



Environmental Sensitivity Index (ESI) Atlas of the Gulf of Thailand



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December 2013

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PEMSEA Resource Facility
P.O. Box 252, Quezon City 1165, Philippines
Telephone: (+632) 929-2992
Fax: (+632) 929-9712
Email: info@pemsea.org
www.pemsea.org

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Cambodia

- Mr. Long Rithirak, Ministry of Environment
- Dr. Vann Monyneath, Coastal Coordination Unit, Ministry of Environment
- Mr. Mak Sideth, Merchant Marine Department, Ministry of Public Works and Transport
- Mr. Nhem Savong, Merchant Marine Department, Ministry of Public Works and Transport
- Mr. Meas Rithy, Ministry of Environment
- Mr. Vina Touch, GIS Specialist, Ministry of Environment

Thailand

- Mr. Pakorn Prasertwong, Marine Department, Ministry of Transport
- Ms. Dolhathai Totanakun, Marine Department, Ministry of Transport
- Ms. Soontharee Pirom, Marine Department, Ministry of Transport
- Dr. Wimolporn Wainipee, Pollution Control Department, Ministry of Natural Resources and Environment
- Dr. Thamasak Yeemin, Ramkhamhaeng University
- Mr. Wichin Suebpala, Ramkhamhaeng University
- Ms. Makamas Sutthacheep, Ramkhamhaeng University
- Mr. Bancha Lawang, Ramkhamhaeng University

Vietnam

- Col. Nguyen Van Binh, Vietnam National Search and Rescue Committee
- Mr. Nguyen Dinh Son, Vietnam National Search and Rescue Committee
- Mr. Nguyen Huy Trong, National Southern Oil Spill Response Center
- Dr. Vu Thanh Ca, Research Institute for the Management of Seas and Islands, Vietnam Administration of Seas and Islands
- Mr. Ha Viet Duc, Research Institute for the Management of Seas and Islands, Vietnam Administration of Seas and Islands
- Ms. Nguyen Hai Anh, Research Institute for the Management of Seas and Islands, Vietnam Administration of Seas and Islands
- Mr. Nguyen The Thinh, Research Institute for the Management of Seas and Islands, Vietnam Administration of Seas and Islands.

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Preface

Shipping is probably the most international of all the world's industries, carrying more than 90 percent of global trade. It has a very positive force in the global economy, providing a significant contribution to the sustainable development goals of countries. However, the significant increase in global trade and international seaborne transport experienced over the last decades brings with it negative consequences, such as increasing risks of oil spills, emissions of air pollutants and greenhouse gases, introduction of alien invasive species, etc. In the Gulf of Thailand, transportation of crude oil has increased because of augmented production in the region and an ever-growing demand from neighboring countries.

In recognition of the potential impacts that these risks represent to the coastal and marine resources of the region, preventive, mitigative and response measures, instruments and capacities are needed in order to reduce social, economic and ecological effects. Environmental Sensitivity Index (ESI) maps, in particular, provide a comprehensive and accurate accounting of coastal resources that are at risk if an oil spill occurs. Examples of at-risk resources are biological resources (such as birds and shellfish beds), sensitive shorelines (such as mangroves and wetlands) and human-use resources (such as public beaches and ports). In addition, ESI maps can be used by planners to identify vulnerable locations, establish protection priorities and identify cleanup strategies before a spill happens.

In line with this, the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), in collaboration with the International Maritime Organization (IMO) and the three littoral countries (Cambodia, Thailand and Vietnam), embarked on a project titled Strengthening Oil Spill Preparedness and Response in a Subregional Sea Area: Environmental Sensitivity Mapping in the Gulf of Thailand. The project was supported by the Government of the Republic of Korea through the Korea International Cooperation Agency (KOICA) and the Yeosu Foundation. The project was implemented in support of the Framework Programme on Partnerships in Joint Oil Spill Preparedness and Response in the Gulf of Thailand adopted by Cambodia, Thailand and Vietnam in January 2006. The overall goal of the project was to develop a decision support tool for use in planning and responding to oil spill incidents in the Gulf of Thailand.

ENVIRONMENTAL SENSITIVITY INDEX (ESI) ATLAS OF THE GULF OF THAILAND

The *Environmental Sensitivity Index (ESI) Atlas of the Gulf of Thailand* is a collection of data and information presented in thematic and composite maps describing coastal resources that are at risk during oil spill incidents. Resources that are at risk include birds, shellfish, marine mammals, sensitive shorelines, public beaches and natural parks. Locations of oil spill response resources and related services have also been incorporated into the maps.

The Atlas was developed in accordance with three ESI map elements, namely: shoreline classification; biological resources; and human use and oil spill response resources. These map elements are classified according to the Technical Guideline on ESI Mapping in the Gulf of Thailand (PEMSEA, 2013) and the Environmental Sensitivity Index Guidelines of the National Oceanic and Atmospheric Administration (NOAA) of the United States of America (NOAA, 2002).

Introduction

Physical Characteristics of the Gulf of Thailand

The Gulf of Thailand is located in Southeast Asia, immediately to the west of the South China Sea. The gulf is bordered by Thailand, Cambodia, Malaysia and Vietnam. The northern tip of the gulf is the Bay of Bangkok at the mouth of the Chao Phraya River. Its boundary is defined by the line from Cape Bai Bung in southern Vietnam (just south of the mouth of the Mekong River) to the city of Kota Bharu on the Malaysian coast. The gulf has a surface area of 320,000 km².

The gulf is a two-layered shallow-water estuary with an average depth of 45 m and maximum depth of 80 m. The upper layer has low salinity due to the strong inflow from rivers. The deeper layer has high salinity due to the cool water flowing into the gulf from the South China Sea. The surface currents are greatly influenced by monsoons.

The gulf's coastline is about 6,935 km in length. It is divided into two portions: the Upper Gulf and the Lower Gulf. The Upper Gulf is located at the innermost area in an inverted U shape. The Upper Gulf is very shallow with an average depth of 15 m. The Upper Gulf is the catchment basin for four large rivers on the northern part and two on the western coast. The Lower Gulf includes a relatively deep part with an average depth of 55 m (Wattayakorn, 2006). Numerous rivers discharge freshwater and sediment into the gulf.



Socioeconomic Profile

The population in the coastal areas of the Gulf of Thailand is over 112 million (Talaue-McManus, 2000; UNEP, 2005). The resources in the Gulf of Thailand have provided important benefits to the coastal communities in this region. The key economic activities in the bordering countries are tourism, fisheries, mariculture, seaports and industrial estates.

Tourism

The hotspots of tourist destination in the Gulf of Thailand include Ko Samui, Ko Phangan, Mu Ko Angthong and Ko Tao (Surat Thani Province, Thailand), Huahin (Prachuap Khiri Khan, Thailand), Cha-am (Phetchaburi Province, Thailand), Pattaya (Chonburi Province, Thailand), Mu Ko Samet (Rayong Province, Thailand), Mu Ko Chang (Trat Province, Thailand), Koh Puos, Victoria, Sokha, Occheuteal and Ou Treh Beaches (Preah Sihanouk Province, Cambodia), Phu Quoc Island (Kien Giang Province, Vietnam) and Ca Mau (Ca Mau Province, Vietnam).

Ko Samui has been recognized as an intensive tourism spot in Thailand. The island has developed from a backpacker tourist destination into one of the most increasingly upscale tourist destinations in Thailand with many resorts, bungalows and luxury private villas on the island over the past three decades (Pongponrat, 2009). This economic growth has resulted in investments in Ko Samui by many business owners from all over the world. There were over 260 resorts and bungalows in Samui at the end of 2009. It has become Thailand's second largest resort business following only Bangkok (Williams, et al., 2012). Mu Ko Angthong is comprised of 48 small islands that are all encompassed by the national park. The important islands are Ko Palouy, Ko Woatalub, Ko Maekoh, Ko Hindub, Ko Samsao, Ko Pailuak and Ko Naipud. Mu Ko Angthong is also recognized as a Ramsar Site in Thailand.

Pattaya is recognized as a popular beach city for tourists. It is a self-governing municipal area, located on the east coast of the Upper Gulf of Thailand, about 100 km southeast of Bangkok. It is also the center of the Pattaya-Chonburi Metropolitan Area in Chonburi Province. The offshore islands are the following: (a) Mu Ko Lan or "Near Islands," located 7 km from the western shores of Pattaya, including Ko Lan, Ko Sak and Ko Krok; (b) Mu Ko Phai or "Far Islands," located offshore further west of Mu Ko Lan, including Ko Phai, Ko Man Wichai, Ko Hu Chang and Ko Klung Badan; and (c) Ko Rin, located offshore to the southwest, south of Mu Ko Phai. These islands are also used for swimming and diving activities. Ko Samet is located off the coastline of Rayong Province in the Eastern Gulf of Thailand, approximately 220 km southeast of

Bangkok. It is the largest and westernmost of a cluster of islands not far from the coast (Williams, et al., 2012). Tourists can visit the island easily as a weekend getaway from nearby Bangkok. Most of the island belongs to the Khao Laem Ya-Mu Ko Samet National Park. In 1981, the Royal Forest Department declared the archipelago of Samet, along with nine other small islands, the headland of Khao Laem Ya, and the 11-km Mae Ramphueng Beach to be a national park. Ko Samet is now under the protection of the Department of National Parks, Wildlife and Plant Conservation. Mu Ko Chang is located in the eastern part of the Gulf of Thailand, near the border line of Thailand–Cambodia. It is comprised of three main island groups, namely Mu Ko Chang, Mu Ko Mak and Mu Ko Kut. There are about 60 islands in the area that harbor rich diversity of marine resources. Mu Ko Chang National Park was established in 1982. The Thai Government has paid more attention to Mu Ko Chang and declared it as a special administrative zone for tourism in 2002.

Sihanoukville is located in the south of Cambodia. It is 230 km southwest of Phnom Penh. Natural beaches and surrounding tropical islands are the main attractive features for local and foreign visitors. The commercial and international port is located at the northwest. The many beautiful beaches lining the west contour of the city from north to south are Victory Beach, Lamherkay Beach, Koh Puos Beach, Independence Beach, Sokha Beach, Serendipity Beach, Ochheuteal Beach and Ou Treh Beach. The most popular beaches are Ochheuteal, Sokha, Independence and Victory. Tourists can also enjoy diving, snorkeling and game fishing at the nearby islands, such as Koh Ruessei, Koh Rong, Koh Rong Samlon and Koh Puos (Ministry of Planning, 2008).

Fisheries

The consumptive fish catch composition from the Gulf of Thailand is a multi-species mix and includes food fish, squid and cuttlefish, shrimp, shellfish and crab. In the past five decades, fisheries were dominated by small pelagic fishes, mainly Indian mackerels, *Rastrelliger spp.* and anchovies, *Stolephorus spp.*, which are caught by artisanal fishers for the local market (Pauly and Chuenpagdee, 2003). The introduction of trawlers resulted in the growth of demersal trawl fisheries, mainly catching threadfin breams (*Nemipterus spp.*), big-eye (*Pempheris adspersa*), lizardfish (*Saurida elongata*), croakers (*Johnius sp.*, *Larimichthys sp.*, *Pennahia sp.*), shrimps (*Penaeus spp.*), flatfish and squid (Piyakarnchana, 1989; Chuenpagdee and Pauly, 2004).

Total reported landings were up to 700,000 t in 2004. The countries bordering the Gulf of Thailand have received numerous social and economic benefits from marine fisheries.

In Cambodia, important fishery resources are recorded in the waters around Preah Sihanouk Province. Two major fishing grounds include Kompong Som Bay, which extends 60 km from the northwestern coastline of the province, and Chhak Veal Renh, a rich estuary area located in the southeast. Marine fishery catch is increasing continuously. Before 2000, the estimation of annual marine fishery catch was below 40,000 t per year, but it increased to about 84,000 t in 2010 (Paterson, et al., 2013).

The rich biodiversity of the Kien Giang sea makes it one of the most important fishing fields of Vietnam. According to a survey of the Institute of Oceanography, the fishery resource of the Kien Giang sea is around 500,000 t, and 56 percent can be caught within the nearshore area with depth from 20 to 50 m. Also, except fish, the provincial sea also have other high economic species, such as squid, holothurian, abalone, pearl and blood cockle, among others (RIMSI, 2013).

Mariculture

Mariculture plays a major role in food security and the economy of Thailand. The country usually produces high-value marine products for export. In 2003, the mariculture products were approximately 450,000 t. The major cultured species were giant tiger prawns (*Peneaus monodon*), white leg shrimps (*Penaeus vanamei*), green mussels (*Perna viridis*), blood cockles (*Anadara spp.*) and oysters (*Crassostrea commercialis*). In 2002, there were 31,179 shrimp farms covering 743.9 km², with a total production of 64,923 t.

Mariculture was initiated with the introduction of intensive culture technologies and has become the most successful in terms of income. The depletion of coastal resources due to overfishing, marine pollution and degradation of coastal habitats have also encouraged mariculture.

Some finfish species, such as groupers and barramundi, are reared and cultured in cages and ponds. In 2002, the total number of farms in production was 6,482 covering approximately 7.2 km². The finfish farms are mostly located in Samut Prakarn, Samut Sakhon, Prachuap Kiri Khan, Songkhla and Pattani.

Marine shrimp culture was first introduced to Cambodia in the early 1990s in Koh Kong Province and extended to Sihanoukville and Kampot municipalities. Finfish cage culture, mainly seabass, grouper

and snapper, is also practiced (Gillett, 2004). Seaweed is being cultured in Cambodia as well. Currently, aquaculture products account for about 6 percent of all fishery production in Cambodia (FAO, 2009).

The total production of bivalves in Vietnam is 130,474 t, mostly farmed in the southern coastal provinces (MOFI, 2004). The mariculture sector in Vietnam has great potential and is expected to continue to grow in the future.

Industrial Estates and Seaports

In Thailand, the Map Ta Phut Industrial Estate, founded in 1990, is a large industrial area located in the town of Map Ta Phut in Rayong Province. A part of Thailand's Eastern Seaboard economic region and the country's largest industrial estate, it is managed by the Industrial Estate Authority of Thailand, a government agency under the Ministry of Industry.

Laem Chabang Port, located in Chonburi Province on the eastern seaboard of Thailand, covers an area of 10.409 km² and is the main deep sea port of Thailand providing services to ships from around the world. It consists of several minor ports with container terminals, multipurpose terminals, general cargo terminals and shipyard terminals. The port also handles extra-large ships (Super Post Panamax). The Port Authority of Thailand (PAT) is responsible for the port. It is called "Landlord Port" due to the fact that PAT contracts the private sector to operate the minor ports and terminals. Laem Chabang Port has one of the highest (trading) growth rates in the world.

Bangkok Port (Khlong Toei Port) is also a main international port, located on the Chao Phraya River in Bangkok. Operated by the PAT, it is primarily a cargo port. Its inland location limits access to ships of 12,000 deadweight tons or less. The port deals with about 22 percent of the total cargo handled by international ports in the country (Laem Chabang Port, 2014).

In Cambodia, construction of SHV and its international port began in 1955 and expanded with the construction of the 226-km highway and 263-km railroad to Phnom Penh (Sihanoukville Coastal Strategy). The international port, under the management of the Port Authority of Sihanoukville, offers services for the import and export of cargoes, including food products, goods and materials, equipment and fuels. Along the northern coastline of Stung Hav and Keo Phos, construction of a 1,000-ha Special Economic Zone and International Port is ongoing – the Steung Hav International Port and Special Economic Zone. The industrial zone includes petrochemical production, food processing based on the local fisheries in the area and timber processing (UNEP, 2008). There are also several factories established in the town, producing goods such as shoes, garments, and brewery and food products.

Oil Pollution

Shipping and offshore oil and gas exploration and production are the primary sources of marine-based pollution in the Gulf of Thailand. Wattayakorn (1986, 1987, 1991) has reported chronic petroleum hydrocarbon contamination in coastal waters. Accidental spills have also been reported along transport routes at points of loading and unloading of oil carriers (Wattayakorn, 2006).

From 1974 to 2009, there were over 200 reported oil spill incidents in Thai waters. Frequent spills occurred at the mouth of the Chao Phraya River, Ko Si Chang in Sriracha District, Laem Chabang Port and Map Ta Phut Port.

An increasing trend in oil spill incidents from oil exploration and production activities has also been observed. In July 2013, an oil spill off the coast of Rayong Province raised major public concern in Thailand. More than 70 t of crude oil spilled into the Gulf following a leak in an oil pipe at an offshore platform operated by PTT Global Chemical, a subsidiary of Thailand's national petroleum company PTT (MarineLink.com, 2013). These spills represent the greatest source of petroleum-related pollution in the Gulf, resulting in an increasing threats to the coastal and marine resources and coastal communities in the area.

Oil Spill Response Arrangements and Resources

Cambodia has drafted a national oil spill contingency plan outlining the national system for oil spill preparedness and response. However, government-owned equipment and capacity is very limited in the country. The responsibility for oil spill preparedness and response is shared between the Ministry of Environment and Ministry of Public Works and Transport. A subdecree designating the lead agency for the implementation of the national oil spill contingency plan is underway.

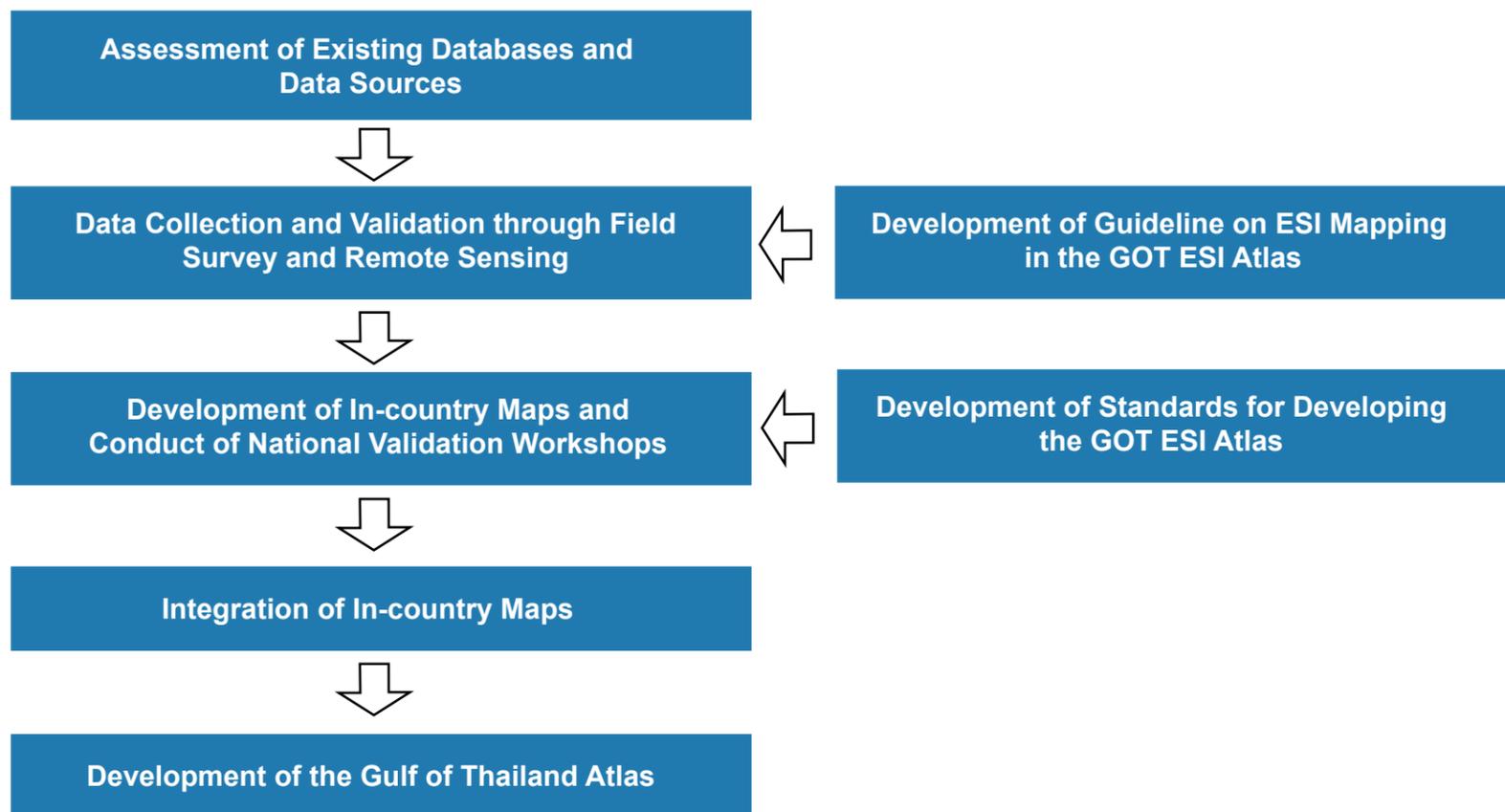
In Thailand, the Marine Department under the Ministry of Transport is the principal agency dealing with marine-based pollution incidents in the country. The main agencies involved in oil pollution prevention and response are the Marine Department, the Royal Thai Navy, the Provincial Administration and the Oil Industry Environmental Safety Group. The Committee on the Prevention and Combating of Oil Pollution, established in 1982, incorporates all interested bodies to review the current state of response readiness and provide suitable infrastructure during an oil spill incident. The Committee, chaired by the Minister of Transport, is responsible for the National Oil Spill Contingency Plan. The Marine Department has sufficient response resources for a 500-t oil spill. Equipment is located at the Channel Development and Maintenance Center in Songkhla Province and Merchant Marine Training Centre in Samut Prakan Province.

The Vietnam National Search and Rescue Committee (VINASARCOM) is responsible for the implementation of the country's National Plan on Coping with Oil Spill Incidents, issued by the Prime Minister in August 2001. The system and operational mechanism for dealing with oil spills is defined in the national plan. The responsibility for oil spill response is divided according to three regional areas: central, northern and southern regions of Vietnam. The National Southern Oil Spill Response Center (NASOS) serves as the oil spill response center for the southern region. At the provincial level, the Provincial People's Committees organize the response. Local facilities, such as oil terminals, oil production facilities and refineries, are required to have their own oil spill contingency plans and adequate equipment to respond to Tier 1 (<20 tons) oil spills.

Environmental Sensitivity Index (ESI) Atlas of the Gulf of Thailand

Development of the Atlas

The Gulf of Thailand Atlas was developed according to the following approach:



Map Design

Mapping is done according to three sensitivity themes together with the oil spill response features:

- shoreline classification and its general environmental sensitivity to oil spill;
- biological resources; and
- human use and oil spill response resources.

Shoreline Classification

ESI shoreline rankings are determined according to the NOAA guidelines and are defined using factors that influence sensitivity to oil spills, including:

- relative exposure to waves and tidal energy;
- biological productivity and sensitivity;
- substrate type (grain size, permeability and mobility);
- shoreline slope;
- ease of cleanup; and
- ease of restoration.

Each shoreline type is represented by a color-coded line symbol to indicate its sensitivity to oil spills.

Biological Resources

Biological resources include animals, plants and their habitats (such as coral reefs) sensitive to oil spills. Each specific kind of animal or plant is represented as point symbols in ESI maps, while habitats are represented using polygons with standardized color and hatch pattern.

Human Use Resources

Human use resources cover sensitive socioeconomic features that may be directly affected by oil spills, managed areas that may suffer economic loss through interruption of use if a spill occurs, and areas that may be valuable for access or staging activities in the event of an oil spill. These resources include aquaculture, water intakes, ports, beaches, marinas and cultural sites. Each human use resource is represented in the ESI map as a point symbol.

Shoreline Classification

ESI Rank <i>Color name</i> <i>Color (CMYK)</i> <i>Color (RGB)</i>	Type of Shoreline		Physical Factors	
<p>— ESI 1</p> <p>Dark Purple 0/100/14/60 102/0/88</p>	<ul style="list-style-type: none"> Exposed rocky shores Exposed, solid man-made structures Exposed rocky cliffs with boulder talus base 		Exposed, Impermeable Vertical Substrates	A shoreline with regular exposure to wave and tidal energy, no potential for subsurface oil penetration and a slope of 30° or greater is included in this ranking. Because of the impermeable substrate and its exposure to waves, oil remains on the surface, thus allowing natural forces to remove the oil. Little or no cleanup is usually required. This is the least sensitive classification.
<p>— ESI 2</p> <p>Light Purple 9/100/13/ 153/0/133</p>	<ul style="list-style-type: none"> Exposed wave-cut platforms in bedrock, mud or clay Exposed scarps and steep slopes in clay 		Exposed, Impermeable Substrates, Non-vertical	This shoreline is similar to that in Rank 1, except the slope is less than 30°. Cleanup is made easy because of the exposure to high wave energy and the impermeable substrate.
<p>— ESI 3</p> <p>Blue 100/100/0/0 0/0/255</p>	<ul style="list-style-type: none"> Fine- to medium-grained sand beaches Scarps and steep slopes in sand 		Semi-permeable Substrate	This shoreline is composed of low-sloping, well-compacted sediment, which limits oil penetration to less than 10 cm. Cleanup is simplified by a hard substrate, permitting both foot and vehicle traffic.
<p>— ESI 4</p> <p>Light Blue 50/30/0/0 128/179/255</p>	Coarse-grained sand beaches		Medium Permeability	The grain of this shoreline is much coarser than that in Rank 3. Oil is able to penetrate up to 25 cm below the surface, and its slope is between 5° and 15°. Cleanup efforts are hindered because erosional and deposition cycles are rapid, and vehicles tend to push oil further into the loosely packed sediment.
<p>— ESI 5</p> <p>Light Blue Green 50/0/25/0 128/255/191</p>	Mixed sand and gravel beaches		Medium-to-High Permeability	Penetration of oil can go as deep as 50 cm into the substrate, and the slope is between 8° and 15°. Contaminated sediment is difficult to remove without causing significant erosion and disposal problems.
<p>— ESI 6A</p> <p>Green 100/0/79/42 0/148/31</p>	Gravel beaches		High Permeability	Because of the large grained sediments, oil can penetrate up to 100 cm below the surface. An intermediate slope, between 10° and 20°, restricts vehicles from assisting in the cleanup efforts. Riprap, a man-made break wall to limit wave and tidal energy, has added problems. Riprap usually is constructed at the high-tide line, which is where oil concentrations are strongest. Because of the large size of riprap boulders, oil penetrates deeply, and flushing is not always effective. Only by removing and replacing it can one ensure it is completely clean.

ESI Rank <i>Color name</i> <i>Color (CMYK)</i> <i>Color (RGB)</i>	Type of Shoreline		Physical Factors	
<p>— ESI 6B</p> <p>Light Green 22/0/100/0 199/255/0</p>	Riprap		High Permeability	<p>Because of the large grained sediments, oil can penetrate up to 100 cm below the surface. An intermediate slope, between 10° and 20°, restricts vehicles from assisting in the cleanup efforts. Riprap, a man-made break wall to limit wave and tidal energy, has added problems. Riprap usually is constructed at the high-tide line, which is where oil concentrations are strongest. Because of the large size of riprap boulders, oil penetrates deeply, and flushing is not always effective. Only by removing and replacing it can one ensure it is completely clean.</p>
<p>— ESI 7</p> <p>Brown 0/100/100/60 103/0/0</p>	Exposed tidal flats		Exposed, Flat, Permeable Substrate	<p>The sediments on this shoreline are water saturated, which limits the oil from penetrating. Low trafficability, high infaunal densities and a slope of less than 10° are also characteristics of this rank. Cleanup can be difficult because of a potential to grind the oil deeper into the substrate because of increased foot traffic.</p>
<p>— ESI 8</p> <p>Yellow 0/0/100/0 255/255/0</p>	<ul style="list-style-type: none"> • Sheltered scarps in bed rock, mud or clay • Sheltered, solid man-made structures • Sheltered rocky rubble shores 		Sheltered Impermeable Substrate	<p>This shoreline is similar to that in Rank 2 except that it is sheltered from the wave and tidal forces. The substrate is compacted and hard, composed of bedrock, man-made materials or stiff clay and the slope is greater than 15°. High algae and organism coverage is usually present. Shoreline cleanup can be difficult and intrusive, usually done for aesthetic reasons.</p>
<p>— ESI 9A</p> <p>Peach 0/26/33/0 254/189/170</p>	Sheltered tidal flats		Sheltered, Flat, Semi-Permeable Substrate	<p>This shoreline classification is sheltered from wave and tidal energy, with a slope less than 10°. The sediment is water saturated, limiting oil penetration. Cleanup efforts face the same difficulties as in Rank 7.</p>
<p>— ESI 9B</p> <p>Orange 0/36/100/0 248/163/0</p>	Vegetated low banks			
<p>— ESI 10A</p> <p>Light Magenta 0/50/0/0 255/128/255</p>	Gravel beaches		Vegetated Emergent Wetlands	<p>The substrate is generally flat, with a high concentration of organic, muddy soil. Grassy or woody vegetation frequently covers this classification. Cleanup tends to cause significant damage and long-term impacts to this delicate ecosystem. This is the most sensitive classification.</p>
<p>— ESI 10B</p> <p>Red 0/100/89/16 214/0/24</p>	<ul style="list-style-type: none"> • Scrub-shrub wetlands • Mangroves 			

Symbol Dictionary

Biological/Human Use Areas

-  Artificial Reef
-  Coral Reef
-  Fish/Shellfish Preserve
-  Mangroves
-  National/Natural Park
-  Seagrass Beds
-  Special Management Area
-  Tidal Flats

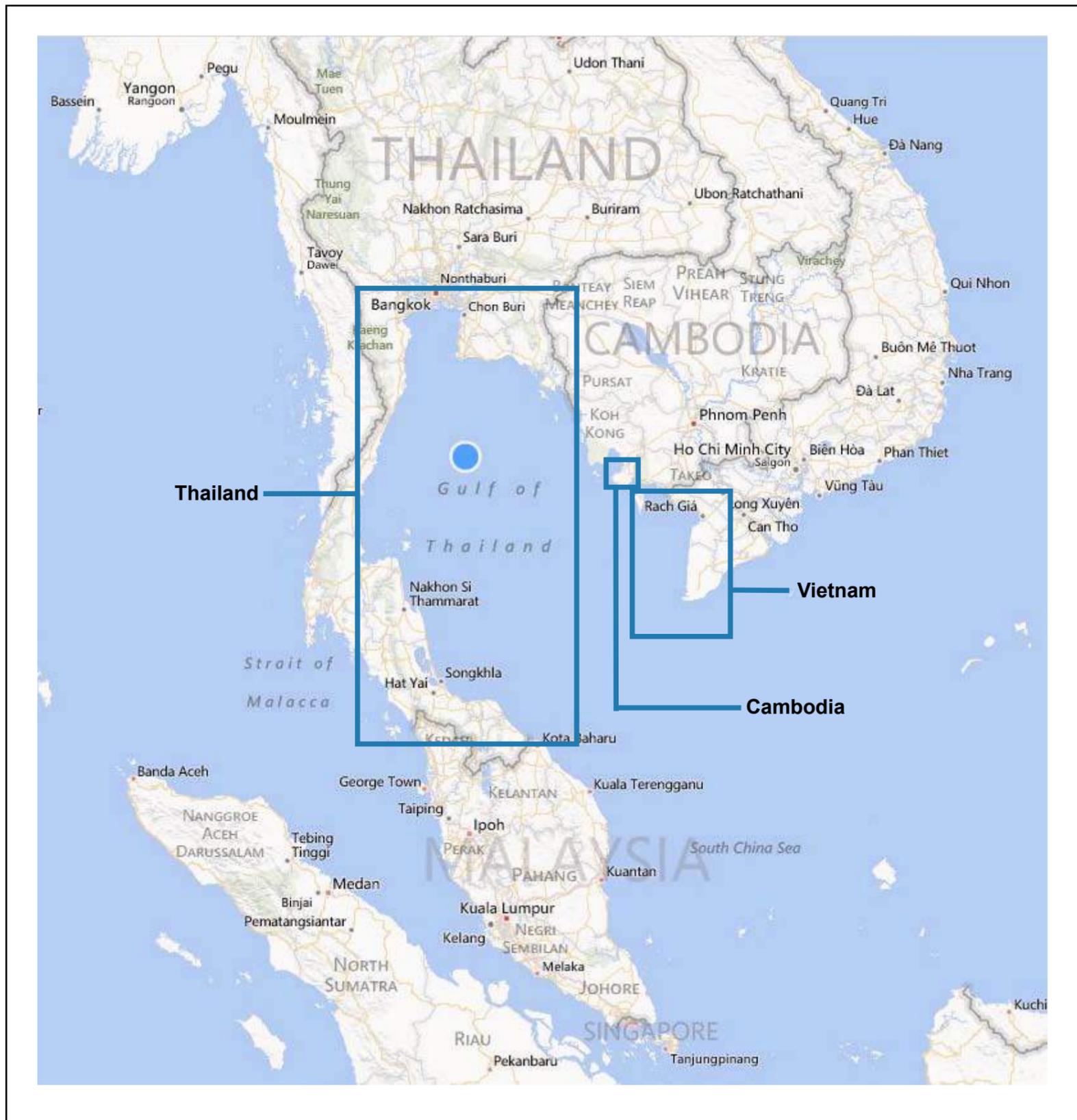
Human Use/Oil Spill Response Resources

-  Airport
-  Aquaculture
-  Beach
-  Boat Ramp
-  Coast Guard
-  Diving
-  Facility
-  Factory
-  Ferry
-  Fishing Port
-  Harbor
-  Lock/Dam
-  Marina
-  Marine sanctuary
-  Recreational Fishing
-  Subsistence Fishing
-  Surfing
-  Oil Spill Response Equipment and Vessel
-  Oil Storage Tank

Biological Resources

-  Bird
-  Crab
-  Echinoderm
-  Fish/Nursery Area
-  Gastropod
-  Insect
-  Lobster/Crayfish
-  Marine Mammal
-  Reptile and Amphibian
-  Rare Plant
-  Shellfish
-  Shrimp
-  Squid/Octopus
-  Terrestrial Mammal
-  Turtle

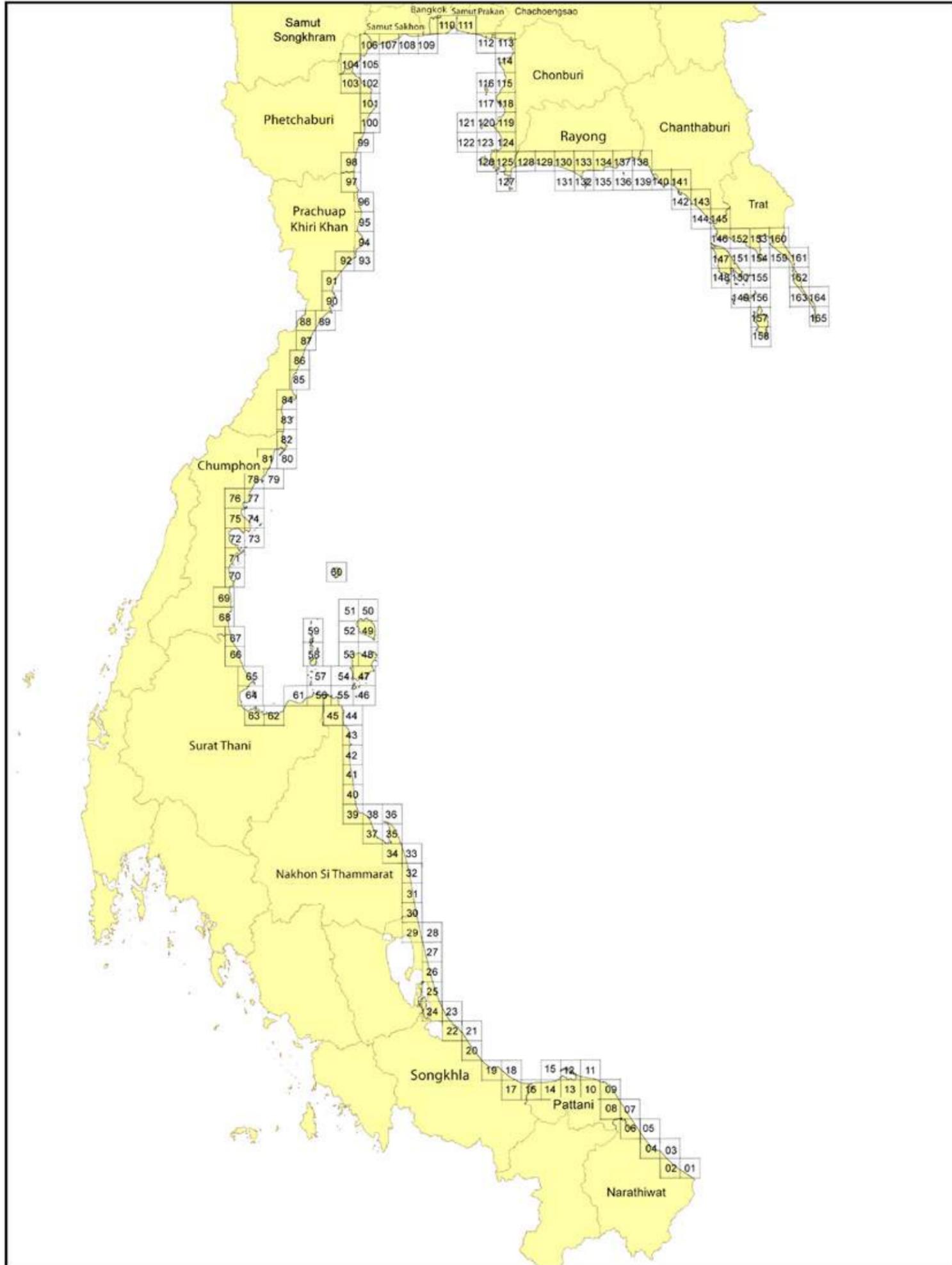
Index map of the areas of each country in the GOT Atlas.





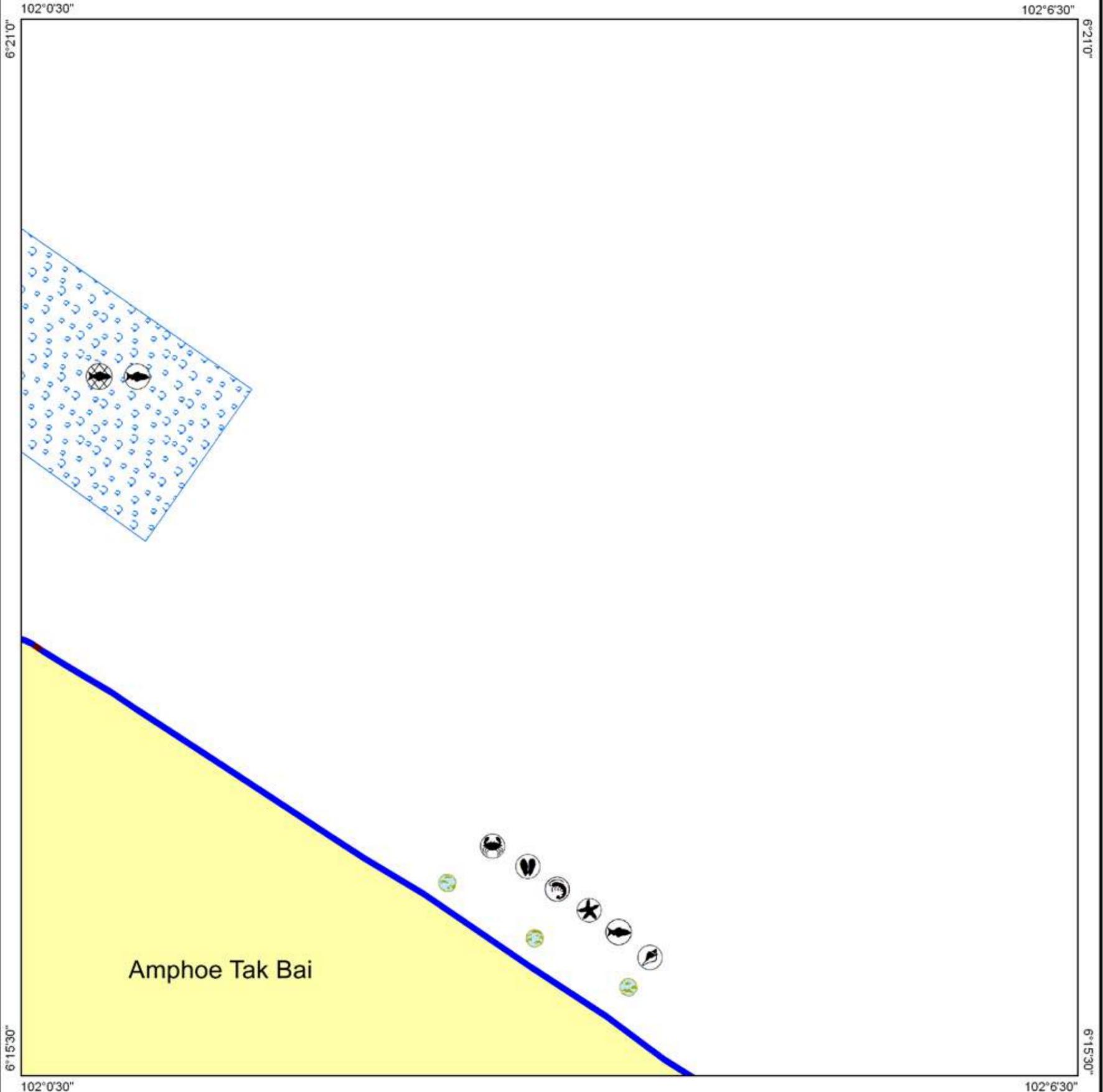
Environmental Sensitivity Index (ESI) Maps of the Gulf of Thailand

Index Map of Thailand



Narathiwat Province

Thailand - 01



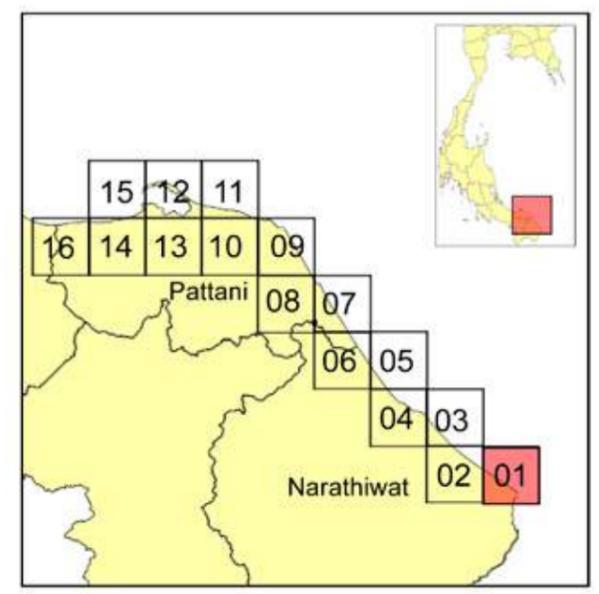
Shoreline Classification
 — ESI 3
 — ESI 7

Biological/Human-Use Areas
 Artificial Reef
 Seagrass Beds

Biological Resources
 Bivalve
 Crab
 Echinoderm
 Fish/Nursery Area
 Gastropod
 Shrimp

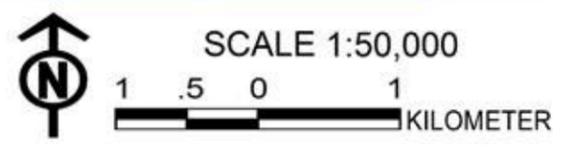
**Human-Use/
Oil Spill Response Resources**
 Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Tak Bai District near the border of Malaysia. Its neighboring districts include Su-ngai Kolok, Su-ngai Padi and Mueang Narathiwat.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Along the coast are small patches of seagrass beds consisting of two species, *Halophila beccarii* and *Halodule uninervis*. Seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Many marine species, such as fish, bivalves, gastropods and echinoderms, can be found within the area. Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Although there are sandy beaches along the coast, tourism is still not popular in the area due to security issues.

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat Province have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species.

Oil Spill Response Resources

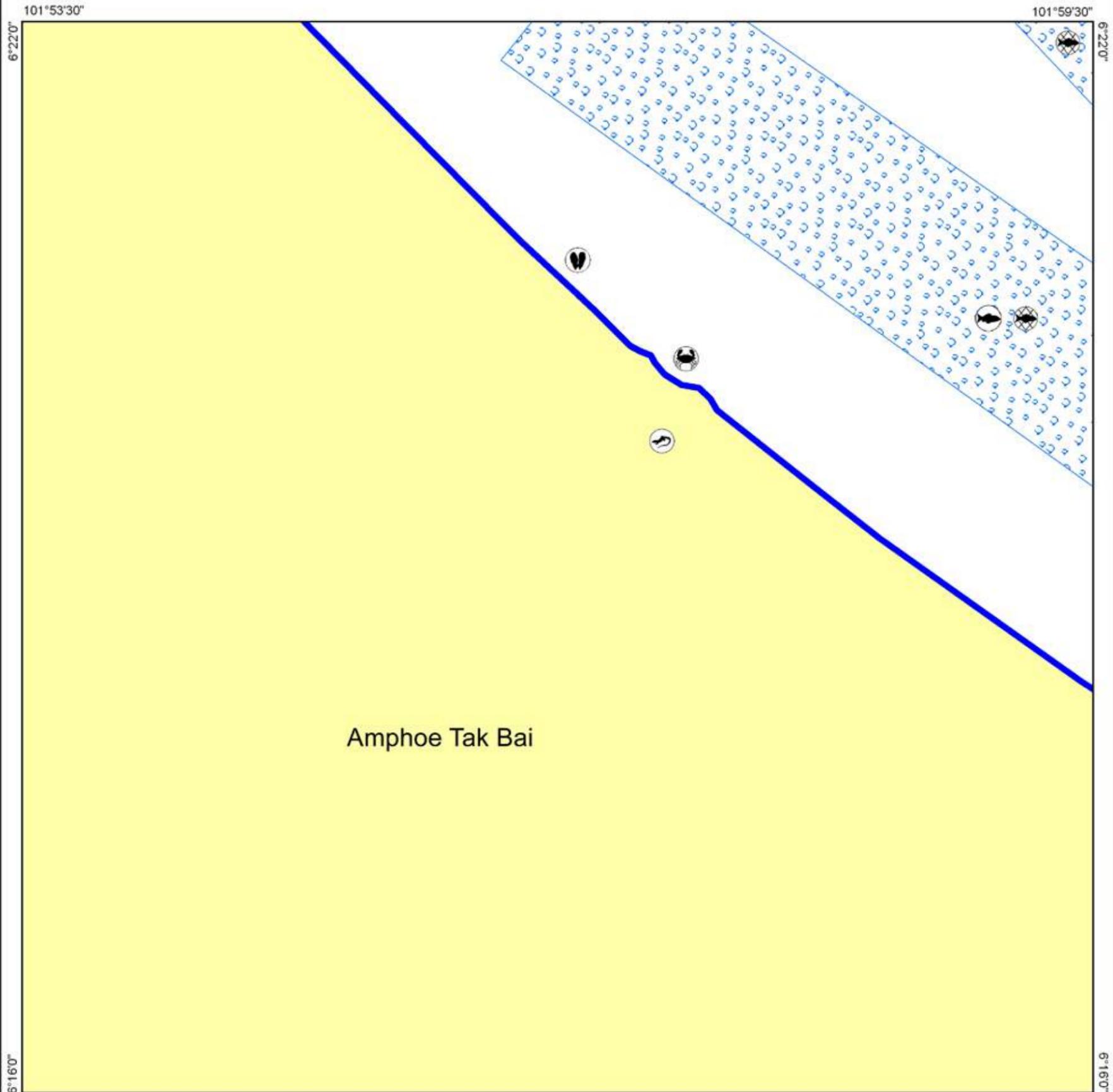
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Narathiwat Province

Thailand - 02



Amphoe Tak Bai

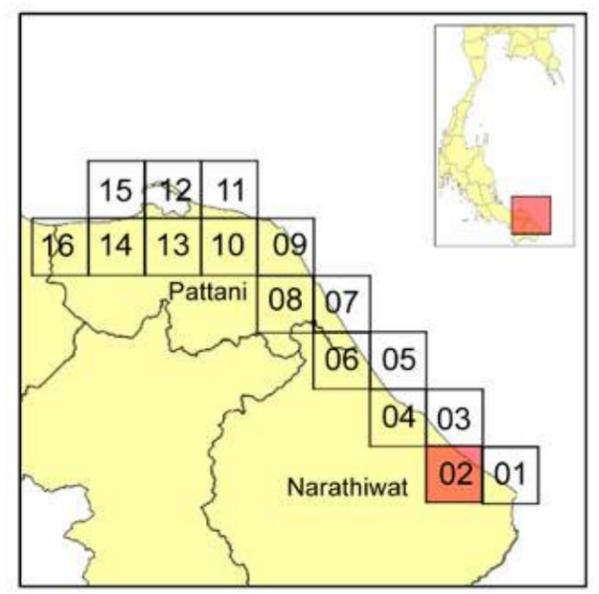
Shoreline Classification
 — ESI 3

Biological/Human-Use Areas
 Artificial Reef

Biological Resources
 Bivalve
 Crab
 Fish/Nursery Area
 Reptile and Amphibian

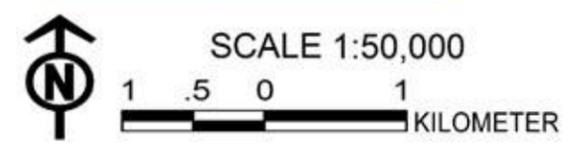
**Human-Use/
Oil Spill Response Resources**
 Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Tak Bai District. Its neighboring districts include Su-ngai Kolok, Su-ngai Padi and Mueang Narathiwat.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, such as gastropods, bivalves and echinoderms, can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat Province have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species.

Oil Spill Response Resources

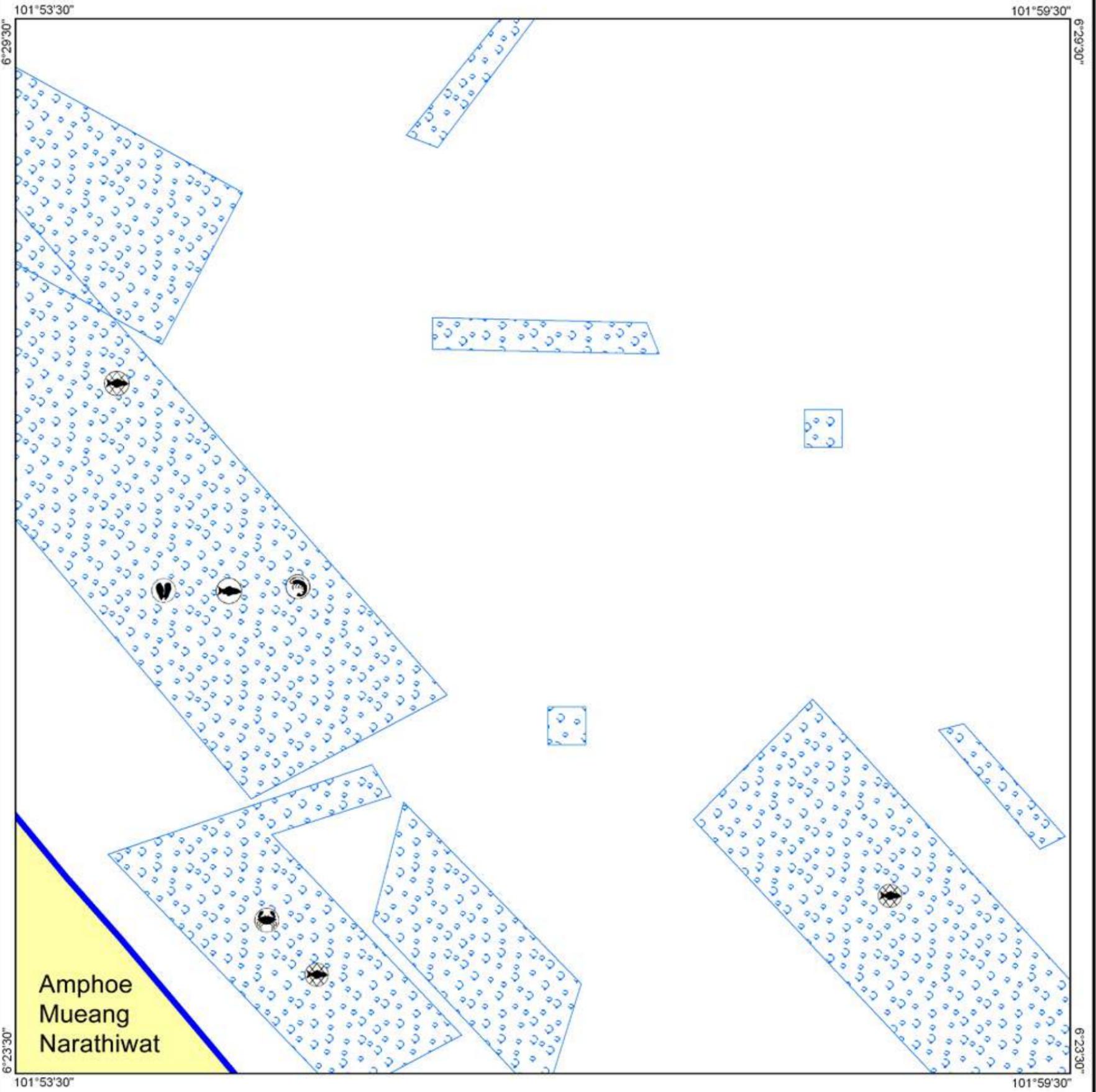
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Narathiwat Province

Thailand - 03



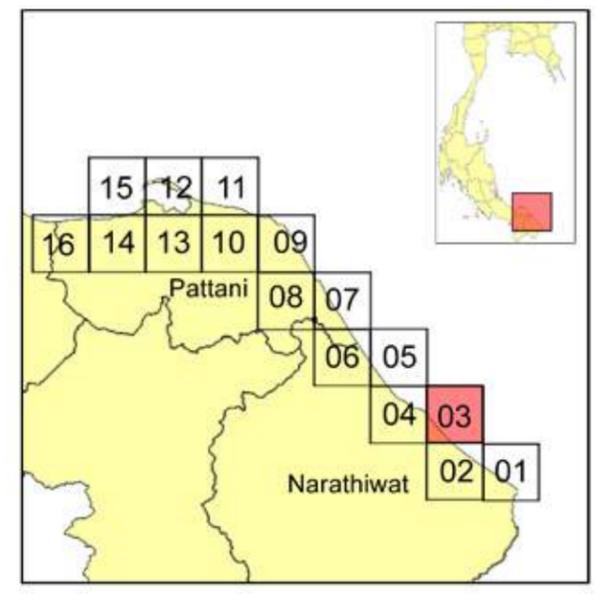
Shoreline Classification
 — ESI 3

Biological/Human-Use Areas
 [Dotted Blue Box] Artificial Reef

Biological Resources
 [Bivalve Icon] Bivalve
 [Crab Icon] Crab
 [Fish/Nursery Area Icon] Fish/Nursery Area
 [Shrimp Icon] Shrimp

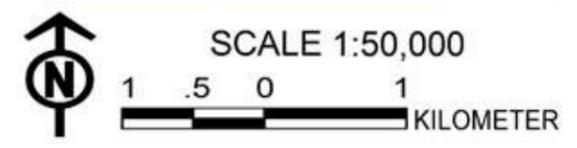
Human-Use/Oil Spill Response Resources
 [Subsistence Fishing Icon] Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Mueang Narathiwat District. Its neighboring districts include Tak Bai, Cho-airong, Ra-ngae and Yi-ngo.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, such as gastropods, bivalves and echinoderms, can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Although there are sandy beaches along the coast, tourism is still not popular because the area is still undeveloped.

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat Province have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species.

