. This legacy is the abandoned machinery of war – tanks, weapons, unexploded ordnance, abandoned fuel and other hazardous material sites and lurking in the deep, the wrecks and cargoes of sunken vessels.

The oil, chemicals and unexploded ordnances still on board many of these

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