Oil Spill Response Resources

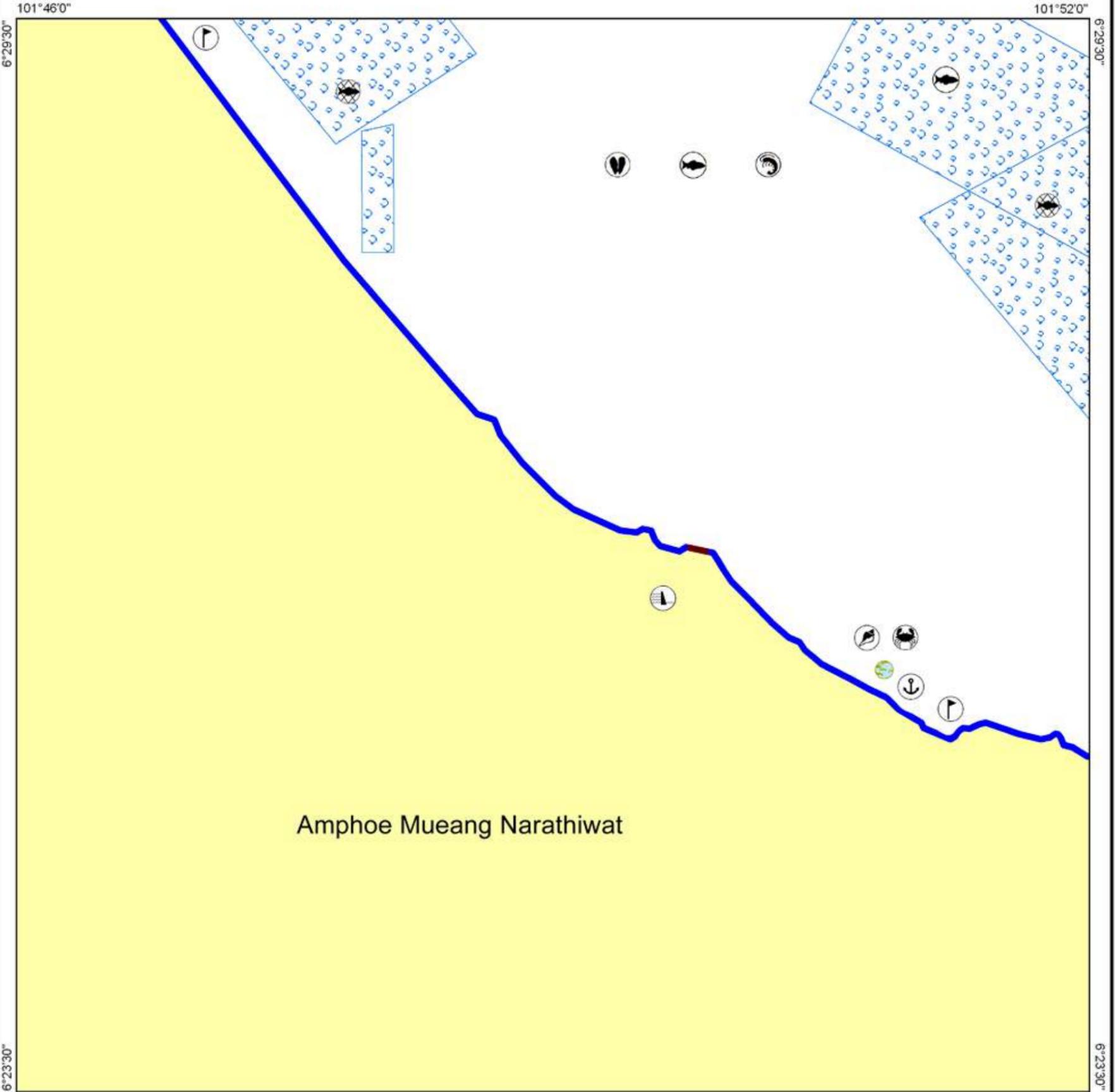
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Narathiwat Province

Thailand - 04



Amphoe Mueang Narathiwat

101°46'0" 101°52'0" 6°23'30" 6°29'30"

Shoreline Classification

- ESI 3
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Seagrass Beds

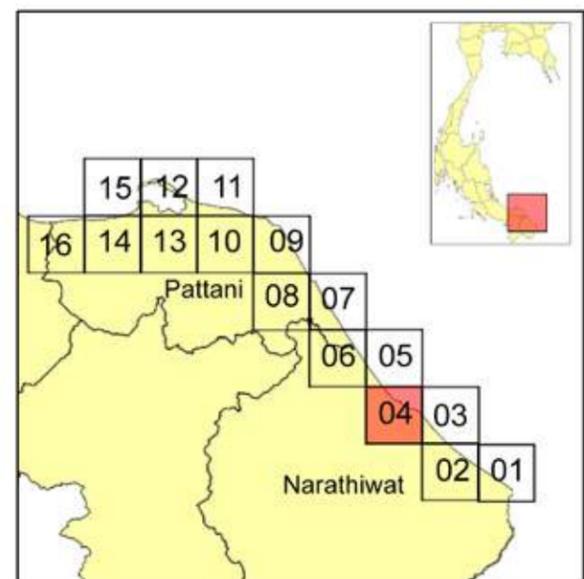
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Lock and Dam
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Narathiwat District. Its neighboring districts include Tak Bai, Cho-airong, Ra-ngae and Yi-ngo.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Along the coast is a small patch of seagrass beds consisting of two species, *Halophila beccarii* and *Halodule uninervis*. Seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Many marine species, such as fish, bivalves, gastropods and echinoderms, can be found within the area. Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Although there are two tourist beaches in the area, these are still not popular due to security issues. Hat Pantai-Kubu is about 4 km² long with lines of pine trees along the beach. Hat Ban Klongtan extends from Hat Pantai-Kubu and has fishing communities. Since these beaches are prone to coastal erosion, protective structures in some parts have been placed.

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat Province have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species.

A fishing port is also located in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

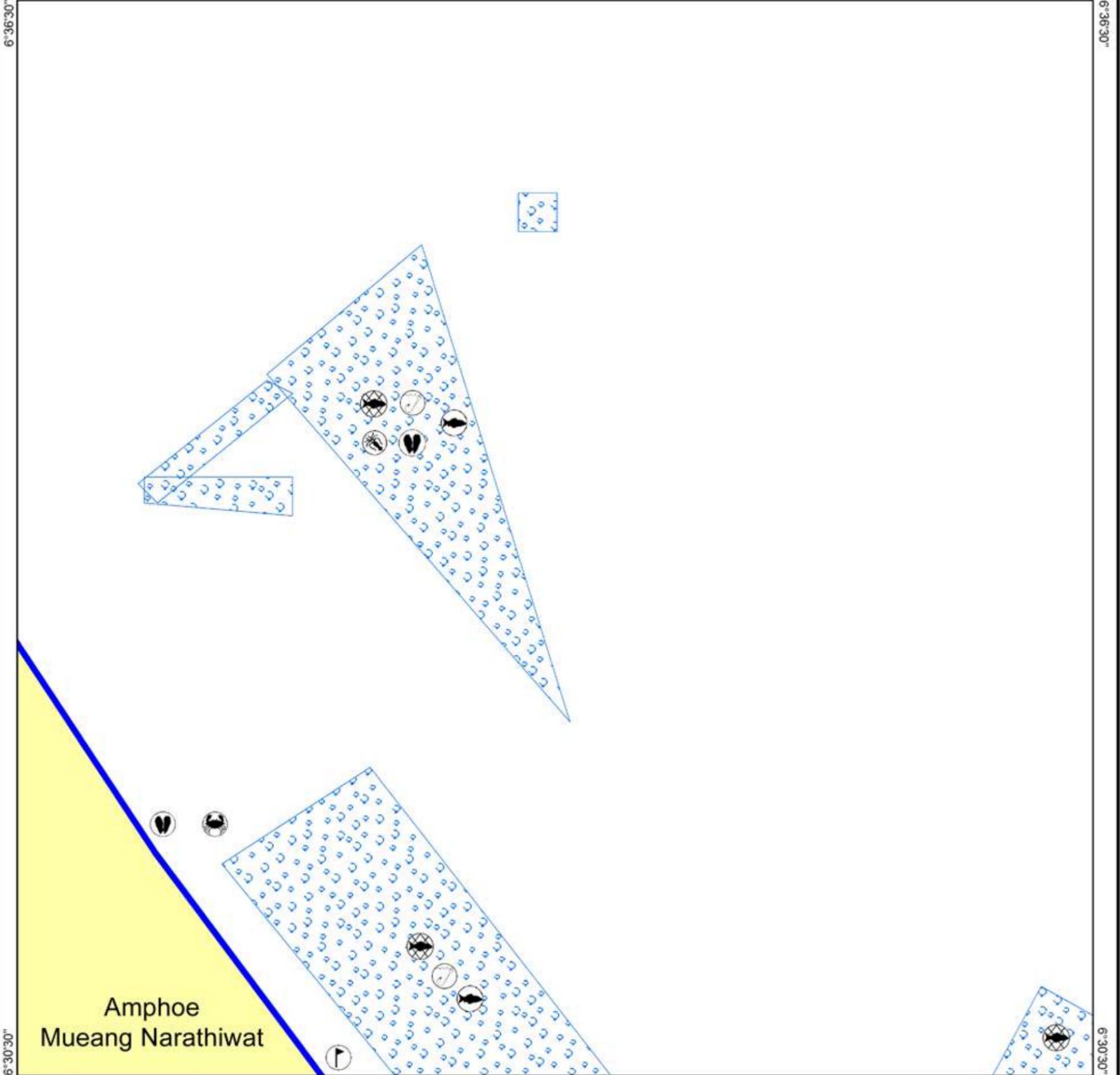
The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Narathiwat Province

Thailand - 05

101°45'30"

101°51'30"



101°45'30"

101°51'30"

Shoreline Classification

— ESI 3

Biological/Human-Use Areas

Artificial Reef

Biological Resources

Bivalve

Crab

Fish/Nursery Area

Squid/Octopus

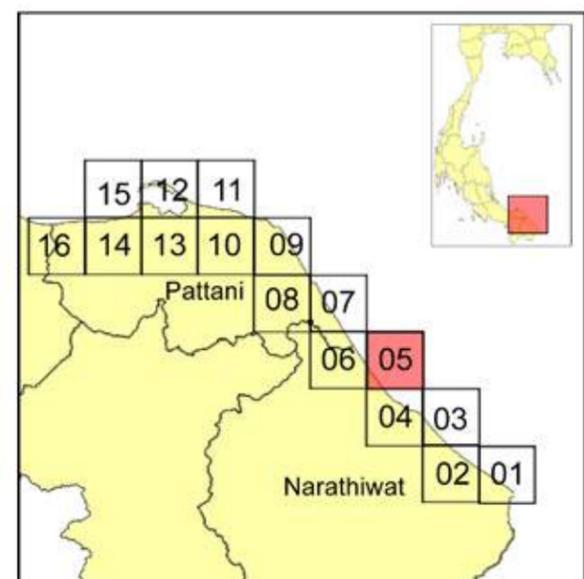
Human-Use/ Oil Spill Response Resources

Beach

Recreational Fishing

Subsistence Fishing

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Narathiwat District. Its neighboring districts include Tak Bai, Cho-airong, Rangae and Yi-ngo.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, such as gastropods, bivalves and echinoderms, can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Hat Narathat, a popular tourist beach in the area, is 4- to 5-km long and is located about 2 km from the city of Narathiwat.

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat Province have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species and provide areas for recreational fishing.

Oil Spill Response Resources

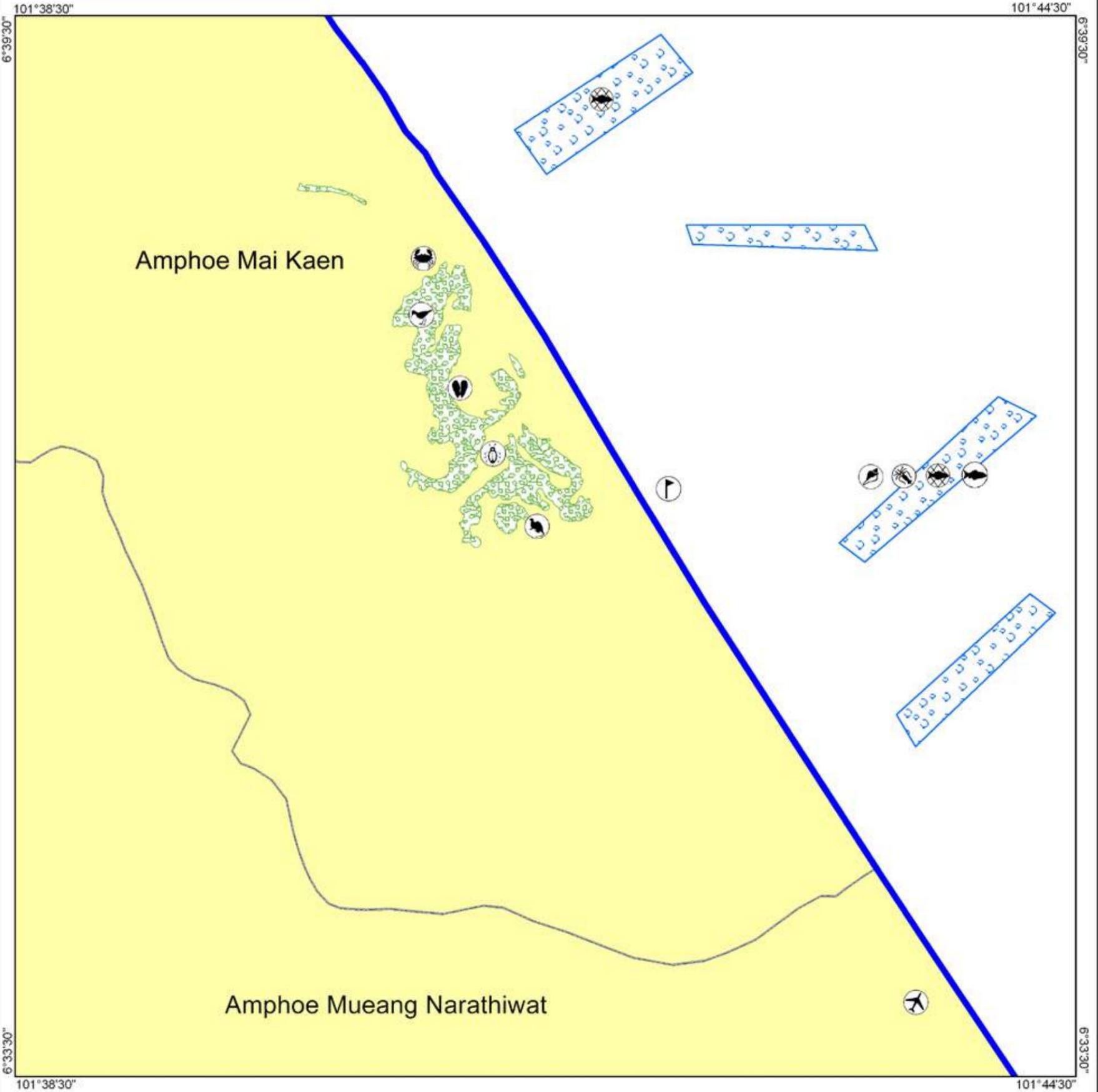
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Narathiwat - Pattani Province

Thailand - 06



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

Mangroves

Biological Resources

Bird

Bivalve

Crab

Fish/Nursery Area

Gastropod

Insect

Squid/Octopus

Terrestrial Mammal

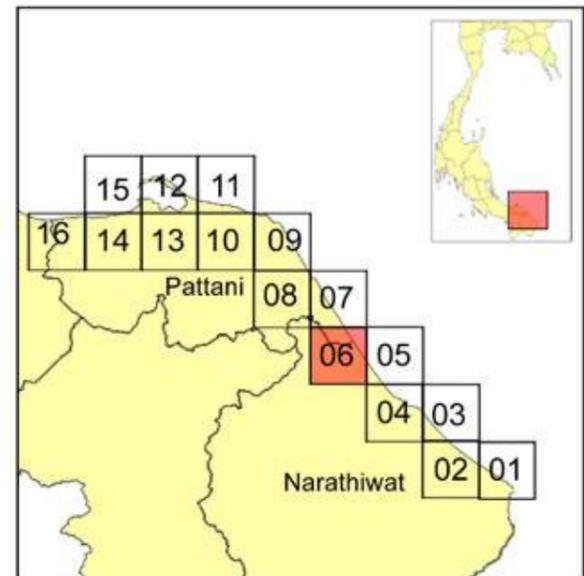
Human-Use/ Oil Spill Response Resources

Airport

Beach

Subsistence Fishing

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Mueang Narathiwat District of Narathiwat Province and Mai Kaen District of Pattani Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Mangroves situated on the coast of Mai Kaen District are important habitats providing food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Located at Khok Khian Subdistrict in Mueang Narathiwat District is Narathiwat Airport with a 2,500-m asphalt concrete runway. The airport operates for both military and commercial purposes and is under the Department of Civil Aviation of the Ministry of Transport.

Hat Pa Mai-Bang Sai is a 5-km long tourist beach in the area located about 74 km from the city of Pattani.

Artificial reefs in the area serve as subsistence fishing grounds. Artificial reefs in Narathiwat and Pattani provinces have been arranged under the Royal Initiatives to provide fishing areas to the local people and are currently being developed into a large site where fishing can be extensively done for almost a whole year. These artificial reefs also serve as important shelter and habitats for various marine species.

Oil Spill Response Resources

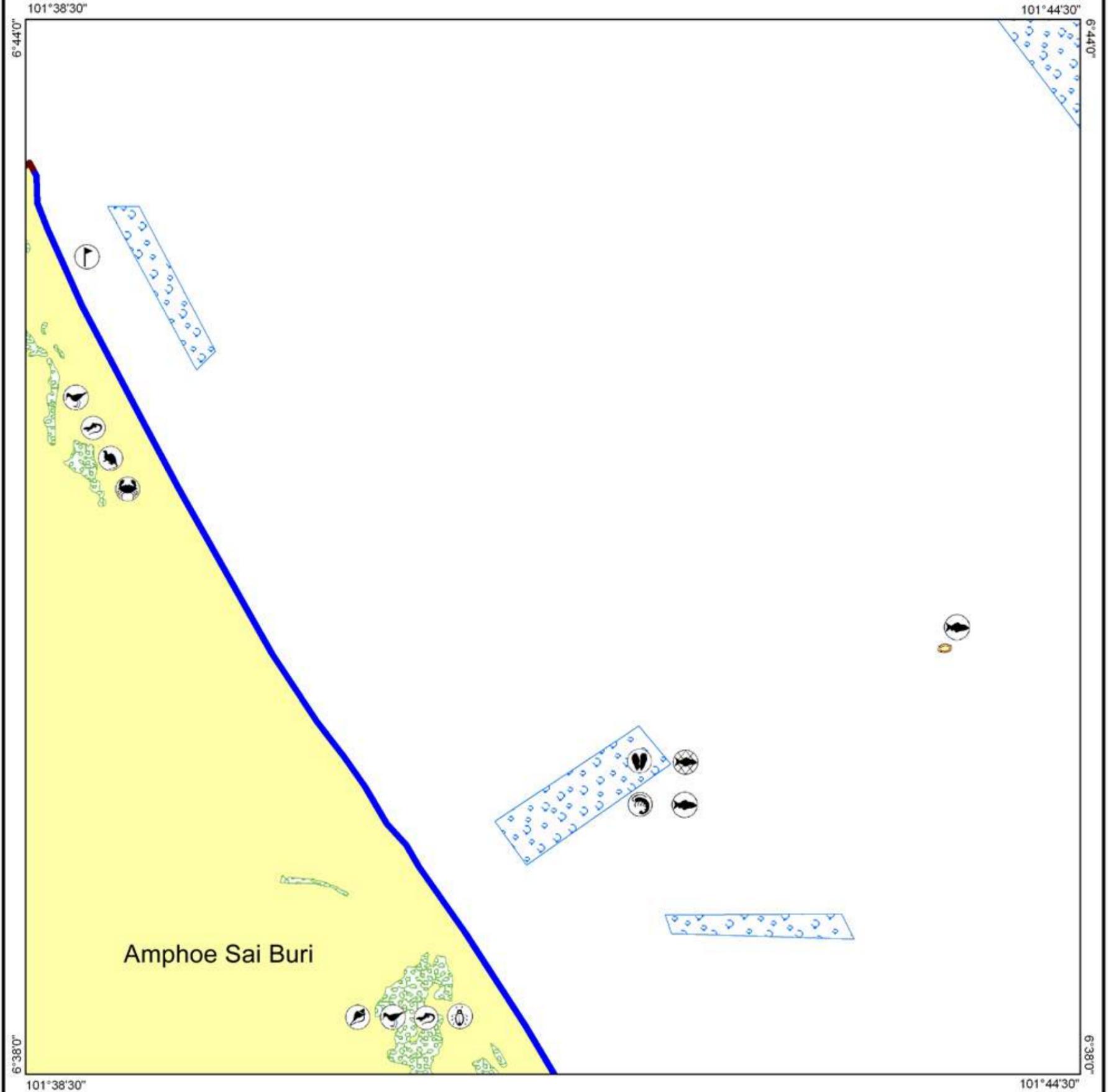
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 07



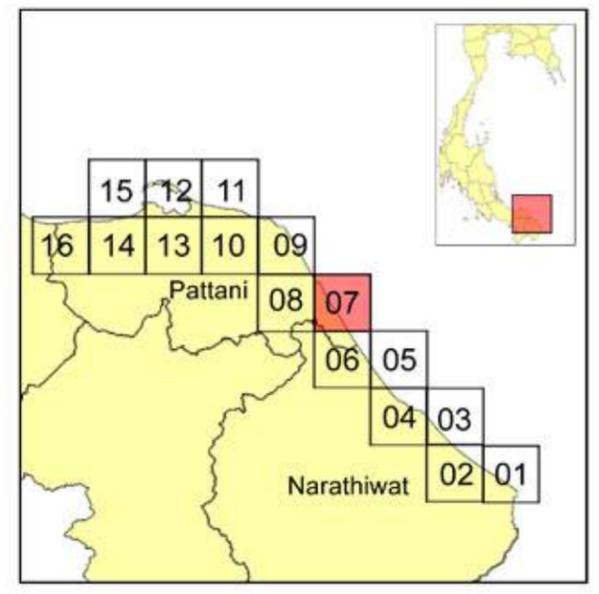
Shoreline Classification
 — ESI 3
 — ESI 7

Biological/Human-Use Areas
 Artificial Reef
 Coral Reef
 Mangroves

Biological Resources
 Bird
 Bivalve
 Crab
 Fish/Nursery Area
 Gastropod
 Insect
 Reptile and Amphibian
 Shrimp
 Terrestrial Mammal

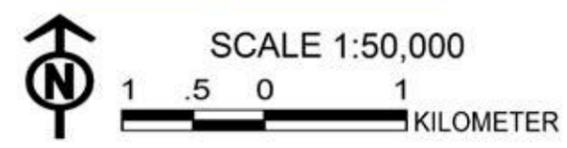
**Human-Use/
Oil Spill Response Resources**
 Beach
 Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Sai Buri District. Its neighboring districts include Mai Kaen, Kapho, Mayo, Thung Yang Daeng and Panare.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Mangroves are situated along the mainland coast of Sai Buri District while coral reefs can be found in Ko Loa Pee, an underwater pinnacle. These coral reefs have an area of about 0.112 km² dominated by *Acropora*, *Porites* and *Montipora* species. Various marine organisms enhance the coral reefs to become more biologically diverse. Both mangroves and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Hat Wasukri is a popular tourist attraction located about 52 km from the city of Pattani. It has a white sandy beach lined with pine trees and has available accommodations for tourists.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

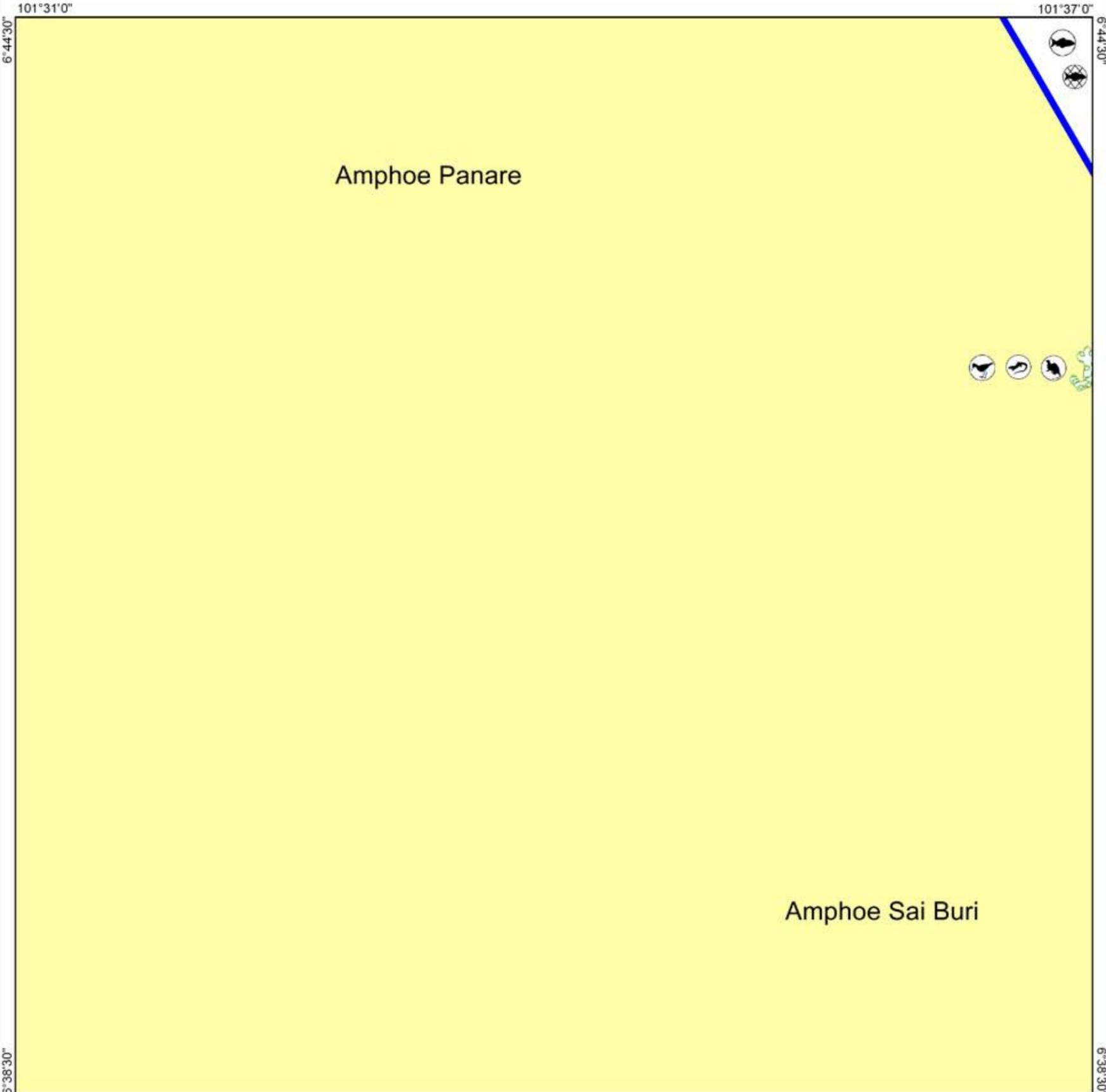
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 08



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Mangroves

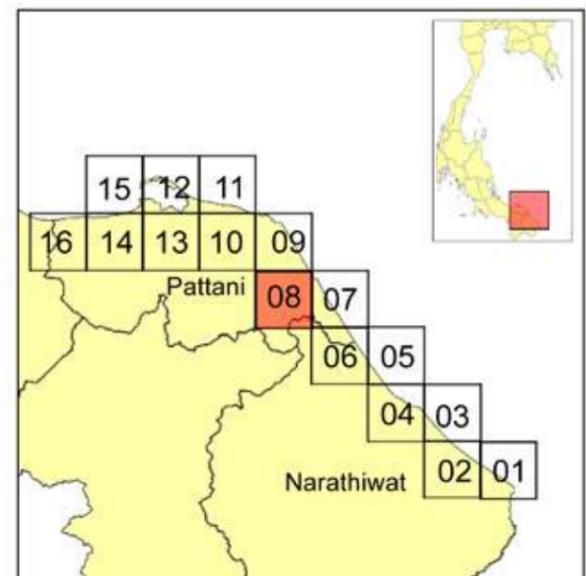
Biological Resources

- Bird
- Fish/Nursery Area
- Reptile and Amphibian
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Panare District on the eastern coast of Pattani Province. This district is near Sai Buri, Mayo and Yaring districts.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Small patches of mangroves in the area are connected with those in Sai Buri District. Mangroves are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms can be found within sandy substrates.

Human Use Features

The beach in the area is part of Hat Wasukri, one of Pattani Province's tourist attractions.

Oil Spill Response Resources

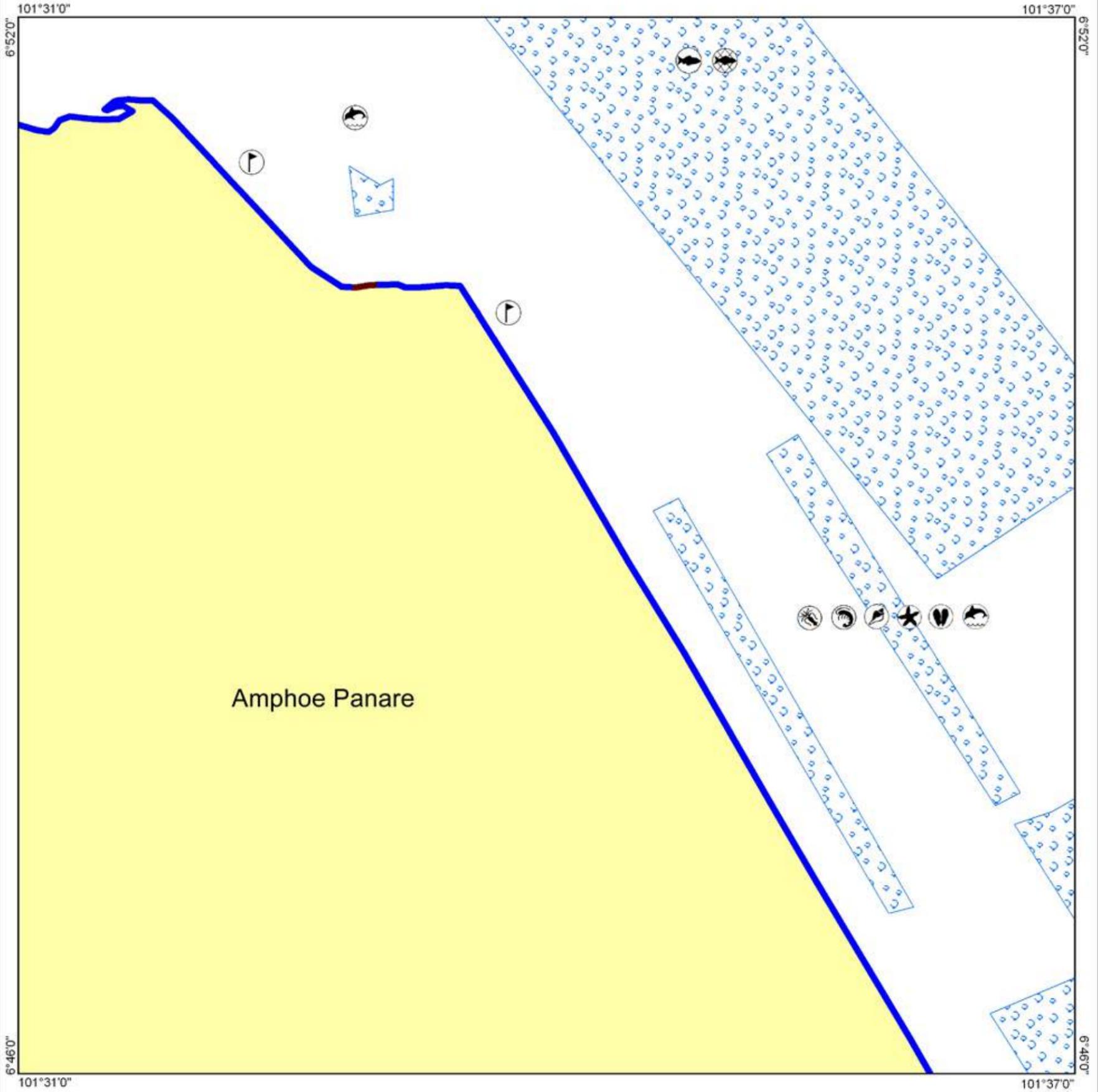
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 09



Amphoe Panare

Shoreline Classification

- █ ESI 3
- █ ESI 7

Biological/Human-Use Areas

- Artificial Reef

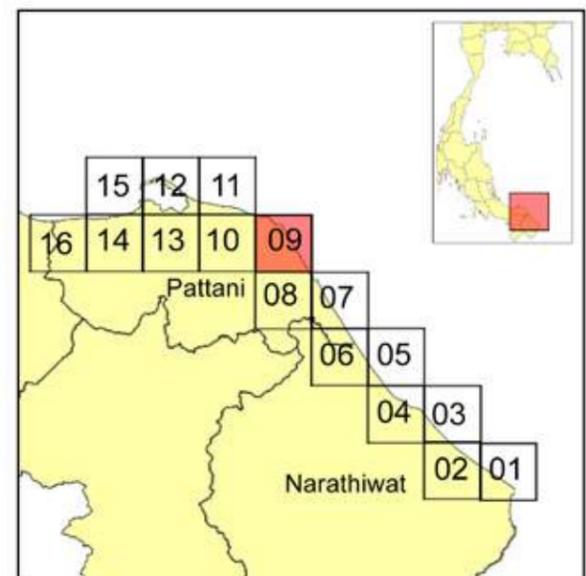
Biological Resources

- Bivalve
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Panare District on the eastern coast of Pattani Province. This district is near Sai Buri, Mayo and Yaring districts.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Some marine organisms, such as gastropods, bivalves, echinoderms and crustaceans, can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs. Some marine mammals, such as dugongs, dolphins and whales, can be found in coastal waters in the area.

Human Use Features

The area has three beaches, namely: Hat Khae Khae, Hat Ratcharak and Hat Ma Ruat. Hat Khae Khae is separated from Hat Ratcharak and Hat Ma Ruat by the canal named Khlong Phru Khae Khae. These tourist beaches consist mainly of white sand, while some areas consist of sand and boulders.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

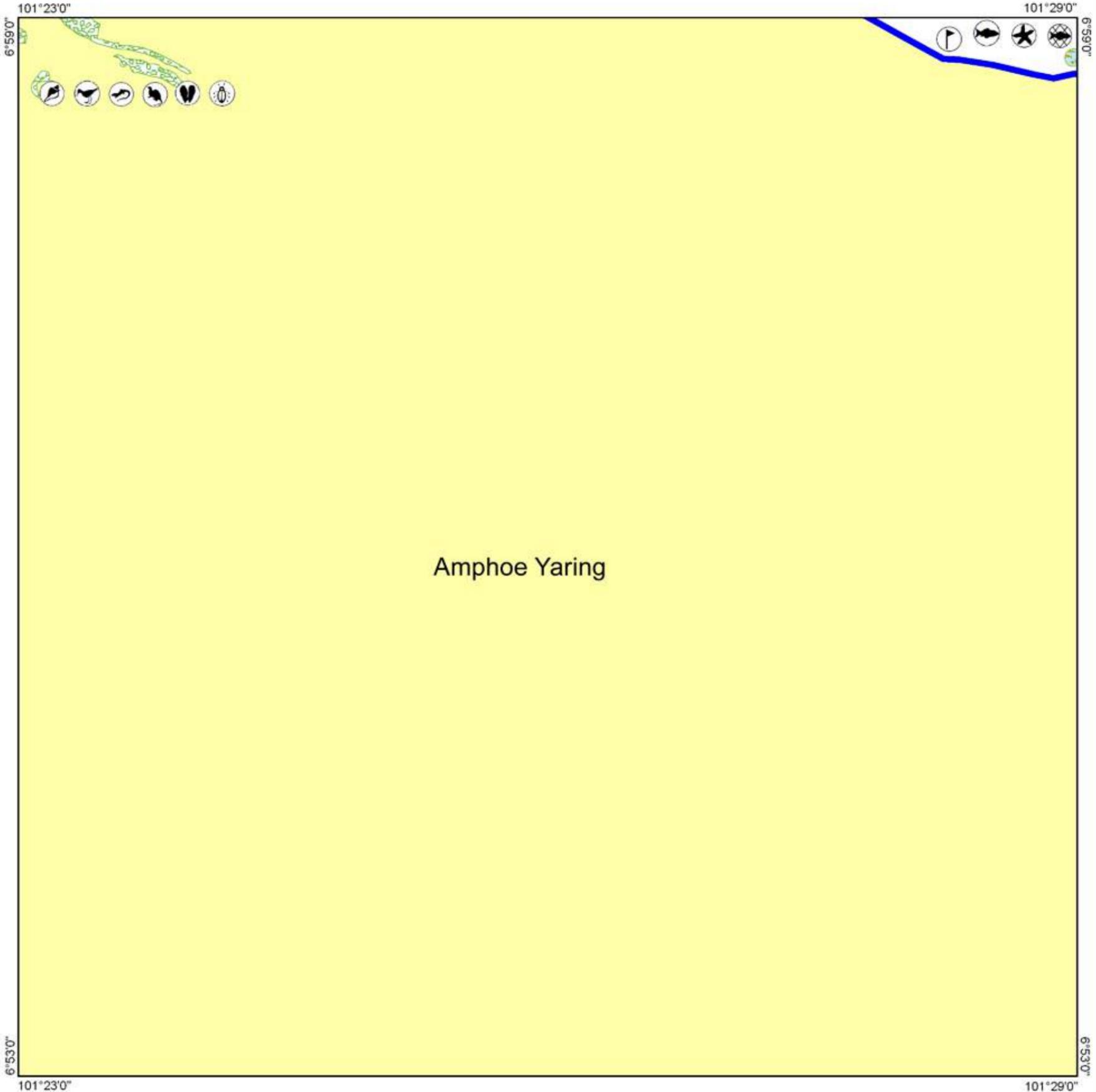
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 10



Shoreline Classification

— ESI 3

Biological/Human-Use Areas

- Mangroves
- Seagrass Beds

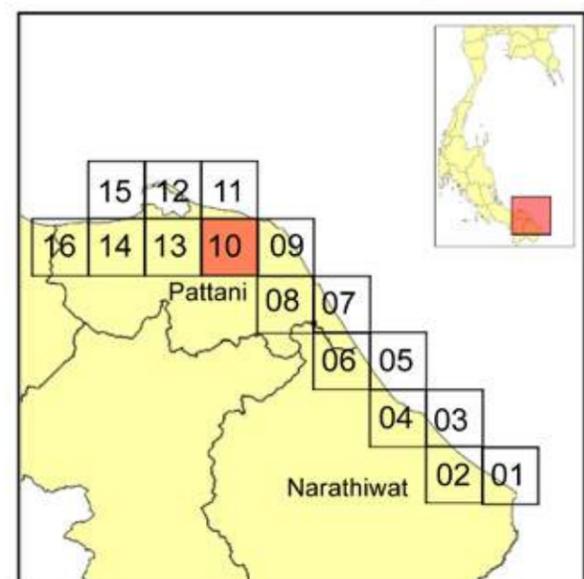
Biological Resources

- Bird
- Bivalve
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Yaring District on the northern coast of Pattani Province. This district is near Panare, Mayo, Yarang and Mueang Pattani districts.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Small areas of mangroves and seagrass beds in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters.

Human Use Features

Hat Chalalai, a tourist attraction in the area, has a white sand beach lined with pine trees.

Oil Spill Response Resources

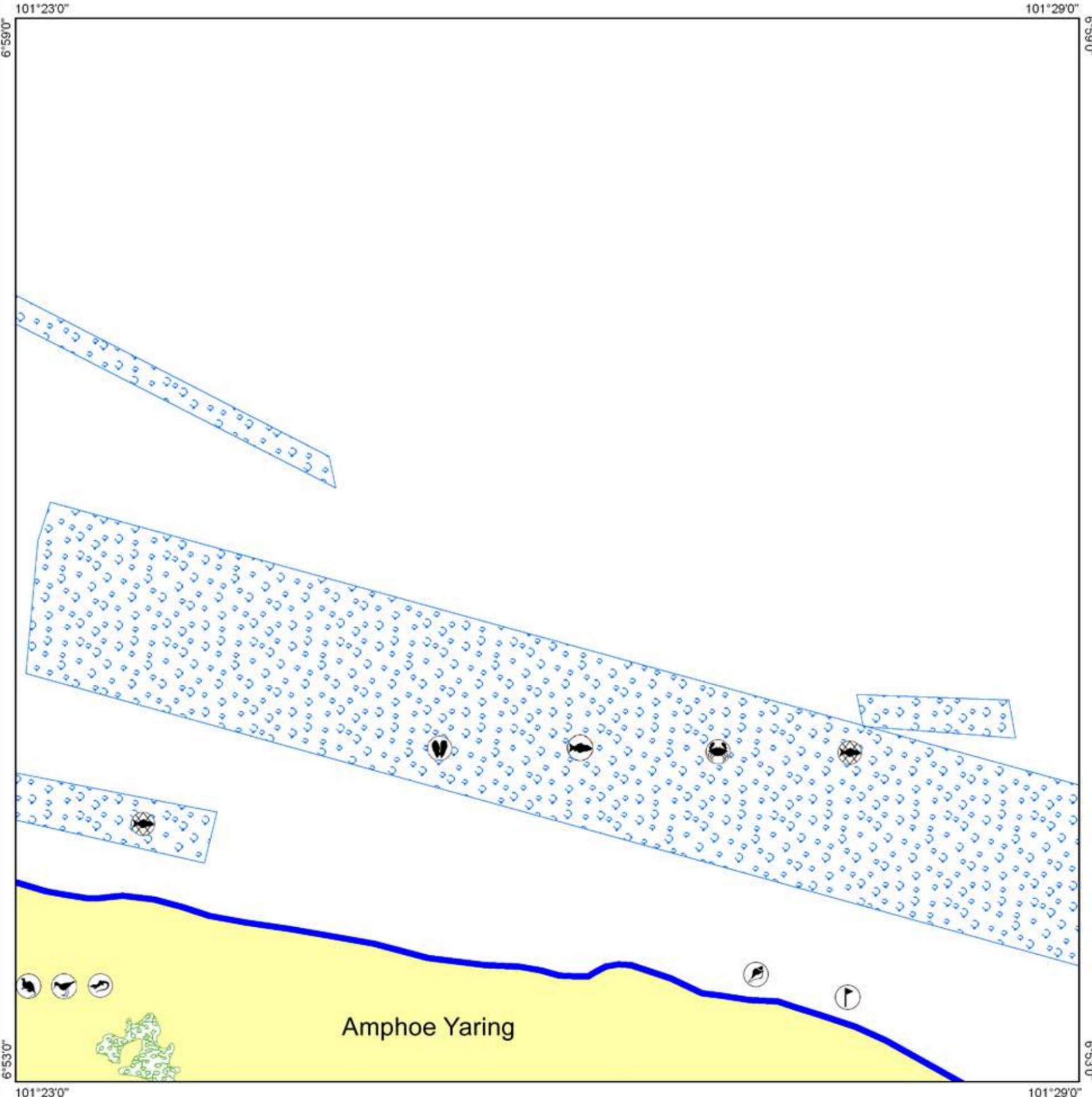
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 11

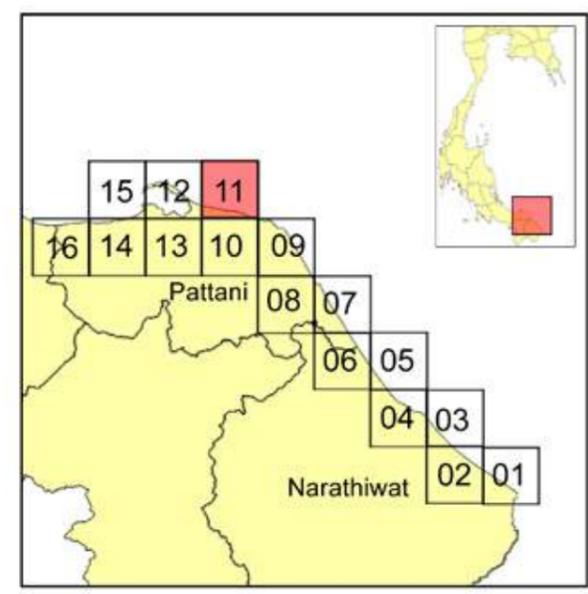


- Shoreline Classification**
 — ESI 3
- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Reptile and Amphibian
 - Terrestrial Mammal

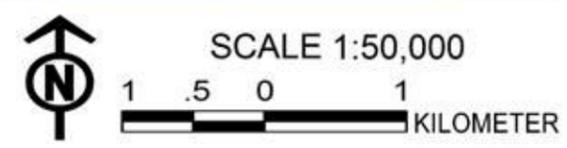
- Human-Use/
Oil Spill Response Resources**
- Beach
 - Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Yaring District on the northern coast of Pattani Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Small patches of mangroves in the area serve as important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, terrestrial mammals and shorebirds.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Hat Talo-Kapo is a popular tourist attraction located about 15 km from the city of Pattani. It has a white sand beach lined with pine and coconut trees.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

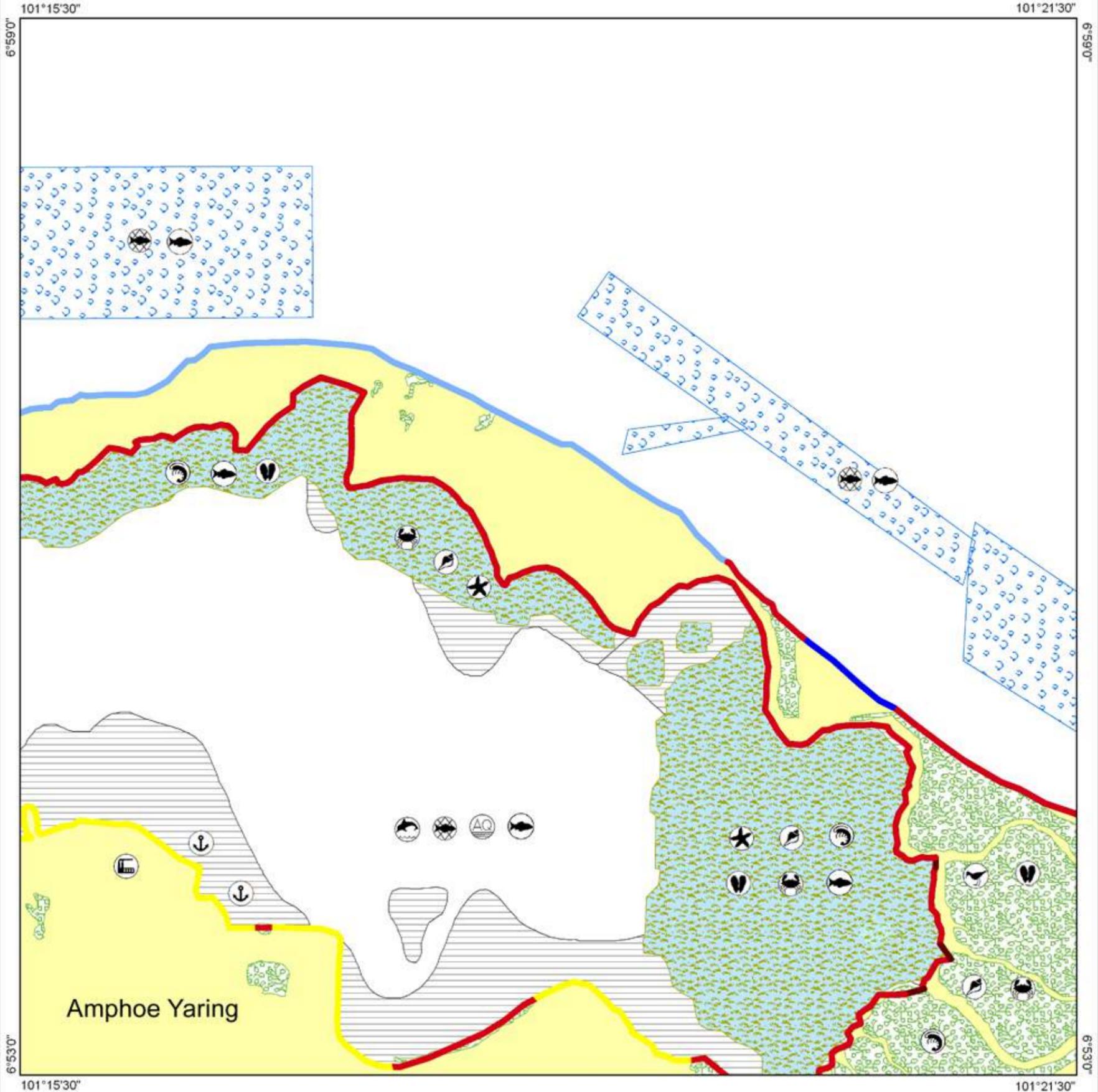
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 12



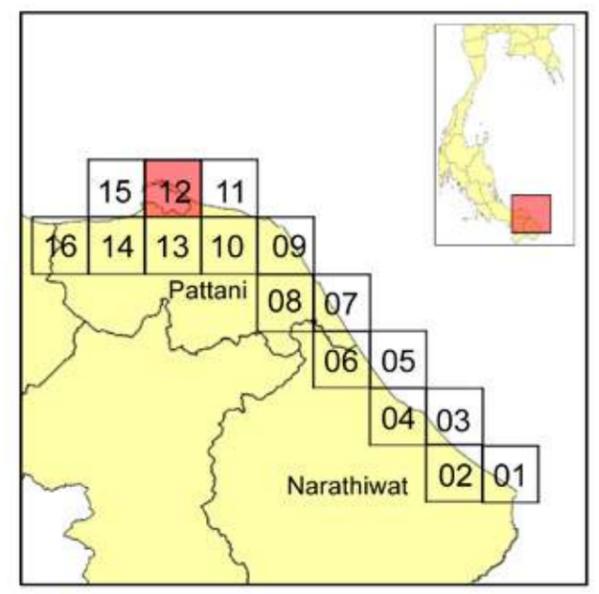
- Shoreline Classification**
- ESI 3
 - ESI 4
 - ESI 7
 - ESI 8
 - ESI 10B

- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves
 - Seagrass Beds
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal
 - Shrimp

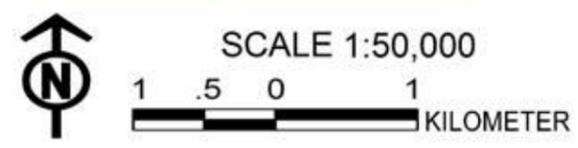
- Human-Use/Oil Spill Response Resources**
- Aquaculture
 - Factory
 - Fishing Port
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area in Yaring District is characterized by a sand bar providing important sheltered areas between the mainland coast and the sand bar. Within the sheltered area are various habitats, such as mangroves, seagrass beds and tidal flats.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), exposed tidal flats (ESI 7), sheltered scarps in mud or clay and sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Mangroves, seagrass beds and tidal flats in the area provide food sources, shelter and nesting and breeding grounds to various coastal and marine organisms.

Many marine species can be found within the area, such as gastropods, bivalves, fish and echinoderms. Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in mangroves, pelagic waters and seagrass beds.

About 1.08 km² of seagrass beds in the area consist of four dominant species: *Halophila beccarii*, *Halophila ovalis*, *Halodule uninervis* and *Ruppia maritima*. These seagrass beds are important food sources, especially for dugongs. However, dredging activity for the construction of a fishing port is causing impacts on seagrass beds.

Human Use Features

The sand bar, locally known as Laem Ta Chi, is a part of Hat Talo-Kapo beach. At the end of the sand bar is a scenic point that appeals to visitors, making it a potential tourist attraction.

Human activities in the area include factories, a fishing port and coastal aquaculture. There are areas with abundant mangroves, seagrass beds and sheltered tidal flats which are important for local subsistence fishing.

Oil Spill Response Resources

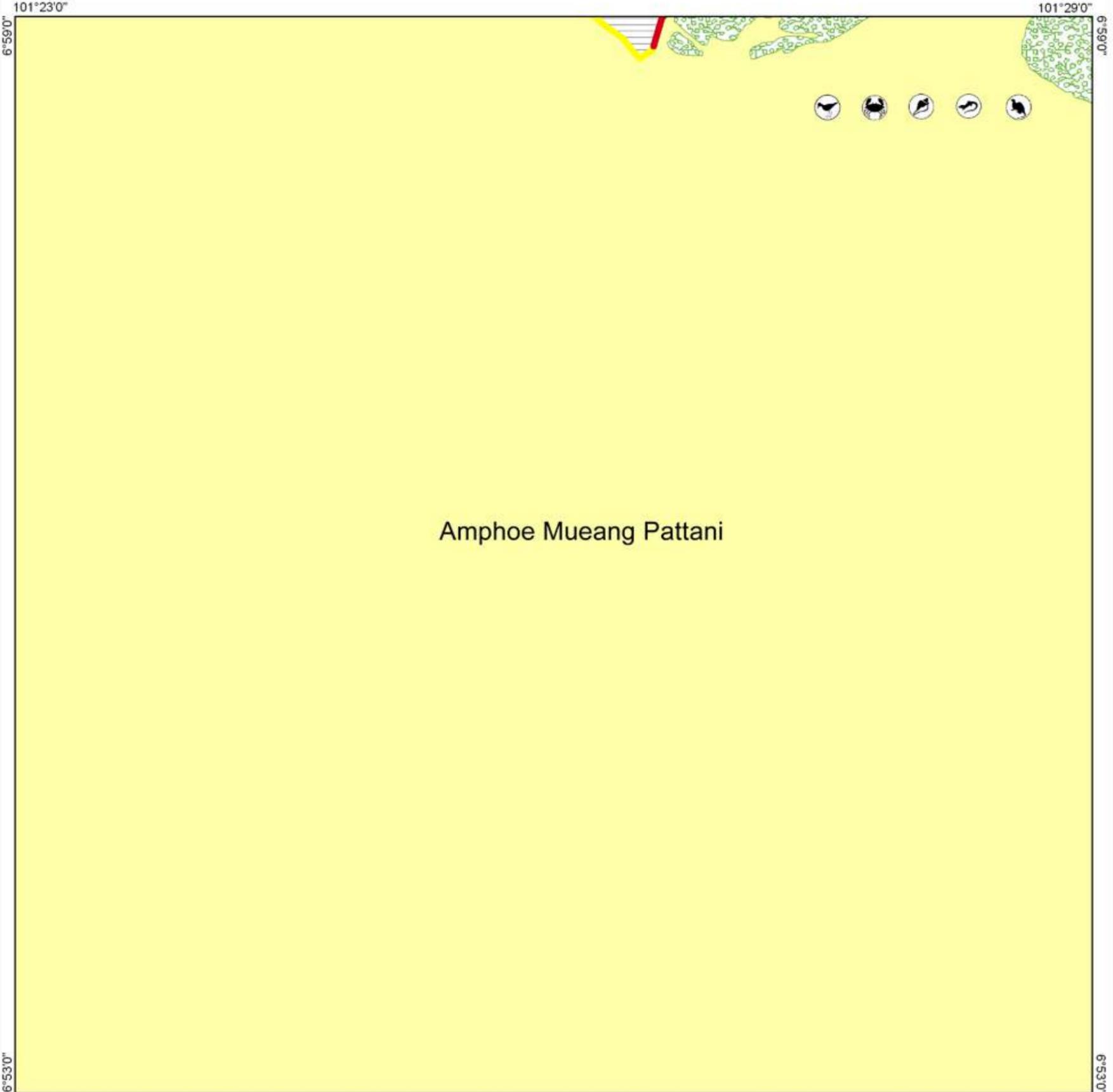
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 13



Amphoe Mueang Pattani

Shoreline Classification

- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

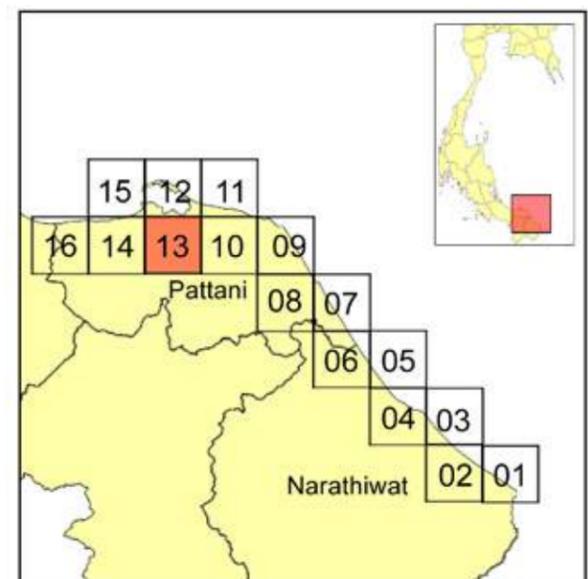
Biological Resources

- 🐦 Bird
- 🦀 Crab
- 🐌 Gastropod
- 🐸 Reptile and Amphibian
- 🐾 Terrestrial Mammal

**Human Use/
Oil Spill Response Resources**

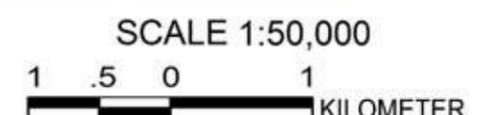
None

Location of Map



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Not for Navigation



General Information

This area is located in the capital district of Mueang Pattani. Its neighboring districts include Yaring, Yarang and Nong Chik.

Shoreline

Along the coast in the area are sheltered, solid man-made structures (ESI 8) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Mangroves and tidal flats in the area are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms.

Many marine species can be found within the area, such as gastropods, bivalves, fish and shorebirds. Some marine organisms can be found within muddy substrates.

Human Use Features

Coastal aquaculture is practiced in the area.

Oil Spill Response Resources

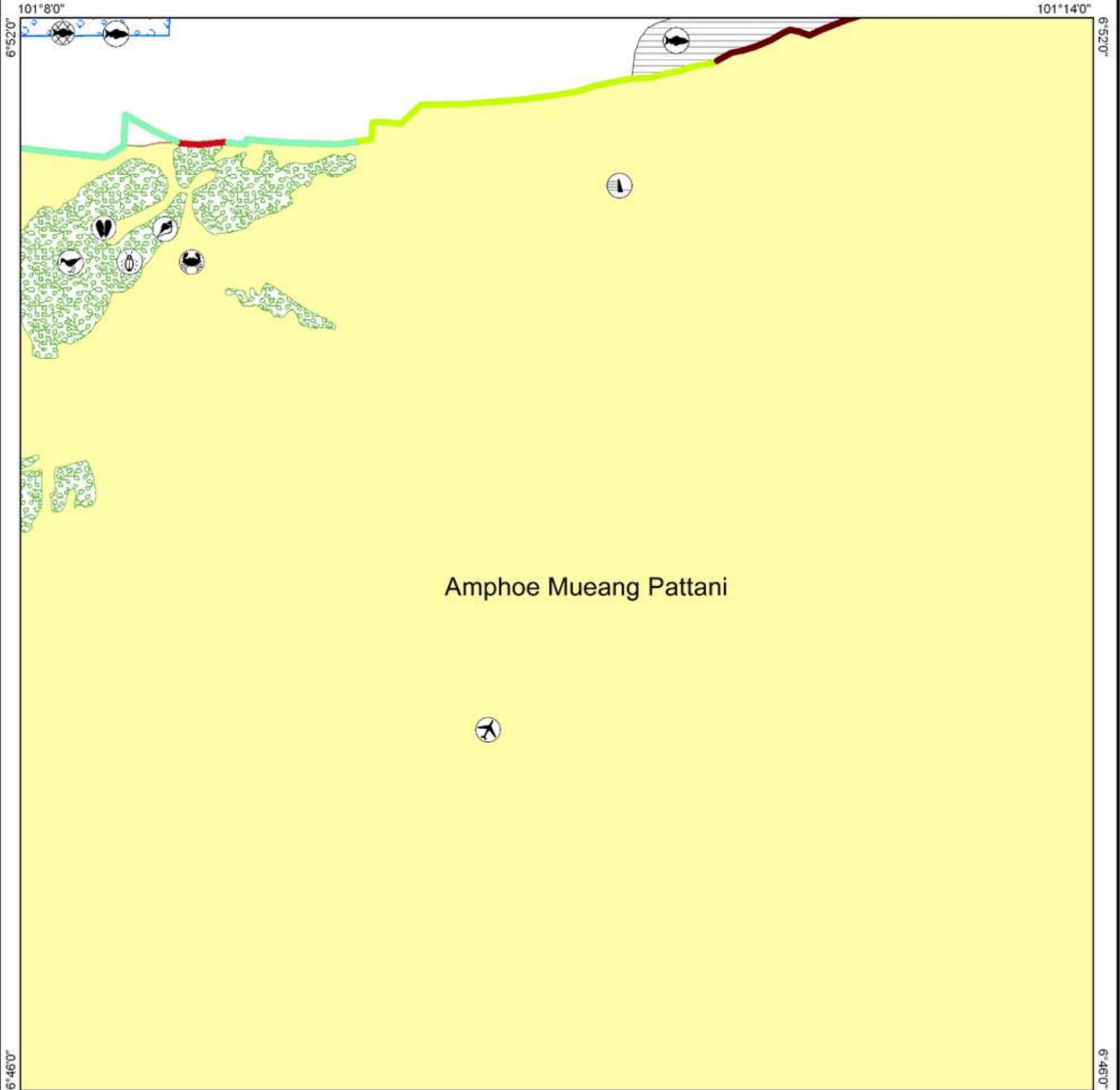
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 14



Amphoe Mueang Pattani

Shoreline Classification

- ESI 5
- ESI 6B
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

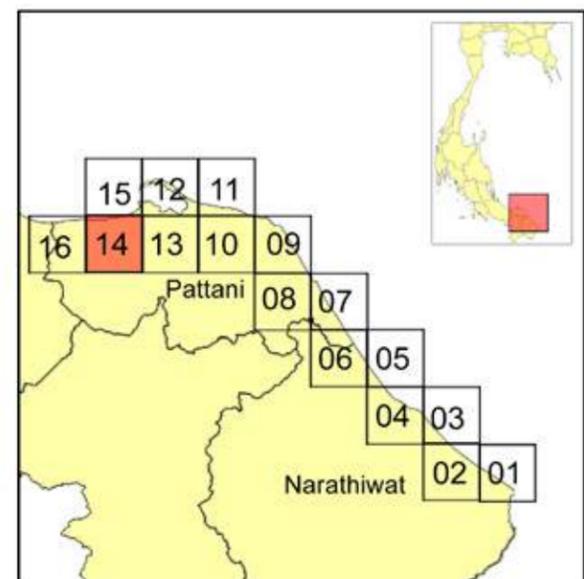
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect

Human-Use/ Oil Spill Response Resources

- Airport
- Lock and Dam
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000
 1 .5 0 1 KILOMETER

General Information

This area is located in the capital district of Mueang Pattani. Its neighboring districts include Yaring, Yarang and Nong Chik.

Shoreline

Along the coast in the area are mixed sand and gravel beaches (ESI 5), riprap (ESI 6B), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Mangroves in the area are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, terrestrial mammals, shorebirds and insects.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Pattani Airport, with a 1,400-m asphalt concrete runway, is located at Nong Chik District. It is operated for commercial purposes and managed by the Department of Civil Aviation of the Ministry of Transport.

A lock and a dam are situated on Pattani River.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

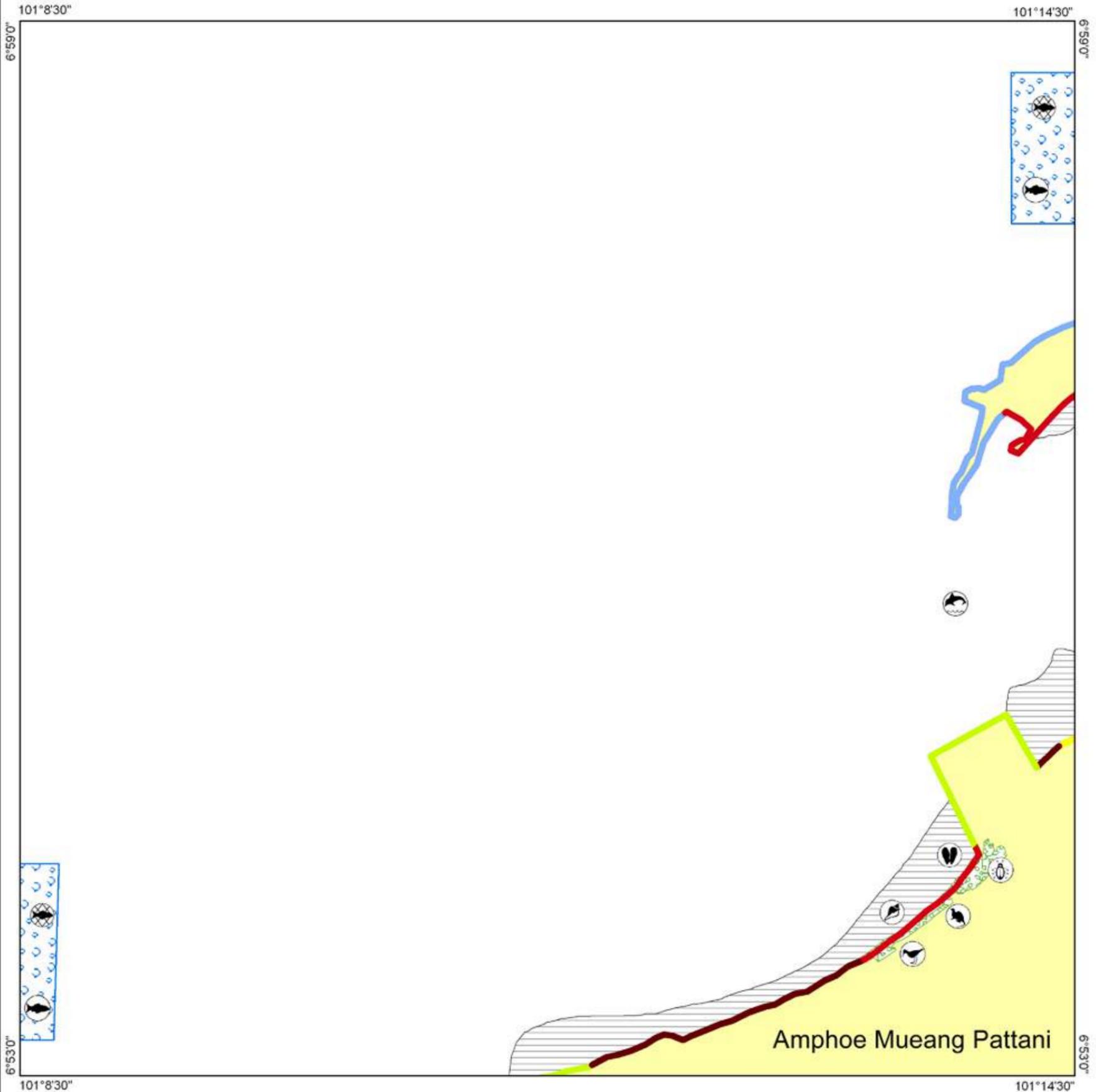
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani Province

Thailand - 15



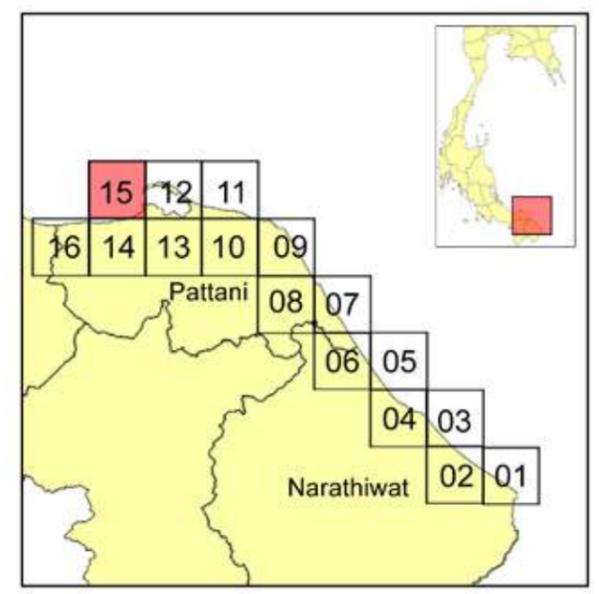
- Shoreline Classification**
- ESI 4
 - ESI 6B
 - ESI 7
 - ESI 8
 - ESI 10B

- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Fish/Nursery Area
 - Gastropod
 - Insect
 - Marine Mammal
 - Terrestrial Mammal

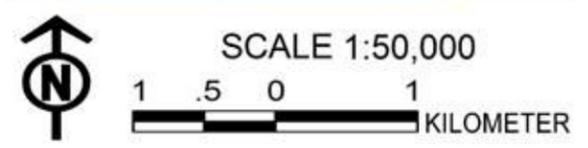
- Human-Use/ Oil Spill Response Resources**
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the northern coast of Mueang Pattani District and a small part of Yaring District.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), riprap (ESI 6B), exposed tidal flats (ESI 7), sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Small patches of mangroves in the area are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, terrestrial mammals, shorebirds and insects.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Marine mammals, such as dugongs and whales, can be regularly found in the area.

Human Use Features

Coastal aquaculture is practiced in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

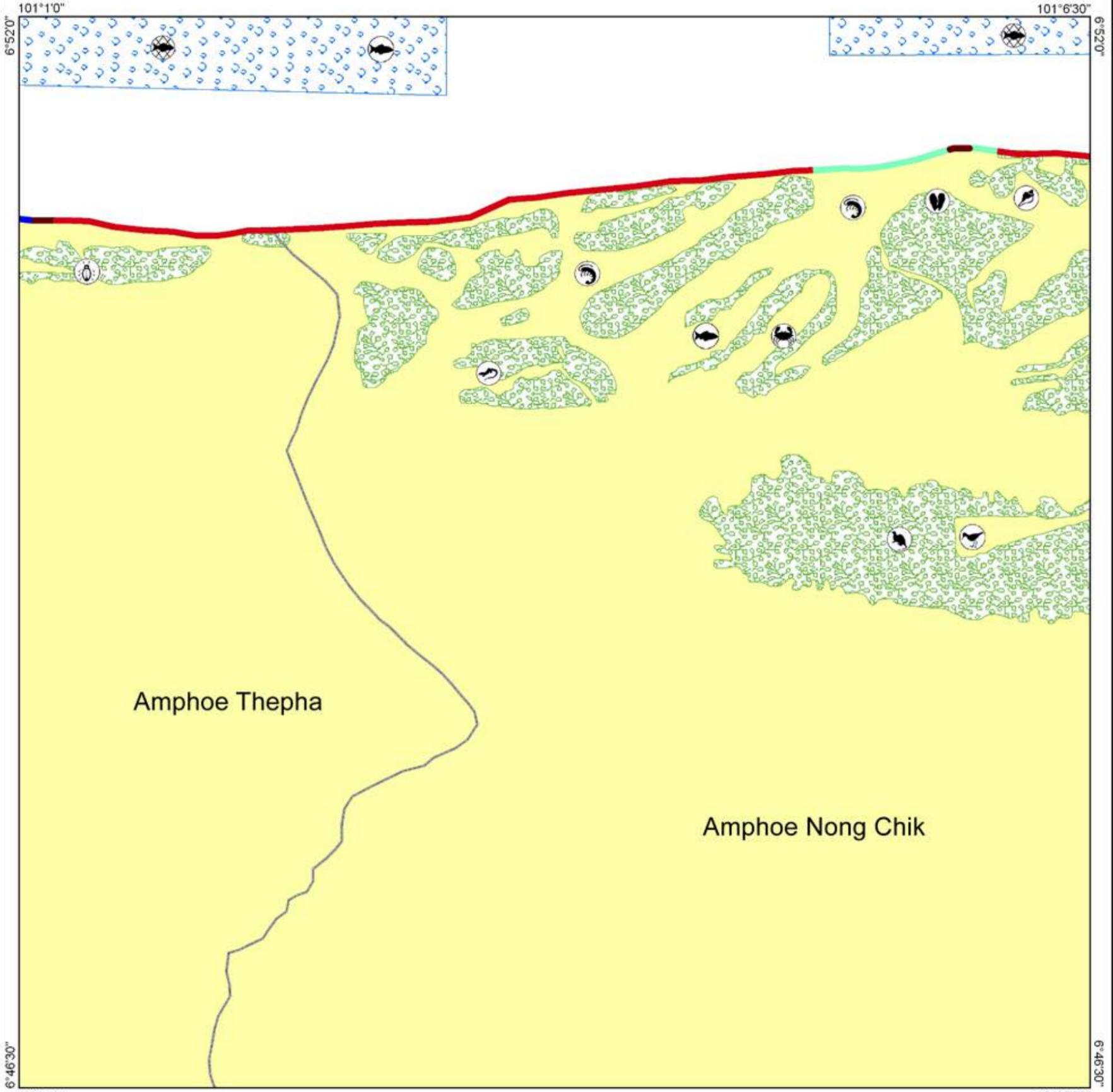
There is no oil spill response resource in the area.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Pattani - Songkhla Province

Thailand - 16



Amphoe Thepha

Amphoe Nong Chik

Shoreline Classification

- ESI 3
- ESI 5
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Artificial Reef

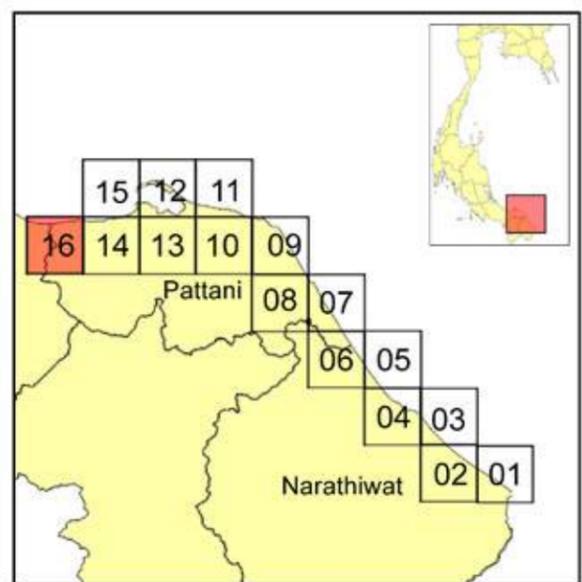
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/Oil Spill Response Resources

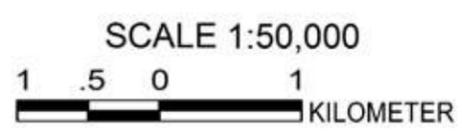
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Nong Chik District of Pattani Province and Thepha District of Songkhla Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5) and exposed tidal flats (ESI 7).

Biological Resources

Patches of riverine mangroves are situated along rivers and creeks where freshwater flows into the sea. Mangroves are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, terrestrial mammals, shorebirds and insects.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Coastal aquaculture is practiced in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

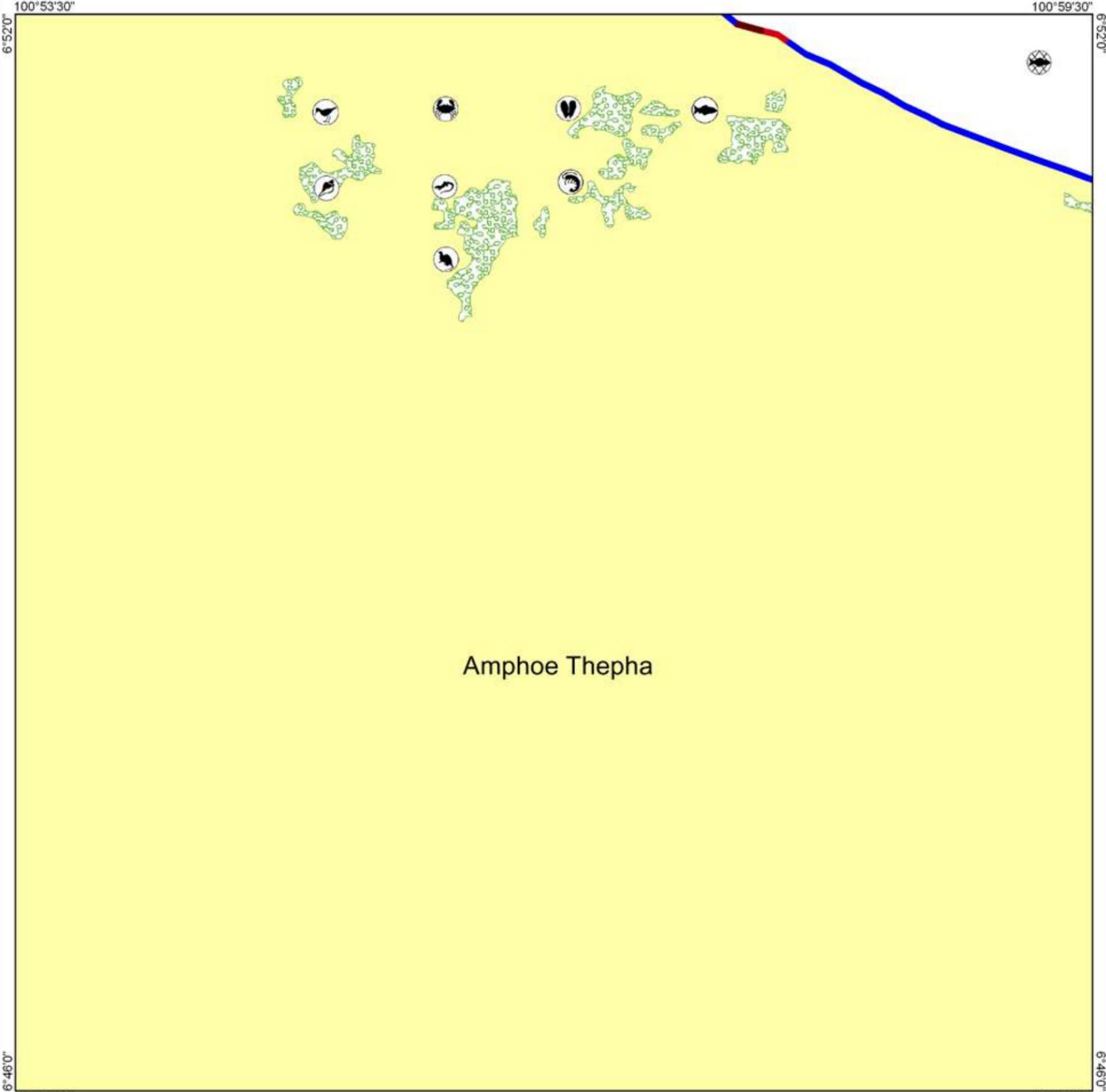
Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Special Issue

The area is affected by the South Thailand insurgency in Narathiwat, Pattani and Yala provinces. Any activities related to oil spill cleanup in the area have to be implemented in effective cooperation with both national and local security agencies, as well as local communities.

Songkhla Province

Thailand - 17



Amphoe Thepha

Shoreline Classification

- ESI 3
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves

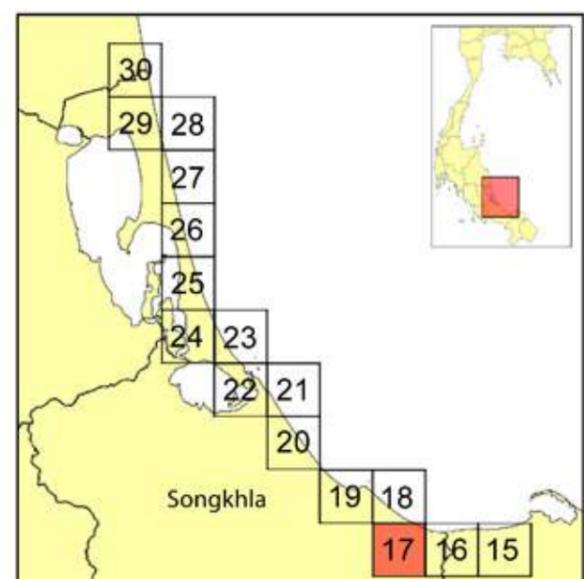
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Thepha District on the southeastern coast of Songkhla Province. Its neighboring districts include Nong Chik and Khok Pho of Pattani Province; and Saba Yoi, Na Thawi and Chana of Songkhla Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), exposed tidal flats (ESI 7) and mangroves (ESI 10B).

Biological Resources

Patches of riverine mangroves are situated along rivers and creeks where freshwater flows into the sea. Mangroves are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, terrestrial mammals, shorebirds and insects.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters.

Human Use Features

Coastal aquaculture is practiced in the area.

Oil Spill Response Resources

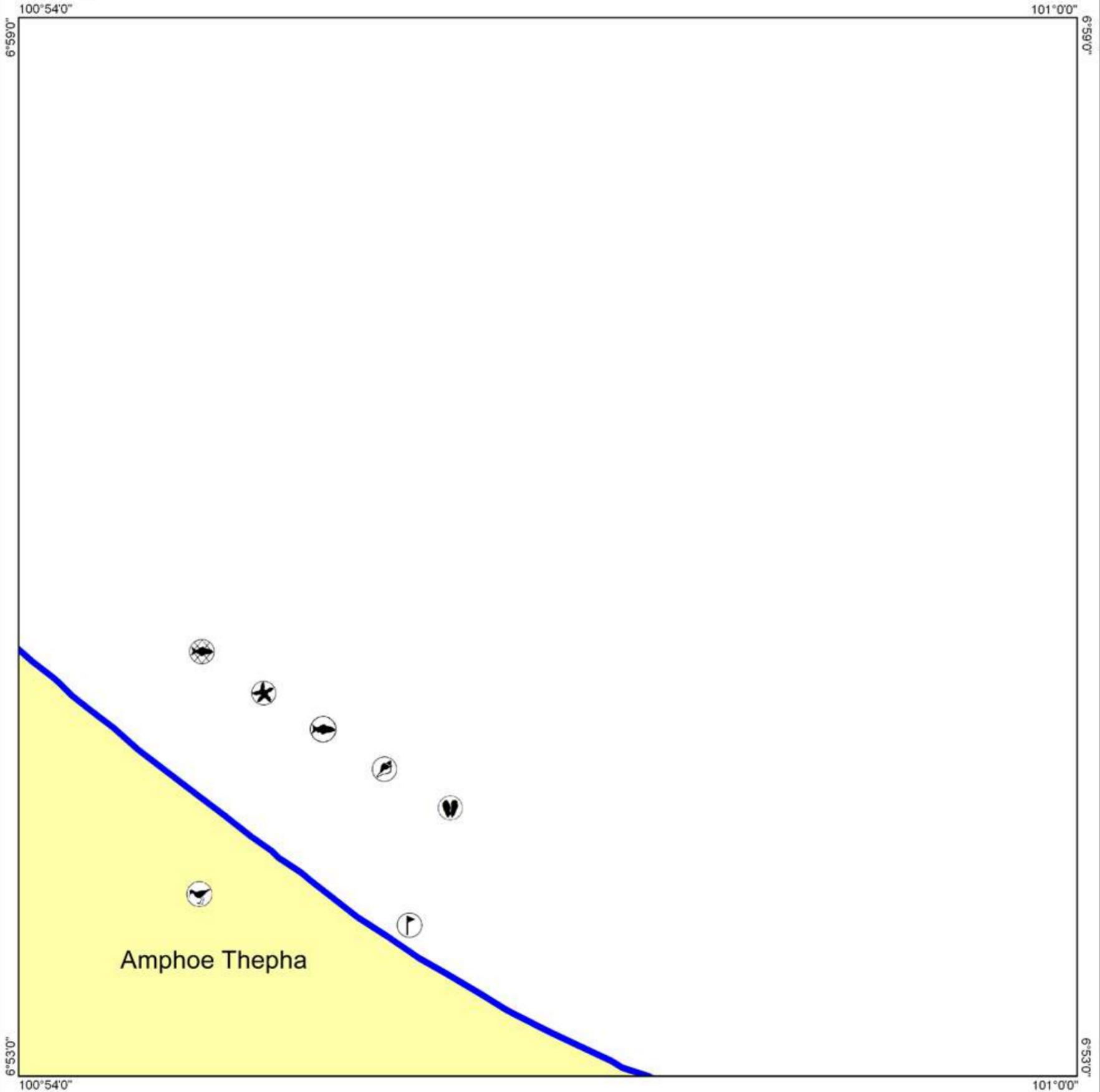
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 18



Shoreline Classification

ESI 3

Biological/Human-Use Areas

None

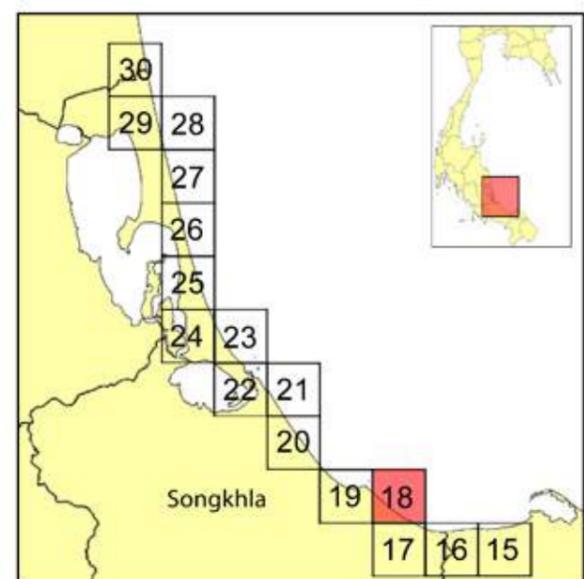
Biological Resources

- Bird
- Bivalve
- Echinoderm
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Thepha District on the southeastern coast of Songkhla Province. Its neighboring districts include Nong Chik and Khok Pho of Pattani Province; and Saba Yoi, Na Thawi and Chana of Songkhla Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, such as gastropods, bivalves and echinoderms, can be found within sandy substrates, while fish communities can be found in coastal waters.

Human Use Features

Hat Sakom is a 2-km white sand beach lined with pine trees and has accommodations and facilities available for tourists.

Similar to other areas, coastal waters are important subsistence fishing grounds for local fisherfolks.

Oil Spill Response Resources

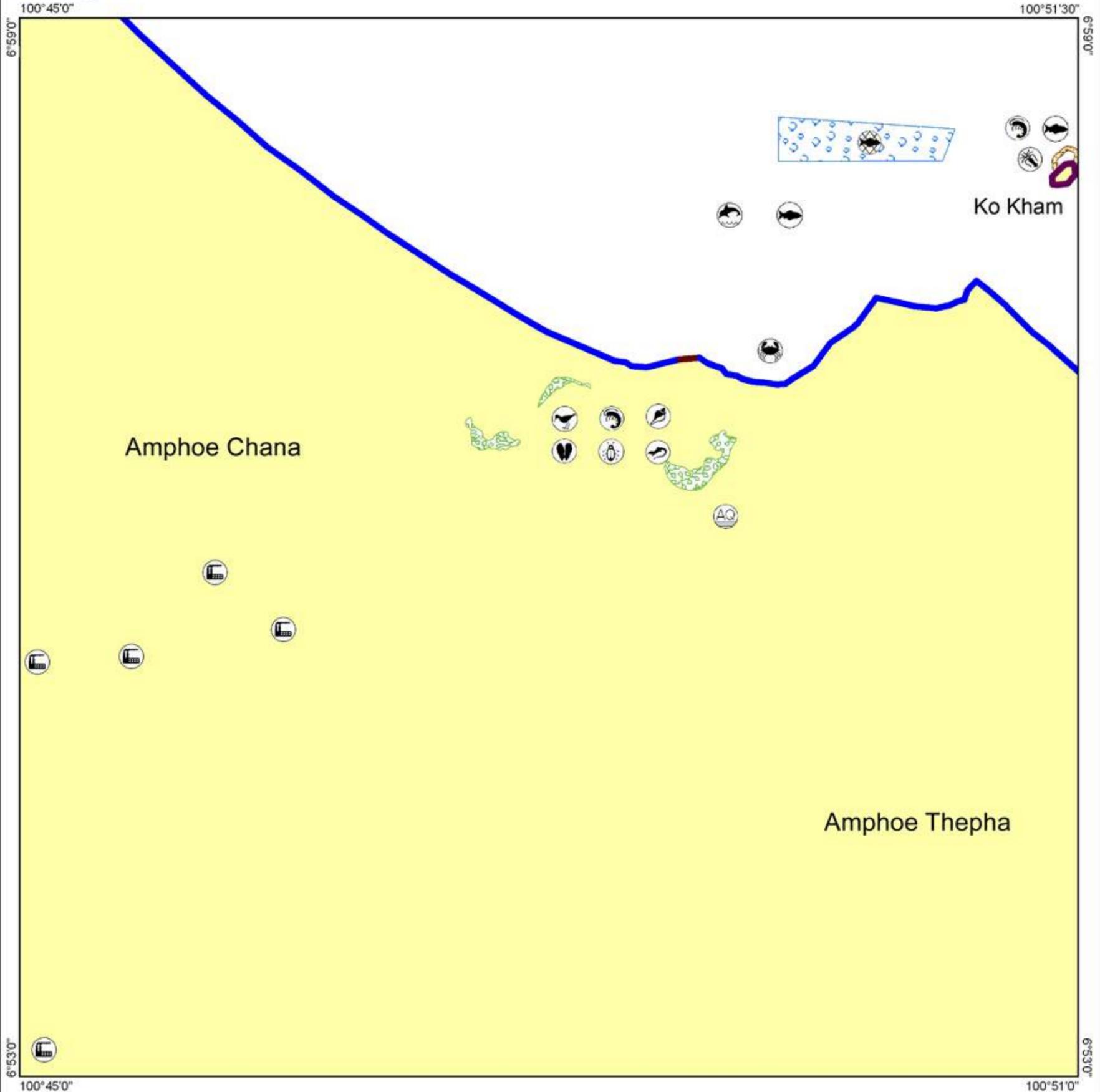
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 19



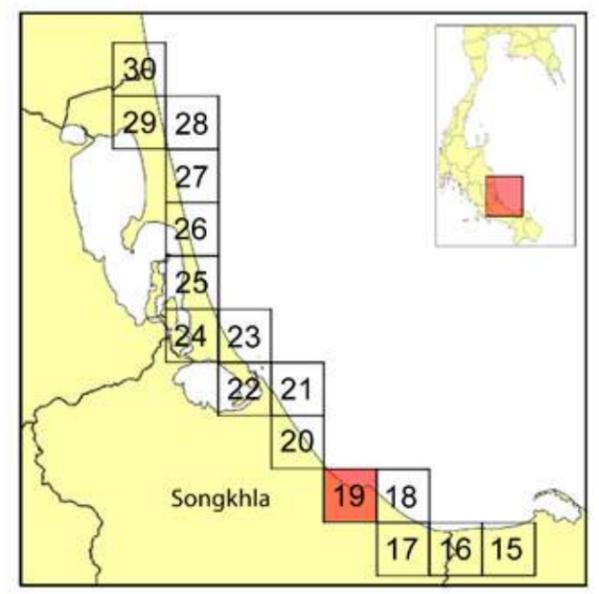
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 7

- Biological/Human-Use Areas**
- Artificial Reef
 - Coral Reef
 - Mangroves

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Insect
 - Marine Mammal
 - Reptile and Amphibian
 - Shrimp
 - Squid/Octopus

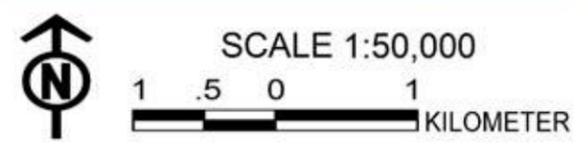
- Human Use/ Oil Spill Response Resources**
- Aquaculture
 - Factory
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Chana District and Thepha District, as well as the islands of Ko Kham located about 2 km off the coast of Thepha.

Shoreline

Along the mainland coast are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Exposed rocky shores and cliffs (ESI 1) surround Ko Kham's total area of 0.02 km².

Biological Resources

Patches of riverine mangroves are situated along rivers and creeks where freshwater flows into the sea. Coral reefs near Ko Kham are dominated with *Acropora* and *Porites species*. There are many marine organisms that enhance coral reefs to become more biologically diverse. Both mangroves and coral reefs are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as gastropods, bivalves, fish, echinoderms, terrestrial mammals, shorebirds and insects.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Marine mammals, such as whales, dugongs and dolphins, can also be found in the area.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

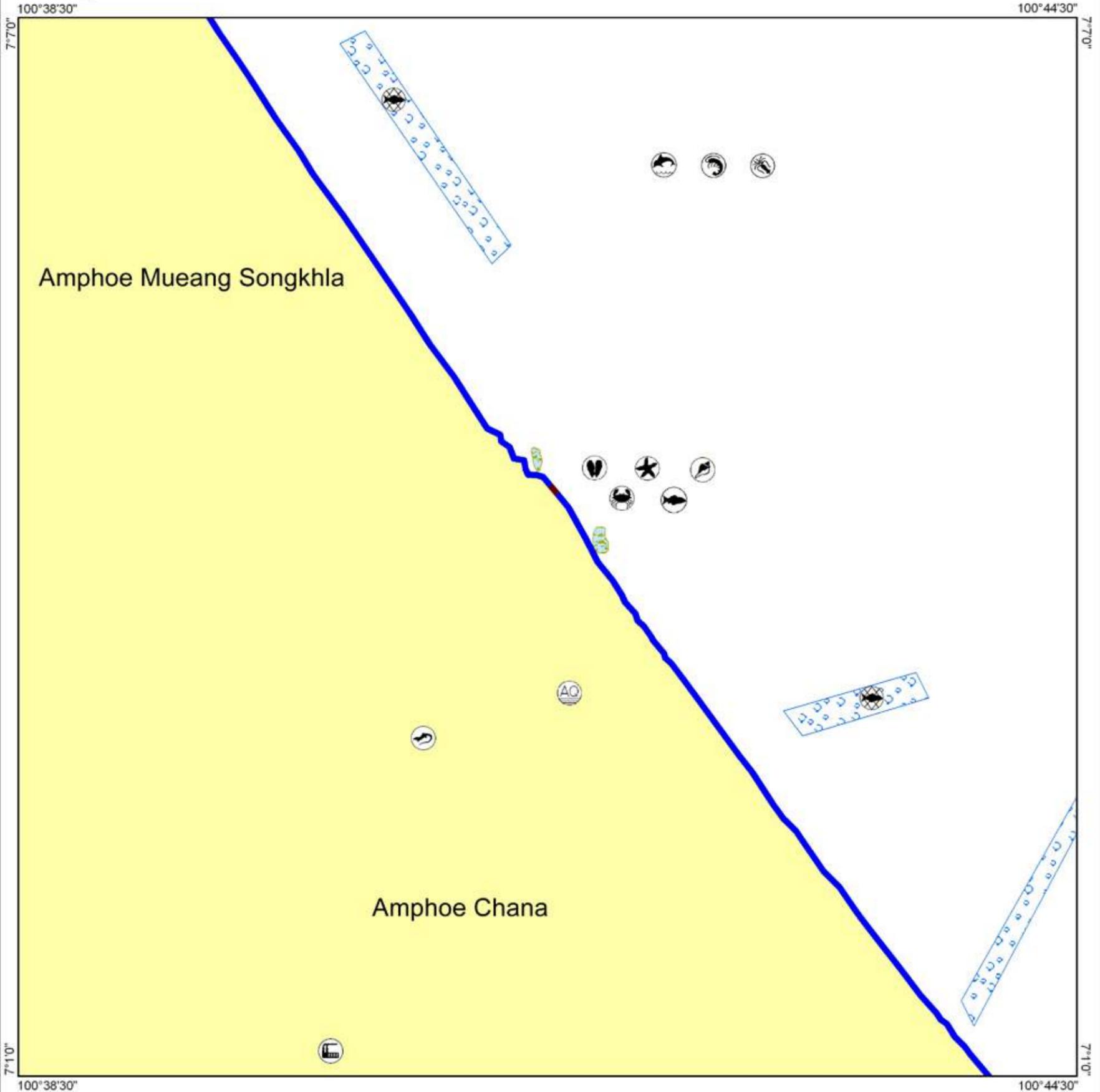
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 20



Shoreline Classification

- ESI 3
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Seagrass Beds

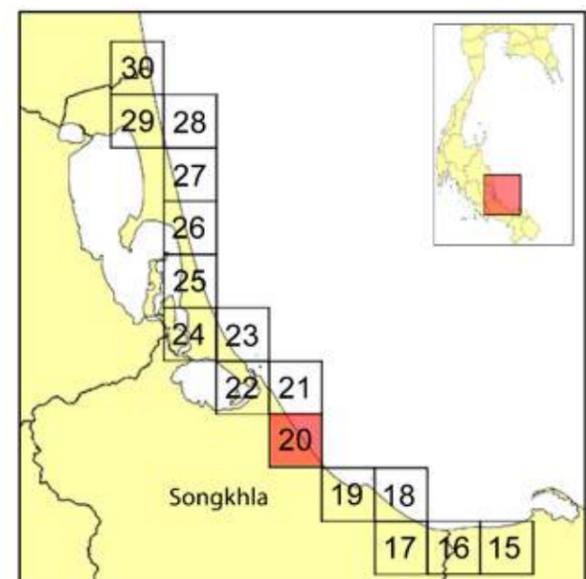
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

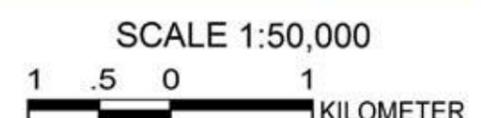
- Aquaculture
- Factory
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Chana District and Mueang Songkhla District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Small patches of seagrass beds are found near the mouth of Khlong Natab consisting mainly of *Halophila beccarii*, *Halodule uninervis* and *Halodule pinifolia*. Seagrass beds are important habitats providing food sources, shelter and nesting and breeding grounds to various marine organisms.

Many marine species can be found within the area, such as dugongs, gastropods, bivalves, fish and echinoderms. Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

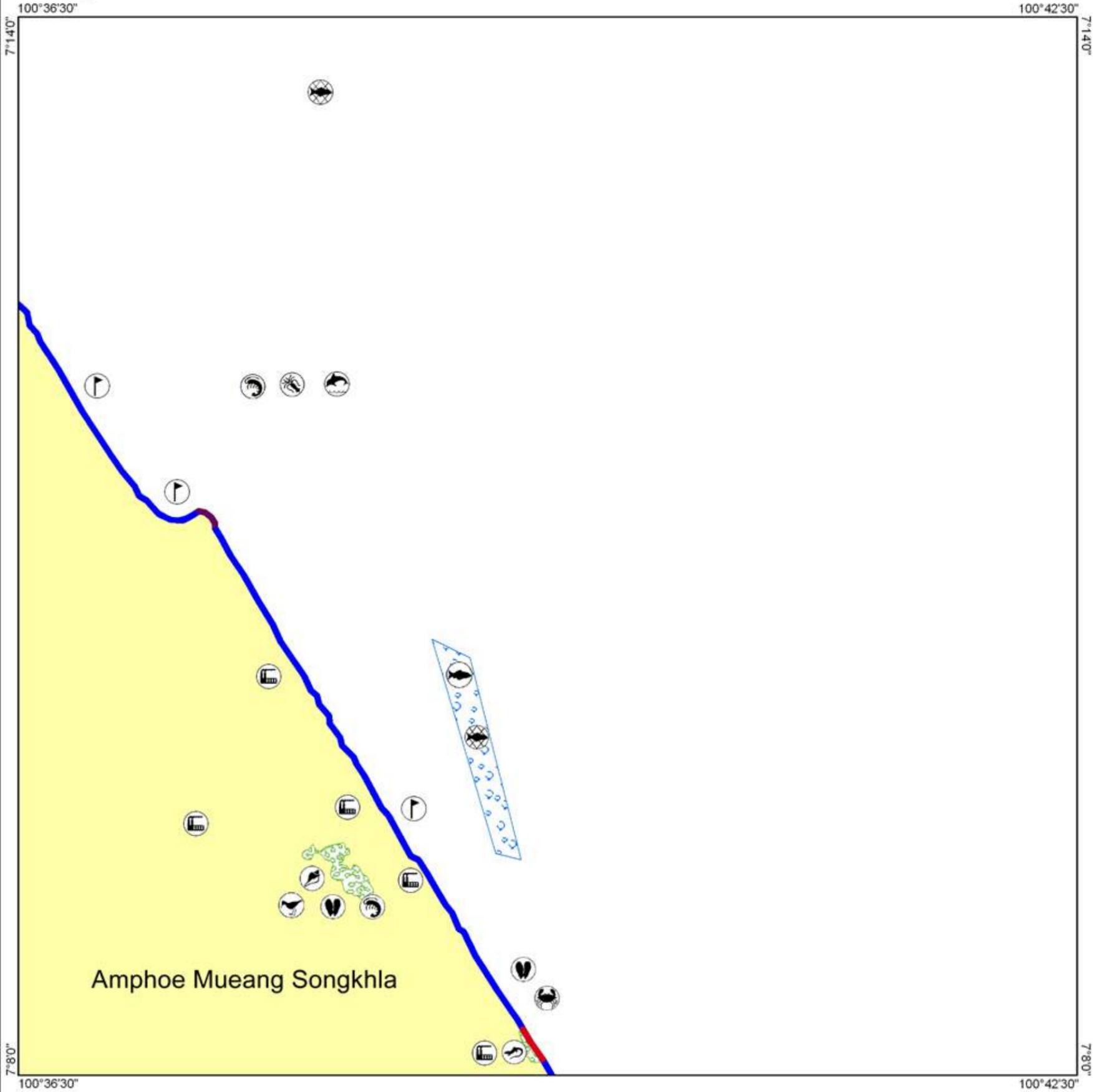
There is no oil spill response resource in the area.

Special Issue

Offshore breakwaters have been constructed to prevent further coastal erosion. These structures may reduce the natural beauty of the beach in the area.

Songkhla Province

Thailand - 21



Shoreline Classification

- ESI 1
- ESI 3
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves

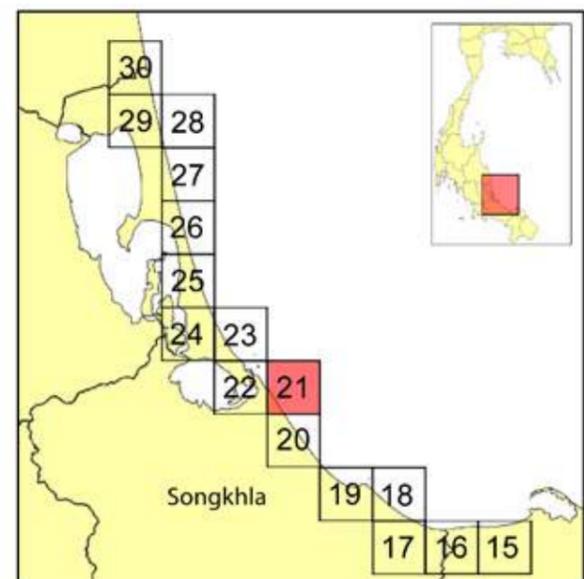
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Factory
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Mueang Songkhla District. Its neighboring districts include Chana, Na Mom, Hat Yai and Singhanakhon.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1), fine- to medium-grained sand beaches (ESI 3) and mangroves (ESI 10B).

Biological Resources

Growing population and urbanization in Mueang Songkhla District, the capital of the province, has exerted significant pressure and damage to biological resources in the area, especially mangroves. Small patches of riverine mangroves remain along the canal. These are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, shrimps, crabs, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Tourist beaches in the area include Hat Chalatat and Hat Kaoseng. Hat Chalatat is continued from Hat Samila, a white sand beach lined with pine trees. In the middle of Hat Chalatat is a public park where locals hold various activities. Hat Kaoseng in Bo Yang Subdistrict is situated next to Hat Chalatat and has a sandy beach suitable for swimming. Coastal communities in this beach reflect livelihood traditions and practices of local fishermen.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Factories in the area are situated along the coast while some are located further inland.

Oil Spill Response Resources

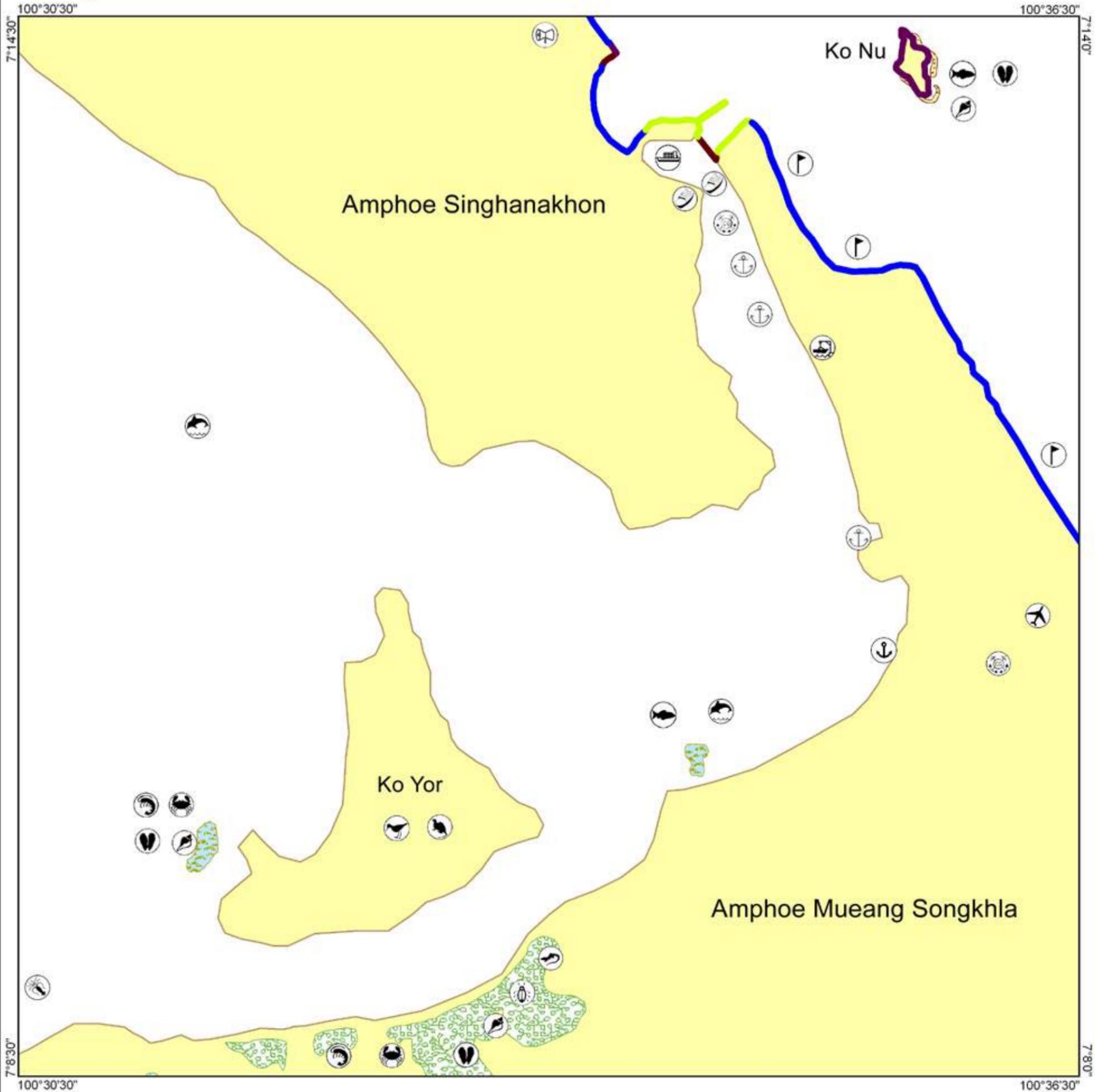
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 22



Shoreline Classification

- ESI 1
- ESI 3
- ESI 6B
- ESI 7

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Seagrass Beds

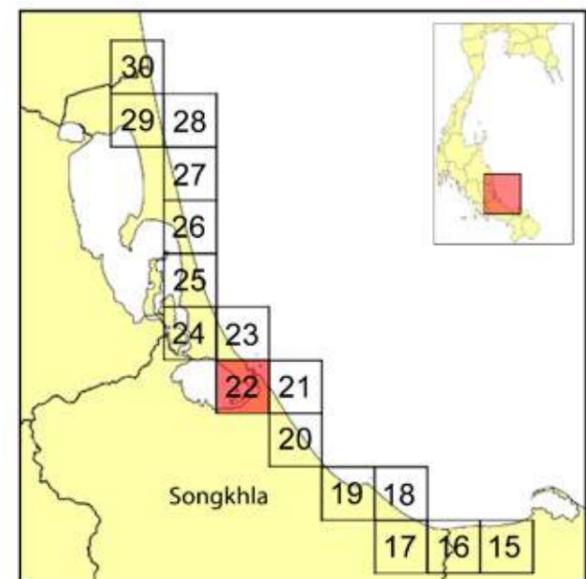
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Airport
- Beach
- Coast Guard
- Ferry
- Fishing Port
- Harbor
- Marina
- Oil Spill Response Feature
- Oil Tank

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Mueang Songkhla District and Singhanakhon District, as well as two islands: Ko Yor, located in the southern part of Songkhla Lake, has an area of 5.9 km², while Ko Nu, located 1.7 km off the coast of Songkhla, has an area of 0.15 km².

Shoreline

Along the coasts in the area are exposed rocky shores, solid man-made structures and rocky cliffs (ESI 1); fine- to medium-grained sand beaches (ESI 3); ripraps (ESI 6B); and small exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

There are mangrove forests along the coast connected to Songkhla Lake and along the canals. Small patches of seagrass beds in the lake consist of three dominant species: *Halophila beccarii*, *Halodule pinifolia* and *Halodule uninervis*. Coral reefs are situated along the coast of Ko Nu and underwater pinnacles where *Acropora*, *Porites* and *Montipora* species are dominant. Mangroves, seagrass beds and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, insects, gastropods, bivalves, echinoderms, squids, shrimps, crabs, shorebirds, terrestrial mammals and insects.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters.

Some marine mammals, such as whales and dolphins, can also be found in coastal waters.

Human Use Features

Laem Samila has a popular white sand beach lined with pine trees. The famous mermaid statue, a symbol of Songkhla Province, is located in this tourist beach.

Aside from ferry ports, fishing ports and marinas, important infrastructures in the area also include Songkhla Airport, which is managed by the Royal Thai Navy, and Tinsulanonda Bridge, which links Ko Yor to the mainland and improves accessibility and transportation in the area.

The Marine Police Division and the Royal Thai Navy hold offices in the area. Various types of factories are also in operation.

Oil Spill Response Resources

Oil spill response resources are available at the Marine Department in Songkhla Province. The equipment list is shown below:

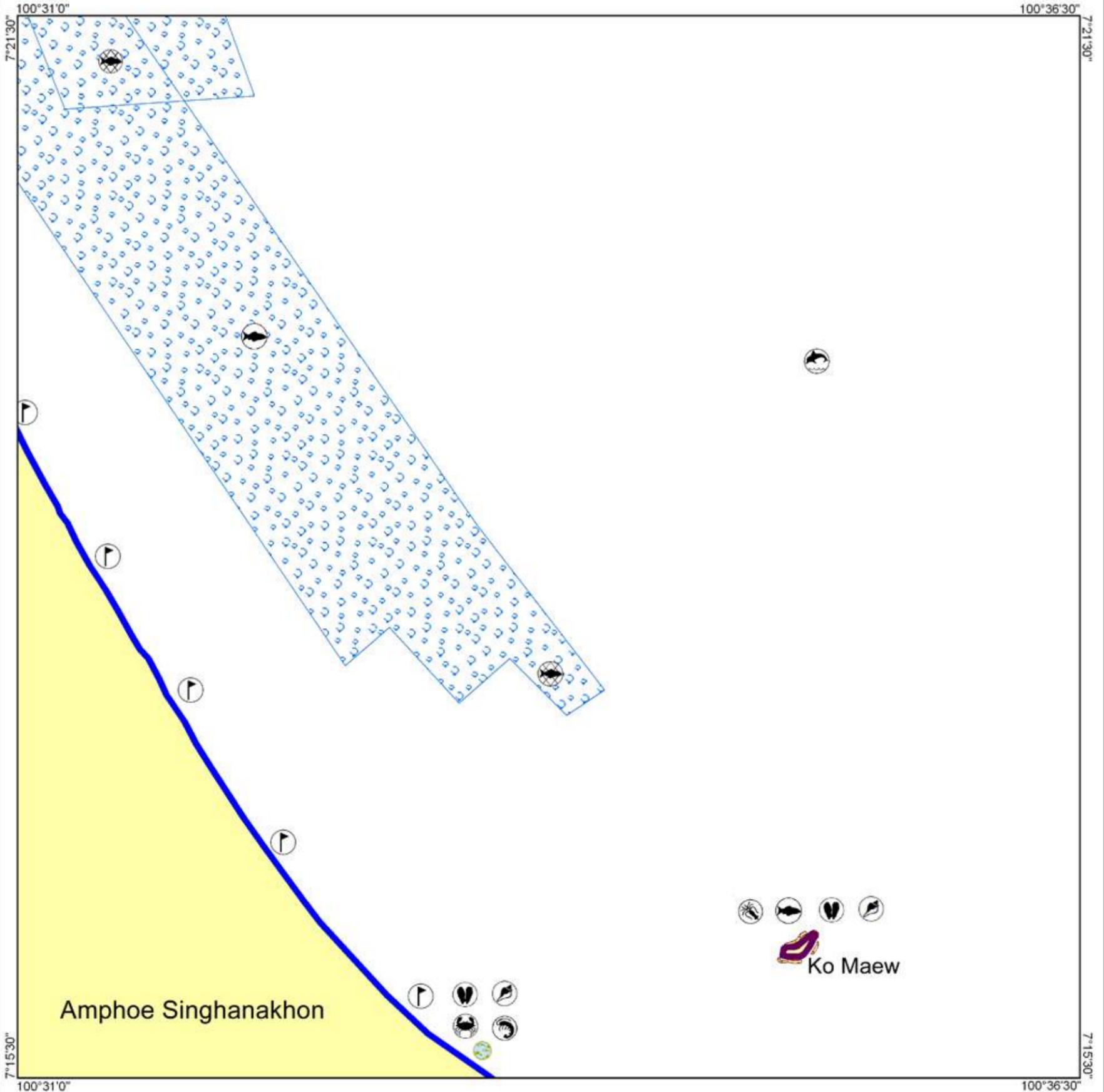
Equipment		Stock Unit
Containment boom	RO-BOOM 1300 (4 x 200 m on winders)	800 m
	TRIOL BOOM Gp 1100 (14 x 15 m on winders)	210 m
	RO-BEACH 800 (8 x 15 m)	120 m
Skimmer	DESMI-250 Skimmer	2 sets
	RO-DISC 15 Skimmer	1 set
	RO-MOP OM 260 DP Skimmer	1 set
Storage tanks	FASTANK 2000	10 sets
	EFC TANK 5 t	5 sets
	EFC TANK 10 t	5 sets
Beach cleanup and others	RO-VAC DESMI Off Loading Pump	4 sets
		1 sets
Dispersant sprayer	RO-CLEAN Dispersant Sprayer	2 sets
Dispersant	RO-CLEAN Dispersant	2,000 L

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 23



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Seagrass Beds

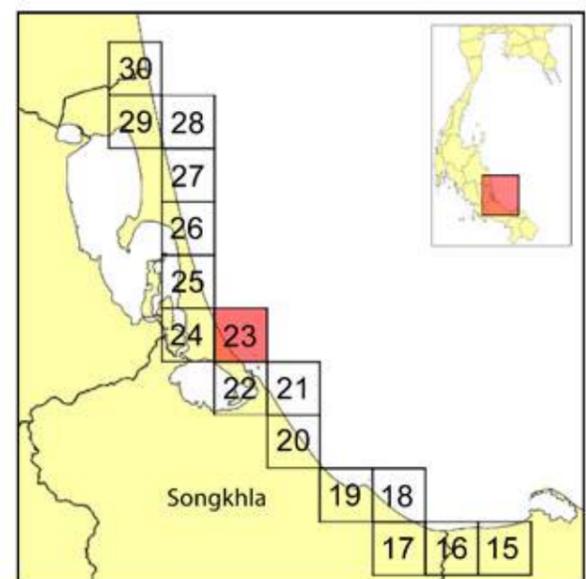
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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General Information

This area is located in Singhanakhon District. Its neighboring districts include Mueang Songkhla, Hat Yai, Khuan Niang and Sathing Phra of Songkhla Province; and Pak Phayun of Phatthalung Province. Ko Maew, a small island with an area of about 0.05 km², is located 3.8 km off the coast of Songkhla and 2.8 km from Ko Nu.

Shoreline

Along the coasts in the area are rocky shores and cliffs (ESI 1) in Ko Maew and fine- to medium-grained sand beaches (ESI 3) in the mainland.

Biological Resources

A small patch of seagrass beds consists of three dominant species: *Halophila beccarii*, *Halodule pinifolia* and *Halodule uninervis*. Coral reefs are also situated along the coast of Ko Maew where *Acropora*, *Porites* and *Montipora* species are dominant. Both seagrass beds and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, gastropods, bivalves, echinoderms, squids, shrimps and crabs.

Some marine organisms, especially benthic organisms, can be found within sandy or rocky substrates, while fish communities can be found in pelagic and coastal waters.

Some marine mammals, such as whales and dolphins, can be found in coastal waters.

Human Use Features

Tourist beaches in the area include Hat Muang Ngam and Had Sai Kaew. Had Muang Ngam in Muang Ngam Subdistrict has a 3-km long white sand beach lined with pine and coconut trees. Had Sai Kaew in Ching Ko Subdistrict has a white sand beach as well. Tourist facilities like accommodations and restaurants are available in both beaches.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

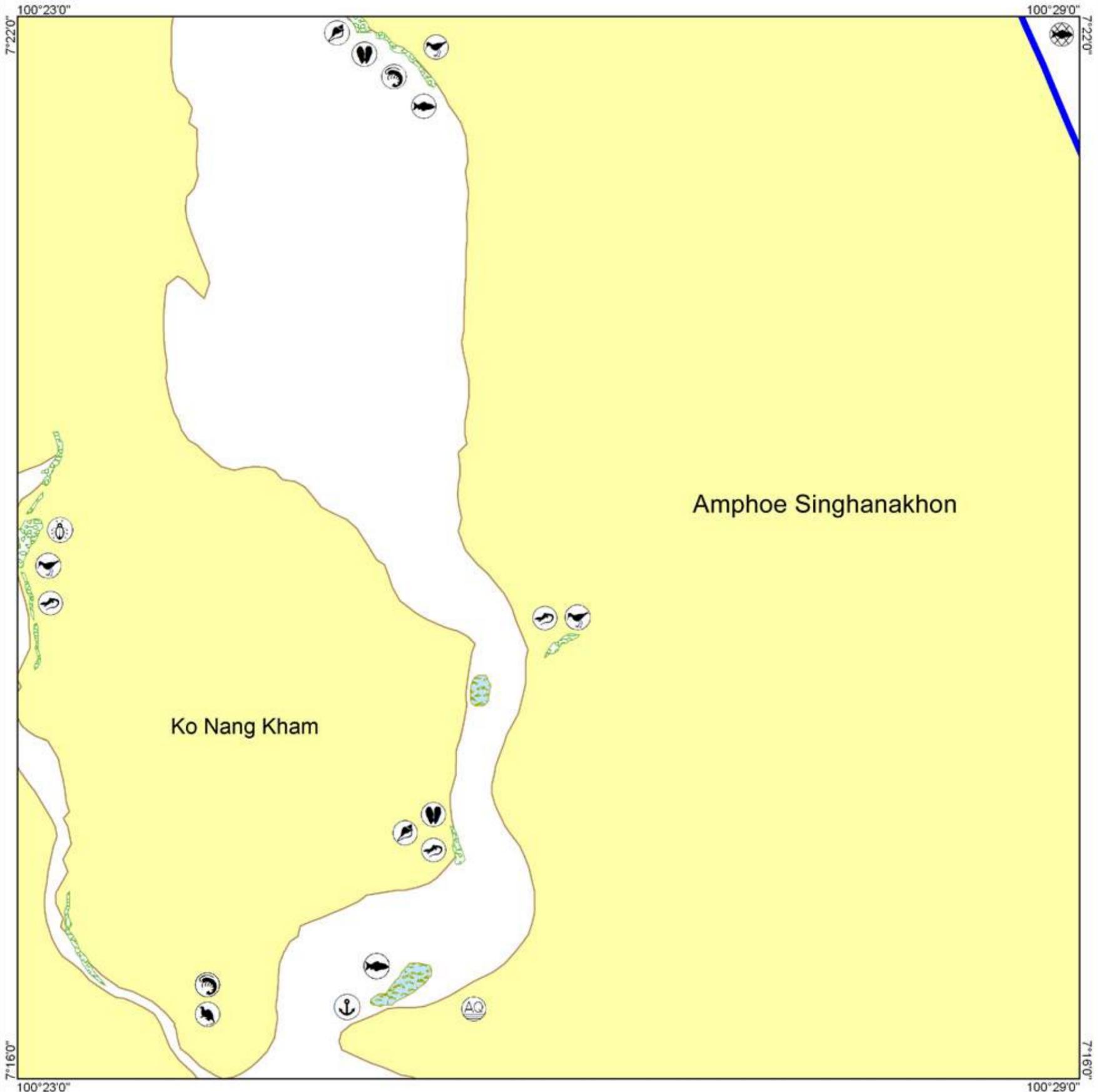
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 24



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Mangroves
- Seagrass Beds

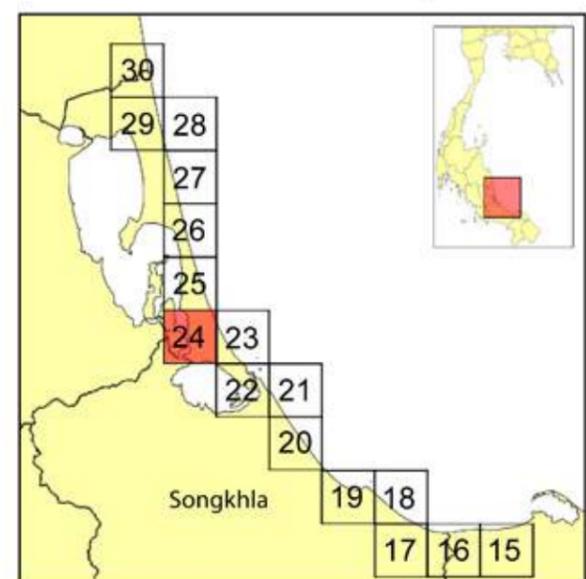
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers parts of Singhanakhon District of Songkhla Province and parts of Ko Nang Kham of Phatthalung Province located in the middle section of Songkhla Lake.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Mangrove forests can be found along the shoreline and fringes of Songkhla Lake. Seagrass beds in the lake consist of two dominant species, *Halophila beccarii* and *Halodule pinifolia*. Both mangroves and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, gastropods, bivalves, echinoderms, squids, shrimps, crabs, insects, terrestrial mammals and birds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters.

Human Use Features

The beach in the area is part of Hat Muang Ngam of Muang Ngam Subdistrict.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Aquaculture is practiced along the coast of Ko Nang Kham.

Oil Spill Response Resources

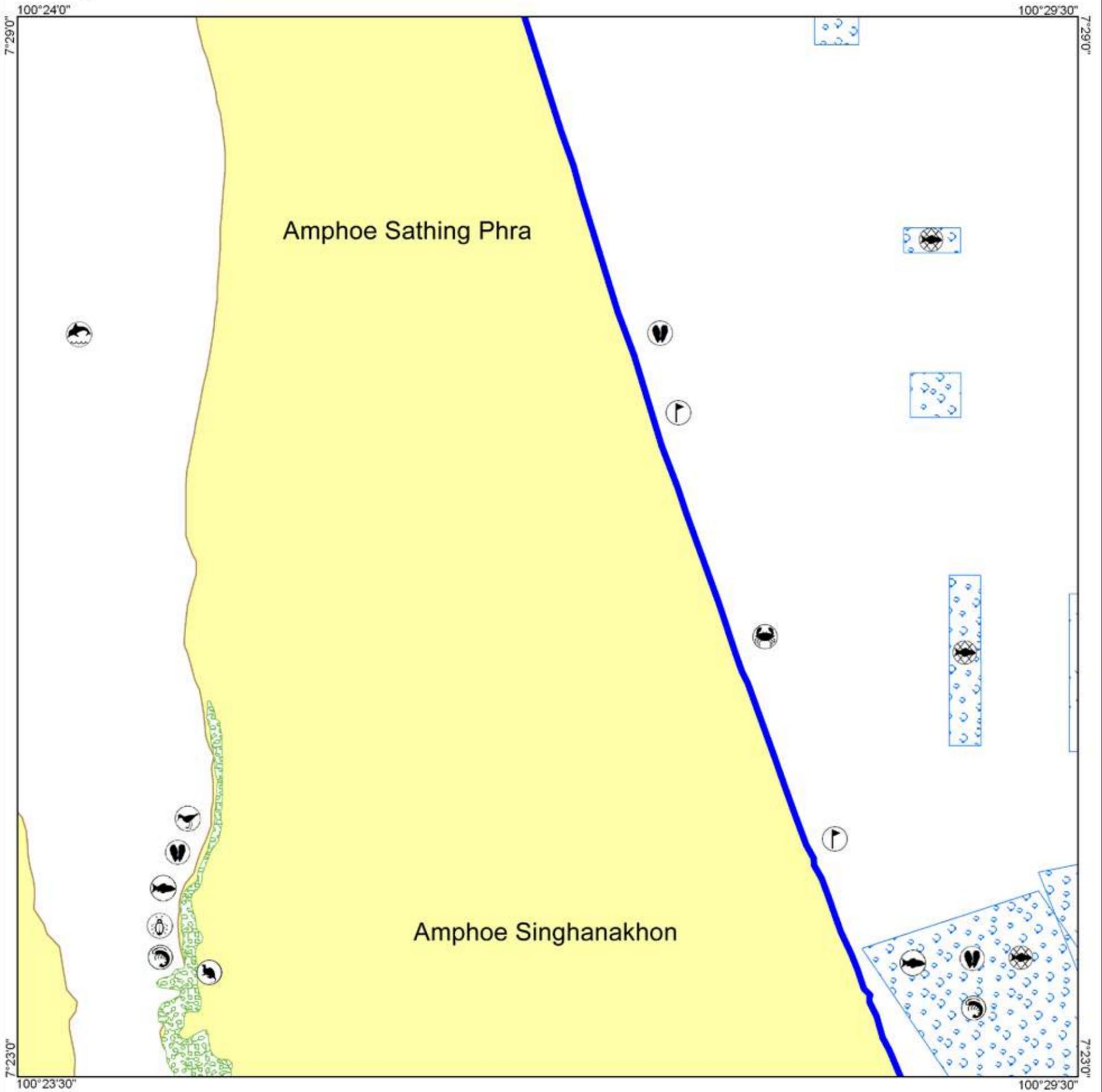
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 25



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Mangroves

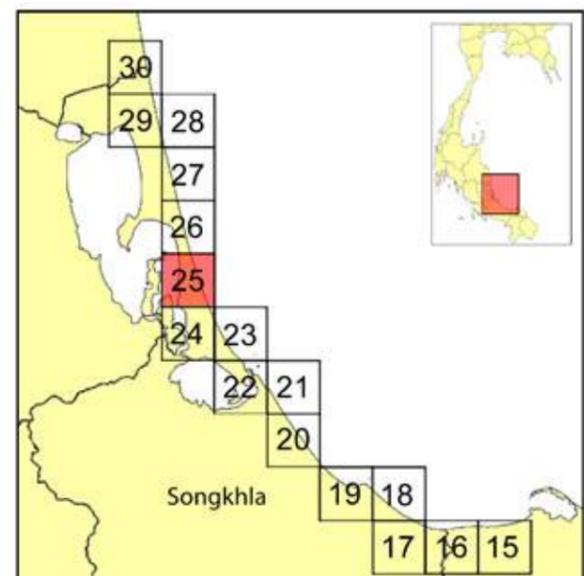
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Insect
- Marine Mammal
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the shared coastline of Singhanakhon District and Sathing Phra District, as well as the middle section of Songkhla Lake.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Mangrove forests can be found along the shoreline and fringes of Songkhla Lake. These are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, gastropods, bivalves, shrimps, crabs, insects, terrestrial mammals and birds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Dolphins can also be found in Songkhla Lake and coastal waters.

Human Use Features

Tourist beaches in the area include Hat Sathing Phra and Hat Maharat which extend from Hat Muang Ngam in Singhanakhon District. These white sand beaches are lined with pine trees and have available tourist facilities like accommodations and restaurants.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

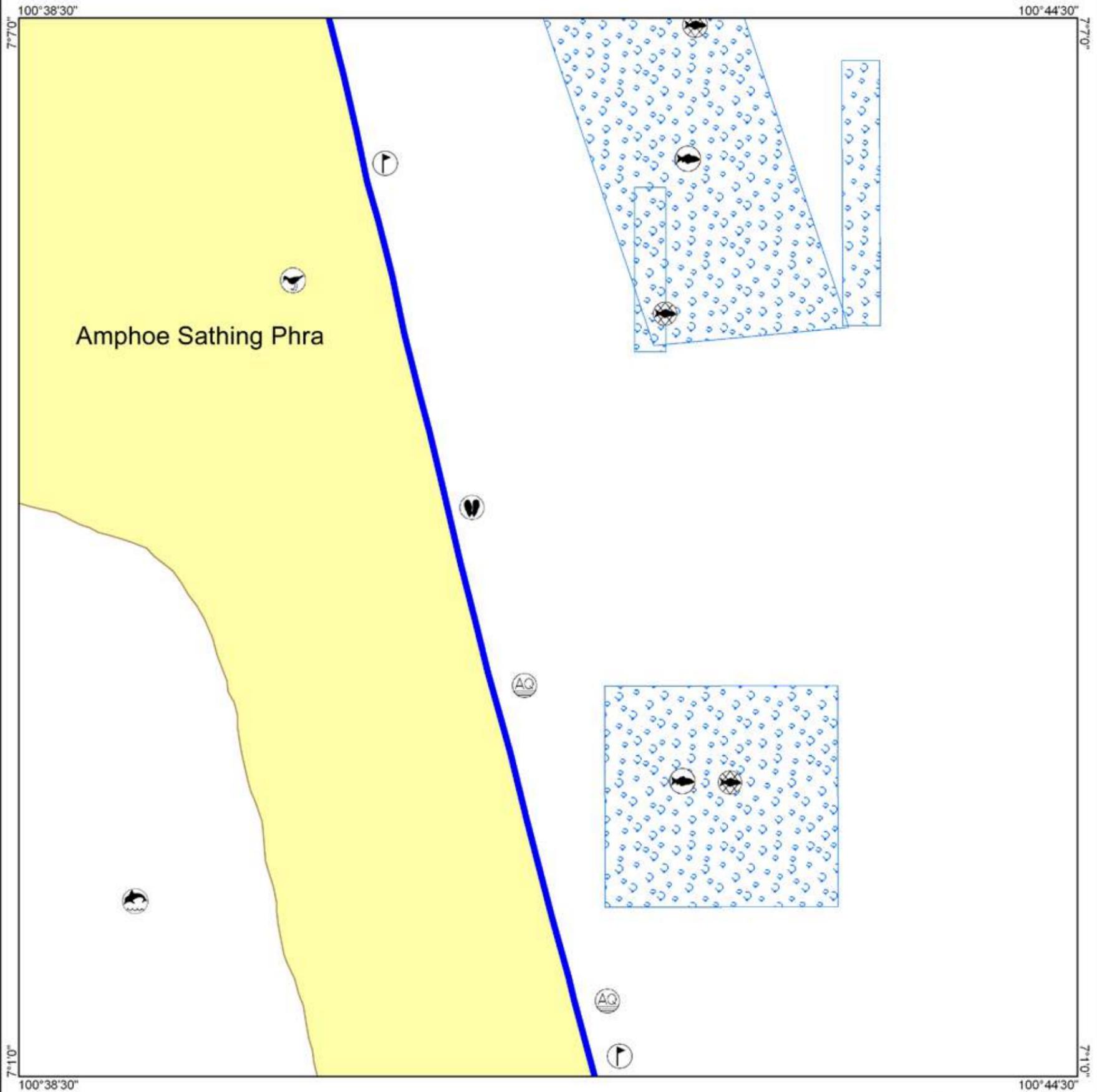
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 26



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

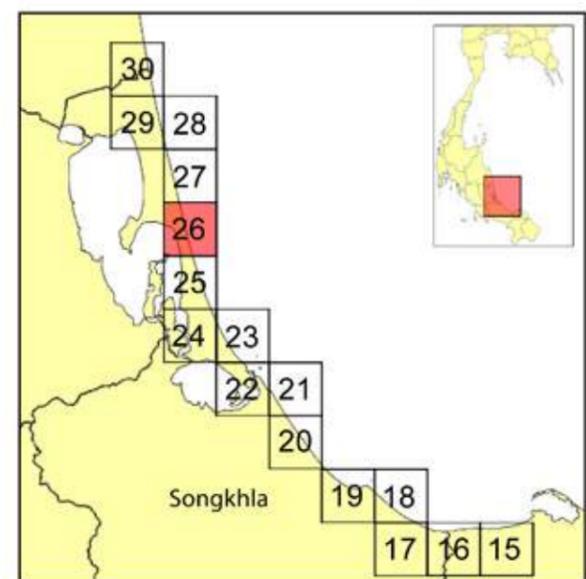
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Sathing Phra District. Its neighboring districts include Singhanakhon, Krasae Sin and Ranot of Songkhla Province; and Pak Phayun of Phatthalung Province. The western part of the district is connected to the middle section of Songkhla Lake.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Shorebirds and dolphins can be found along the coast and also in Songkhla Lake.

Human Use Features

Hat Sathing Phra has a white sand beach lined with pine trees similar to the beach in Hat Maharat.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Aquaculture is practiced further inland in Sathing Phra District.

Oil Spill Response Resources

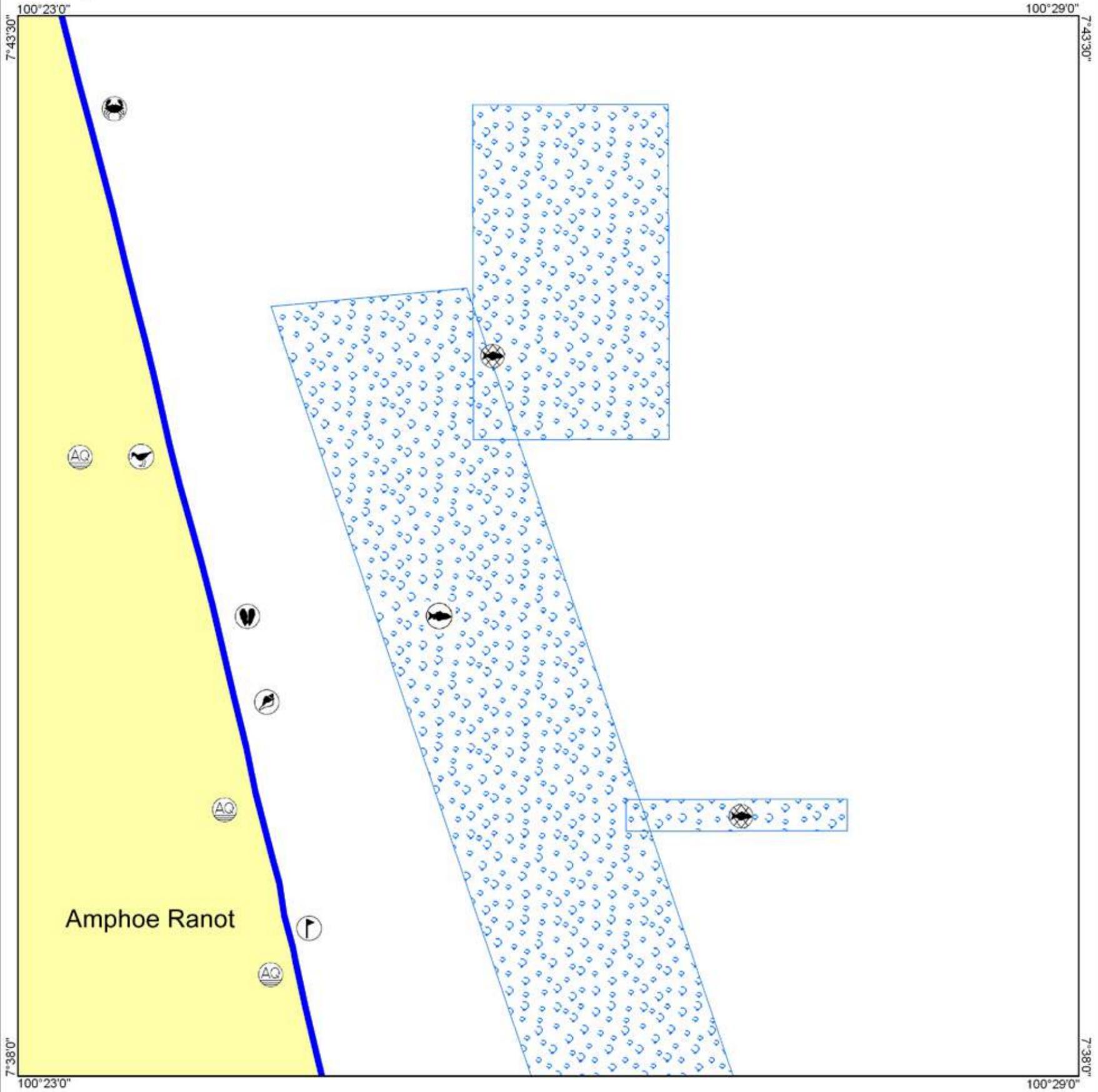
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 27



Shoreline Classification

— ESI 3

Biological/Human-Use Areas

Artificial Reef

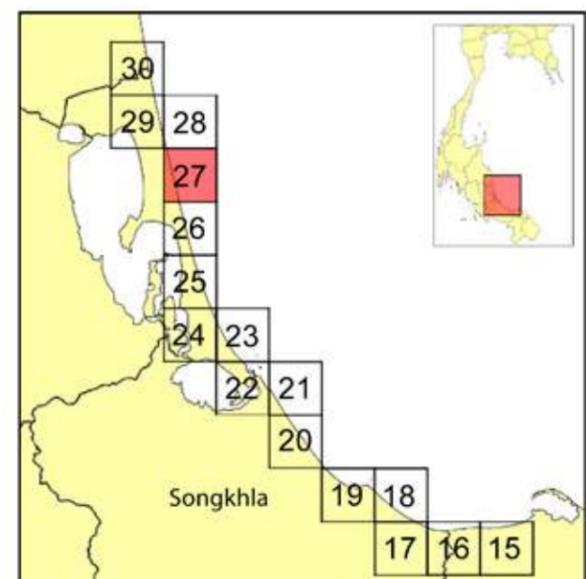
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Ranot District. Its neighboring districts include Sathing Phra and Krasae Sin of Songkhla Province; Mueang Phatthalung and Khuan Khanun of Phatthalung Province; and Cha-uat and Hua Sai of Nakhon Si Thammarat Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Shorebirds can be found along the coast and around Songkhla Lake and Thale Noi Lake, known for its high biodiversity. Thale Noi Lake was designated as a non-hunting area in 1975 and as a Ramsar wetland in 1998.

Human Use Features

Hat Pak Rawa is a tourist beach with light brown sand and is lined with pine trees. Local fishing communities are also present in the beach.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Aquaculture is practiced further inland in Ranot District.

Oil Spill Response Resources

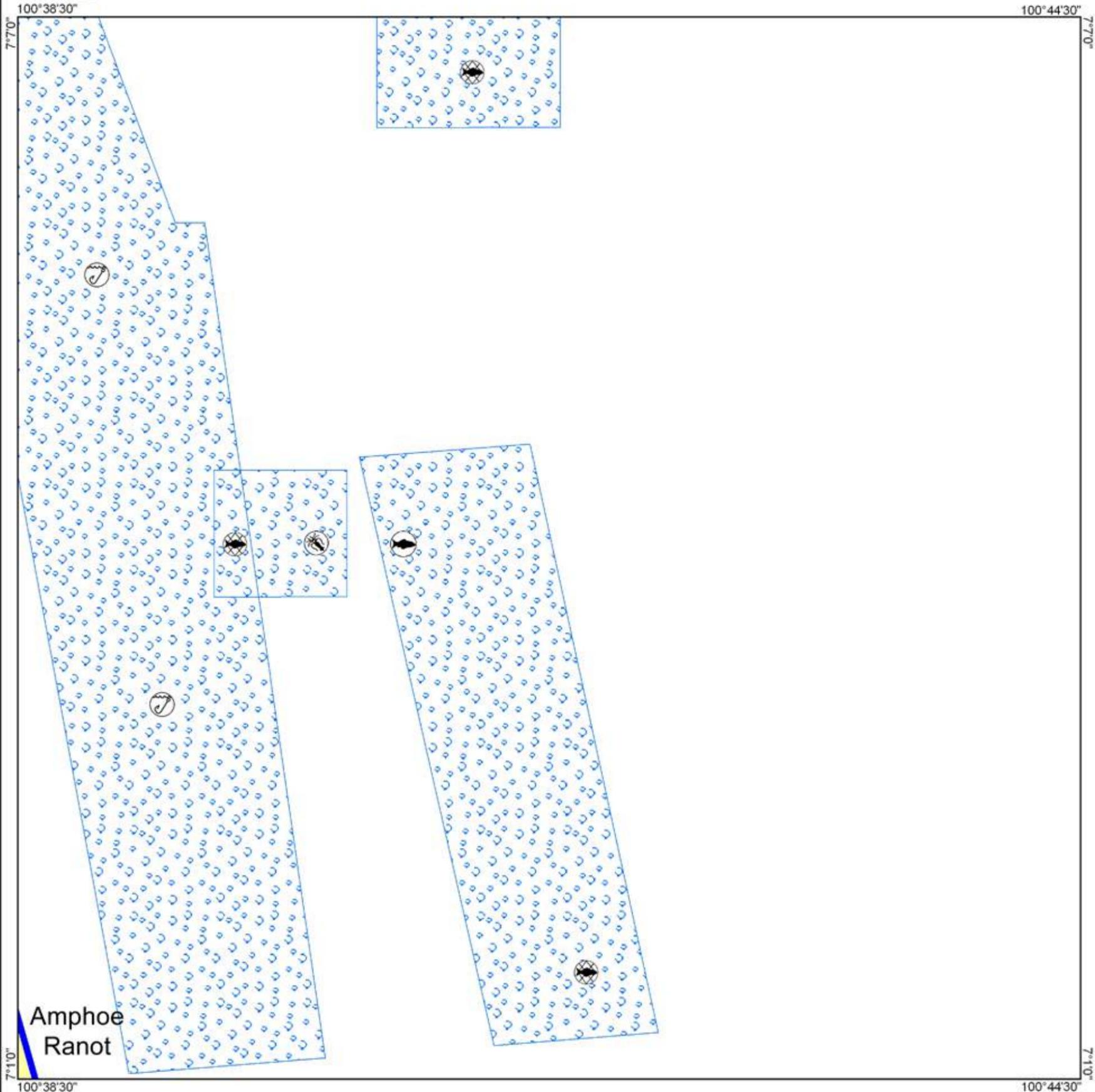
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 28



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

Biological Resources

Fish/Nursery Area

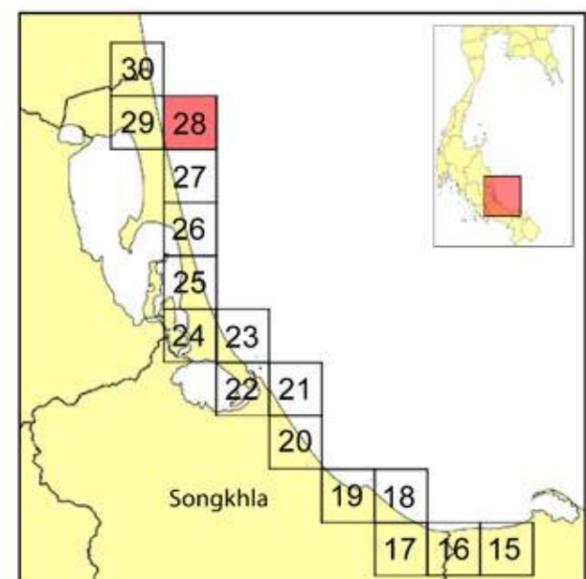
Squid/Octopus

Human-Use/ Oil Spill Response Resources

Recreational Fishing

Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located off the coast of Ranot District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Locals are also able to generate more income from recreational fishing activities for tourists in these artificial reefs.

Oil Spill Response Resources

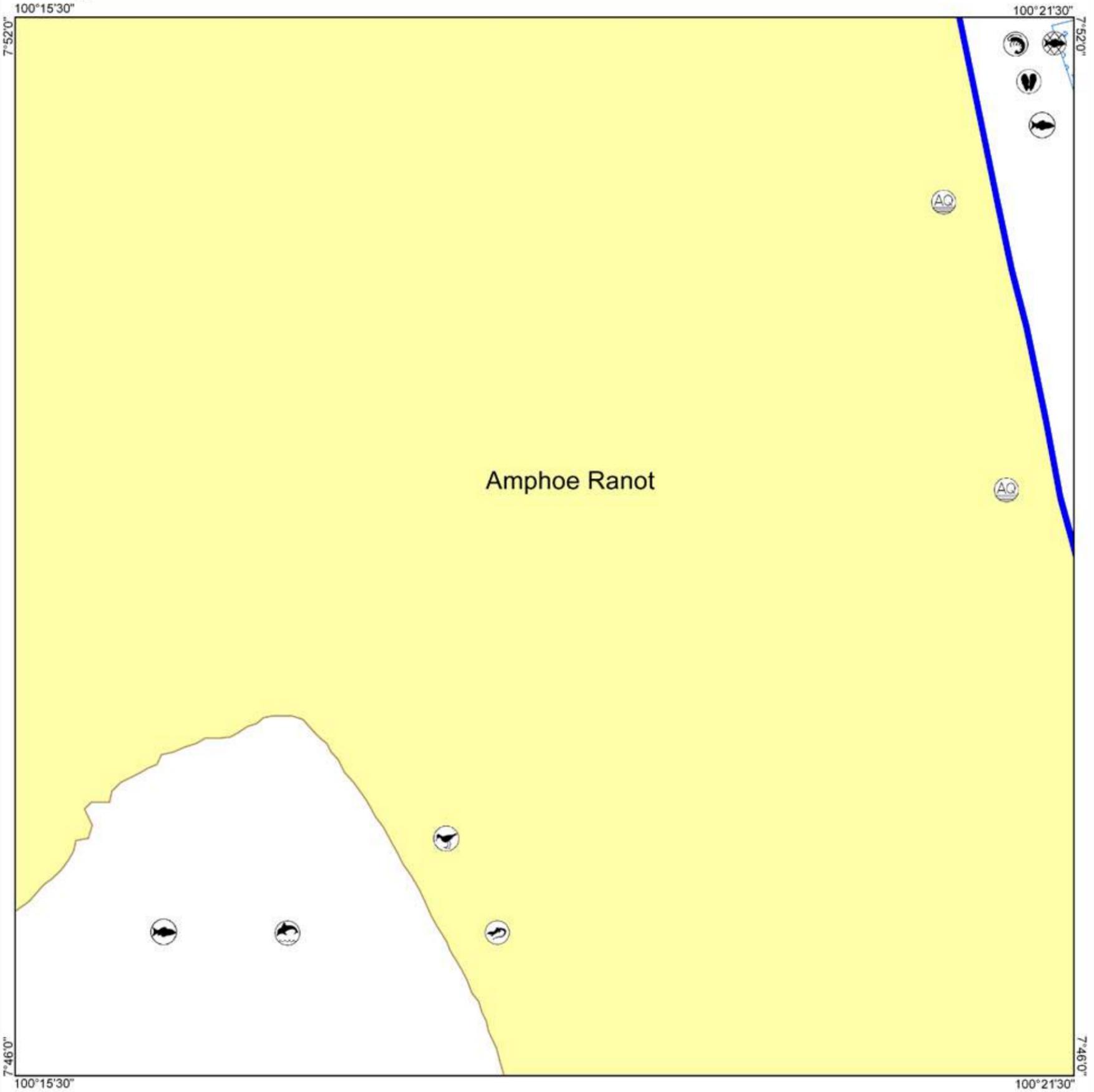
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla Province

Thailand - 29



Shoreline Classification

— ESI 3

Biological/Human-Use Areas

Artificial Reef

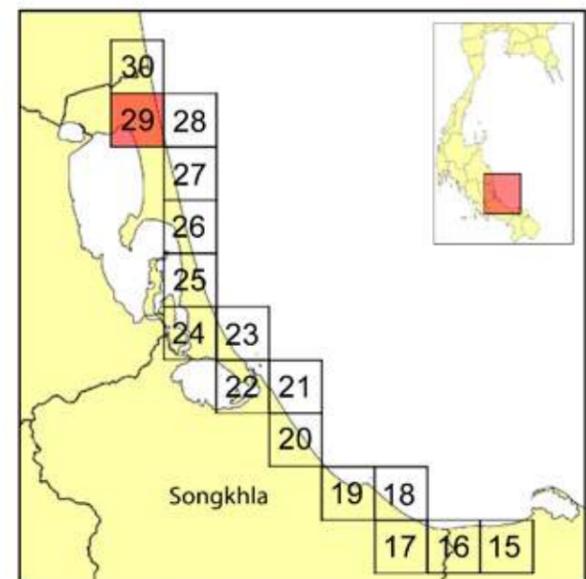
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Marine Mammal
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Ranot District. Its neighboring districts include Sathing Phra and Krasae Sin of Songkhla Province; Mueang Phatthalung and Khuan Khanun of Phatthalung Province; and Cha-uat and Hua Sai of Nakhon Si Thammarat Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Shorebirds can be found along the coast and around Songkhla Lake and Thale Noi Lake, known for its high biodiversity. Thale Noi Lake was designated as a non-hunting area in 1975 and as a Ramsar wetland in 1998.

Human Use Features

The beach in the area, with light brown sand and lined with pine trees, forms part of Hat Pak Rawa.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Aquaculture is practiced further inland in Ranot District.

Oil Spill Response Resources

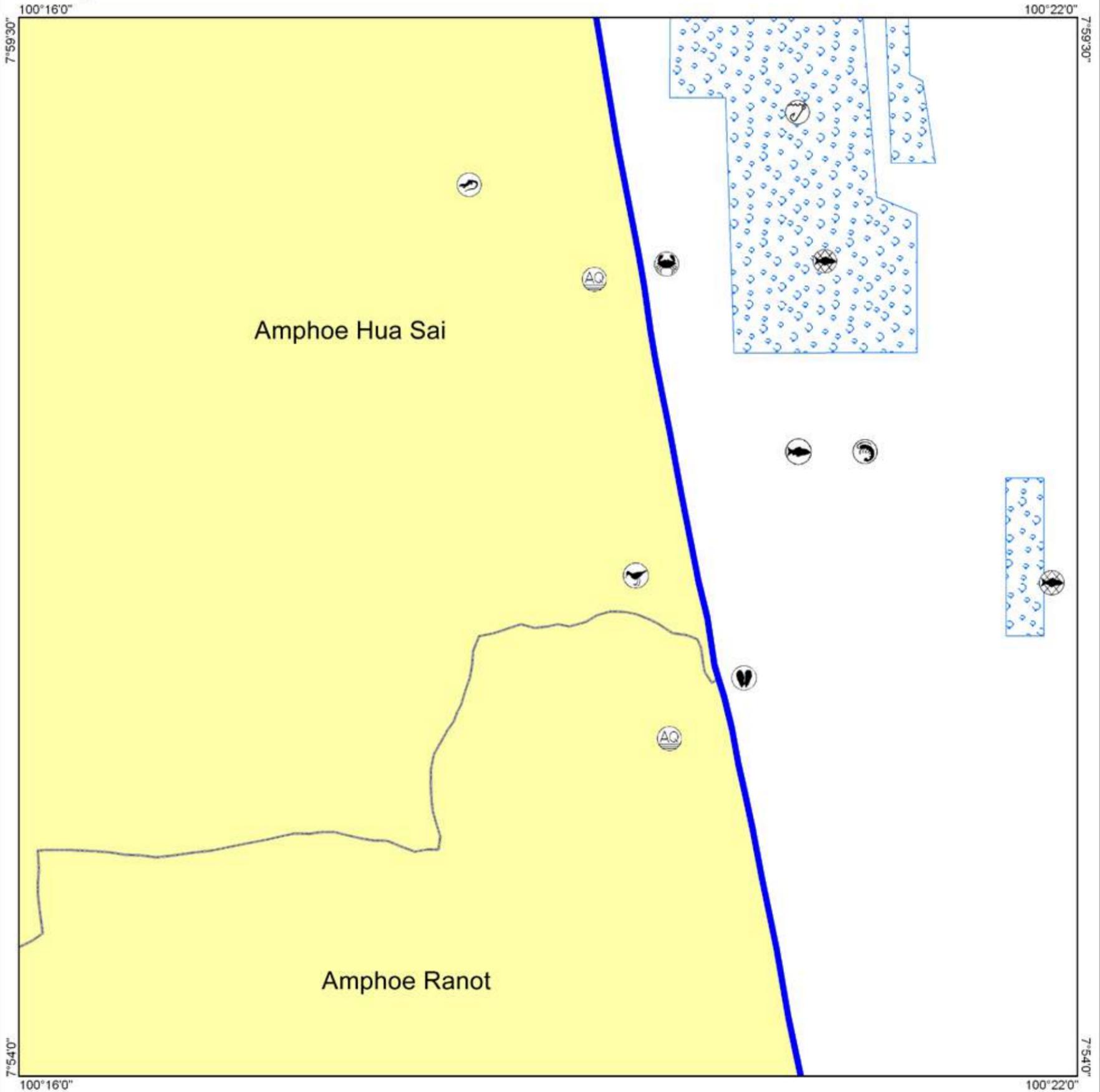
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Songkhla - Nakhon Si Thammarat Province

Thailand - 30



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

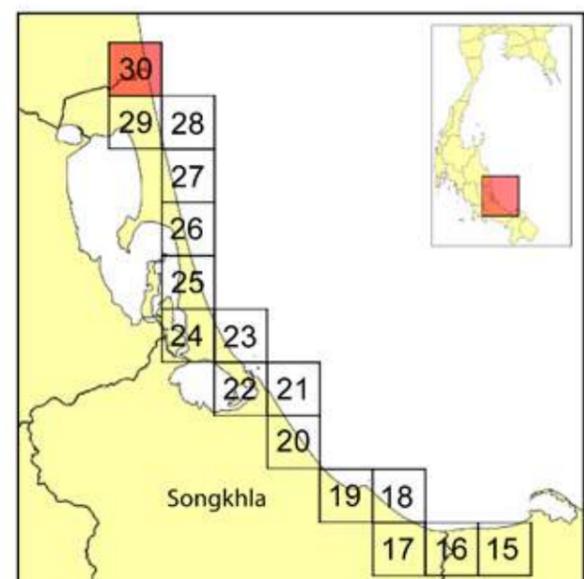
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Recreational Fishing
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the shared coastline of Ranot District of Songkhla Province and Hua Sai District of Nakhon Si Thammarat Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Shorebirds, amphibians and reptiles can also be found in shrubs and in aquaculture areas.

Human Use Features

Hat Chan Chang or Hat Na Saton, located at Na Saton Subdistrict of Hua Sai District, has a sandy beach lined with pine trees. Local fishing communities are also present in the beach.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Locals are also able to generate more income from recreational fishing activities for tourists in these artificial reefs.

Aquaculture in the area is practiced further inland.

Oil Spill Response Resources

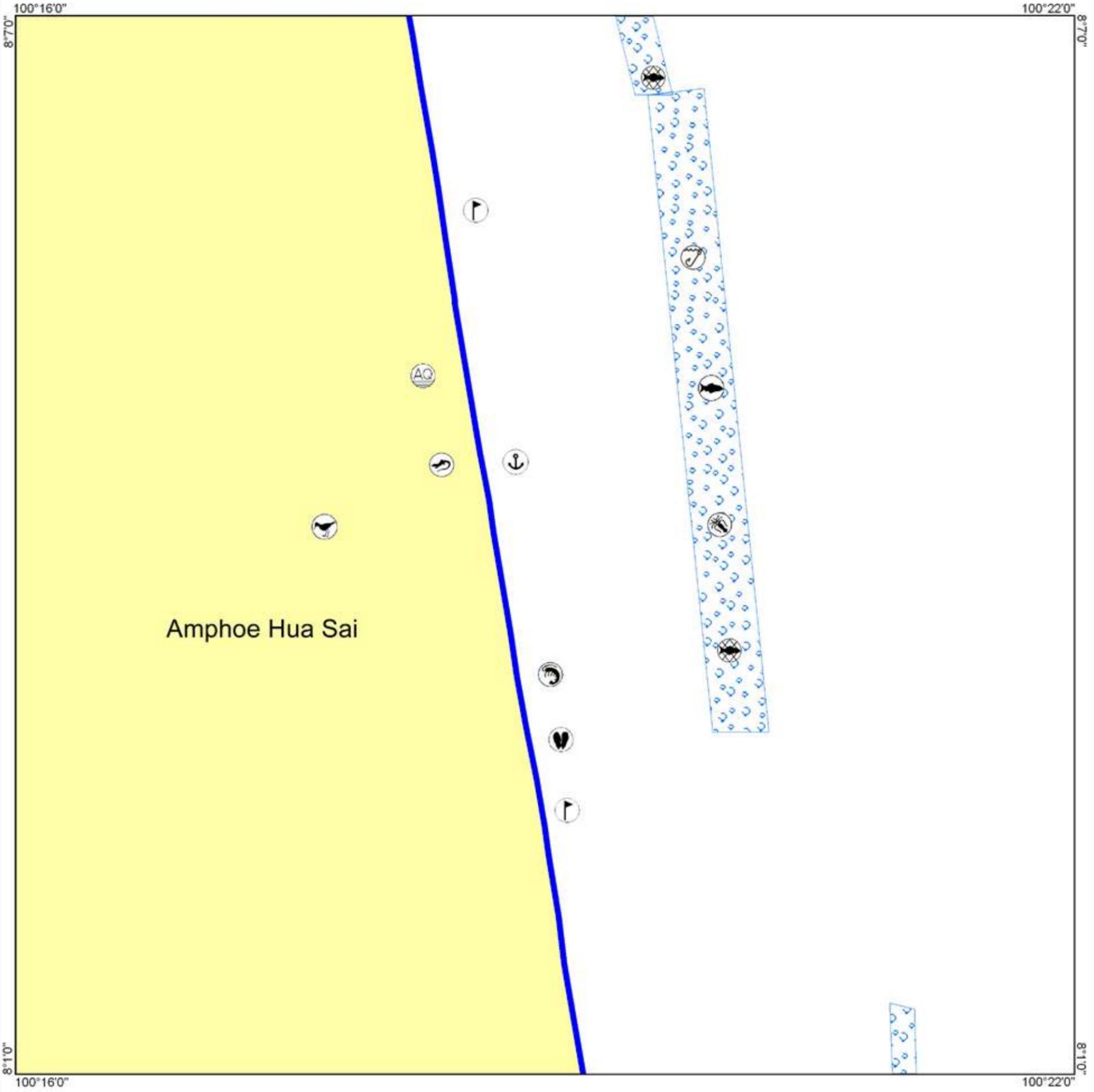
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 31



Shoreline Classification

— ESI 3

Biological/Human-Use Areas

Artificial Reef

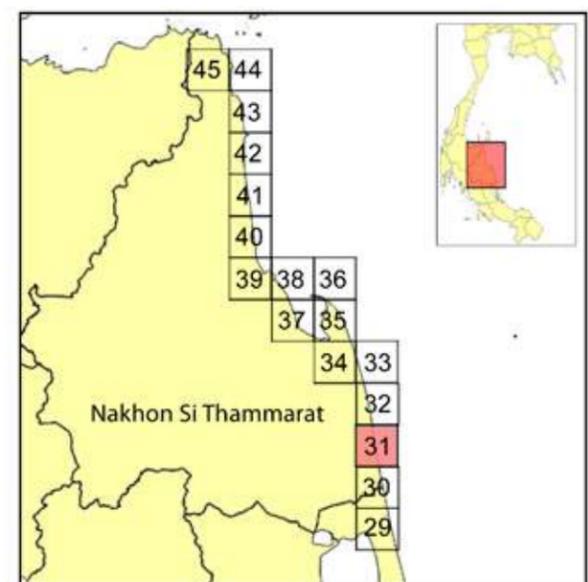
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Fishing Port
- Recreational Fishing
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area is located in Hua Sai District. Its neighboring districts include Ranot of Songkhla Province; Khuan Khanun and Pa Phayom of Phattalung Province; and Cha-uat, Chian Yai and Pak Phanang of Nakhon Si Thammarat Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as structures built for coastal protection.

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Reptiles, amphibians and shorebirds can be found in shrubs in aquaculture areas.

Human Use Features

The beach in this area is part of Hat Chan Chang or Hat Na Saton from the previous map.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Locals are also able to generate more income from recreational fishing activities for tourists in these artificial reefs.

Coastal aquaculture is practiced in the area.

A fishing port is situated at Ban Na San in Na Saton Subdistrict.

Oil Spill Response Resources

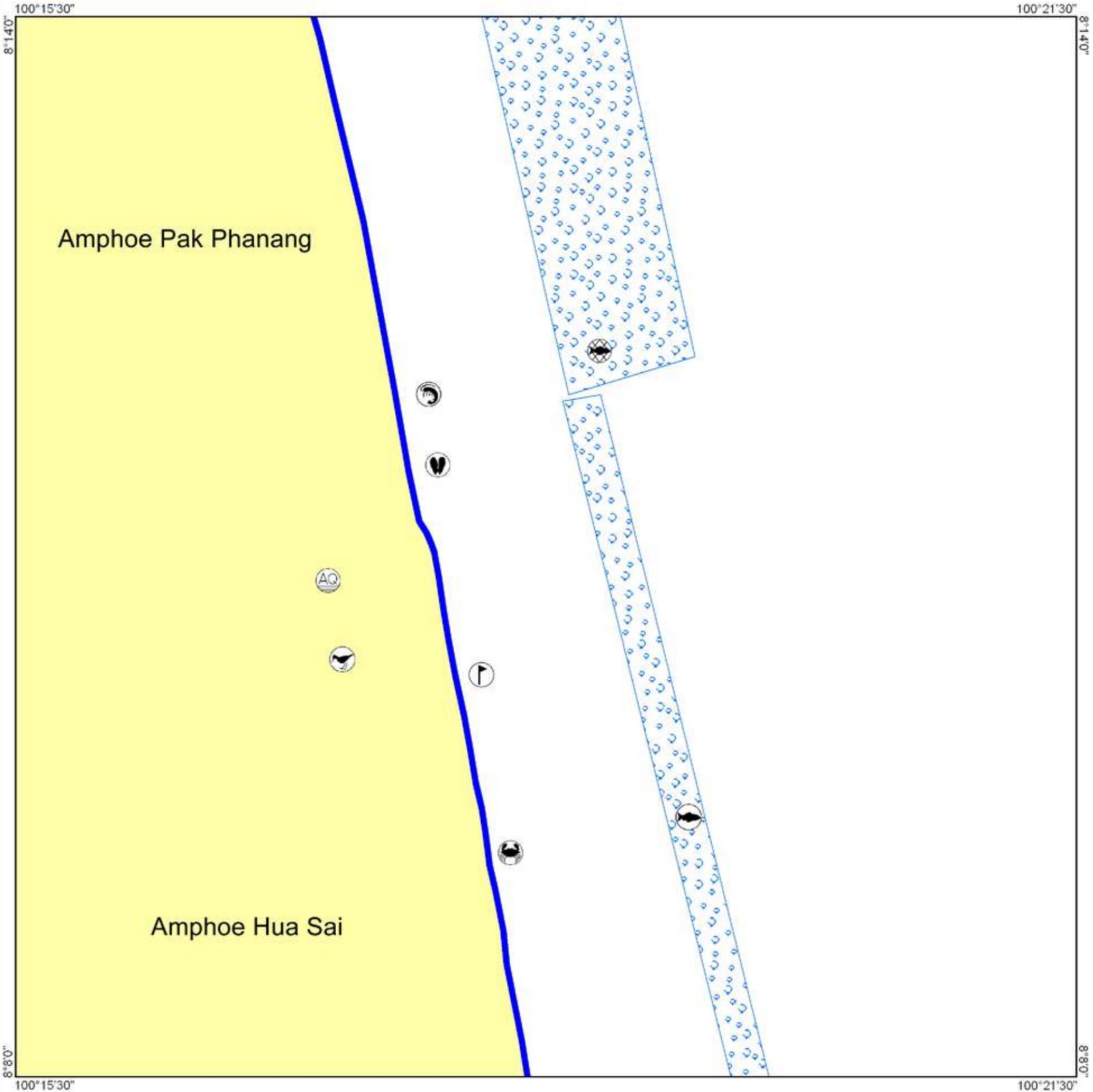
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 32



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

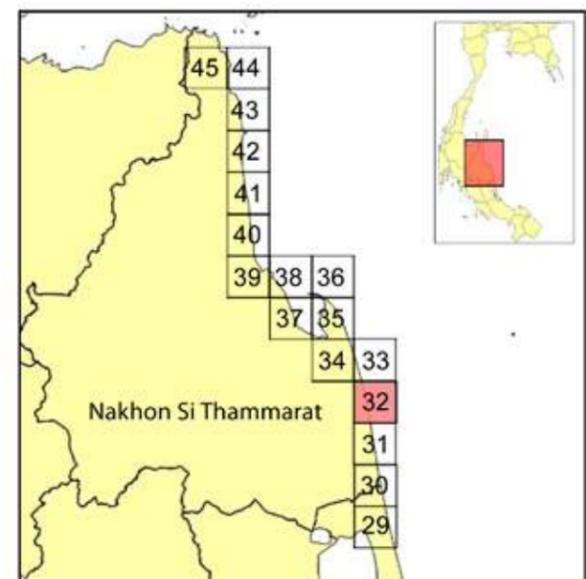
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Pak Phanang District and Hua Sai District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), as well as structures built for coastal protection.

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Shorebirds can be found in shrubs in aquaculture areas.

Human Use Features

Hat Ban Ko Fai in Khanap Nak Subdistrict is a 3-km-long tourist beach with a road running parallel with the coast.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Coastal aquaculture is practiced in the area.

Oil Spill Response Resources

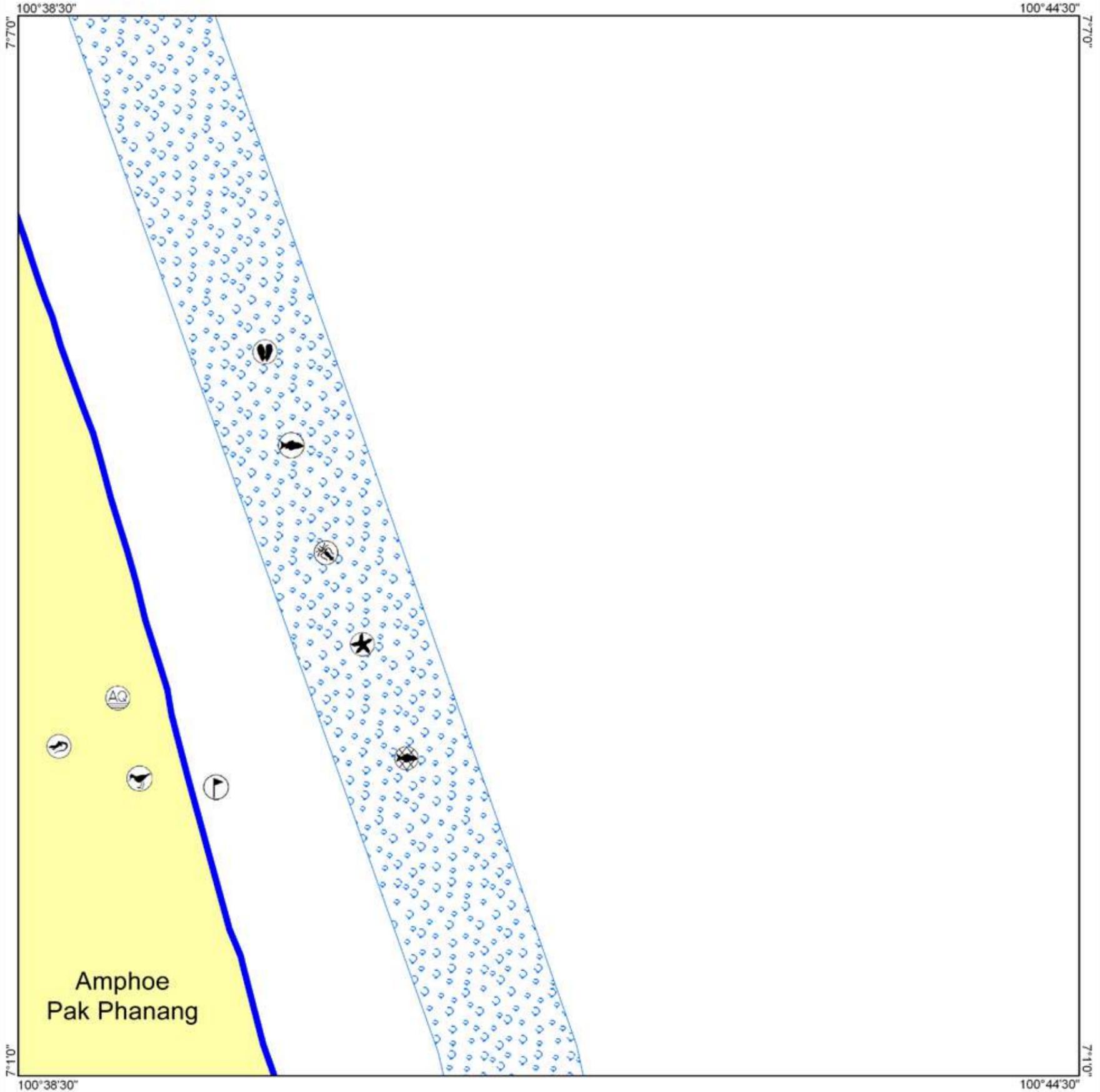
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 33



Shoreline Classification

— ESI 3

Biological/Human-Use Areas

Artificial Reef

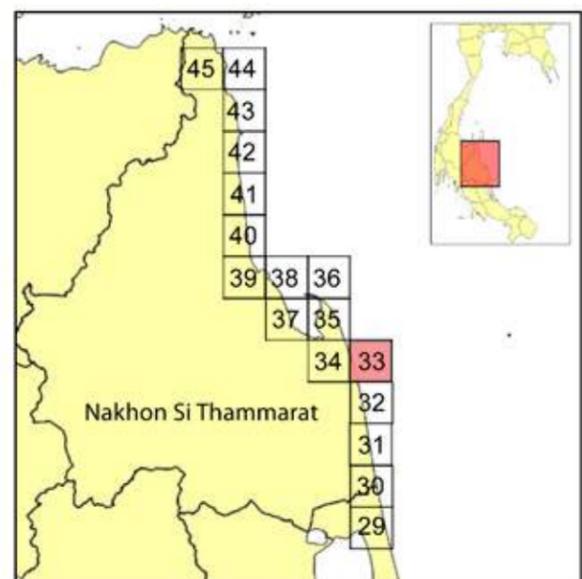
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Echinoderm
- Reptile and Amphibian
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Pak Phanang District. Its neighboring districts include Hua Sai, Chian Yai, Chaloem Phra Kiat and Mueang Nakhon Si Thammarat.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Reptiles, amphibians and shorebirds can be found in shrubs in aquaculture areas.

Human Use Features

Hat Ban Na Kot in Khanap Nak Subdistrict is a 4-km-long tourist beach with a road running parallel with the coast.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Coastal aquaculture is practiced in the area.

Oil Spill Response Resources

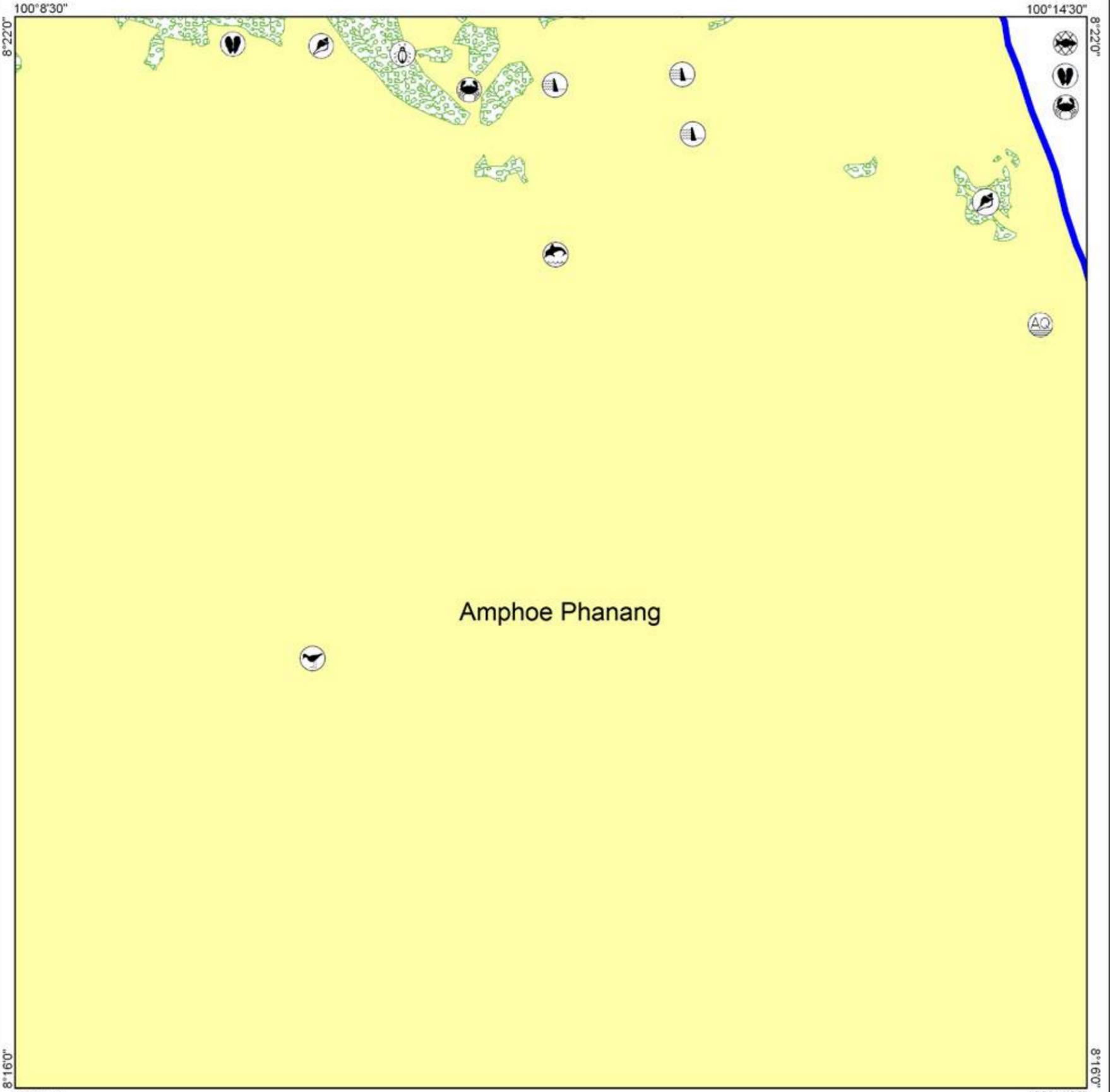
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 34



Shoreline Classification

ESI 3

Biological/Human-Use Areas

Artificial Reef

Mangroves

Biological Resources

Bird

Bivalve

Crab

Gastropod

Insect

Marine Mammal

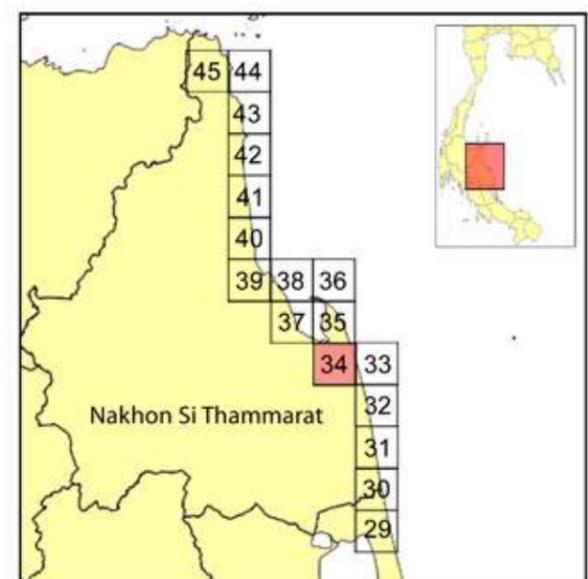
Human Use/ Oil Spill Response Resources

Aquaculture

Lock and Dam

Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the river basin in Pak Phanang District. Its neighboring districts include Hua Sai, Chian Yai, Chaloem Phra Kiat and Mueang Nakhon Si Thammarat.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Mangrove forests near Pak Phanang Bay are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as crabs, insects, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters.

Dolphins can also be found along Pak Phanang River up until the dam area.

Human Use Features

The beach in the area is part of Hat Siam in Pak Phanang Fang Tawan Ok Subdistrict. Hat Siam has a white sand beach with many fishing communities situated along the coast. Tourist facilities like accommodations and restaurants are available in the area.

Aquaculture is commonly practiced, with large areas of mangroves cut down to accommodate shrimp farming.

Oil Spill Response Resources

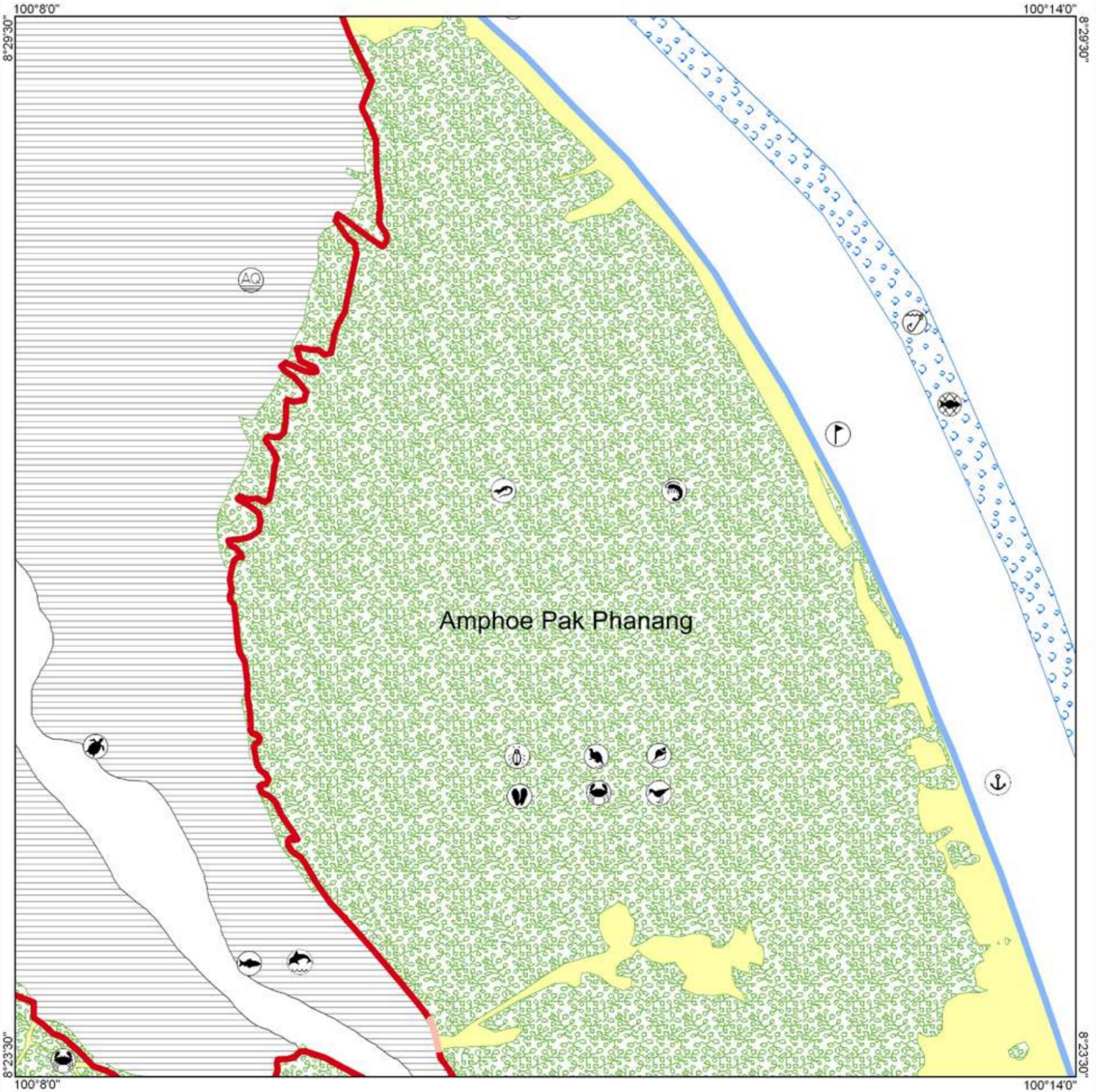
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 35



Shoreline Classification

- ESI 4
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

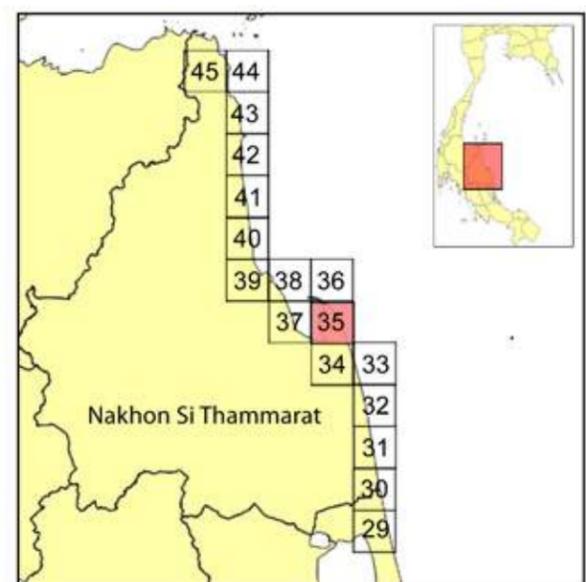
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

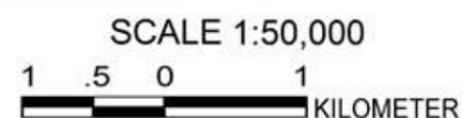
- Aquaculture
- Beach
- Fishing Port
- Recreational Fishing
- Subsistence Fishing

Location of Map



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General Information

This area covers Pak Phanang Bay, a semi-enclosed bay with muddy substrates; Pak Phanang river basin; and an elongated peninsula, locally known as Talumphuk, formed by sand deposition driven by a northward water current and the influence of estuarine processes.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), sheltered tidal flats (ESI 9A) and mangroves (ESI 10B).

Biological Resources

A large mangrove forest along the bay has an estimated area of 117.6 km². Mangroves are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters.

Dolphins can be found along Pak Phanang River up until Uthokvibhajaprasid Dam in Hu Long Subdistrict. The dam was built in 1995 to maintain the amount of freshwater for agricultural purposes and human consumption, as well as to prevent saltwater intrusion.

Sea turtles and marine mammals can also be found in Pak Phanang Bay.

Human Use Features

Hat Siam in Pak Phanang Fang Tawan Ok Subdistrict has a white sand beach with many fishing communities situated along the coast. Tourist facilities like accommodations and restaurants are available in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Locals are also able to generate more income from recreational fishing activities for tourists in these artificial reefs.

Aquaculture is commonly practiced in the river basin. Large areas of mangroves were cut down to accommodate shrimp farming, provide commercial timber and serve other purposes.

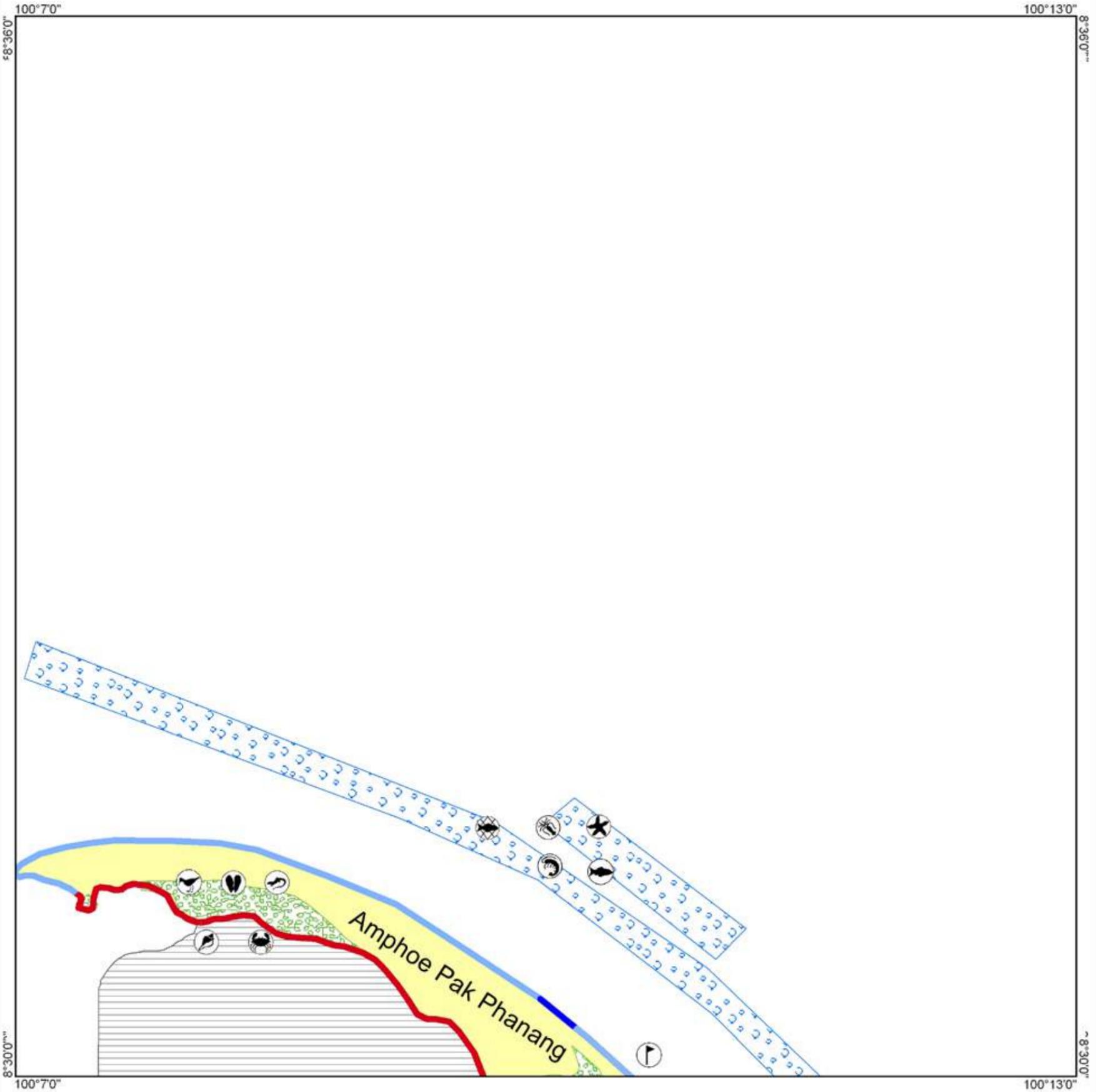
A fishing port is also located in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.



Shoreline Classification

- ESI 3
- ESI 4
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

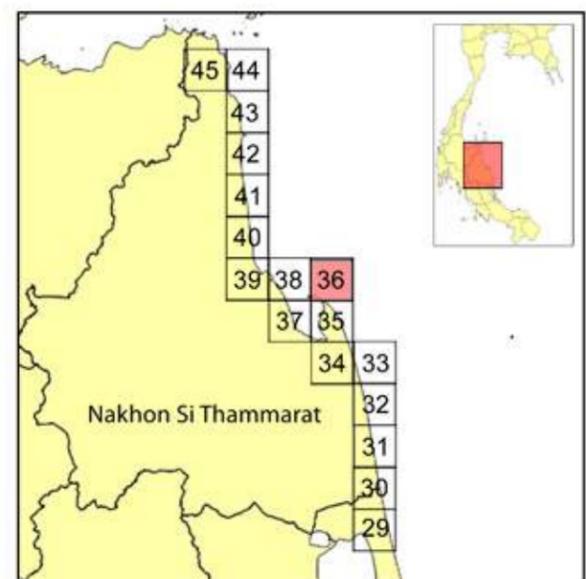
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human Use/

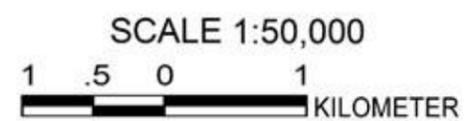
- Oil Spill Response Resources**
- Beach
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the marine waters off the northern coast of the elongated peninsula locally known as Talumphuk.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and mangroves (ESI 10B).

Biological Resources

Mangroves in the area form part of the mangrove forest in Pak Phanang Bay. Some of the mangroves were cut down to accommodate shrimp ponds and residential areas. Small shrubs of mangroves can be still found on muddy flats along Talumphuk. Mangroves and artificial reefs in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, reptiles, amphibians, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters.

Human Use Features

The beach in the area is part of Hat Siam in Pak Phanang Fang Tawan Ok Subdistrict.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

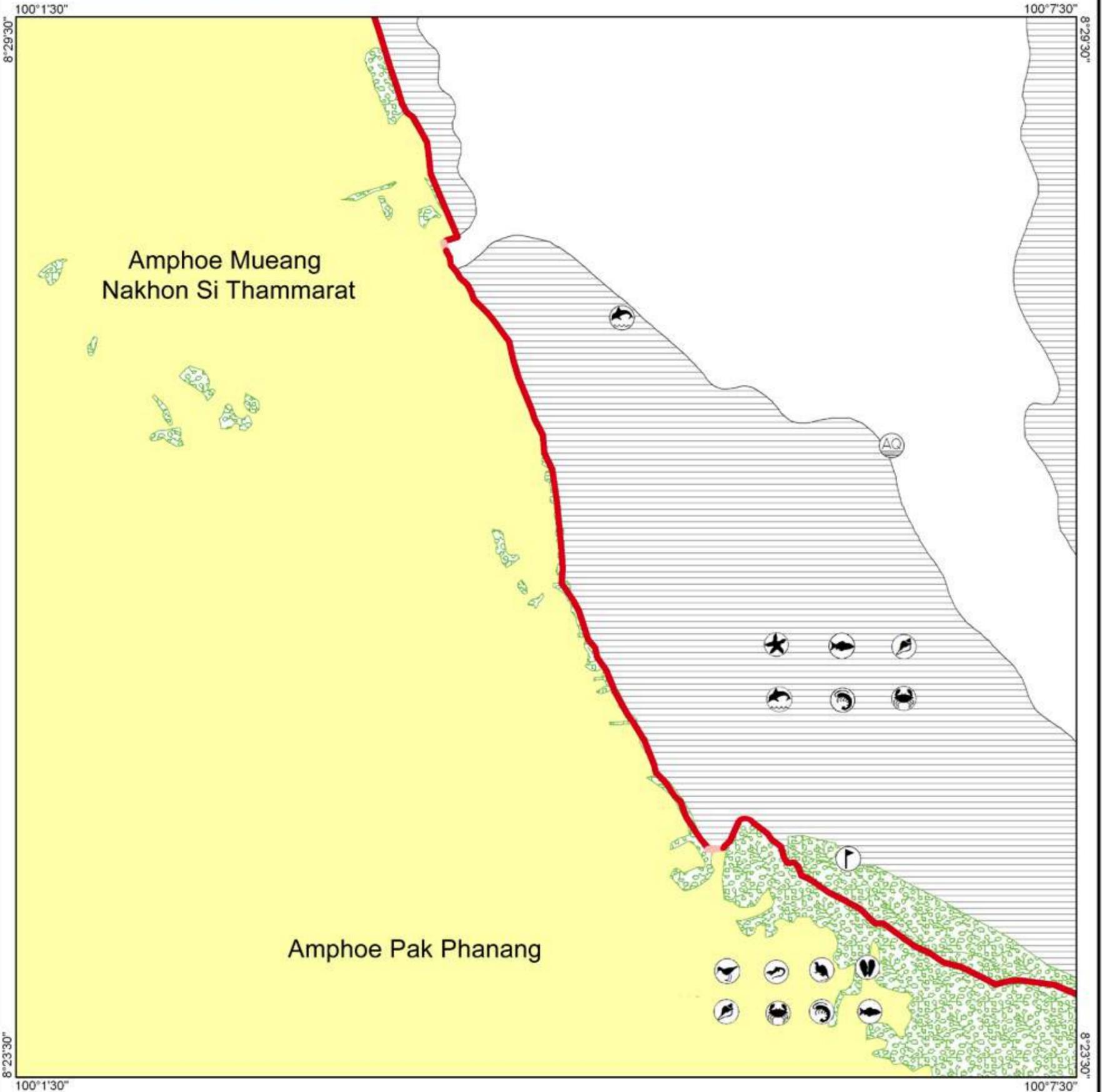
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 37



Shoreline Classification

- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

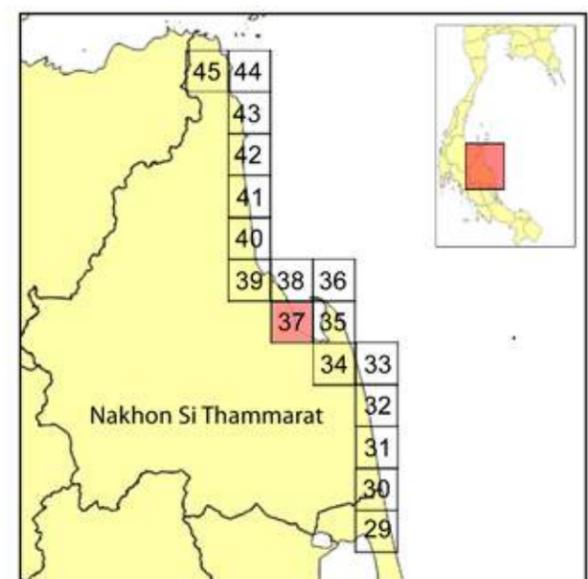
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by Pak Phanang District and Mueang Nakhon Si Thammarat District.

Shoreline

Along the coast in the area are sheltered tidal flats (ESI 9A) and mangroves (ESI 10B).

Biological Resources

Mangroves in the area form part of the mangrove forest in Pak Phanang Bay. Some of the mangroves were cut down to accommodate shrimp ponds and residential areas. Small shrubs of mangroves can be still found on muddy flats along Talumphuk. Mangroves and tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters.

Dolphins can also be found in Pak Phanang Bay.

Human Use Features

Both inland and coastal aquacultures are commonly practiced in Pak Phanang river basin.

Large areas of mangroves were cut down to accommodate shrimp farming, provide commercial timber and serve other purposes.

Local communities are situated along rivers and canals in the area.

Oil Spill Response Resources

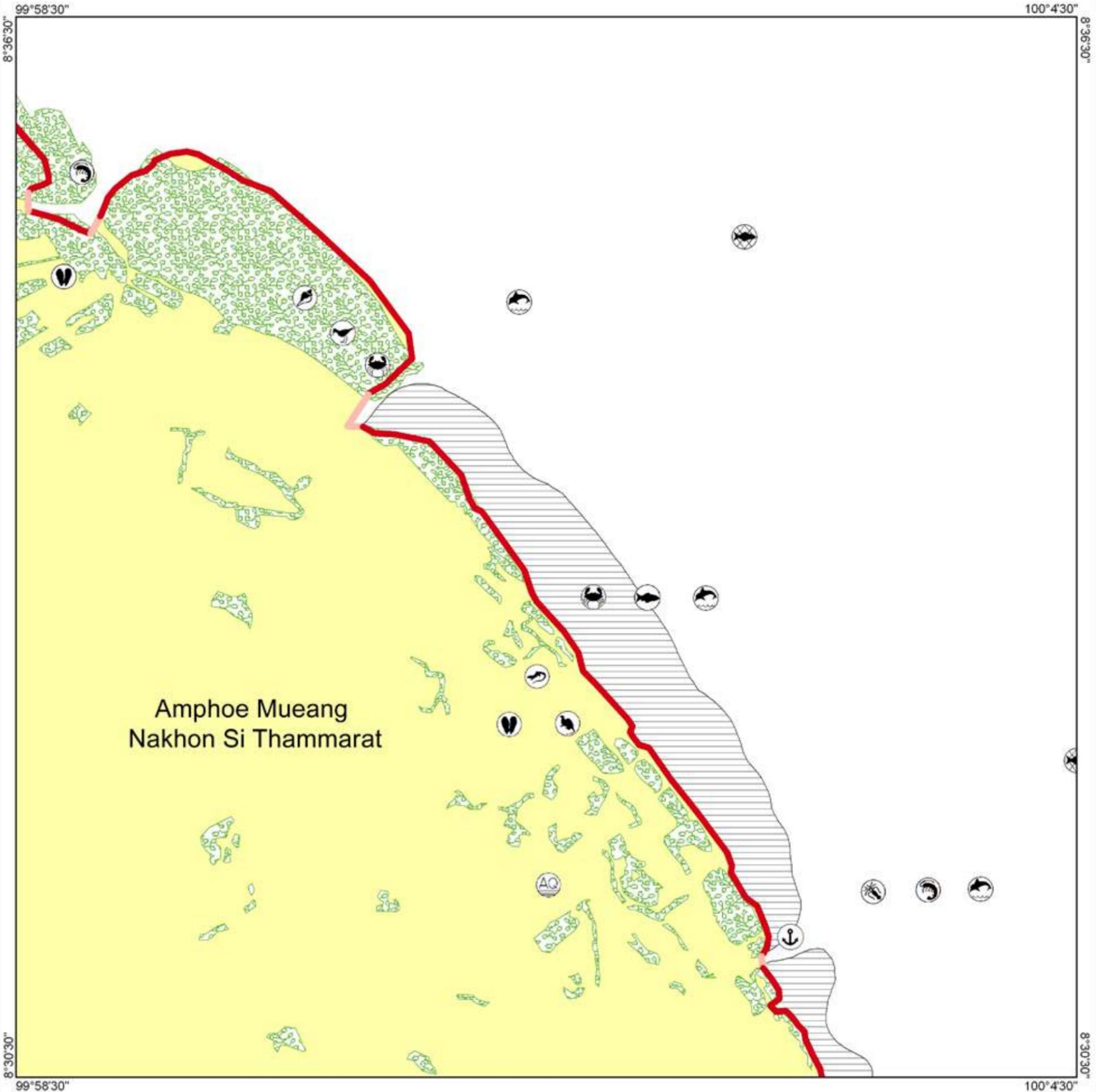
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 38



Amphoe Mueang
Nakhon Si Thammarat

Shoreline Classification

- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

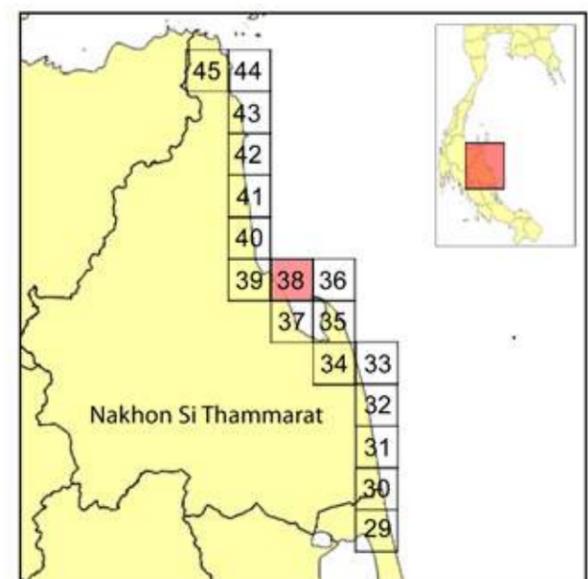
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Mueang Nakhon Si Thammarat District along Pak Phanang Bay. Its neighboring districts include Pak Phanang, Chaloem Phra Kiat, Phra Phrom, Lan Saka, Phrom Khiri and Tha Sala.

Shoreline

Along the coast in the area are sheltered tidal flats (ESI 9A) and mangroves (ESI 10B).

Biological Resources

Riverine mangroves and mangrove forests fringing the coast are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals. The area used to be covered with dense mangroves until these were cut down to accommodate shrimp ponds and residential areas. Small shrubs of mangroves can be still found on muddy flats along the coast.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters.

Dolphins can also be found in Pak Phanang Bay.

Human Use Features

Both inland and coastal aquacultures are commonly practiced in the area. Local communities situated along rivers and canals depend on subsistence fishing and aquaculture for their livelihood.

A fishing port is also located in the area.

Oil Spill Response Resources

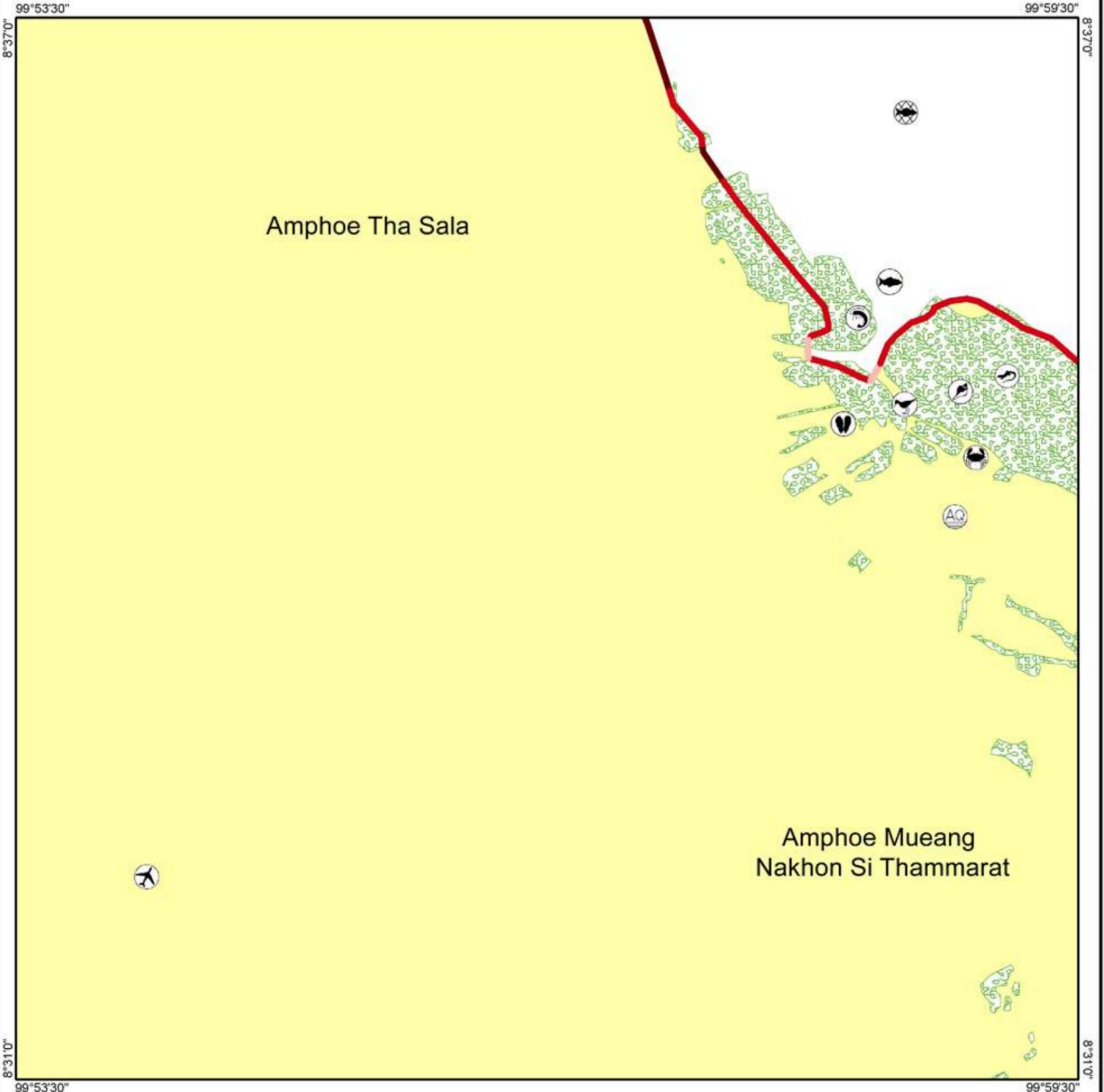
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 39



Shoreline Classification

- ESI 7
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves

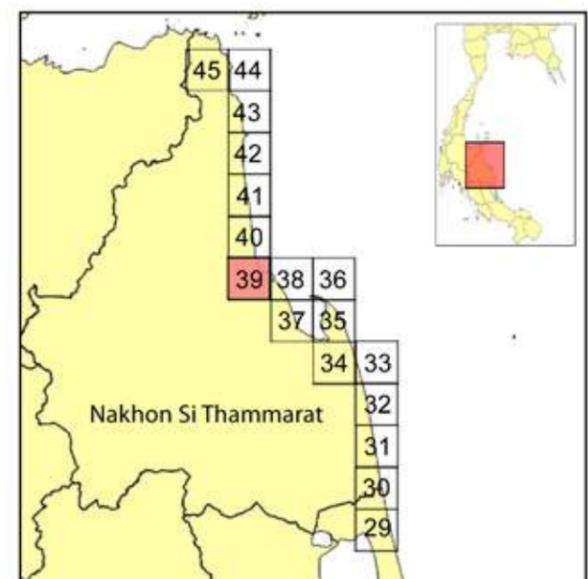
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Airport
- Aquaculture
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Mueang Nakhon Si Thammarat District and Tha Sala District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7), sheltered tidal flats (ESI 9A) and mangroves (ESI 10B).

Biological Resources

Riverine mangroves and mangrove forests fringing the coast are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters.

Human Use Features

Both inland and coastal aquacultures are commonly practiced in the area. Local communities situated along rivers and canals depend on subsistence fishing and aquaculture for their livelihood.

Nakhon Si Thammarat Airport is located 14 km from the city of Nakhon Si Thammarat. The airport is managed by the Department of Civil Aviation.

Oil Spill Response Resources

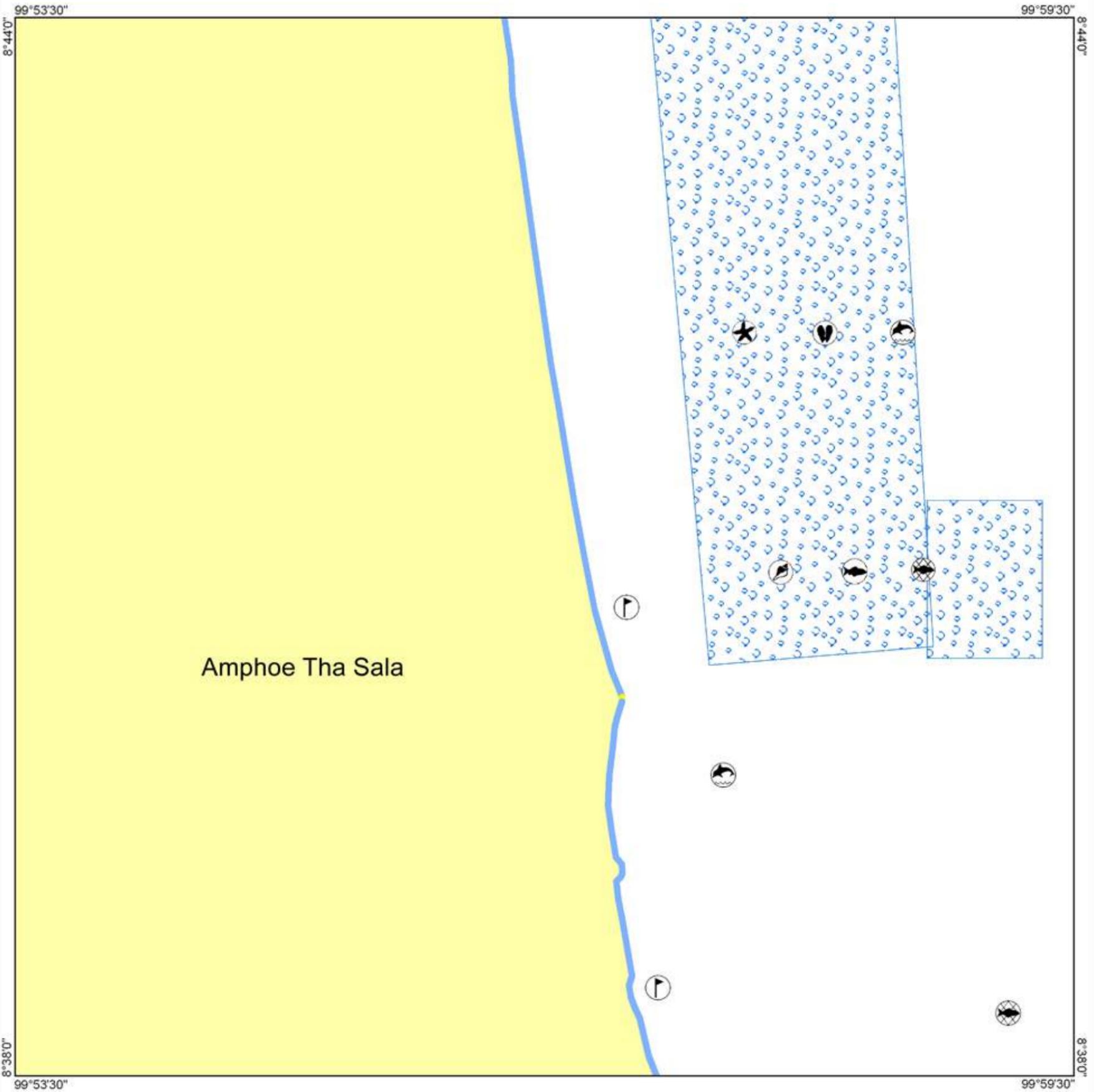
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 40



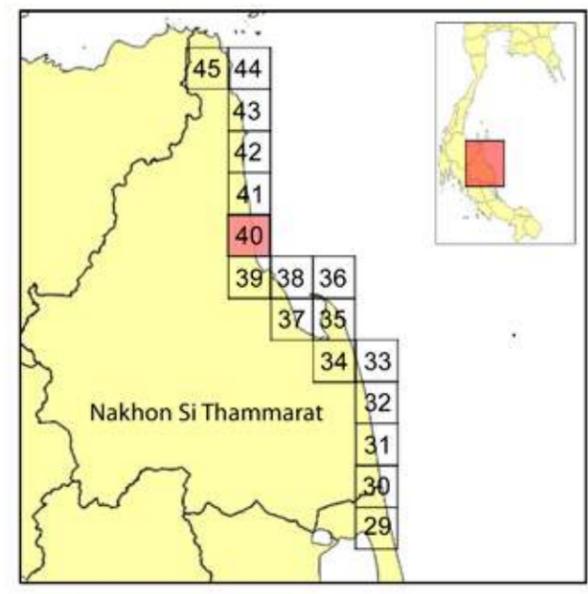
Shoreline Classification
 — ESI 4
 — ESI 8

Biological/Human-Use Areas
 [Blue Dotted Pattern] Artificial Reef

Biological Resources
 [Heart Icon] Bivalve
 [Star Icon] Echinoderm
 [Fish Icon] Fish/Nursery Area
 [Gastropod Icon] Gastropod
 [Marine Mammal Icon] Marine Mammal

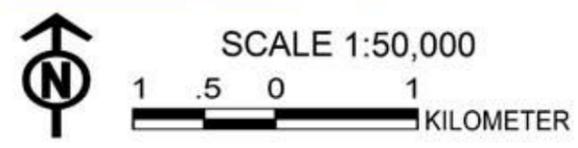
**Human-Use/
Oil Spill Response Resources**
 [Flag Icon] Beach
 [Fishing Boat Icon] Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Tha Sala District. Its neighboring districts include Mueang Nakhon Si Thammarat, Phrom Khiri, Nopphitam and Sichon.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4) and sheltered solid man-made structures (ESI 8).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Dolphins can also be found in the area.

Human Use Features

Hat Tha Sung Bon in Tha Sala Subdistrict and Hat Sai Kaew in Tha Khuen Subdistrict are popular white sand beaches lined with pine and coconut trees. Restaurants and accommodations are available for tourists.

Several local fishing communities are situated along the coast. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

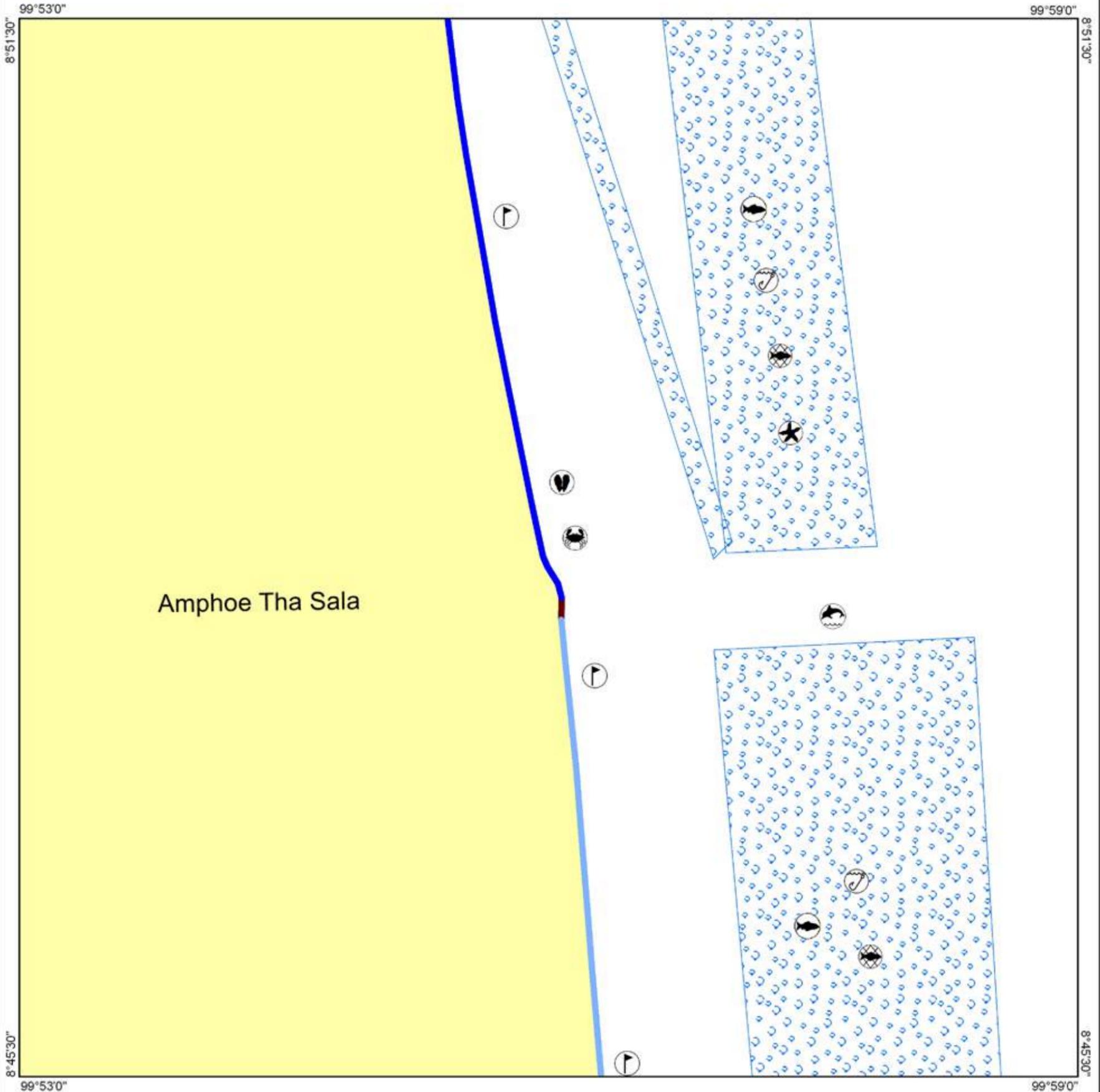
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 41



Shoreline Classification

- ESI 3
- ESI 4
- ESI 7

Biological/Human-Use Areas

- Artificial Reef

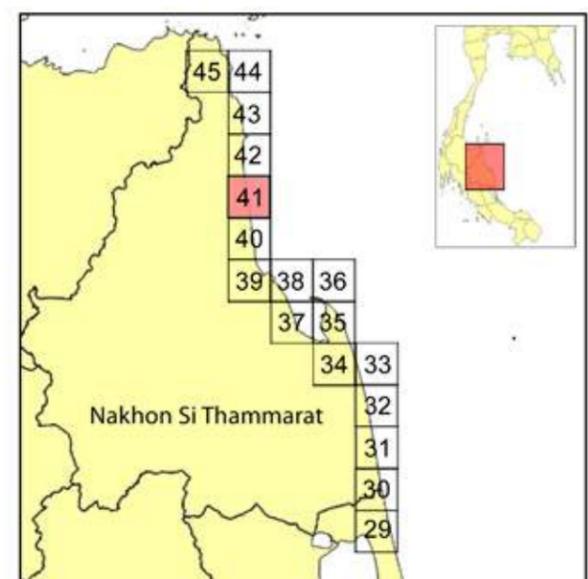
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Recreational Fishing
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Tha Sala District. Its neighboring districts include Mueang Nakhon Si Thammarat, Phrom Khiri, Nopphitam and Sichon.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and exposed tidal flats (ESI 7).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Dolphins can also be found in the area.

Human Use Features

Hat Sai Kaew in Tha Khuen Subdistrict and Hat Pho Thong and Hat Ban Roa in Sra Kaew Subdistrict are popular white sand beaches lined with pine and coconut trees. Restaurants and accommodations are available for tourists.

Several local fishing communities are situated along the coast. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Locals are also able to generate more income from recreational fishing activities for tourists in these artificial reefs.

Oil Spill Response Resources

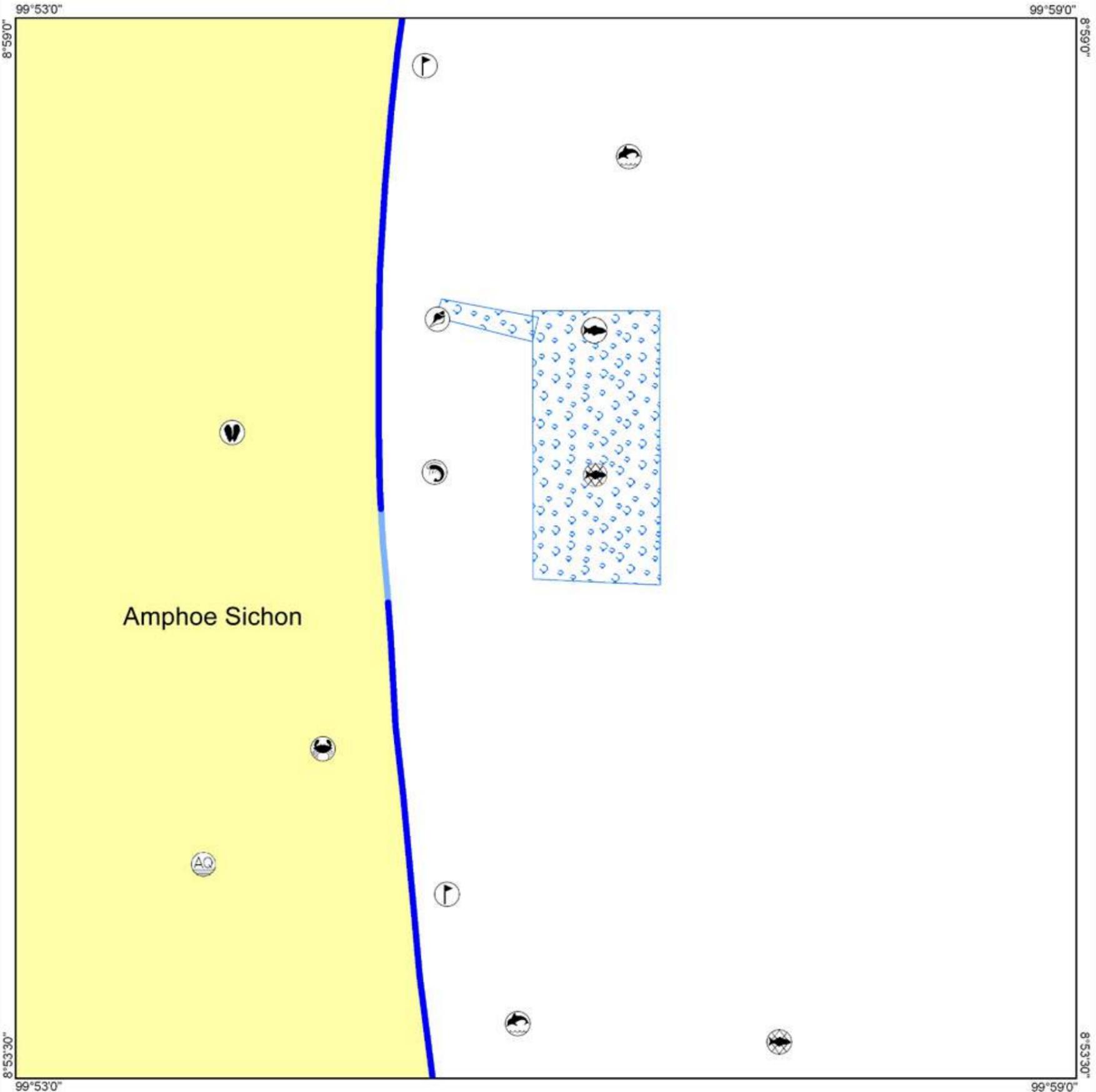
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 42



Shoreline Classification

- ESI 3
- ESI 4

Biological/Human-Use Areas

- Artificial Reef

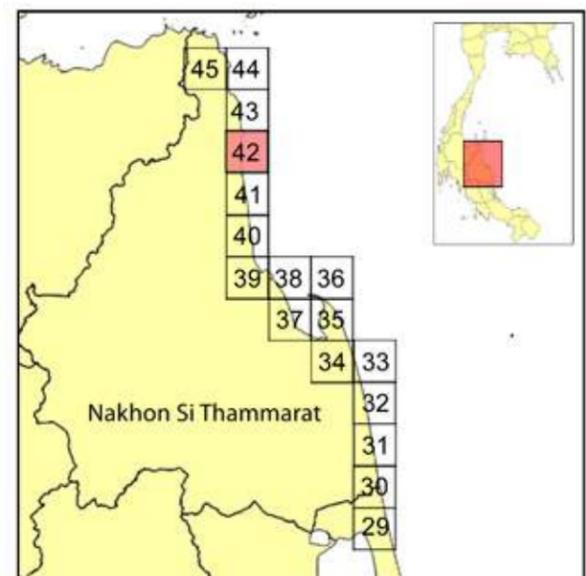
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Marine Mammal
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Sichon District. Its neighboring districts include Tha Sala, Nopphitam and Khanom of Nakhon Si Thammarat Province; and Kanchanadit and Don Sak of Surat Thani Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) and coarse-grained sand beaches (ESI 4).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Dolphins can also be found in the area.

Human Use Features

Beaches in the area include Hat Pi Ti, where the coarse-grained sand and clear seawater make it suitable for swimming; and Hat Hin Ngam, where the gravel and rock in the sand make the beach unsuitable for swimming. However, coarse-grained sand can still be found in other areas of Hat Hin Ngam. Tourist facilities are also available in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

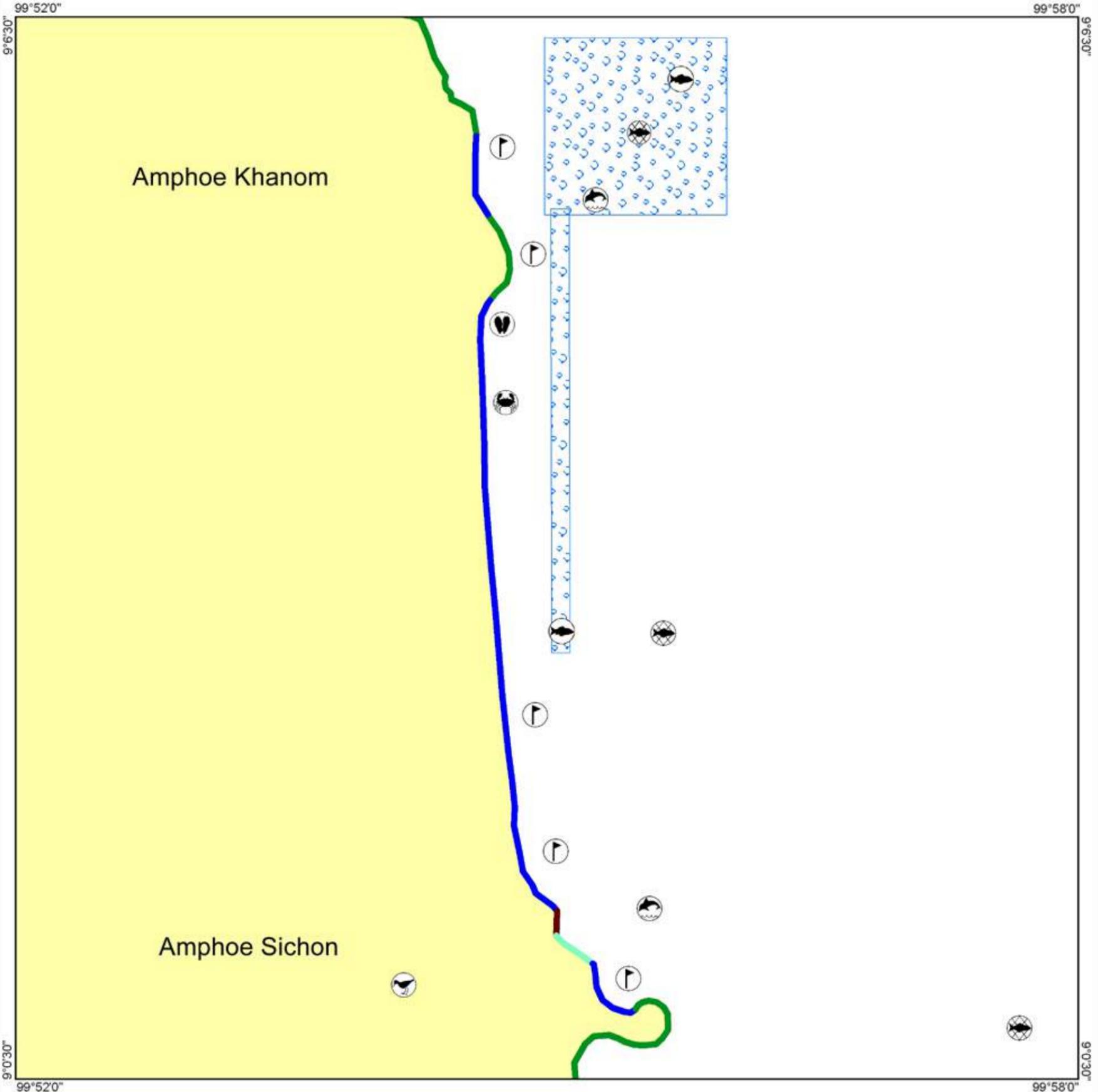
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 43



Shoreline Classification

- █ ESI 3
- █ ESI 5
- █ ESI 6A
- █ ESI 7

Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Marine Mammal

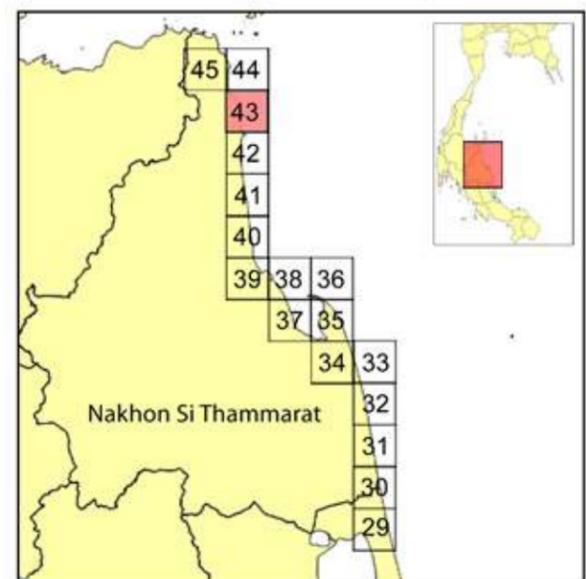
Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Biological/Human-Use Areas

- Artificial Reef

Location of Map



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General Information

This area covers the coastline shared by Sichon District and Khanom District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5), gravel beaches (ESI 6A) and exposed tidal flats (ESI 7).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Dolphins can also be found in the area.

Human Use Features

Beaches in the area include Hat Sichon, Hat Thung Sai and Hat Phlai Dam, where the white sand and clear seawater make these beaches suitable for swimming, and a portion of Hat Hin Ngam (extended from the previous map). Tourist facilities are also available in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

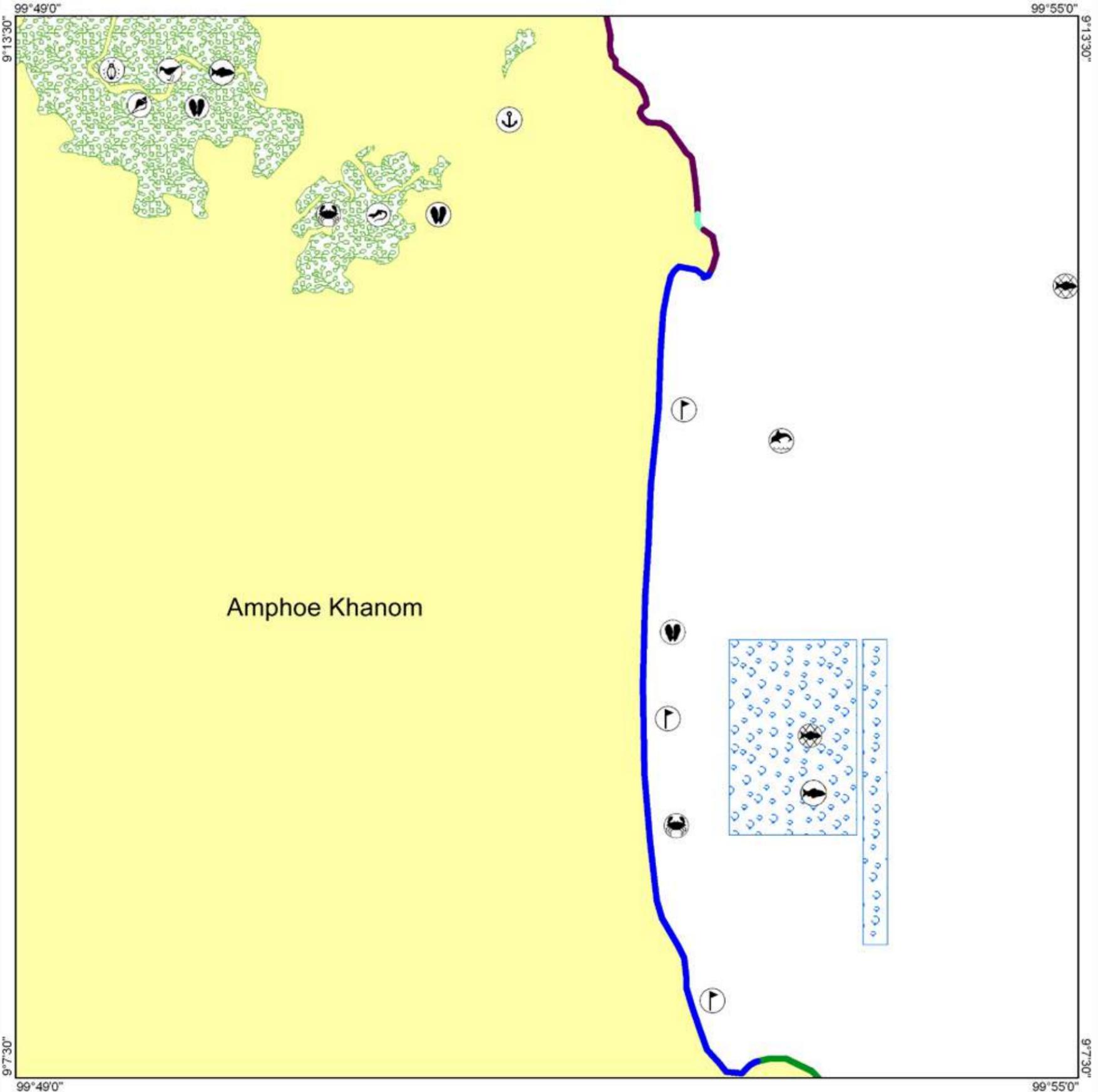
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat Province

Thailand - 44



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 6A

Biological/Human-Use Areas

- Artificial Reef
- Mangroves

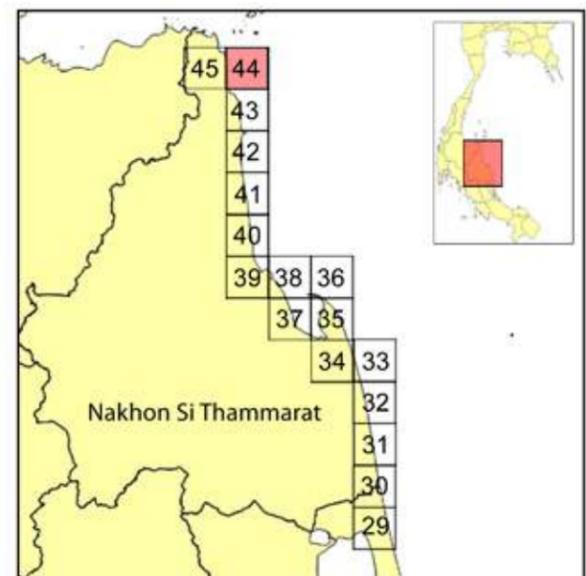
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



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General Information

This area is located in Khanom District. Its neighboring districts include Sichon of Nakhon Si Thammarat Province and Don Sak of Surat Thani Province.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5) and gravel beaches (ESI 6A).

Biological Resources

Approximately 16 km² of mangrove forests are situated along the Khanom canal. Mangroves are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Marine mammals, such as dolphins and whales, can also be found in the area.

Human Use Features

Hat Khanom, a well-known tourist spot in Bang Phot Subdistrict, has a 10-km-long white sand beach. It can be further divided into two beaches, namely, Hat Nai Phlao and Hat Pak Nam. There is a growing number of tourism-related businesses in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Several fishing ports are located along the Khanom canal.

Oil Spill Response Resources

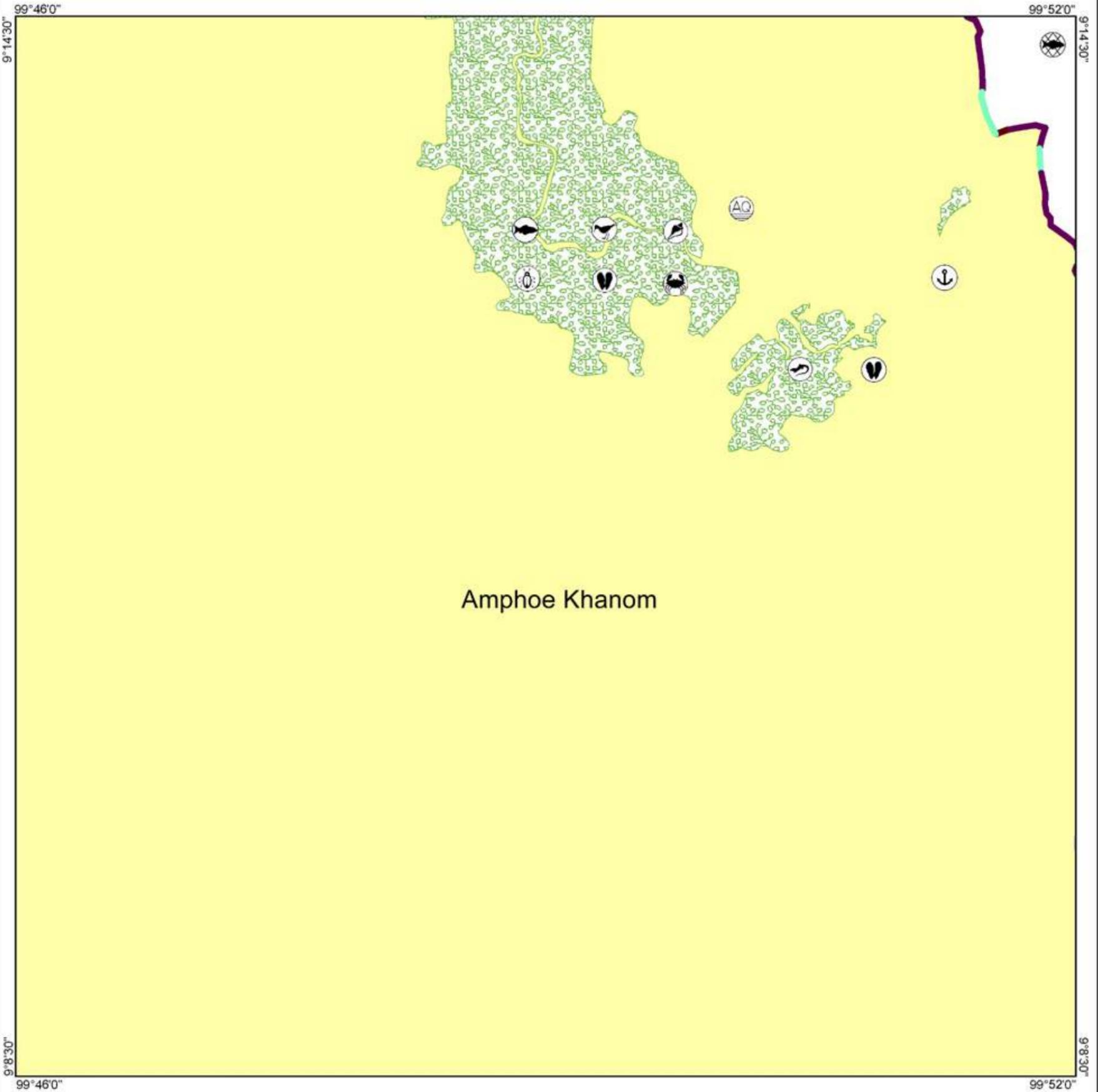
There is no oil spill response resource in the area.

Special Issue

A part of this area belongs to the Hat Khanom-Mu Ko Thale Tai National Park, which is currently in the process of establishment. The park will be covering parts of Khlong Thong, Khlong Reng, Khao Ok, Khao Thong Not, Pa Khao Chai Son, Len Khlong Khanom, Khao Fee Hai, Khao Wang, Khao Krot, Chai Kram-Wat Pradu, Khao Hua Chang Forest, and eight islands, namely: Ko Mut Tang, Ko Mut Kong, Ko Rap, Ko Hua Ta Khe, Ko Wang Nai, Ko Wang Nak, Ko Noi and Ko Ta Rai in Nakhon Si Thammarat and Surat Thani provinces.

Nakhon Si Thammarat Province

Thailand - 45



Amphoe Khanom

Shoreline Classification
 ESI 1
 ESI 5

Biological/Human-Use Areas
 Mangroves

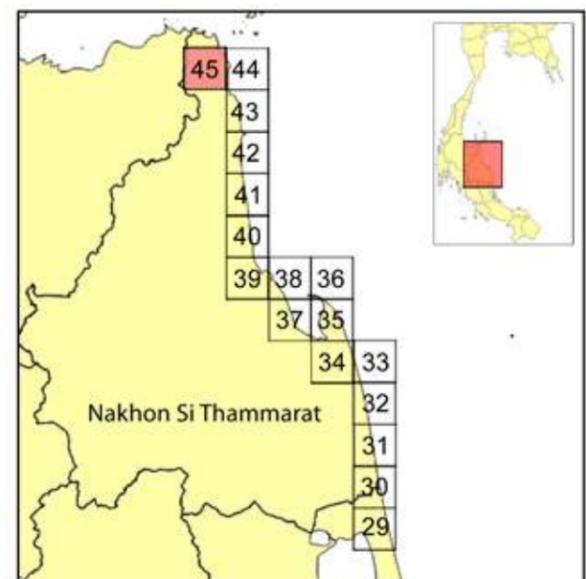
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian

**Human-Use/
Oil Spill Response Resources**

- Aquaculture
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000
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 KILOMETER

General Information

This area is located in Khanom District. Its neighboring districts include Sichon of Nakhon Si Thammarat Province and Don Sak of Surat Thani Province.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Approximately 16 km² of mangrove forests are situated along Khanom canal. Mangroves are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic and coastal waters, as well as in artificial reefs.

Human Use Features

Small beaches are situated in front of Khanom Power Plant near the mouth of the Khanom canal.

Aquaculture areas like shrimp ponds are present in the area.

Several fishing ports are located along the Khanom canal.

Oil Spill Response Resources

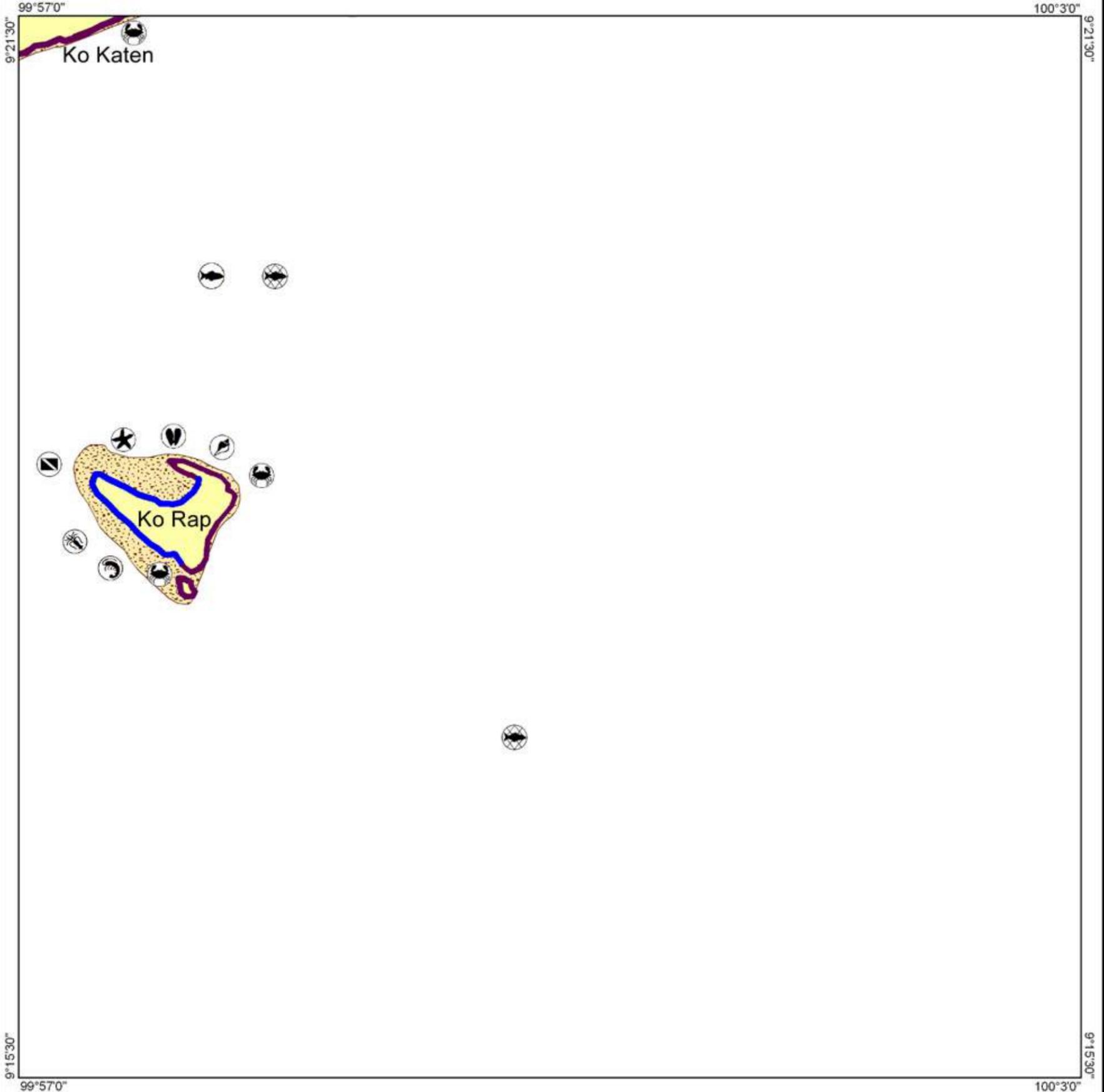
There is no oil spill response resource in the area.

Special Issue

A part of this area belongs to the Hat Khanom-Mu Ko Thale Tai National Park, which is currently in the process of establishment. The park will be covering parts of Khlong Thong, Khlong Reng, Khao Ok, Khao Thong Not, Pa Khao Chai Son, Len Khlong Khanom, Khao Fee Hai, Khao Wang, Khao Krot, Chai Kram-Wat Pradu, Khao Hua Chang Forest, and eight islands, namely: Ko Mut Tang, Ko Mut Kong, Ko Rap, Ko Hua Ta Khe, Ko Wang Nai, Ko Wang Nak, Ko Noi and Ko Ta Rai in Nakhon Si Thammarat and Surat Thani provinces.

Surat Thani Province

Thailand - 46



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef

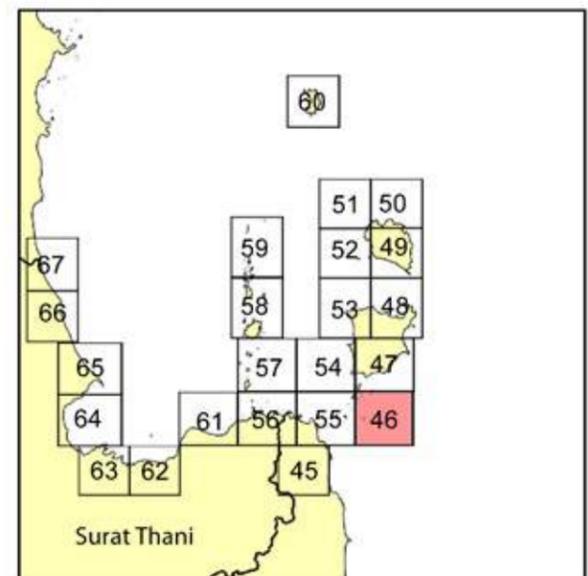
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Diving
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

Ko Rap has an area of 0.72 km². The island is located 5.3 km south of Ko Katen and 11.27 km south of Ko Samui.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coast of Ko Rap are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Rap, attracting many visitors to the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

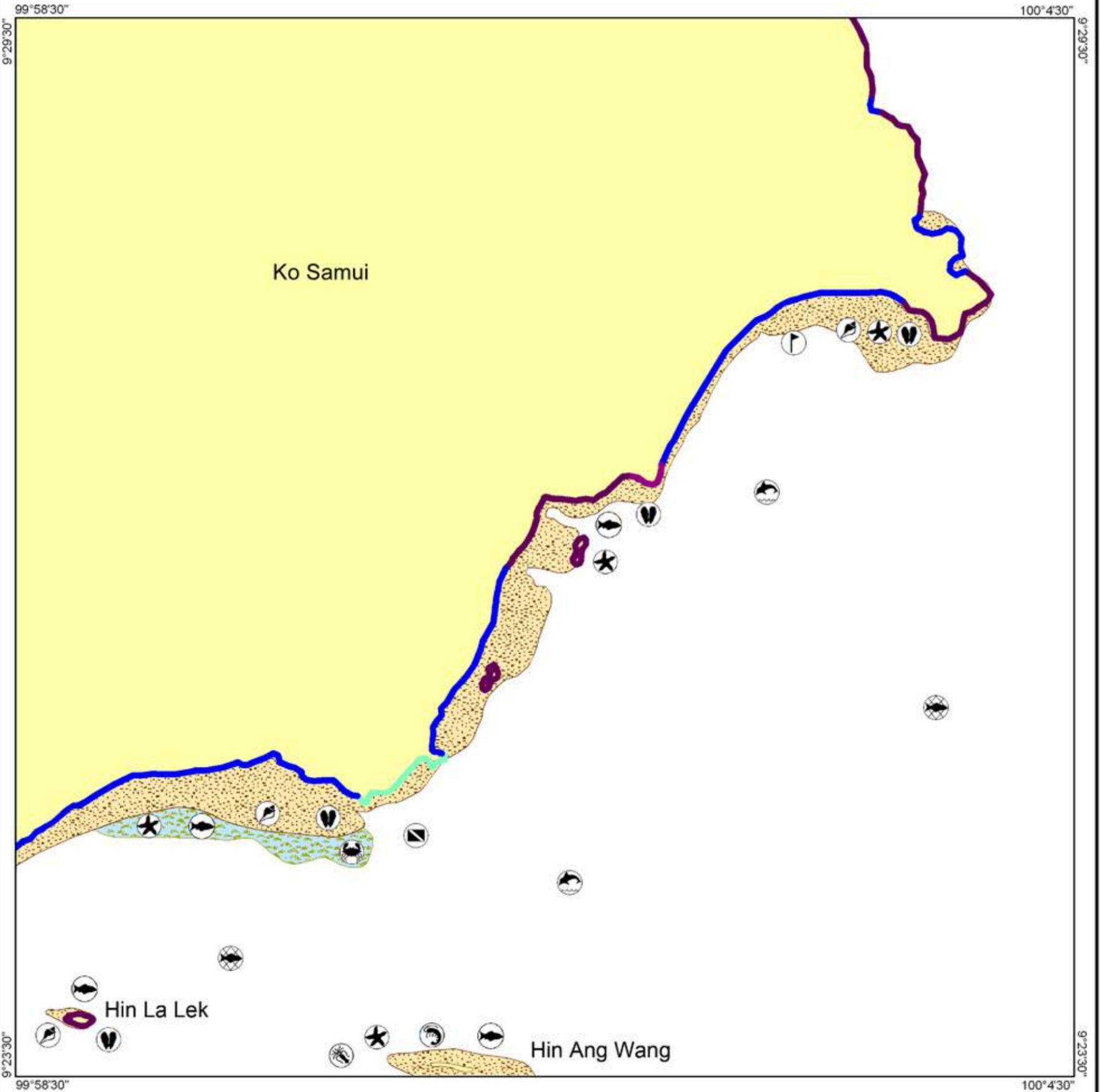
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 47



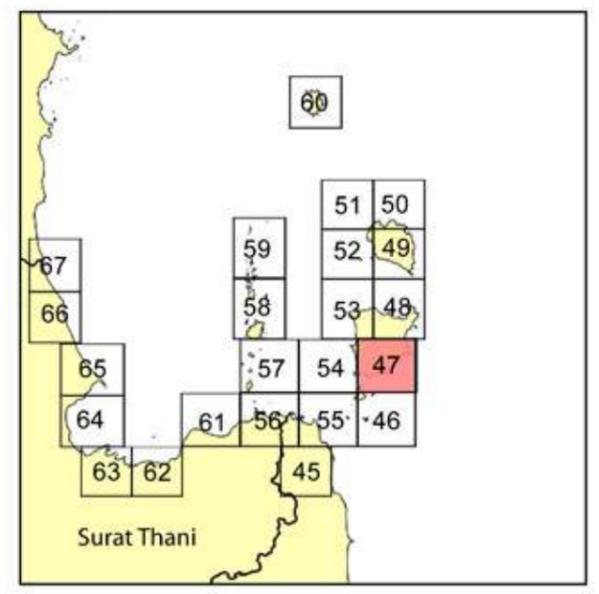
- Shoreline Classification**
- ESI 1
 - ESI 2
 - ESI 3
 - ESI 5

- Biological/Human-Use Areas**
- Coral Reef
 - Seagrass Beds

- Biological Resources**
- Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal
 - Shrimp
 - Squid/Octopus

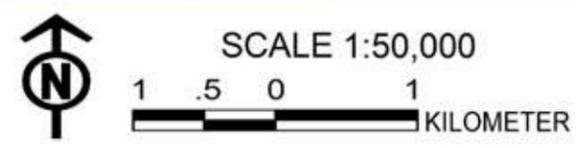
- Human-Use/
Oil Spill Response Resources**
- Beach
 - Diving
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the southern coastline of Ko Samui in Ko Samui District. The island has an area of 236.1 km² and is located 78 km east of the city of Surat Thani and 15 km south of Ko Phangan. Ko Samui, the second largest island in Thailand after Ko Phuket, is one of the popular tourist destinations in the country with millions of visitors each year.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1), exposed wave-cut platforms in bedrock (ESI 2), fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Coral reefs along the coast of Ko Samui are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Seagrass beds along Hat Bang Kao and Hat Laem are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals can also be found in the area.

Human Use Features

Tourist beaches in the area include Hat Lamai, Hat Hua Thanon, Hat Natien, Hat Laemset, Hat Bang Kao and Hat Laem Sor. Hat Lamai has a long stretch of white sand and is the second busiest beach in Ko Samui. Hin Ta Hin Yai Rock is located on the south side of this beach. Traditional fishing communities still remain on Hat Hua Thanon.

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed and are available in the area. Various tourism-related businesses are growing, such as diving tours, spas and boat rentals. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Samui, attracting many visitors to the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

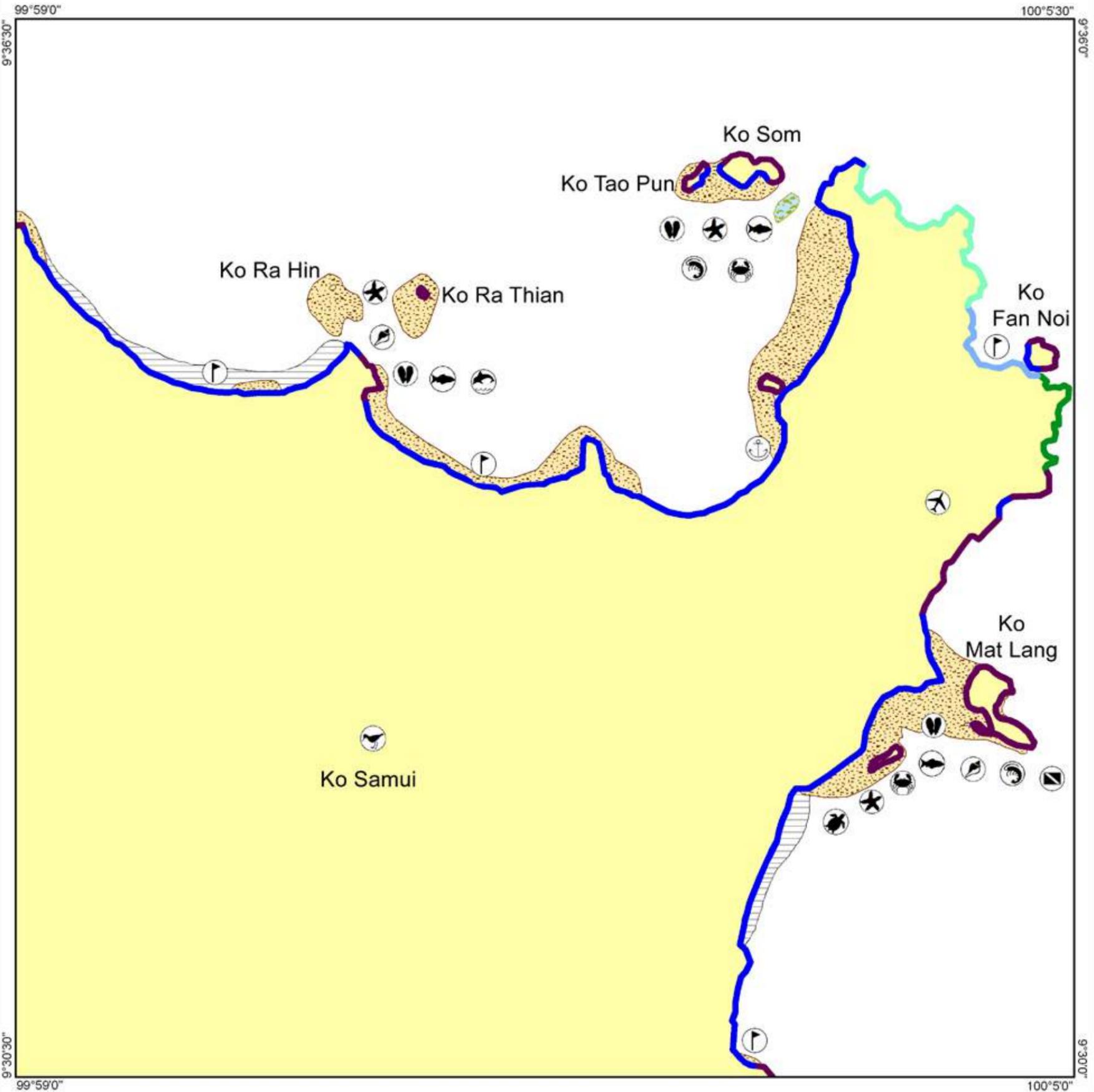
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 48



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6A

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds
- Tidal Flats

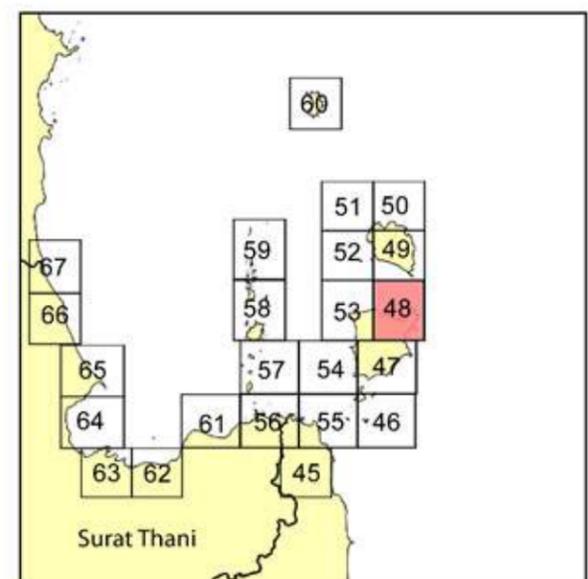
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Turtle

Human-Use/ Oil Spill Response Resources

- Airport
- Beach
- Diving
- Marina

Location of Map



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SCALE 1:50,000



General Information

This area covers the northeastern coastline of Ko Samui and six smaller islands, namely: Ko Ra Hin, Ko Ra Thian, Ko Tao Pun, Ko Som, Ko Fan Noi and Ko Mat Lang, with areas of 0.03 km², 0.14 km², 0.01 km² and 0.28 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5) and gravel beaches (ESI 6A).

Biological Resources

Coral reefs along the coast of Ko Samui and nearby islands are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. A small patch of seagrass beds located between Ko Samui and Ko Som are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Sea turtles and marine mammals like dolphins and whales can be found in the area.

Several species of seashore birds and migrant birds can also be found in Ko Samui and its vicinity.

Human Use Features

Tourist beaches in the area include Hat Chaweng, Hat Bo Phut, Hat Phra Yai and Hat Choeng Mon. Hat Chaweng, the longest beach in Ko Samui, is a 7-km-long white sand beach on the eastern coast of the island. It is also the most popular and most developed beach in Ko Samui. Traditional fishing communities still remain in Hat Bo Phut. Hat Choeng Mon is a clean and peaceful beach located on the northeast side of Ko Samui.

Tourist facilities, such as accommodations, restaurants and other infrastructures, are fully developed and available in the area. Various tourism-related businesses are growing, such as diving tours, spas, boat rentals and nightlife entertainment. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Samui, attracting many visitors to the area.

Samui Airport, a private airport managed by Bangkok Airways, is located on the northeast side of the island. Marinas and ferry ports transporting locals and tourists to Ko Phangan are located in Hat Mae Nam, Hat Bo Phut and Hat Phra Yai.

Oil Spill Response Resources

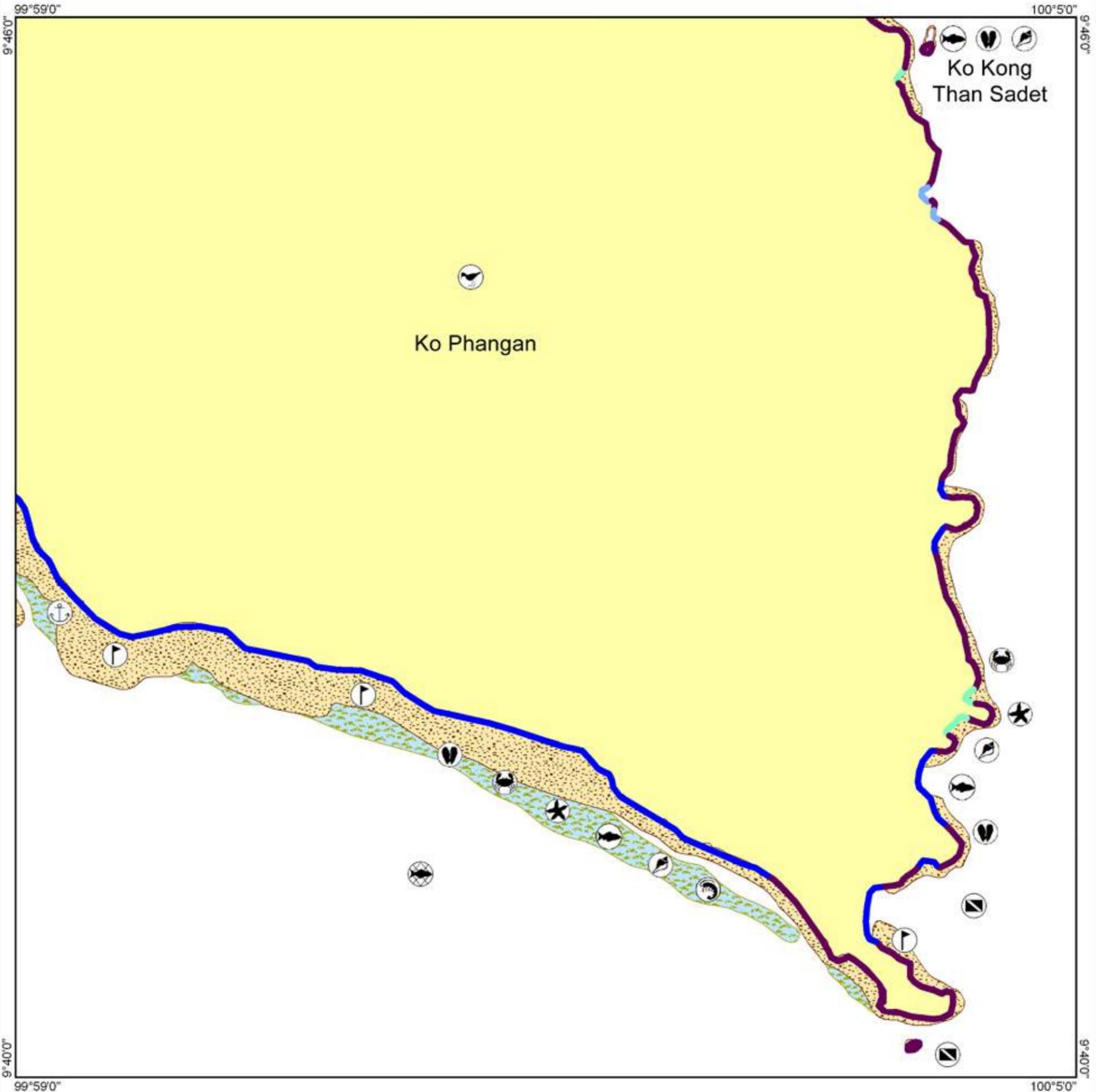
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 49



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds

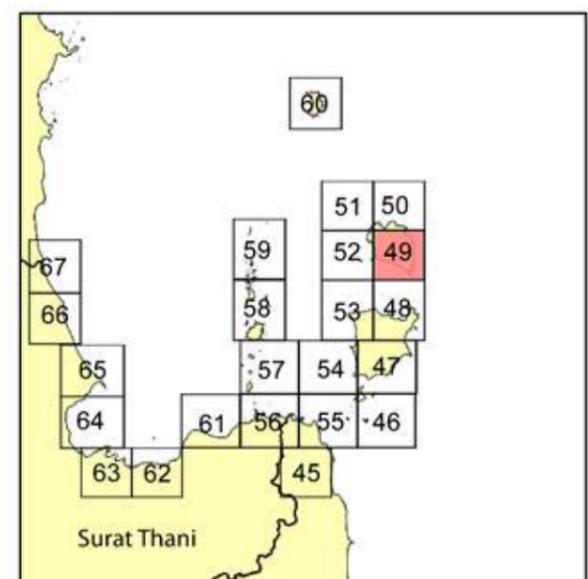
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Marina
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the eastern and southern coastlines of Ko Phangan in Ko Phangan District. The island has an area of 122 km² and is located 100 km east of the city of Surat Thani and 15 km north of Ko Samui.

Ko Phangan, a popular island destination known for its full moon parties, is part of Than Sadet–Ko Phangan National Park. The park was established on 31 December 1983 and covers 62 km² of terrestrial and marine protected areas.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and mixed sand and gravel beaches (ESI 5). The southern coast of Ko Phangan has longer stretches of fine- to medium-grained sand beaches compared to other areas in the island.

Biological Resources

Coral reefs along the coast of Ko Phangan are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. The long stretch of seagrass beds in shallow waters starting from Hat Rin Nai to Hat Thong Sala are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Several species of seashore birds and migrant birds can also be found in Ko Phangan and its vicinity.

Human Use Features

Tourist beaches in the area include Ao Than Praphat, Ao Hat Yang, Ao Hat Yao, Ao Wai Nam, Ao Hat Thian, Laem Ta To, Hat Rin, Hat Ban Khai, Ao Bang Charu and Hat Thong Sala. Hat Rin is a popular beach known for its full moon parties. The beach can be divided into Hat Rin Nok on the east side of the cape (sunrise beach) and Hat Rin Nai on the west side (sunset beach).

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed to support the increasing number of tourists. Various tourism-related businesses are growing, such as diving tours, spas, boat rentals and nightlife entertainment. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Phangan, attracting many visitors to the area.

Two ferry ports are located in the area. Locals and tourists can reach Ko Samui by taking ferries at Hat Rin Nai, while ferries going to either Ko Tao or Surat Thani are available at Hat Thong Sala.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

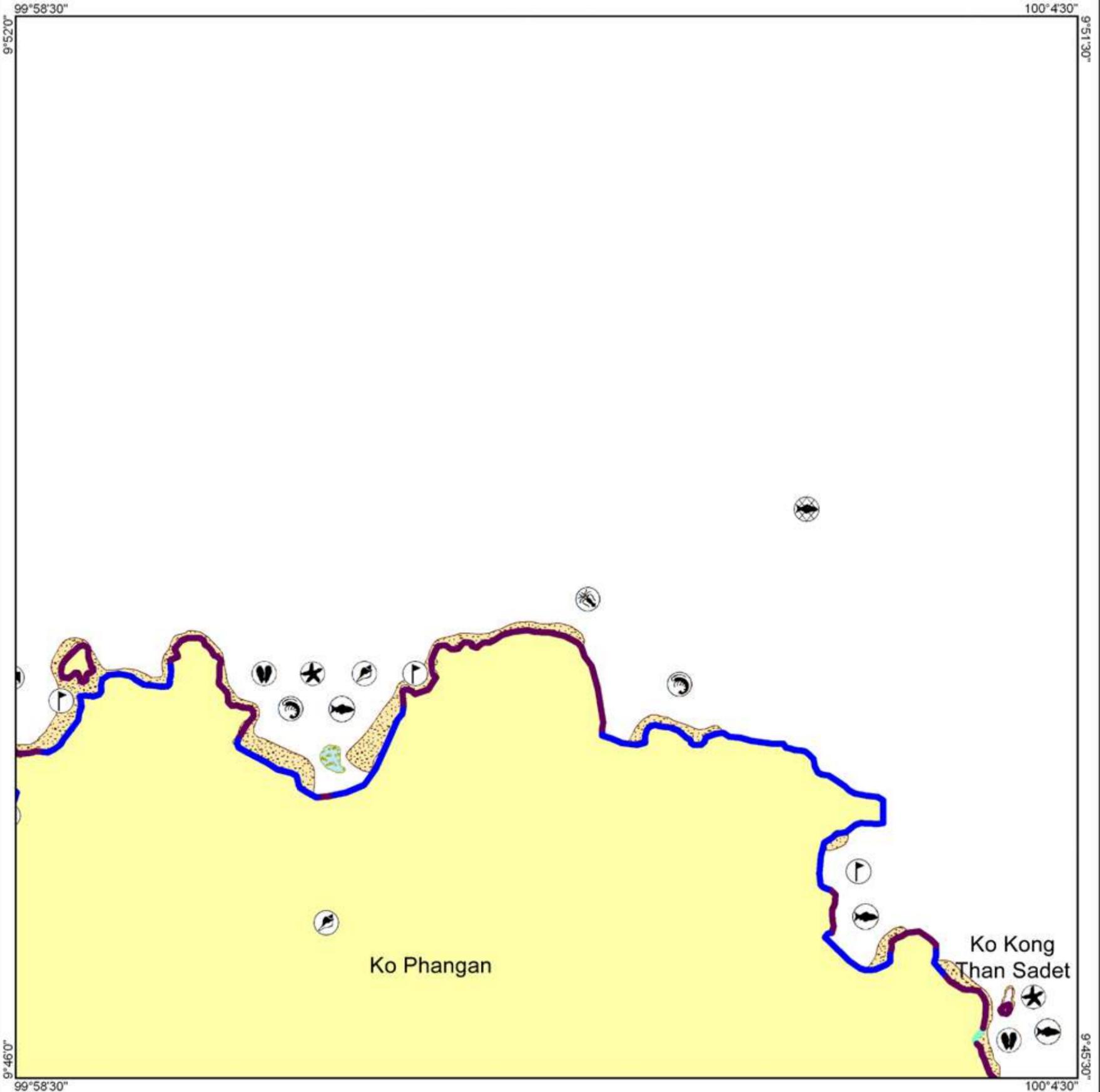
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 50



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds

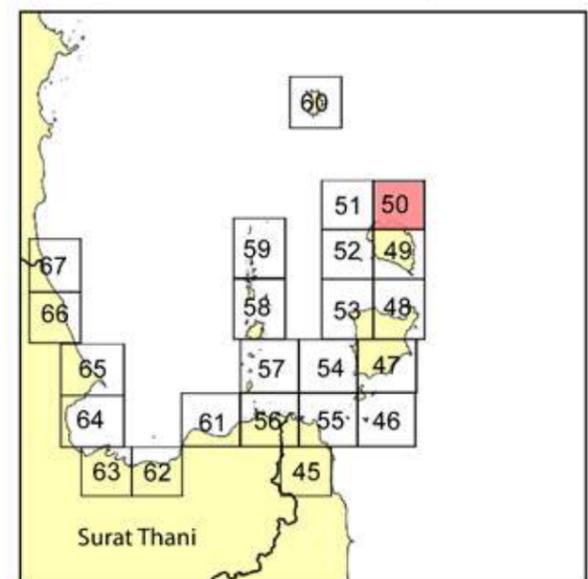
Biological Resources

- Bivalve
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the northern coastline of Ko Phangan. The island has an area of 122 km² and is located 100 km east of the city of Surat Thani and 15 km north of Ko Samui. It is part of Than Sadet–Ko Phangan National Park.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Coral reefs along the coast are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. A small patch of seagrass beds near Hat Chaloak Lam is dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, shrimp, squid, octopuses, gastropods and bivalves.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Tourist beaches in the area include Hat Chaloak Lam, Hat Khuad and Hat Thong Nai Pan. Hat Chaloak Lam is 2 km long and is suitable for swimming. Hat Khuad is suitable for swimming and snorkeling and can be accessed on foot or by boat. Hat Thong Nai Pan is a white sand beach lined with coconut trees.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Phangan, attracting many visitors to the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

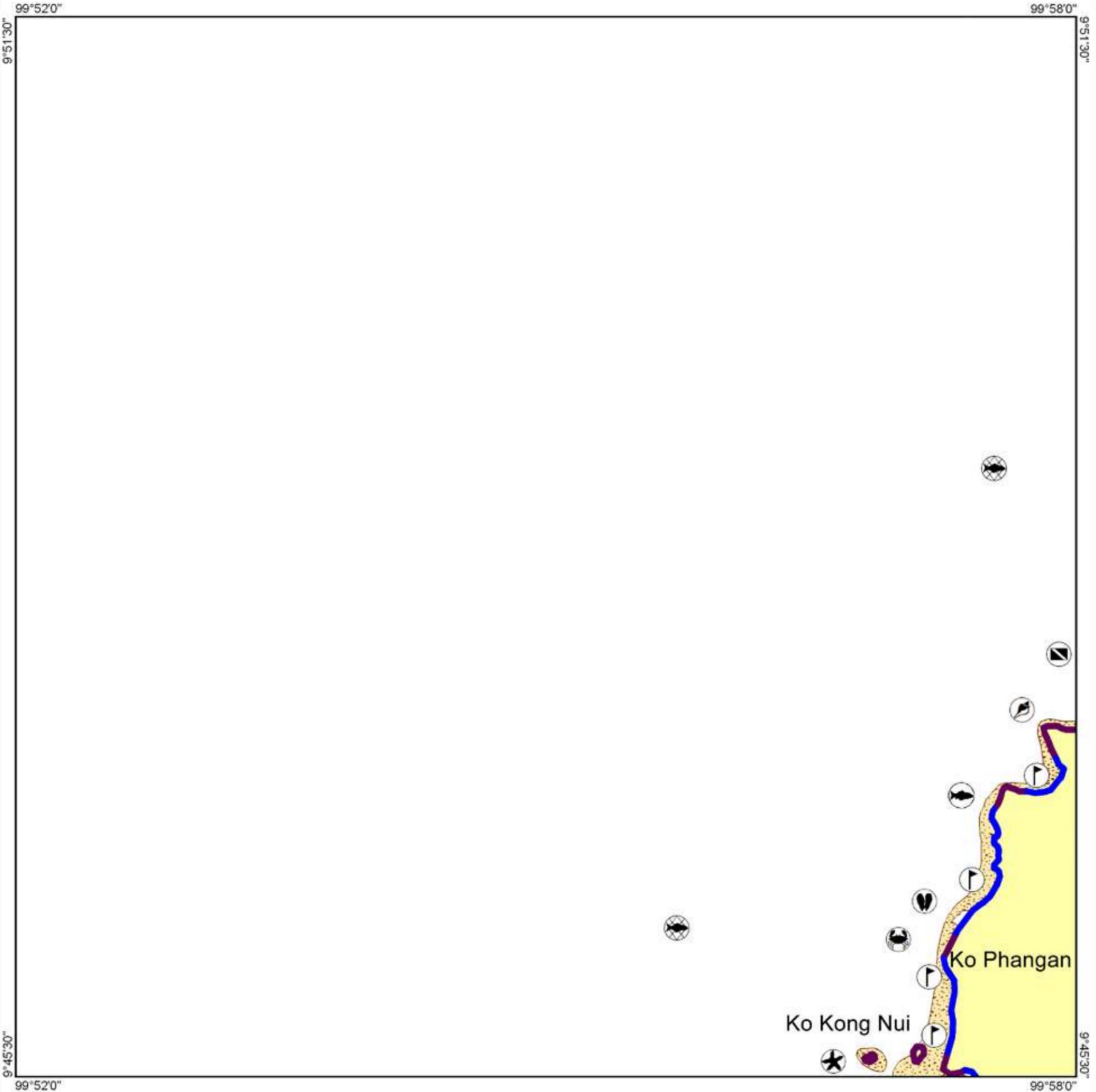
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 51



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef

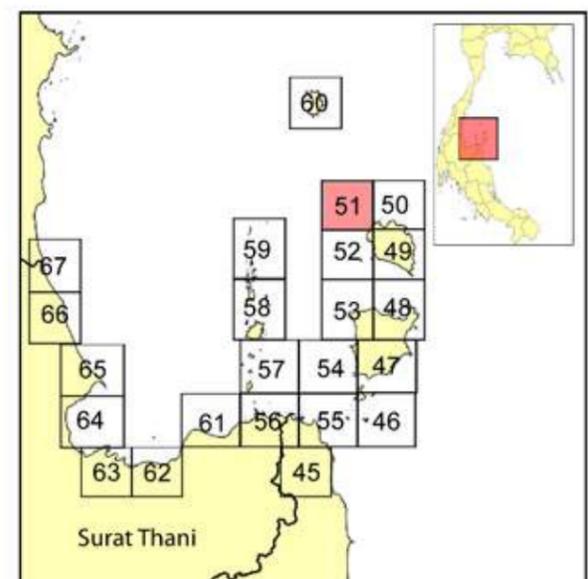
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the northwestern coastline of Ko Phangan. The island has an area of 122 km² and is located 100 km east of the city of Surat Thani and 15 km north of Ko Samui. It is part of Than Sadet–Ko Phangan National Park.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coast are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Small tourist beaches, such as Hat Mae Hat, Hat Salat, Hat Yao and Hat Chao Phao, alternate with rocky cliffs and mountains along the coast. These white sand beaches are beautiful spots for sunset views and suitable for swimming and diving. Coral reefs in the area are abundant with marine life, attracting many divers and snorkelers.

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed to support the increasing number of tourists. Various tourism-related businesses are growing, such as diving tours, spas and boat rentals.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

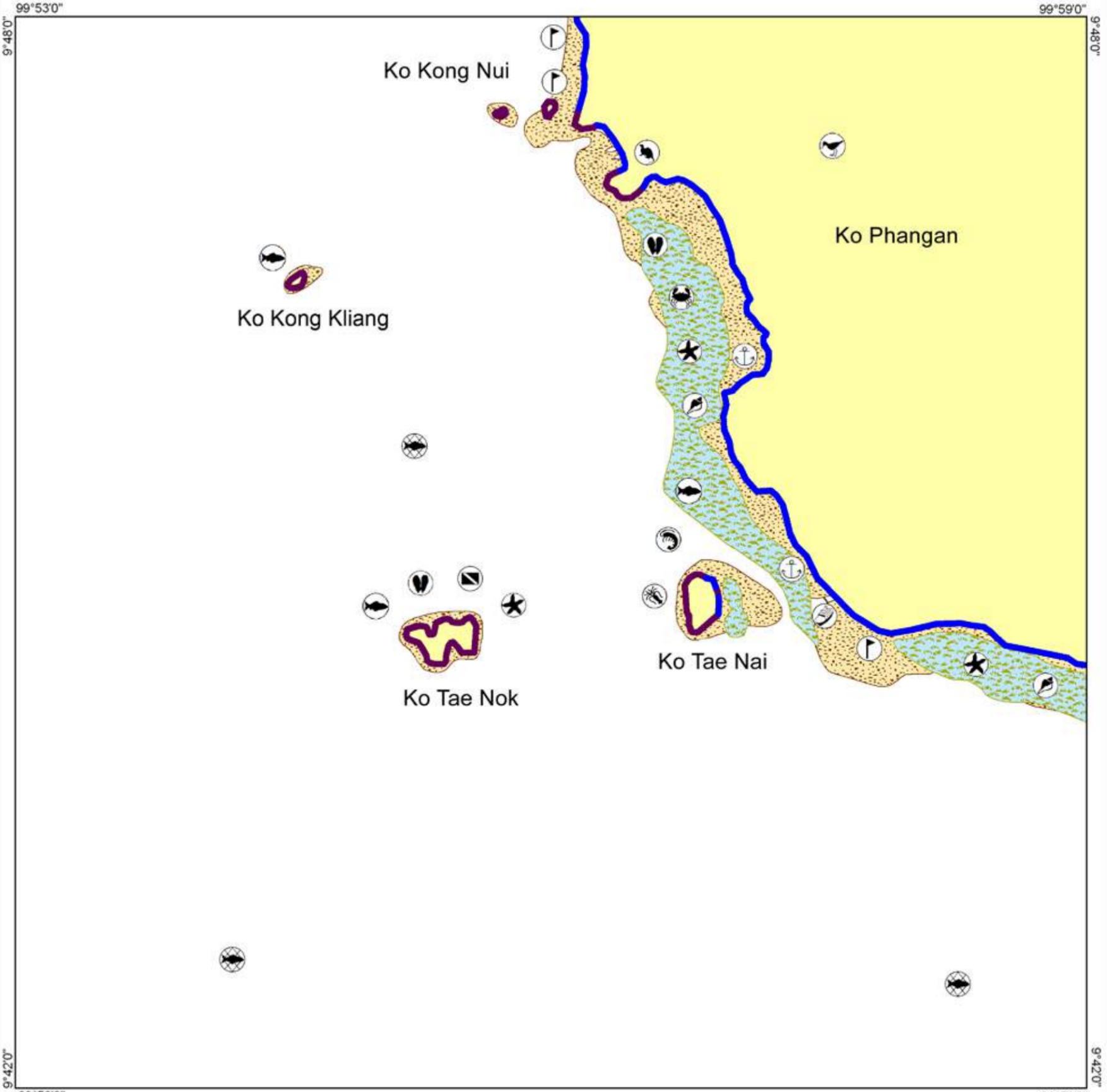
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 52



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds

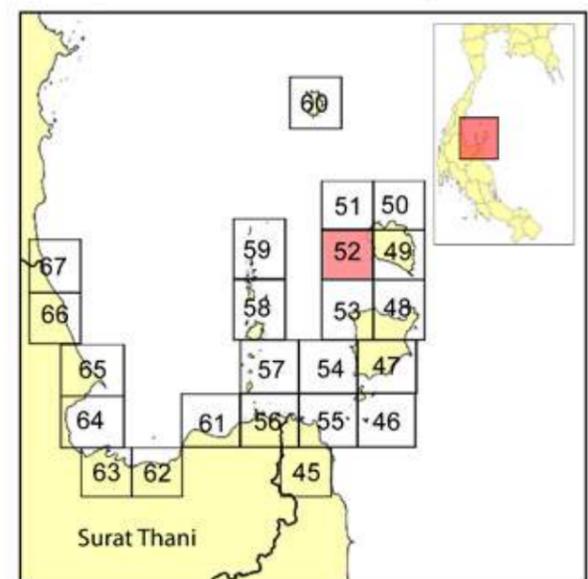
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Ferry
- Marina
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the western coastline of Ko Phangan and four smaller islands, namely: Ko Kong Nui, Ko Kong Kliang, Ko Tae Nok and Ko Tae Nai, with areas of 0.004 km², 0.022 km², 0.247 km² and 0.181 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the smaller islands, and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coast of Ko Phangan and the smaller islands are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. The long stretch of seagrass beds in shallow waters starting from Ao Hin Kong to Hat Thong Sala are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimps, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Several species of shorebirds and terrestrial mammals can also be found in Ko Phangan and its vicinity.

Human Use Features

Tourist beaches in the area include Hat Ao Hin Kong, Hat Ao Wok Tum, Hat Ao Nai Wok and Hat Thong Sala. Hat Ao Hin Kong and Hat Ao Nai Wok are beautiful beaches located in undeveloped areas in the bay.

Hat Ao Nai Wok extends from Ao Nai Wok to Ao Thong Sala, where the ferry port to Ko Tao and Surat Thani is located.

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed to support the increasing number of tourists. Various tourism-related businesses are growing, such as diving tours, spas and boat rentals.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Phangan and nearby smaller islands, attracting many visitors to the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

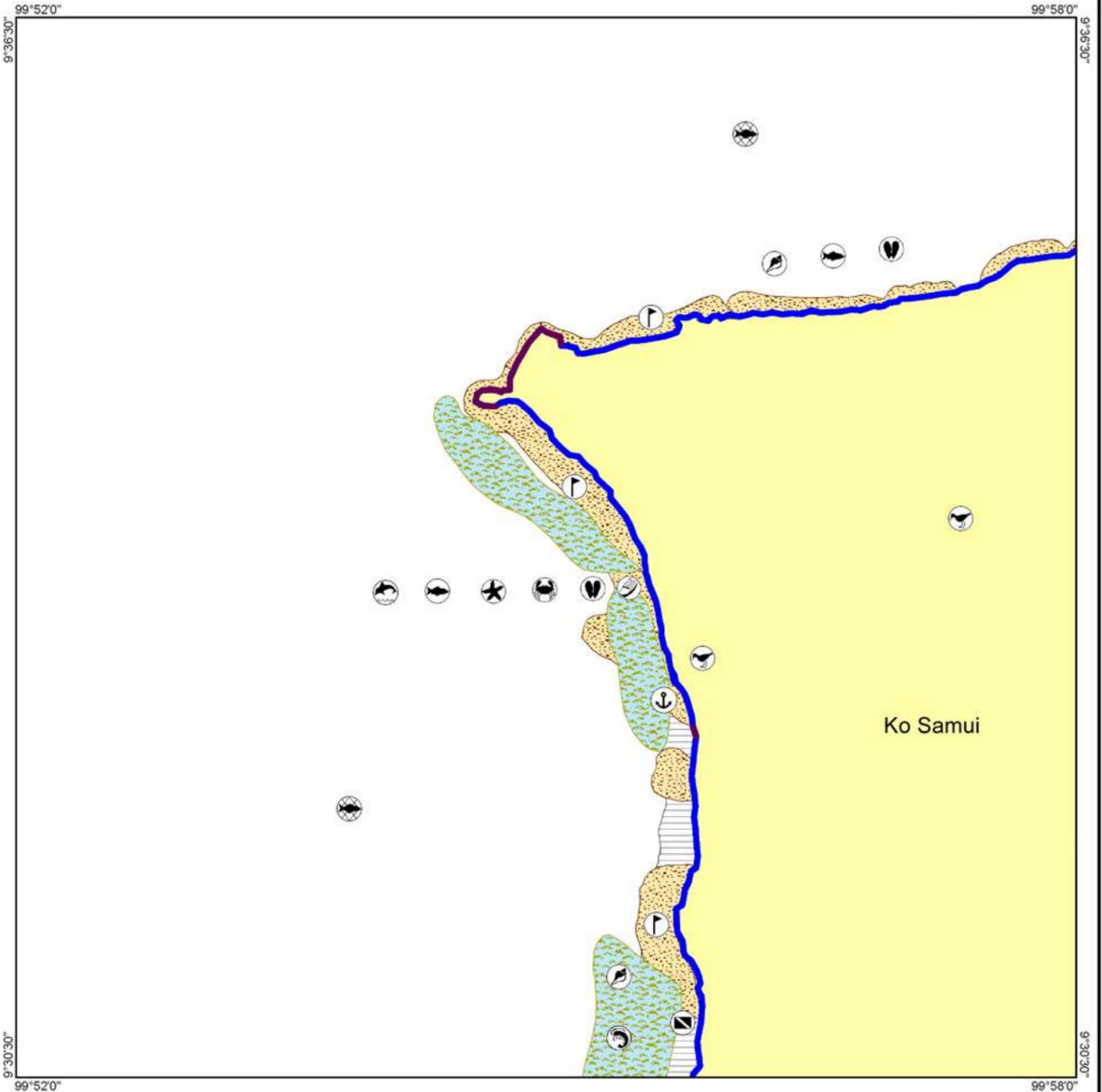
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 53



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds
- Tidal Flats

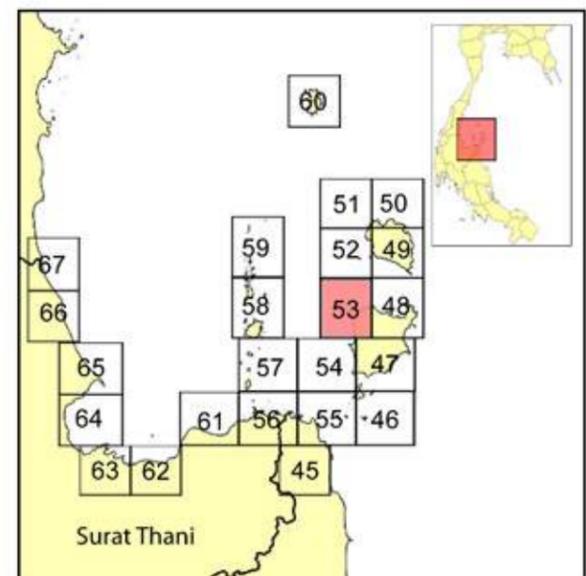
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Ferry
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the northwestern coastline of Ko Samui in Ko Samui District. The island has an area of 236.1 km² and is located 78 km east of the city of Surat Thani and 15 km south of Ko Phangan.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coast of Ao Bang Po and Ao Bang Ma Kham are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Seagrass beds along the coast from Ao Bang Ma Kham to Ao Thong Yang are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Several species of shorebirds and marine mammals can also be found in the area.

Human Use Features

Tourist beaches in the area include Hat Ao Bang Po, Hat Ao Bang Ma Kham and Hat Lipa Noi. Hat Ao Bang Po is a white sand beach on the northern coast of Ko Samui, while Hat Ao Bang Ma Kham is on the island's western bay. Hat Lipa Noi in Ao Thong Yang continues from Hat Ao Bang Makham.

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed and are available in the area. Various tourism-related businesses are growing, such as diving tours, spas and boat rentals. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Samui, attracting many visitors to the area.

Sea Trans Pier, a ferry port, is situated in Ao Bang Ma Kham. Ko Samui's district office and a large superstore are also located near the port.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

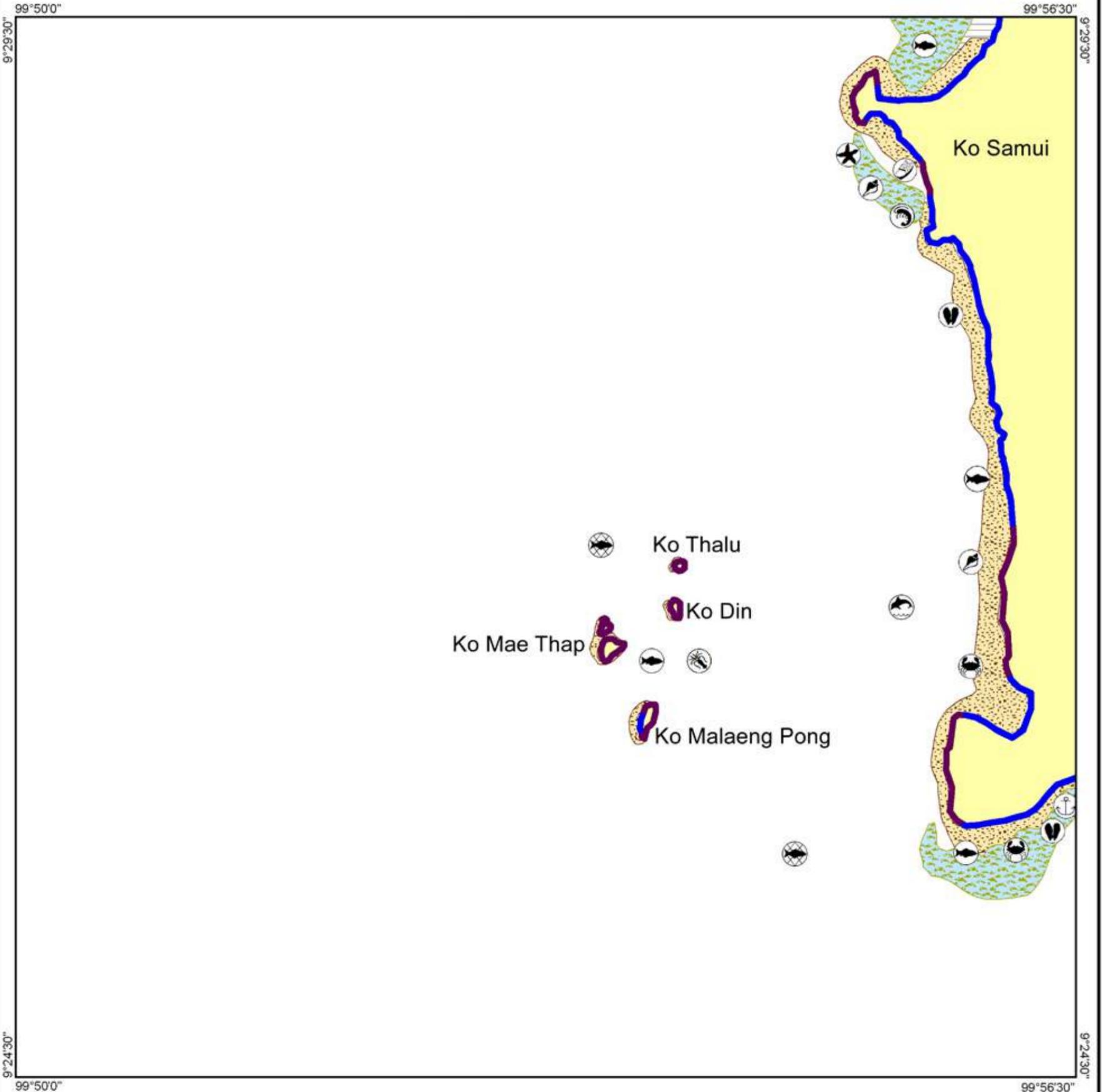
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 54



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds
- Tidal Flats

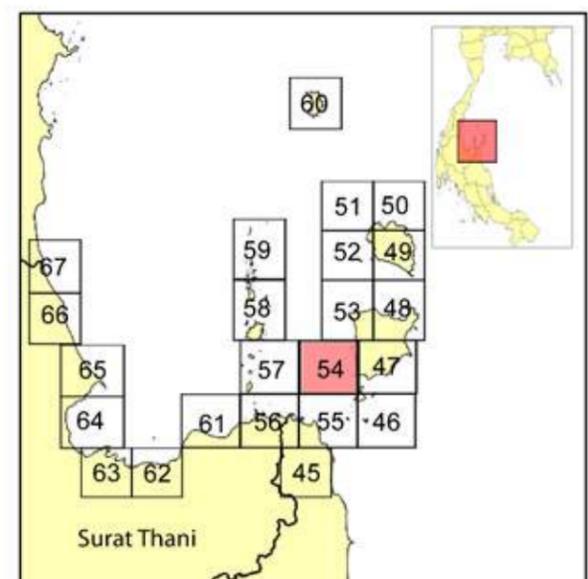
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

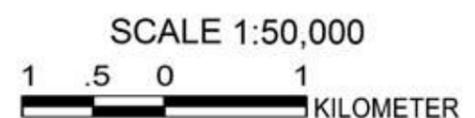
- Ferry
- Marina
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the southwestern coastline of Ko Samui and four smaller islands, namely: Ko Thalu, Ko Din, Ko Mae Thap and Ko Malaeng Pong, with areas of 0.01 km², 0.018 km², 0.034 km² and 0.032 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the smaller islands, and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coast of Ao Taling Ngam, Ao Phang Ka, Ao Hin Lad and nearby islands are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Seagrass beds along the coast of Ao Taling Ngam and Ao Hin Lad are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Tourist beaches along the bays in the area include Ao Taling Ngam, Ao Phang Ka and Ao Hin Lad.

Tourist facilities, such as accommodations, restaurants and other infrastructures, have been developed and are available in the area. Various tourism-related businesses are growing, such as diving tours, spas and boat rentals.

Ra Cha Ferry, a ferry port, is located in Ao Taling Ngam, while a marina is situated in Ao Hin Lad in the southern coast.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

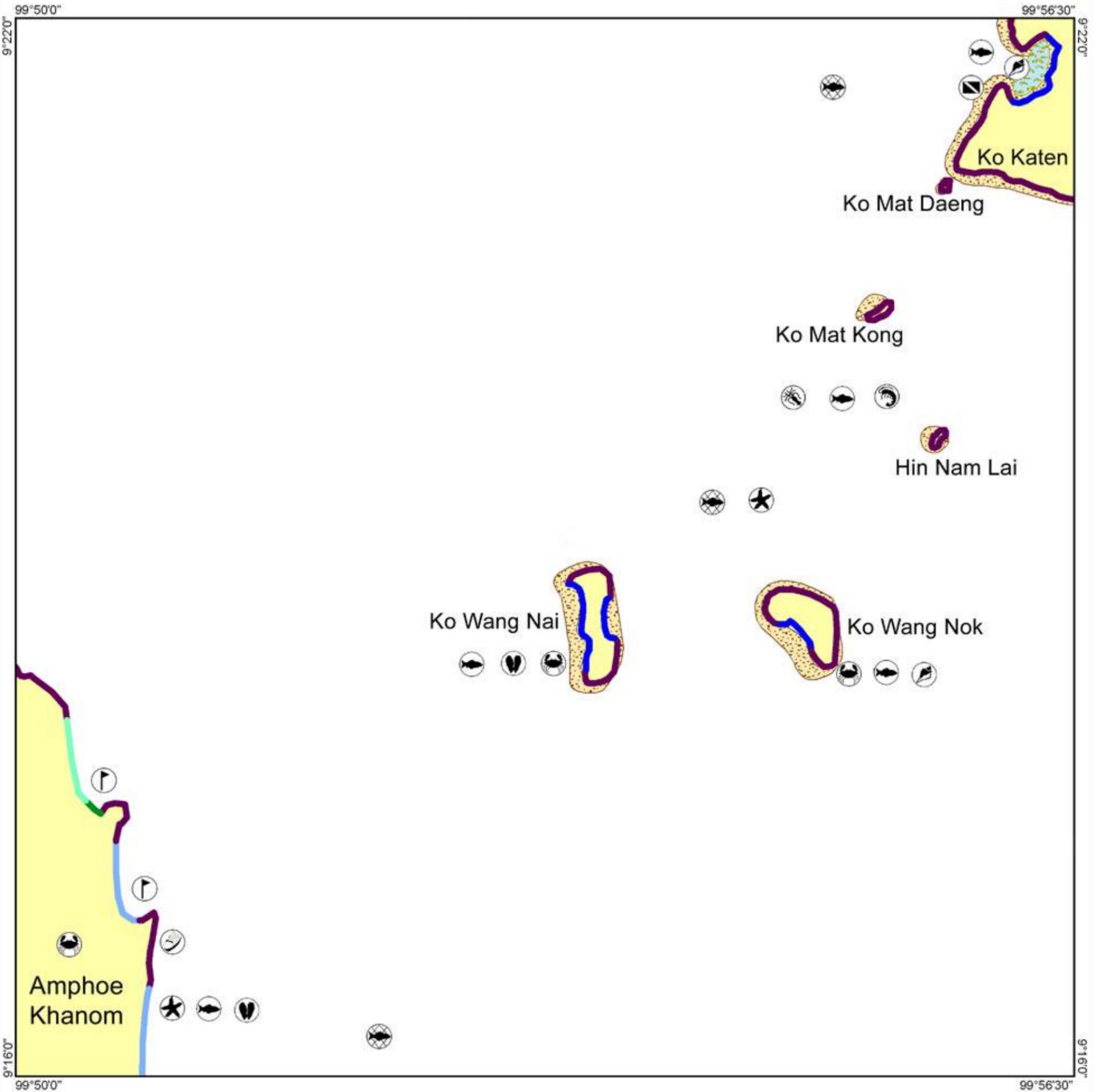
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat - Surat Thani Province

Thailand - 55



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6A

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds

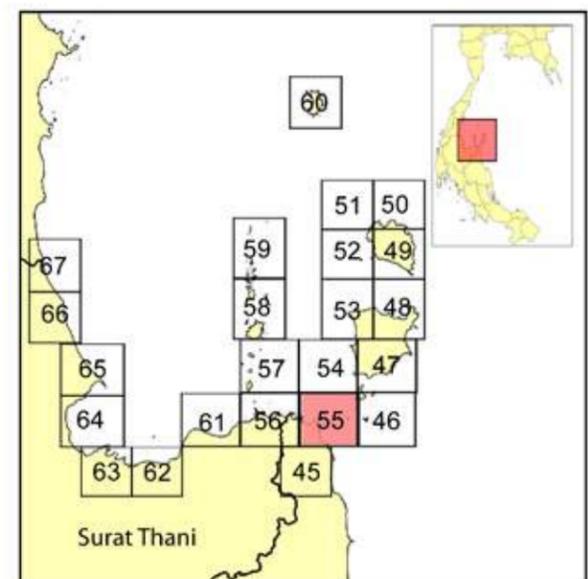
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Ferry
- Subsistence Fishing

Location of Map



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 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000
 1 .5 0 1 KILOMETER

General Information

This area covers the northeastern coastline of Khanom District of Nakhon Si Thammarat Province and nearby smaller islands of Surat Thani Province, namely: Ko Katen, Ko Mat Daeng, Ko Mat Kong, Ko Wang Nai and Ko Wang Nok, with areas of 6.585 km², 0.025 km², 0.021 km², 0.356 km² and 0.385 km², respectively. Hin Nam Lai, an underwater pinnacle, is also located in the area.

Shoreline

Along the coast in Khanom District are exposed rocky shores and rocky cliffs (ESI 1), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5) and gravel beaches (ESI 6A), while exposed rocky shores and rocky cliffs alternate with fine- to medium-grained sand beaches (ESI 3) along the coasts of the smaller islands.

Biological Resources

Coral reefs along the coasts of the smaller islands are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Seagrass beds along the bay west of Ko Katen are dominated with *Halophila ovalis*, *Halophila beccarii* and *Enhalus acorides*. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Ao Thong Tanod and Ao Thong Nian in Khanom District have white sand beaches lined with coconut trees, as well as available tourist facilities. Beaches are present in some parts of Ko Katen, Ko Wang Nai and Ko Wang Nok.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in Ko Katen, attracting many visitors to the area.

A small ferry port is located south of Ao Thong Nian in Khanom District.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

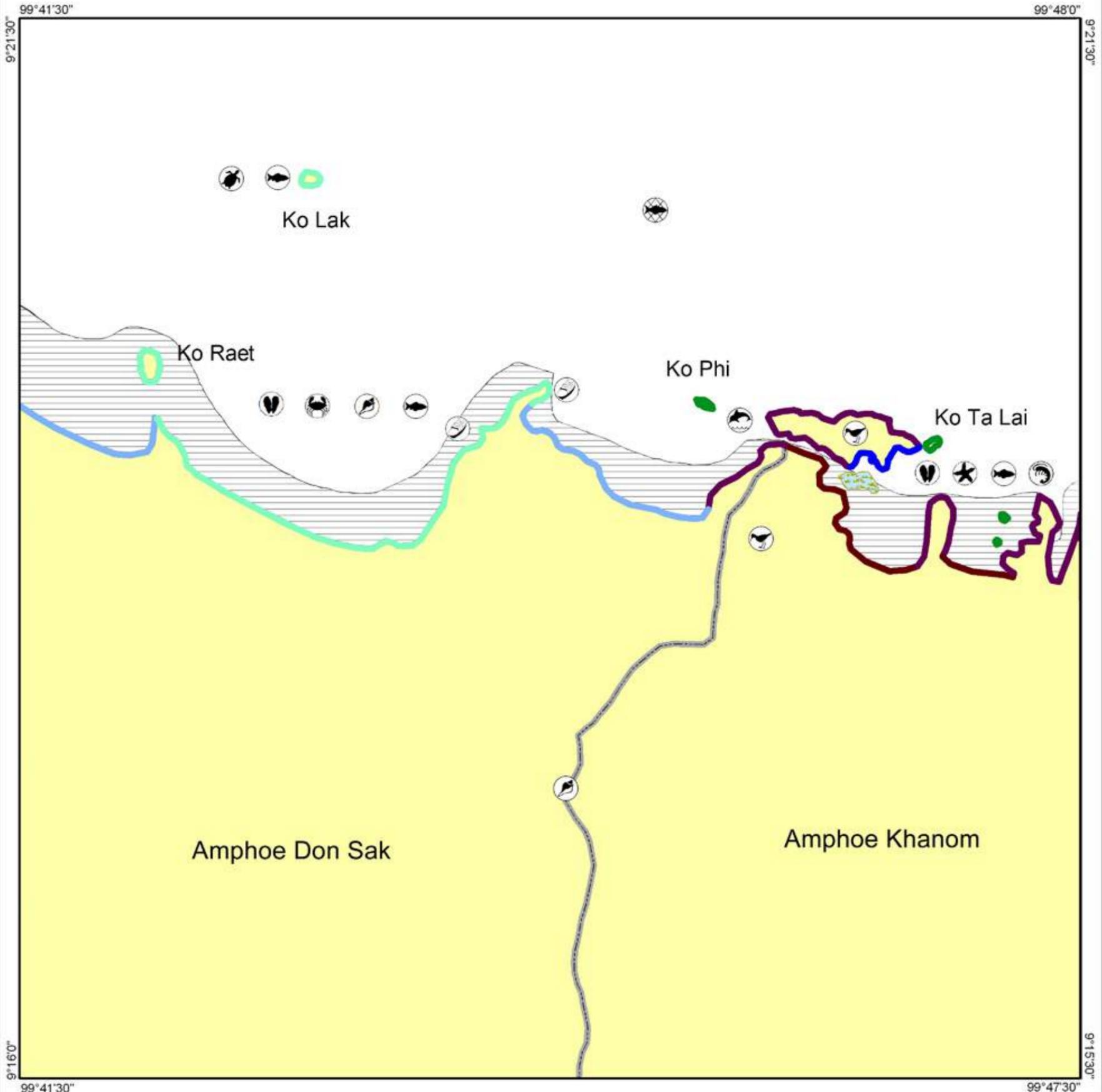
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Nakhon Si Thammarat - Surat Thani Province

Thailand - 56



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6A
- ESI 7

Biological/Human-Use Areas

- Seagrass Beds
- Tidal Flats

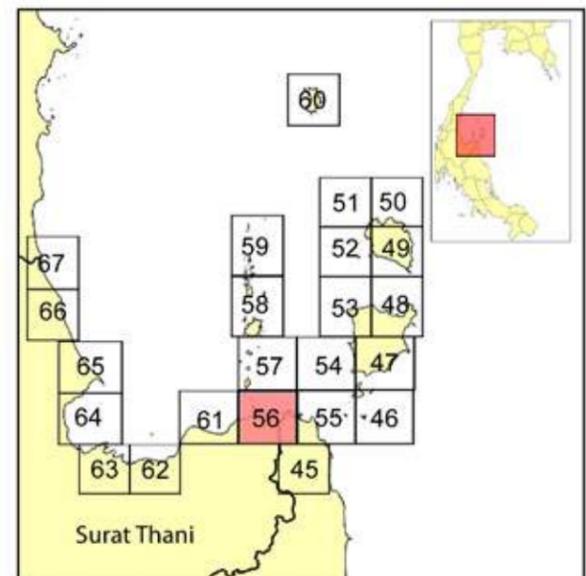
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Turtle

Human-Use/ Oil Spill Response Resources

- Ferry
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Khanom District of Nakhon Si Thammarat Province and Don Sak District of Surat Thani Province, as well as four islands off the coast, namely: Ko Lak, Ko Raet, Ko Phi and Ko Ta Lai, with areas of 0.03 km², 0.059 km², 0.008 km² and 0.594 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), gravel beaches (ESI 6A) and exposed tidal flats (ESI 7).

Biological Resources

Tidal flats are situated along the whole coastline, while the small patch of seagrass beds between the mainland and Ko Ta Lai are dominated with *Enhalus acorides*, *Thalassia hemprichii*, *Halodule uninervis* and *Halophila ovalis*. Both tidal flats and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Fish communities, marine mammals and sea turtles can also be found in coastal and pelagic waters in the area.

Human Use Features

Because most of the shoreline is composed of coarse-grained sand and gravel, there are no tourist beaches in the area. Donsak Pier and Don Sak Sakon Pier are two ferry ports located in the area.

Oil Spill Response Resources

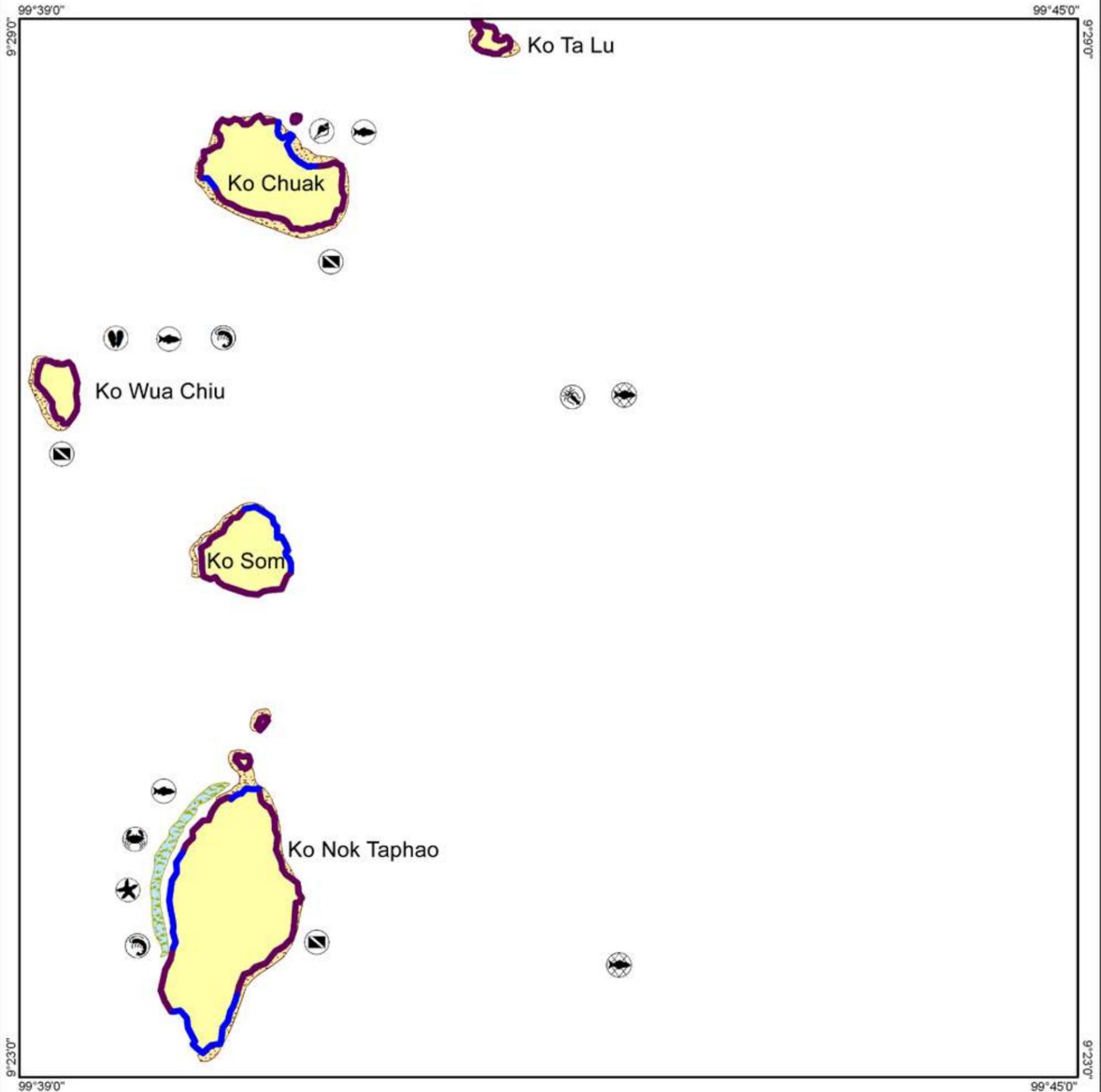
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 57



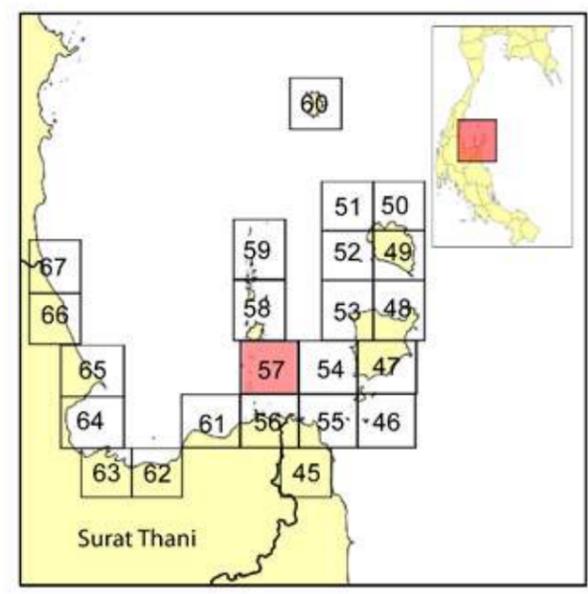
Shoreline Classification
 ESI 1 (Red line)
 ESI 3 (Blue line)

Biological/Human-Use Areas
 Coral Reef (Yellow stippled)
 Seagrass Beds (Green stippled)

Biological Resources
 Bivalve (Shell icon)
 Crab (Crab icon)
 Echinoderm (Star icon)
 Fish/Nursery Area (Fish icon)
 Gastropod (Gastropod icon)
 Shrimp (Shrimp icon)
 Squid/Octopus (Squid/Octopus icon)

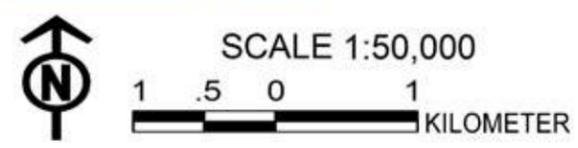
**Human-Use/
 Oil Spill Response Resources**
 Diving (Diver icon)
 Subsistence Fishing (Fishing boat icon)

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers some of the smaller islands off the coast of Surat Thani Province, namely: Ko Ta Lu, Ko Chuak, Ko Wua Chiu, Ko Som and Ko Nok Taphao, with areas of 0.061 km², 0.713 km², 0.211 km², 1.255 km² and 2.845 km², respectively.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites*, *Favia*, *Pavona* and *Favites* species. Seagrass beds are present along the western coast of Ko Nok Taphao. Both coral reefs and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the small islands, attracting many visitors to the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

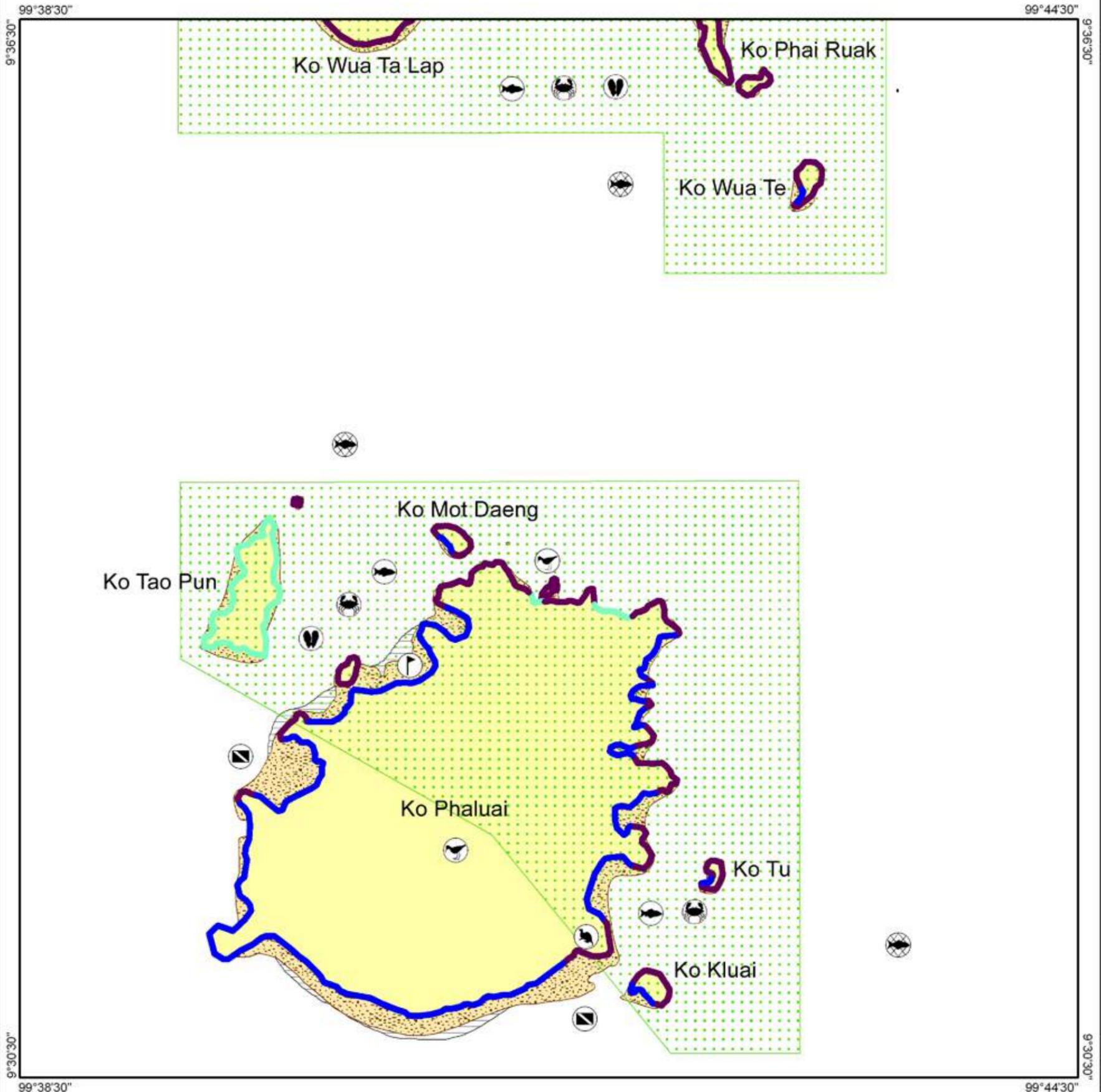
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

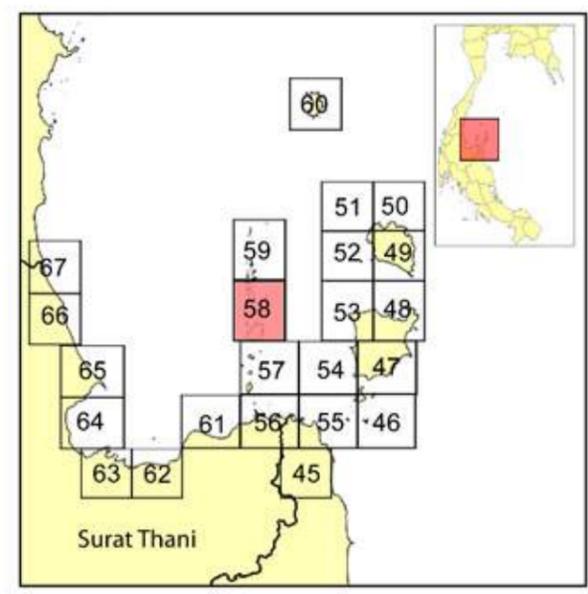
Surat Thani Province

Thailand - 58



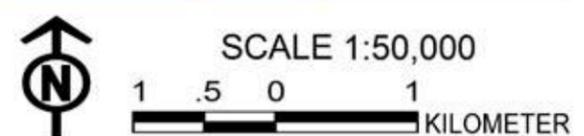
- | | | |
|--|--|---|
| <p>Shoreline Classification</p> <ul style="list-style-type: none"> — ESI 1 — ESI 3 — ESI 5 <p>Biological/Human-Use Areas</p> <ul style="list-style-type: none"> Coral Reef National Park Tidal Flats | <p>Biological Resources</p> <ul style="list-style-type: none"> Bird Bivalve Crab Fish/Nursery Area Terrestrial Mammal | <p>Human-Use/ Oil Spill Response Resources</p> <ul style="list-style-type: none"> Beach Diving Subsistence Fishing |
|--|--|---|

Location of Map



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Not for Navigation



General Information

This area covers some of the smaller islands off the coast of Surat Thani Province. Ko Phaluai, with an area of 15.8 km², is the largest island in the area, surrounded with smaller islands, namely: Ko Phai Ruak, Ko Wua Te, Ko Tao Pun, Ko Mot Daeng, Ko Tu, Ko Kluai and Ko Wua Ta Lap.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites*, *Pavona* and *Favites* species. Coral reefs provide shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs and bivalves.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Birds and terrestrial mammals can also be found in the area.

Human Use Features

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the small islands, attracting many visitors to the area. Small beaches along the coasts draw tourists to the islands. Approximately half of Ko Phaluai belongs to Mu Ko Ang Thong National Park, attracting many visitors to its marine tourism sites.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

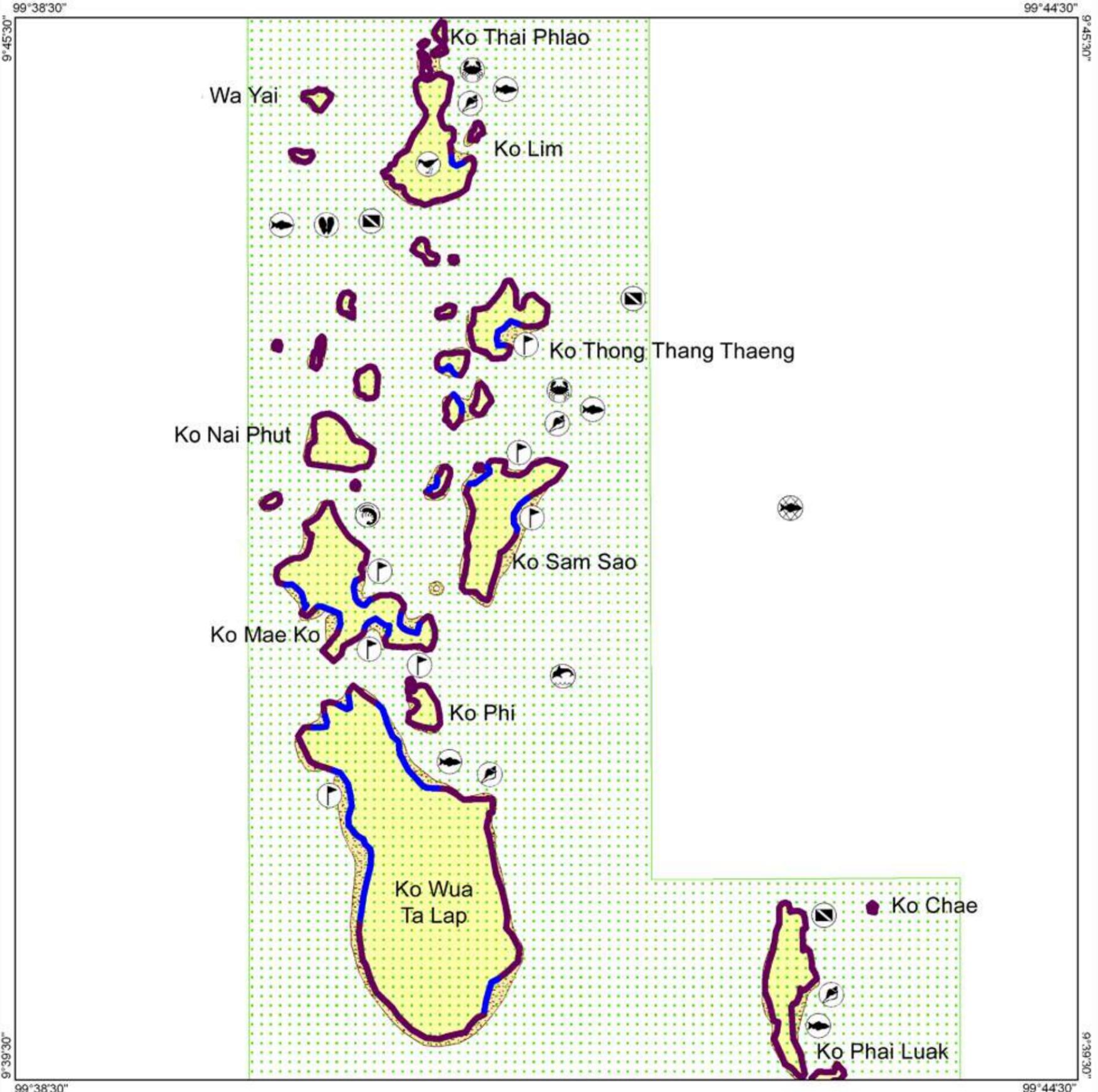
Special Issue

Majority of the area belongs to Mu Ko Ang Thong National Park. The marine national park covers 42 islands and a total area of 102 km², approximately 18 km² of which are in terrestrial environments. The park was established on 12 November 1980 and has an administrative office in Ko Wua Ta Lap.

Mu Ko Ang Thong National Park consists of sandy and rocky beaches and coral reefs with high biodiversity of plants and animals. It is an important nature reserve providing habitats for threatened and critically endangered species, such as the Snow White Paphiopedilum (*Paphiopedilum niveum*), black hornbill (*Anthracoceros malayanus*), white-bellied sea eagle (*Haliaeetus leucogaster*) and pied imperial pigeon (*Ducula bicolor*). The park was declared as a Ramsar site in 14 August 2002.

Surat Thani Province

Thailand - 59



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Coral Reef
- National Park

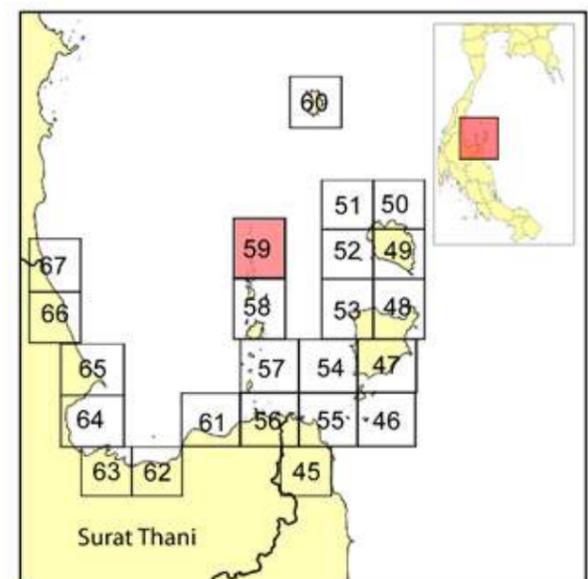
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area covers some of the smaller islands off the coast of Surat Thani Province, namely: Ko Wua Ta Lap, Ko Chae, Ko Phai Luak, Ko Phi, Ko Mae Ko, Ko Sam Sao, Ko Nai Phut, Ko Thong Thang Thaeng, Ko Lim, Ko Thai Phlao and Wa Yai. Ko Wua Ta Lap is the largest island with an area of 4.801 km². All the islands belong to Mu Ko Ang Thong National Park.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites*, *Pavona* and *Favites* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Birds and marine mammals, such as dugongs and dolphins, can also be found in the area.

Human Use Features

The islands are well known for its marine tourism sites, attracting many visitors to the area.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the area. Beaches along the coasts of the islands are suitable for swimming.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

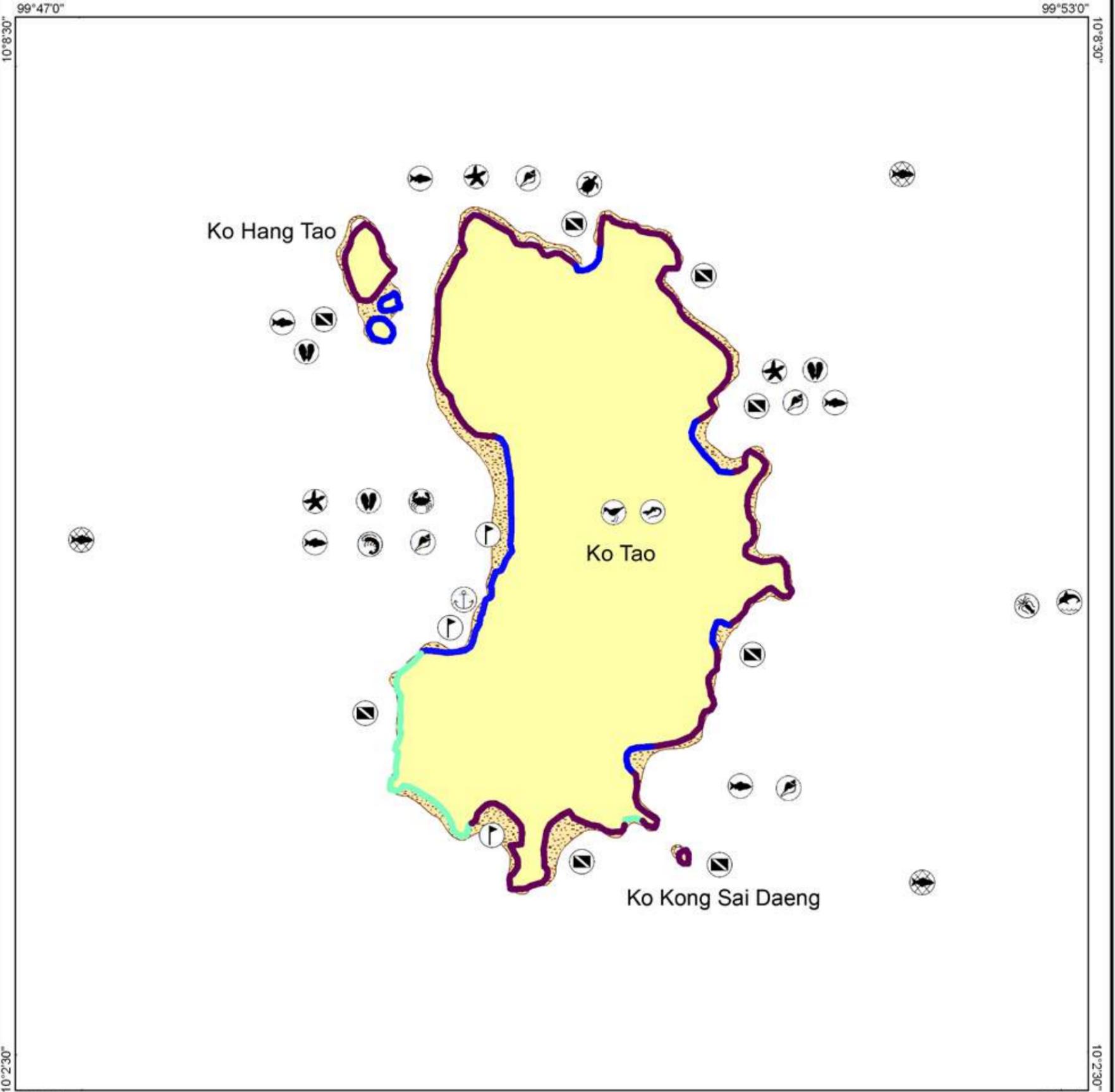
Special Issue

Majority of the area belongs to Mu Ko Ang Thong National Park. The marine national park covers 42 islands and a total area of 102 km², approximately 18 km² of which are in terrestrial environments. The park was established on 12 November 1980 and has an administrative office in Ko Wua Ta Lap.

Mu Ko Ang Thong National Park consists of sandy and rocky beaches and coral reefs with high biodiversity of plants and animals. It is an important nature reserve providing habitats for threatened and critically endangered species, such as the Snow White Paphiopedilum (*Paphiopedilum niveum*), black hornbill (*Anthracoceros malayanus*), white-bellied sea eagle (*Haliaeetus leucogaster*) and pied imperial pigeon (*Ducula bicolor*). The park was declared as a Ramsar site in 14 August 2002.

Surat Thani Province

Thailand - 60



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5

Biological/Human-Use Areas

- Coral Reef
- National Park

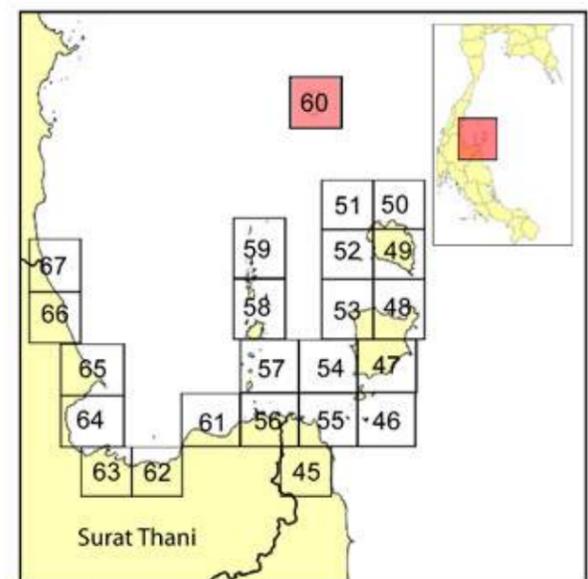
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus
- Turtle

Human-Use/ Oil Spill Response Resources

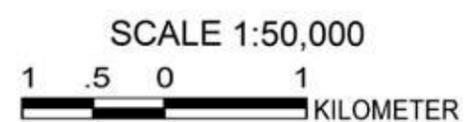
- Beach
- Diving
- Marina
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Ko Tao in Ko Phangan District and its neighboring smaller islands. Ko Tao has an area of 18.57 km². Ko Hang Tao or Ko Nang Yuan, a small island north of Ko Tao, has an area of 0.38 km², while Ko Kong Sai Daeng located south of Ko Tao has an area of 0.01 km².

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites*, *Pavona* and *Fungia* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Birds, reptiles and amphibians can be found in the area.

Sea turtles and some marine mammals, such as dolphins, can also be found in the area.

Human Use Features

Ko Tao is well known for scuba diving and snorkeling activities. Other activities like hiking, rock climbing and bouldering are also popular. Hat Sairee on the western coast of Ko Tao is the most popular beach in the island. It has accommodations, restaurants and dive shops available for tourists. Other small beaches in the island are situated on the eastern and northern coasts. Compared with Ko Samui and Ko Phangan, Ko Tao is less developed but the number of tourists are growing each year.

Ko Tao can be easily accessed by boat. The port in Ban Mae Haad connects Ko Tao to other areas, such as Ko Samui, Ko Phangan and the mainland in Surat Thani and Chumphon provinces.

Oil Spill Response Resources

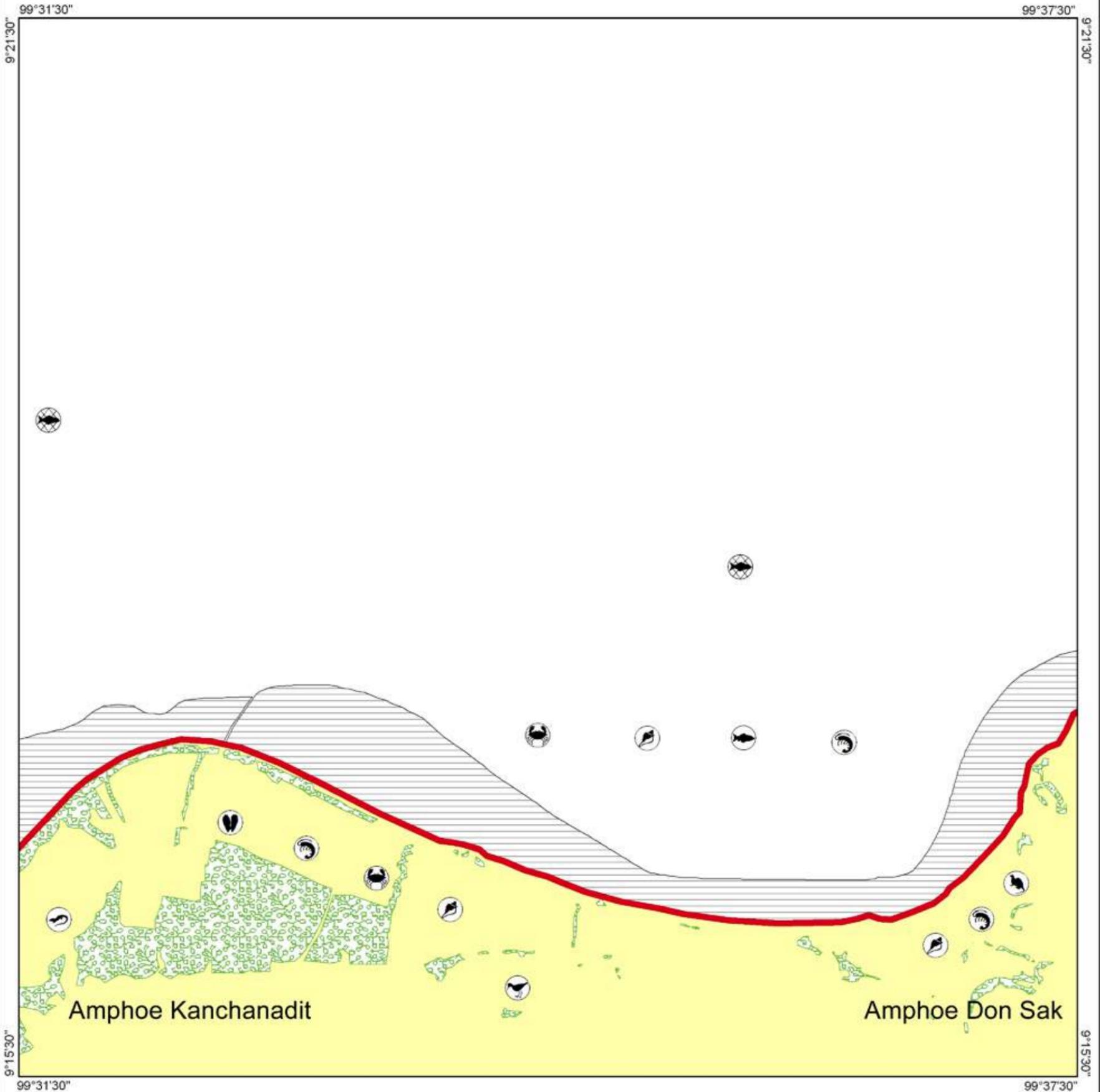
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani Province

Thailand - 61



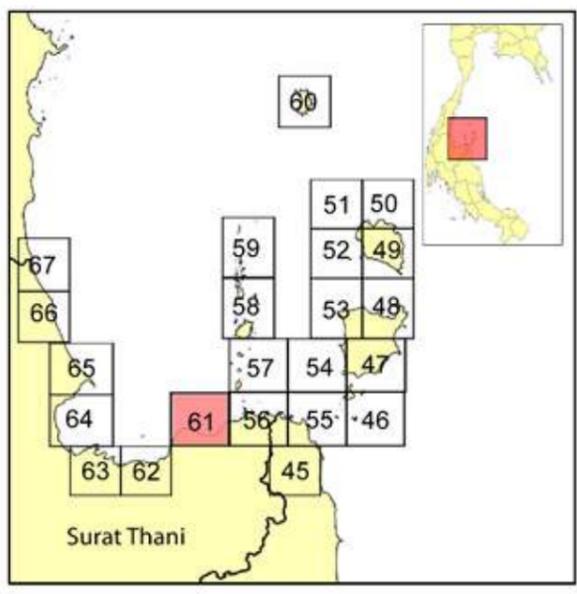
Shoreline Classification
ESI 10B

Biological/Human-Use Areas
 Mangroves
 Tidal Flats

Biological Resources
 Bird
 Bivalve
 Crab
 Fish/Nursery Area
 Gastropod
 Reptile and Amphibian
 Shrimp
 Terrestrial Mammal

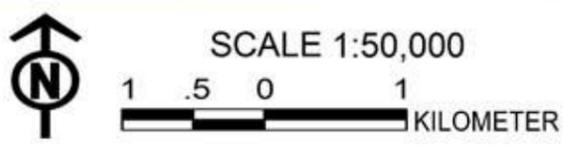
**Human-Use/
 Oil Spill Response Resources**
 Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Don Sak District and Kanchanadit District.

Shoreline

Only mangroves (ESI 10B) are present along the area's coast with muddy substrates.

Biological Resources

Riverine mangroves and mangrove forests fringing the coast are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimps, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy substrates, while fish communities can be found in pelagic and coastal waters.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture.

Oil Spill Response Resources

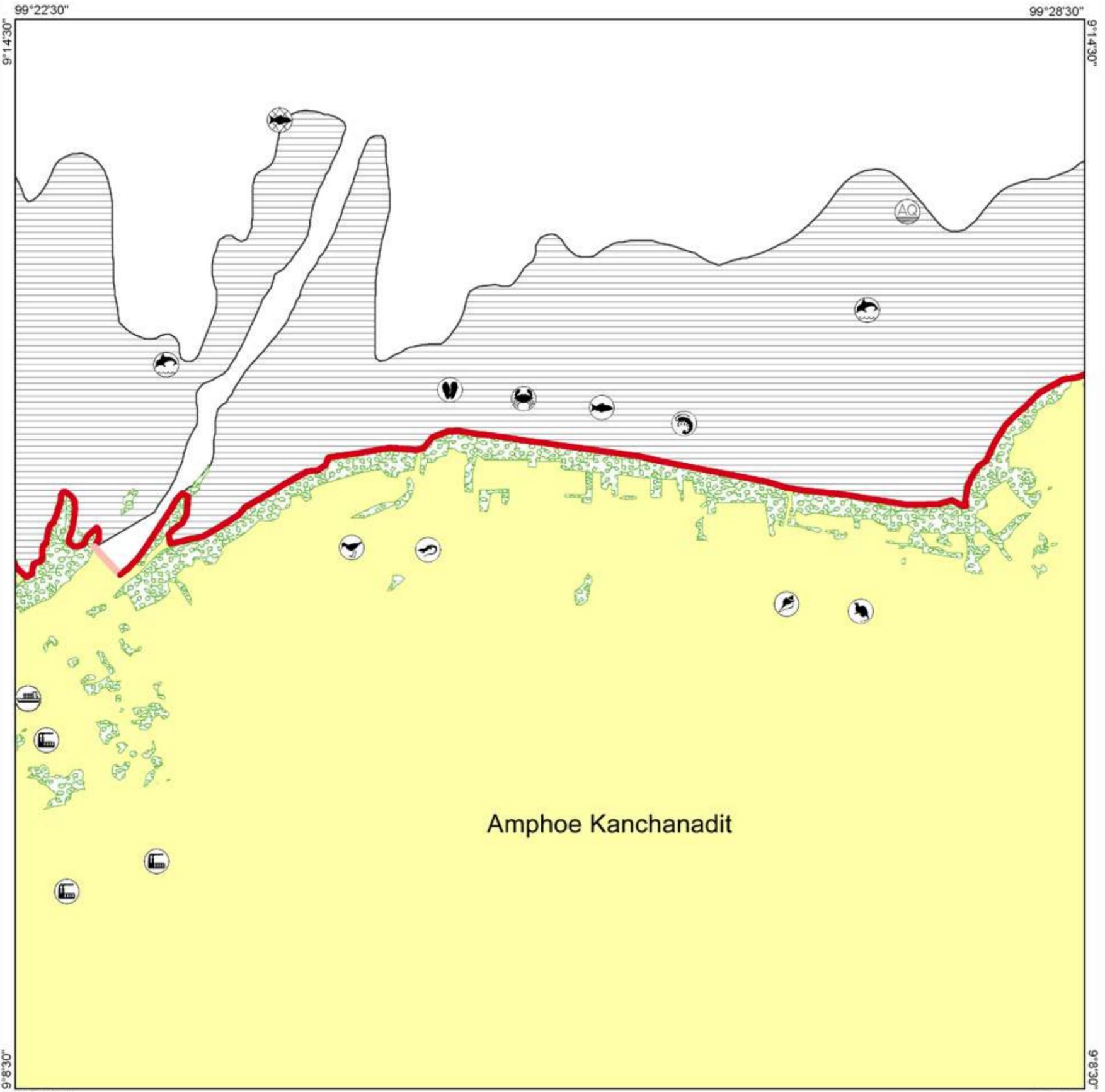
There is no oil spill response resource in the area.

Special Issue

The area forms part of Ao Ban Don, a bay that stretches from Tha Chana District to Don Sak District. Its coastal plain has wide mudflats created by the sedimentation process of Tapi River and other canals. The bay is a coastal and marine environment with high biodiversity and abundant and productive seagrass beds, as well as mangrove forests covering an area of 64.5 km².

Surat Thani Province

Thailand - 62



Shoreline Classification

- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

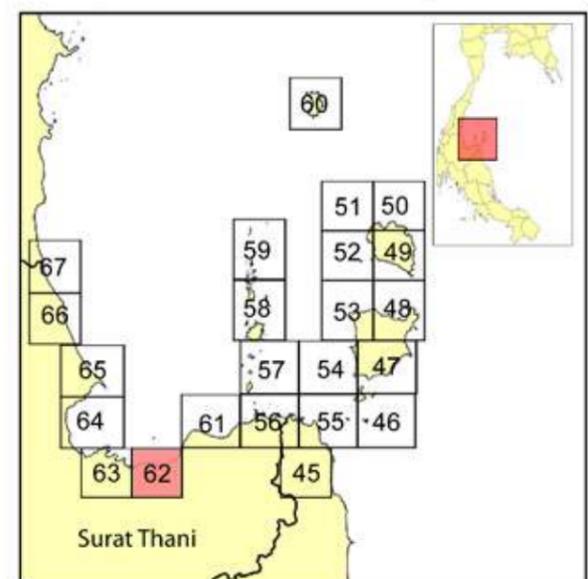
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Factory
- Harbor
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Kanchanadit District. Its neighboring districts include Don Sak, Ban Na San and Mueang Surat Thani of Surat Thani Province; and Sichon and Nopphitam of Nakhon Si Thammarat Province.

Shoreline

Along the coast in the area are sheltered tidal flats (ESI 9A) and mangroves (ESI 10B) in muddy substrates.

Biological Resources

Riverine mangroves and mangrove forests fringing the coast are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimps, reptiles, amphibians, bivalves, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy substrates, while fish communities can be found in pelagic and coastal waters.

Marine mammals can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture.

Harbors are situated along Tapi River and some factories are also located near river areas.

Oil Spill Response Resources

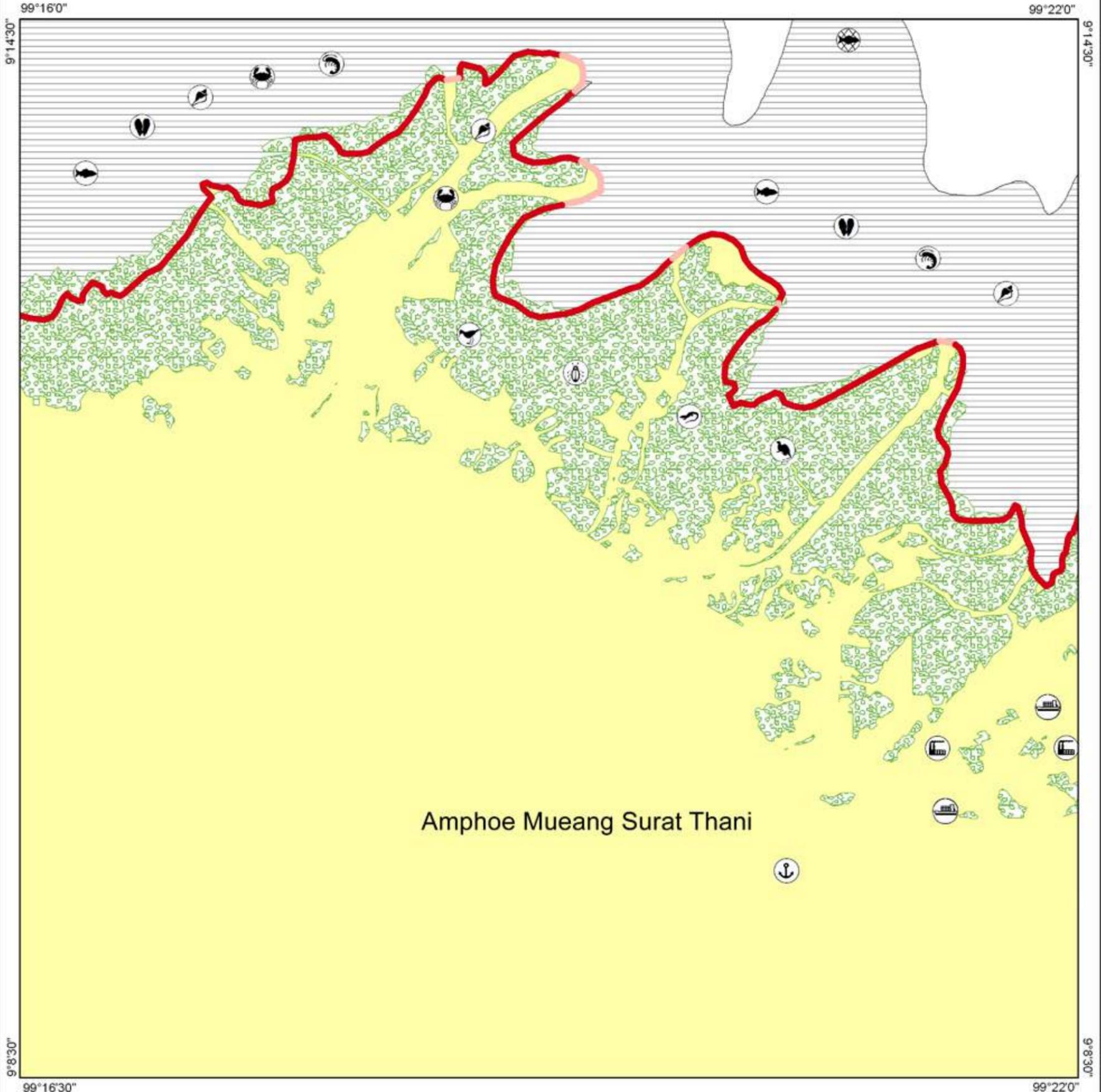
There is no oil spill response resource in the area.

Special Issue

The area forms part of Ao Ban Don, a bay that stretches from Tha Chana District to Don Sak District. Its coastal plain has wide mudflats created by the sedimentation process of Tapi River and other canals. The bay is a coastal and marine environment with high biodiversity and abundant and productive seagrass beds, as well as mangrove forests covering an area of 64.5 km².

Surat Thani Province

Thailand - 63



Amphoe Mueang Surat Thani

Shoreline Classification

- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

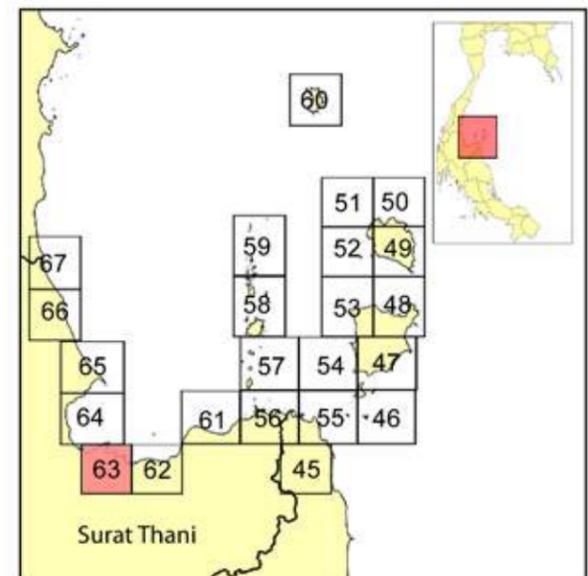
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Factory
- Fishing Port
- Harbor
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Mueang Surat Thani District. Its neighboring districts include Kanchanadit, Ban Na San, Ban Na Doem and Phunphin.

Shoreline

Along the coast in the area are sheltered tidal flats (ESI 9A) and mangroves (ESI 10B) in muddy substrates.

Biological Resources

Riverine mangroves and mangrove forests fringing the coast are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimps, insects, reptiles, amphibians, bivalves, gastropods, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy substrates, while fish communities can be found in pelagic and coastal waters.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture.

Harbors and fishing ports are situated along Tapi River and some factories are also located near river areas.

Oil Spill Response Resources

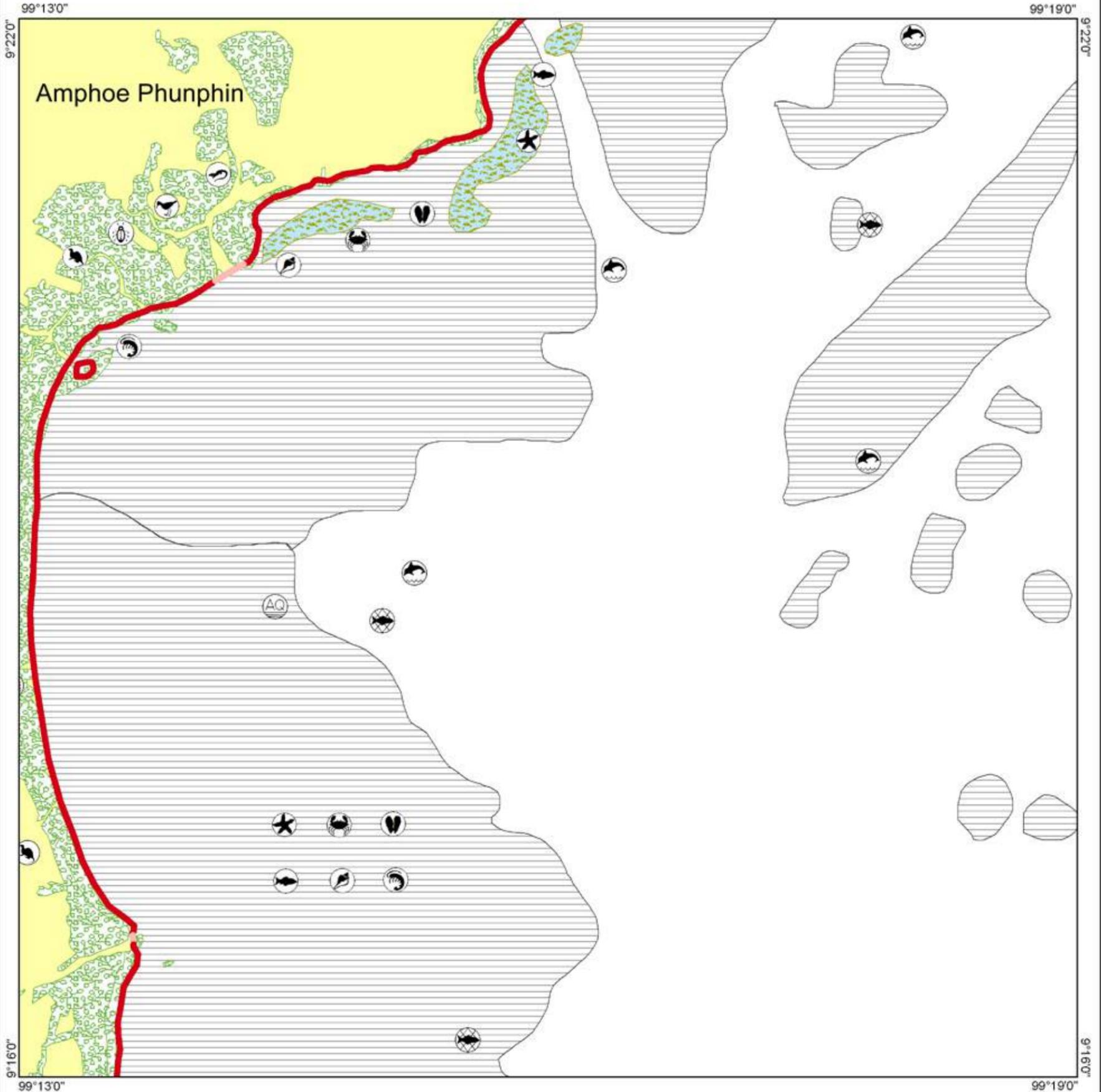
There is no oil spill response resource in the area.

Special Issue

The area forms part of Ao Ban Don, a bay that stretches from Tha Chana District to Don Sak District. Its coastal plain has wide mudflats created by the sedimentation process of Tapi River and other canals. The bay is a coastal and marine environment with high biodiversity and abundant and productive seagrass beds, as well as mangrove forests covering an area of 64.5 km².

Surat Thani Province

Thailand - 64



Shoreline Classification

- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Seagrass Beds
- Tidal Flats

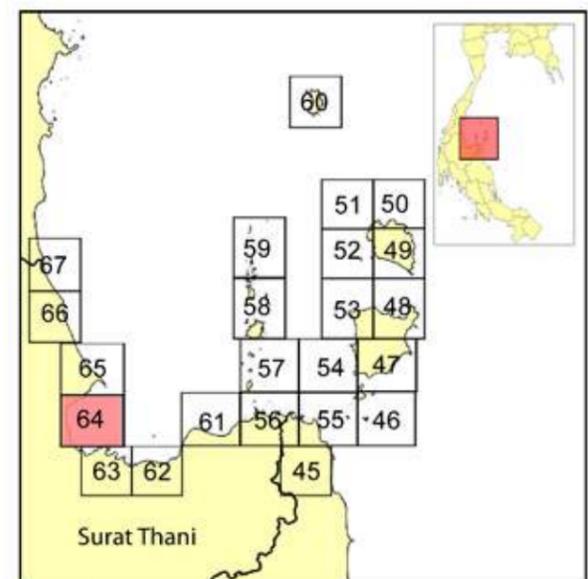
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Factory
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by Phunphin District and Tha Chang District.

Shoreline

Along the coast in the area are sheltered tidal flats (ESI 9A) and mangroves (ESI 10B) in muddy substrates.

Biological Resources

Riverine mangroves and mangrove forests surround the coastal area. Seagrass beds on the northern part of Ao Ban Don are dominated with *Halodule uninervis*, *Halophila ovalis*, *Halophila decipiens* and *Enhalus acorides*. Both mangroves and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy substrates, while fish communities can be found in pelagic and coastal waters.

Marine mammals, such as dugongs and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture.

Oil Spill Response Resources

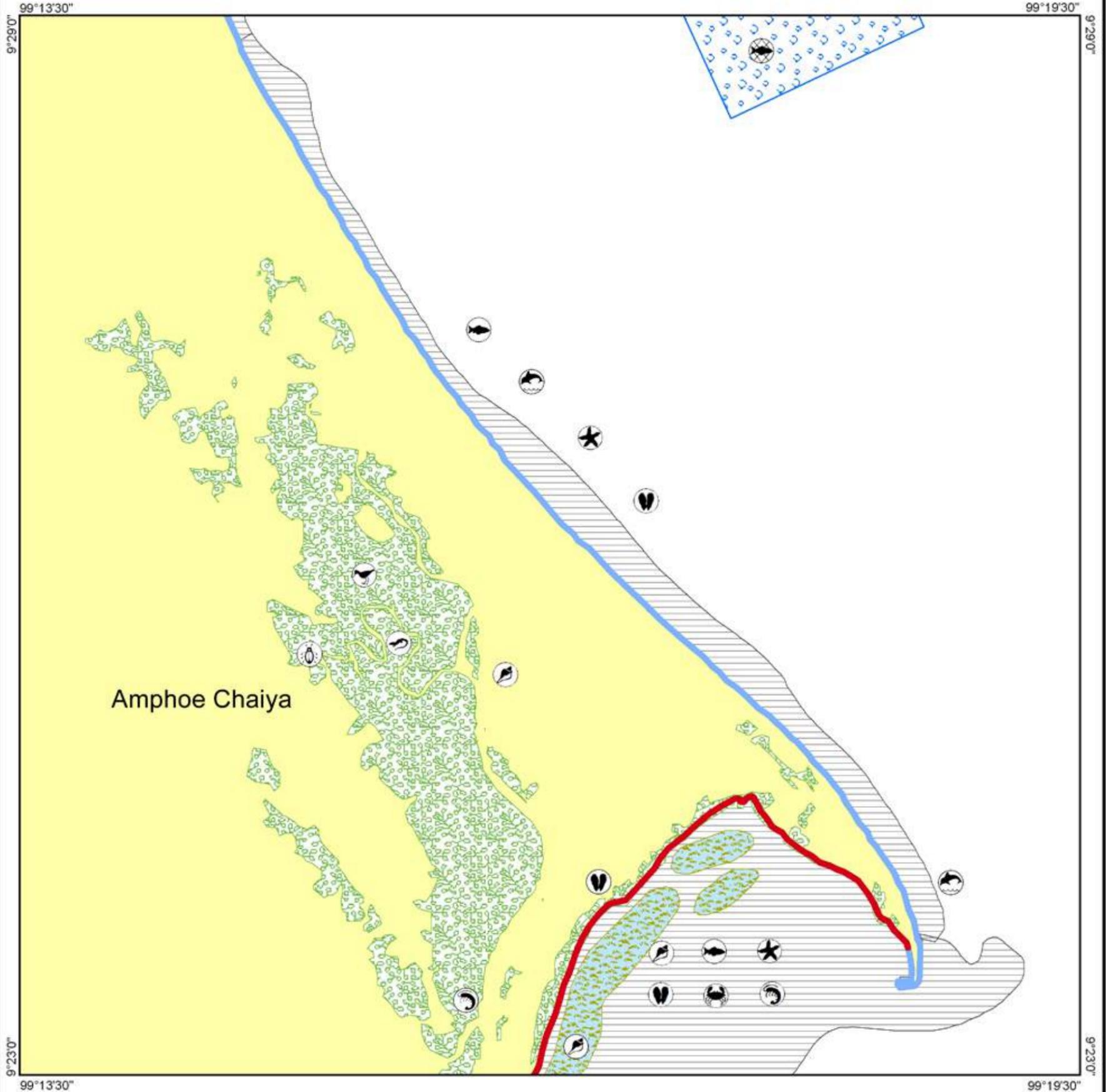
There is no oil spill response resource in the area.

Special Issue

The area forms part of Ao Ban Don, a bay that stretches from Tha Chana District to Don Sak District. Its coastal plain has wide mudflats created by the sedimentation process of Tapi River and other canals. The bay is a coastal and marine environment with high biodiversity and abundant and productive seagrass beds, as well as mangrove forests covering an area of 64.5 km².

Surat Thani Province

Thailand - 65



Shoreline Classification

- ESI 4
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

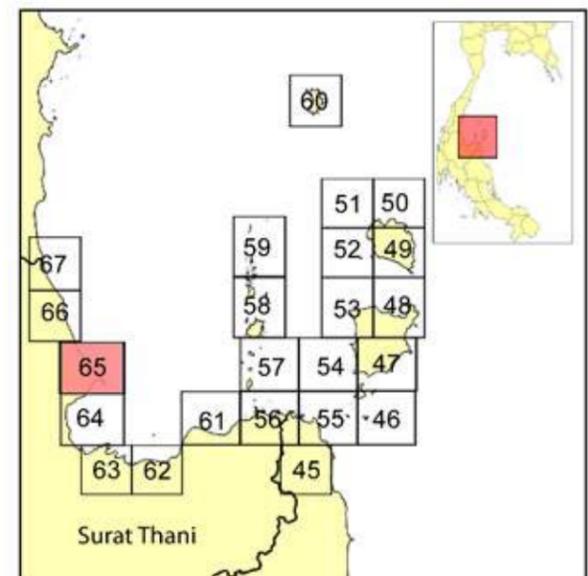
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Chaiya District and includes the northern end of Ao Ban Don. Its neighboring districts include Tha Chang and Tha Chana of Surat Thani Province, Kapoe of Ranong Province and Phato of Chumphon Province.

Shoreline

Mangroves (ESI 10B) are present along the coast of Ao Ban Don, while coarse-grained sand beaches (ESI 4) are situated along the shoreline outside the bay extending from the cape to the north.

Biological Resources

Riverine mangroves and mangrove forests surround the coastal area. Seagrass beds on the northern part of Ao Ban Don are dominated with *Halodule uninervis*, *Halophila ovalis*, *Halophila decipiens* and *Enhalus acorides*. Both mangroves and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

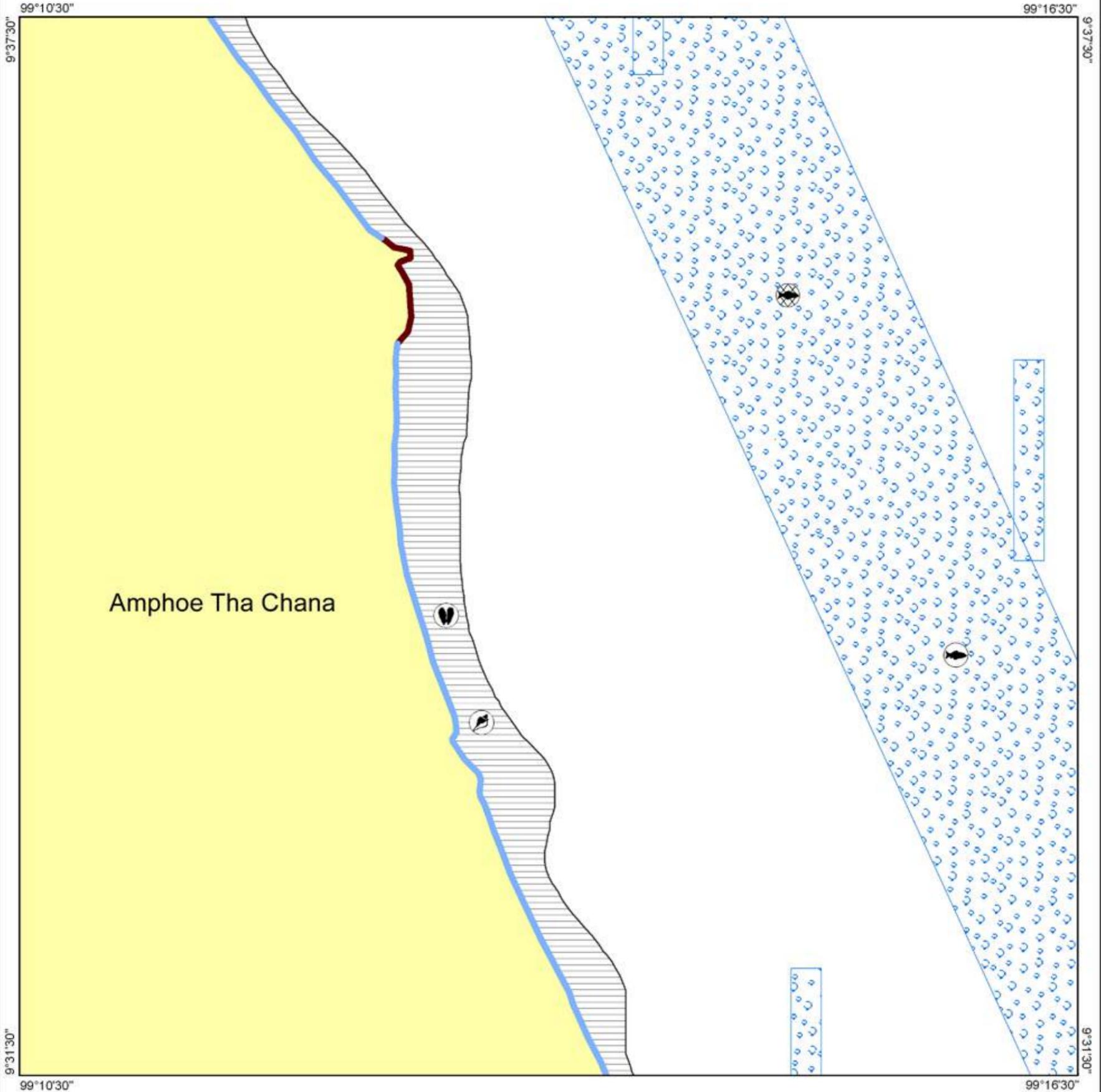
There is no oil spill response resource in the area.

Special Issue

The area forms part of Ao Ban Don, a bay that stretches from Tha Chana District to Don Sak District. Its coastal plain has wide mudflats created by the sedimentation process of Tapi River and other canals. The bay is a coastal and marine environment with high biodiversity and abundant and productive seagrass beds, as well as mangrove forests covering an area of 64.5 km².

Surat Thani Province

Thailand - 66

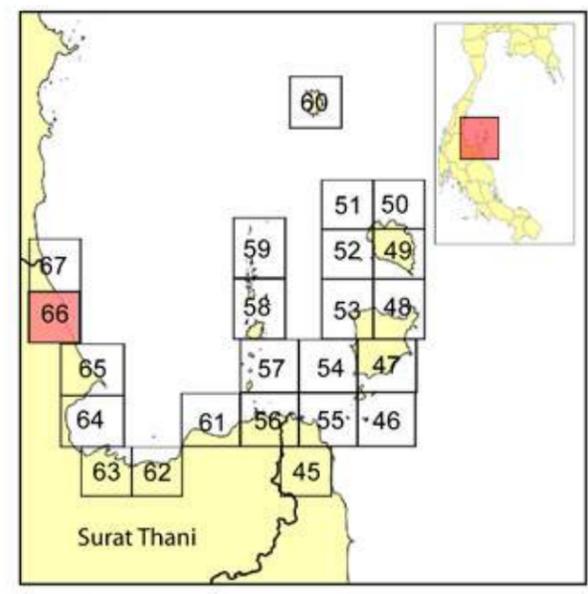


- Shoreline Classification**
- ESI 4
 - ESI 7
- Biological/Human-Use Areas**
- Artificial Reef
 - Tidal Flats

- Biological Resources**
- Bivalve
 - Fish/Nursery Area
 - Gastropod

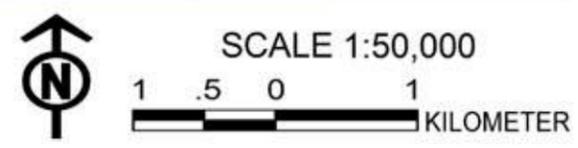
- Human-Use/ Oil Spill Response Resources**
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Tha Chana District. Its neighboring districts include Chaiya of Surat Thani Province and Phato and Lamae of Chumphon Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), as well as exposed tidal flats (ESI 7) which are usually found on the river mouth or canal.

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, especially benthic organisms like gastropods and bivalves.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

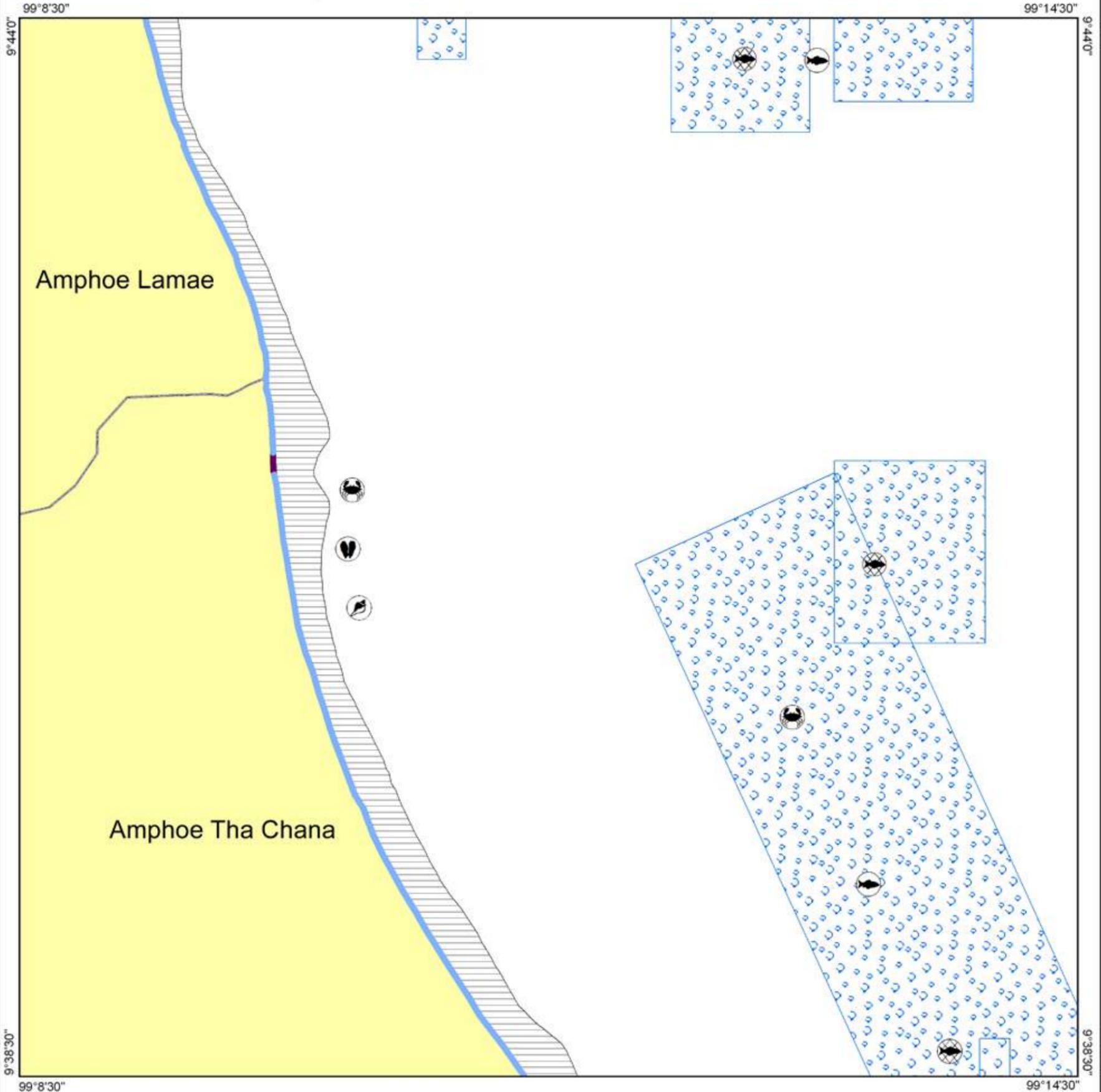
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Surat Thani - Chumphon Province

Thailand - 67



Shoreline Classification

- ESI 1
- ESI 4

Biological/Human-Use Areas

- Artificial Reef
- Tidal Flats

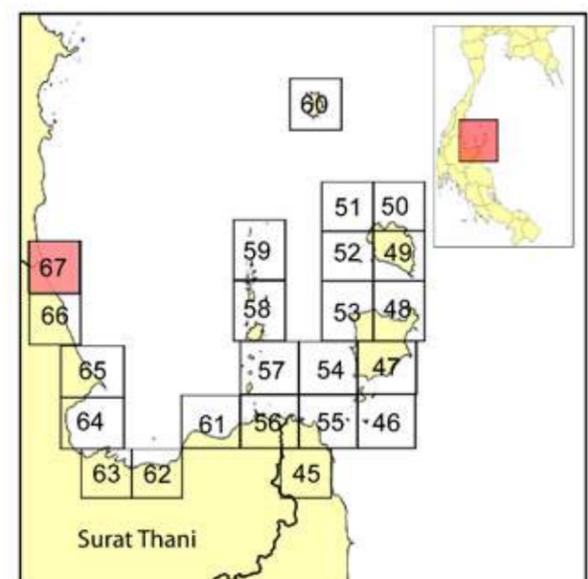
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the shoreline shared by Tha Chana District of Surat Thani Province and Lamae District of Chumphon Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4) and solid man-made structures (ESI 1) located in a small area at the middle part of the map.

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, especially benthic organisms like crabs, gastropods and bivalves.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

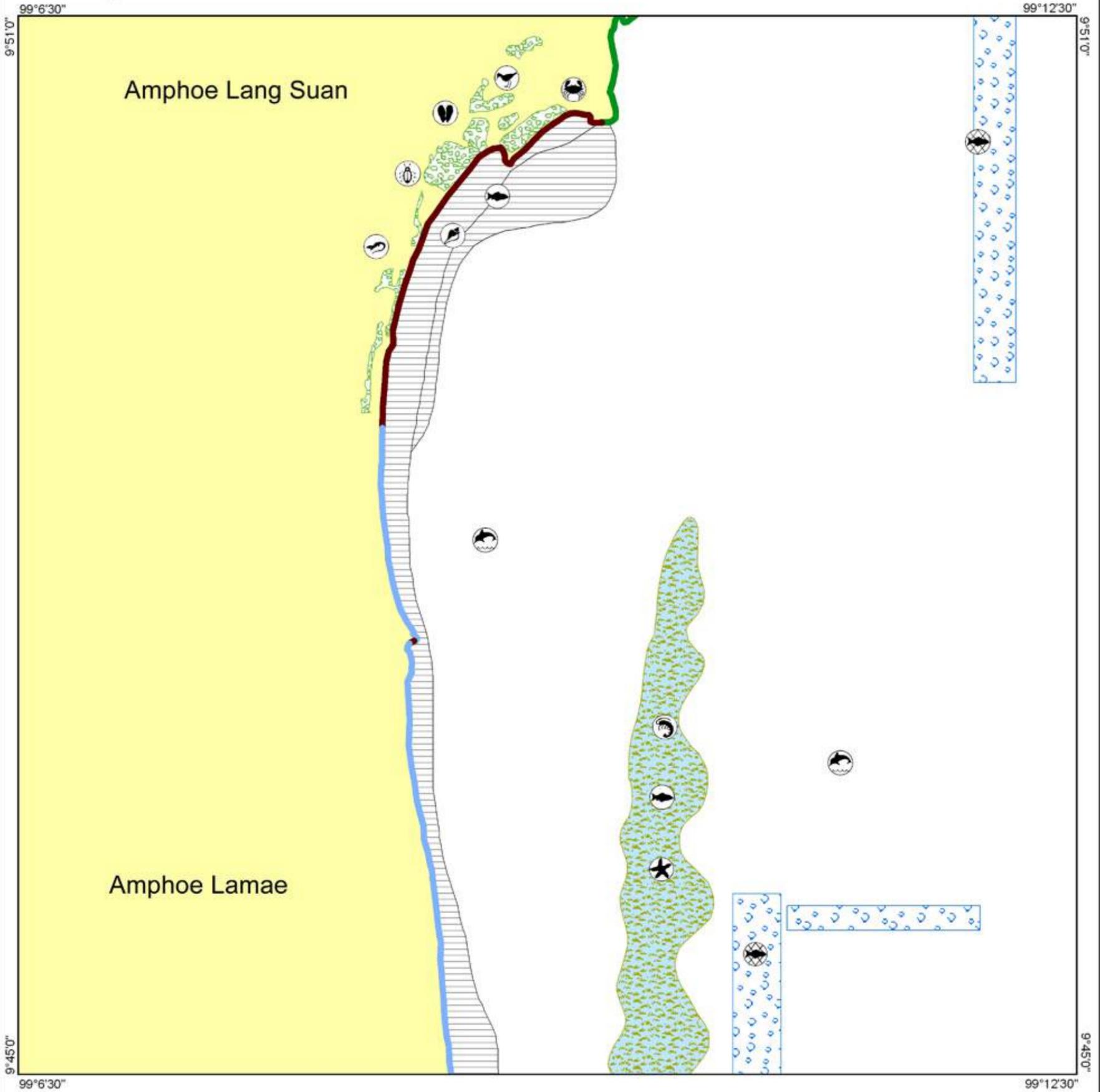
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 68



- Shoreline Classification**
- ESI 4
 - ESI 6A
 - ESI 7

- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves
 - Seagrass Beds
 - Tidal Flats

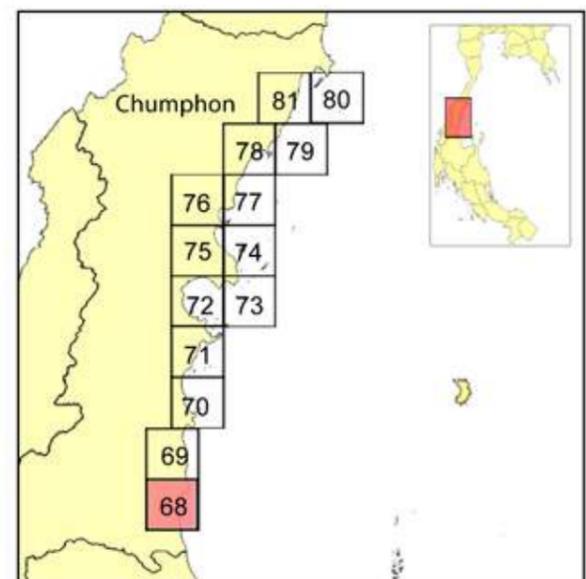
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp

**Human-Use/
Oil Spill Response Resources**

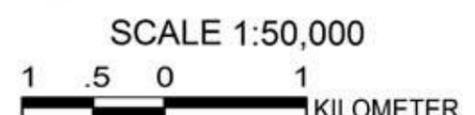
- Subsistence Fishing

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Lang Suan District and Lamae District in Ao Lamae, a small bay of Lamae District.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), gravel beaches (ESI 6A) and exposed tidal flats (ESI 7).

Biological Resources

Riverine mangroves and mangrove forests are situated on the northern part of Ao Lamae. Seagrass beds along the coast are dominated by *Enhalus acorides*, *Halophila ovalis* and *Halophila beccarii*. Both mangroves and seagrass beds are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs and dolphins, can also be found in the area.

Human Use Features

Due to its coarse-grained sand and gravel, beaches in Lamae District are less popular compared with other tourist beaches in Chumphon Province, but resorts and restaurants are still present along the coast in some areas.

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

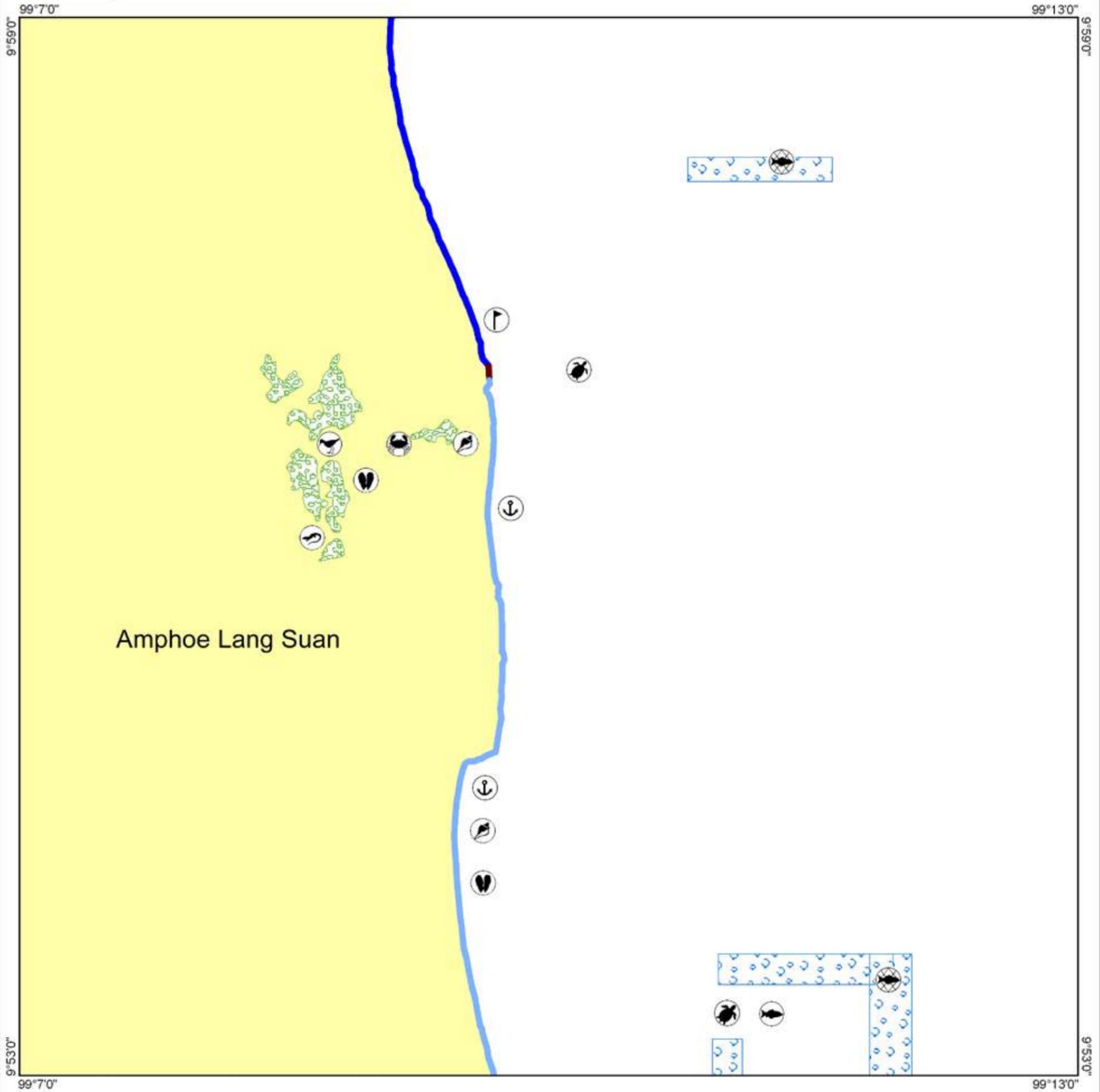
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 69



Shoreline Classification

- ESI 3
- ESI 4
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Mangroves

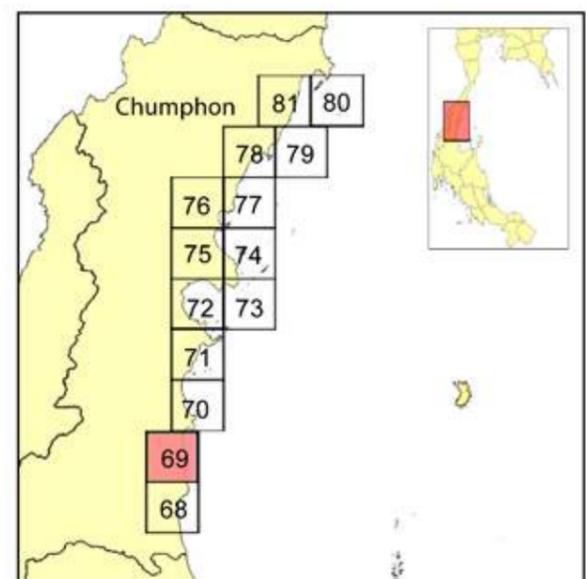
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Turtle

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Lang Suan District. Its neighboring districts include Lamae, Phato, Sawi and Thung Tako of Chumphon Province, and La-un of Ranong Province. Lang Suan River is the main river in the area.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) on the north, coarse-grained sand beaches (ESI 4) southward from the mouth of Lang Suan River, and exposed tidal flats (ESI 7).

Biological Resources

Riverine mangrove forests along Lang Suan River are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Sea turtles can also be found in the area.

Oil Spill Human Use Features

Hat Ao Lang Suan, a tourist beach located in a small bay, has white sand and lines of coconut trees. Tourist facilities, such as resorts and restaurants, are available along the coast.

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A fishing port is also present in the area.

Oil Spill Response Resources

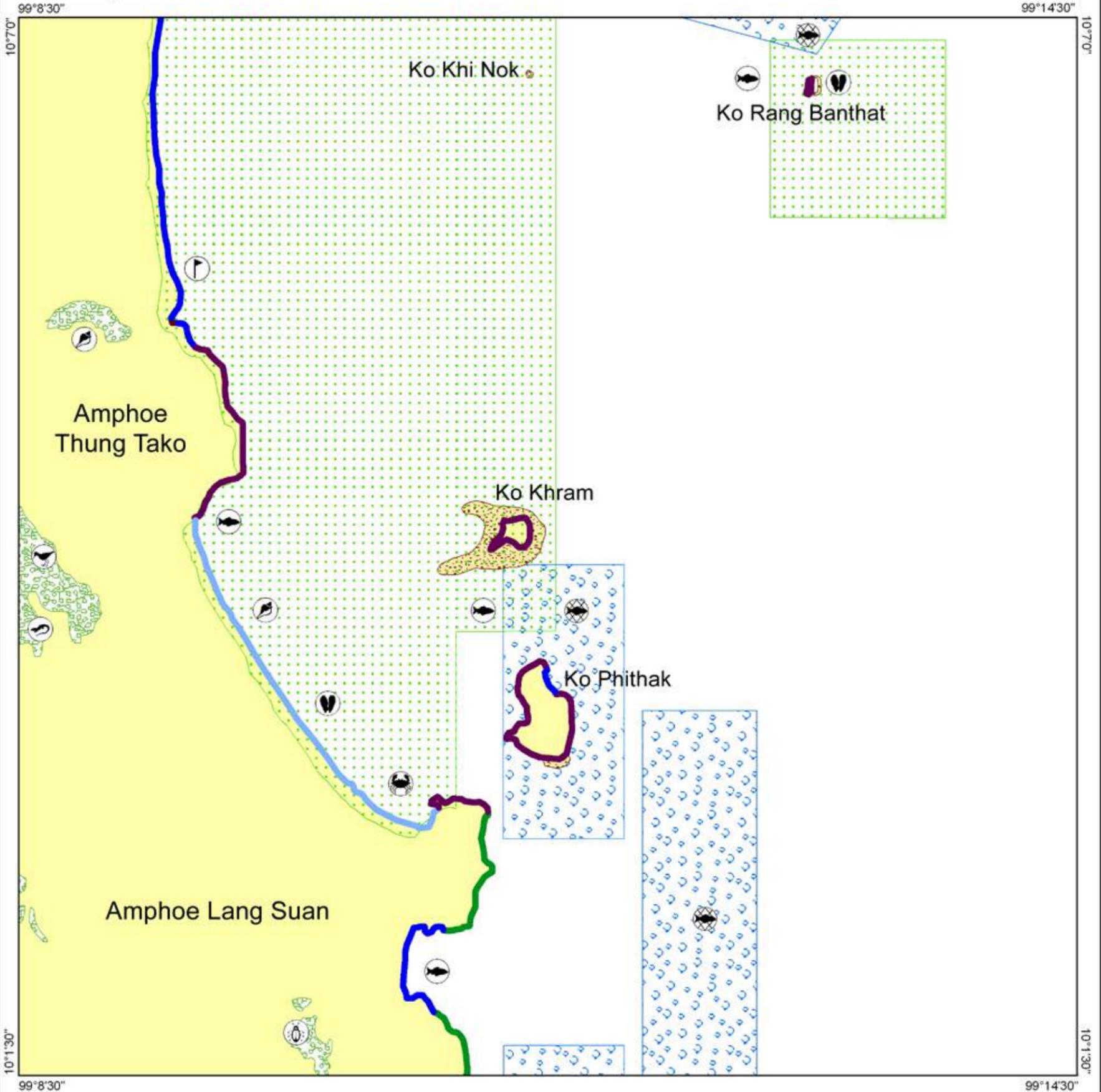
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 70



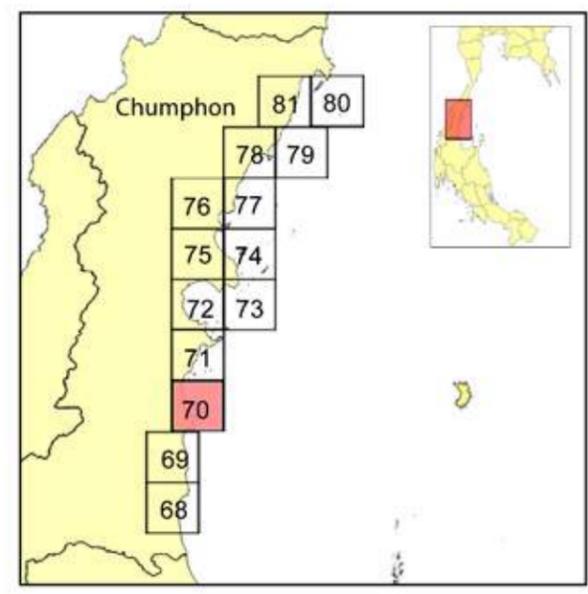
- Shoreline Classification**
- ESI 1 (Purple line)
 - ESI 3 (Blue line)
 - ESI 4 (Light blue line)
 - ESI 6A (Green line)
 - ESI 7 (Red line)

- Biological Resources**
- Bird (Bird icon)
 - Bivalve (Bivalve icon)
 - Crab (Crab icon)
 - Fish/Nursery Area (Fish icon)
 - Gastropod (Gastropod icon)
 - Insect (Insect icon)
 - Reptile and Amphibian (Reptile icon)

- Human-Use/ Oil Spill Response Resources**
- Beach (Beach icon)
 - Subsistence Fishing (Fishing icon)

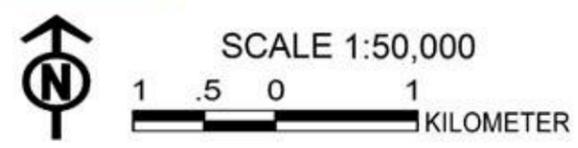
- Biological/Human-Use Areas**
- Artificial Reef (Blue dotted pattern)
 - Coral Reef (Brown dotted pattern)
 - Mangroves (Green dotted pattern)
 - National Park (Yellow dotted pattern)

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Lang Suan District and Thung Tako District and four islands off the coast, namely: Ko Khi Nok, Ko Rang Banthat, Ko Khram and Ko Phithak, with areas of 0.001 km², 0.006 km², 0.091 km² and 0.209 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); gravel beaches (ESI 6A); and exposed tidal flats (ESI 7).

Biological Resources

Patches of riverine mangrove forests are situated along Tako River and canals. Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites* and *Pavona* species and are protected resources of Mu Ko Chumphon National Park. Both mangroves and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Arunothai is a 6-km-long white sand beach lined with pine trees. Tourist facilities are available in the area, as well as boats going to Ko Phithak, Ko Khram, Ko Rang Banthat and other nearby islands.

Local communities along the coastal area and Tako River are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

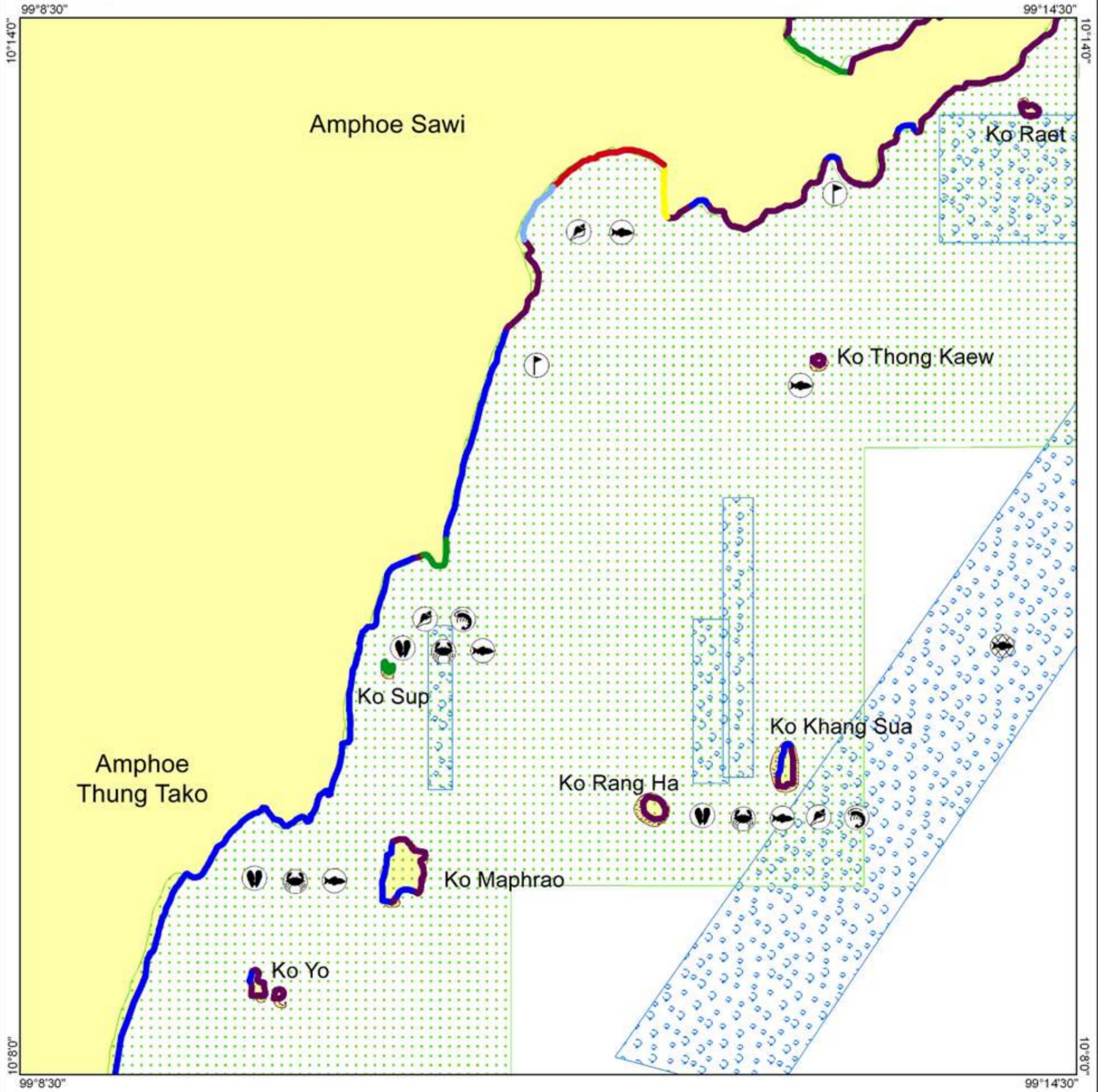
Parts of the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 71



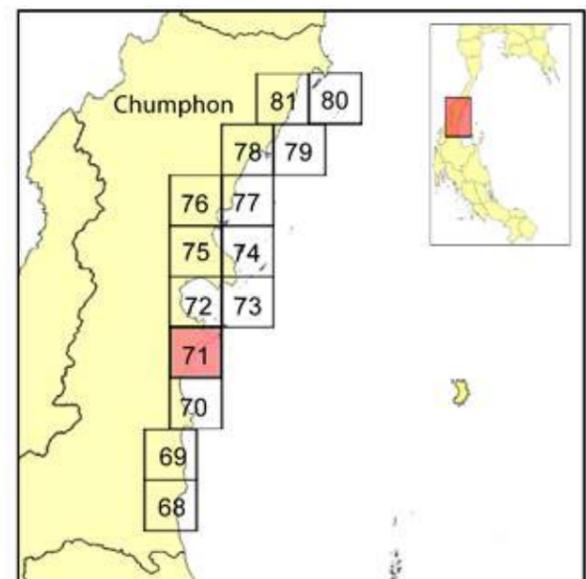
- Shoreline Classification**
- ESI 1 (Purple line)
 - ESI 3 (Blue line)
 - ESI 4 (Light Blue line)
 - ESI 6A (Green line)
 - ESI 10B (Red line)

- Biological/Human-Use Areas**
- Artificial Reef (Blue dotted pattern)
 - Coral Reef (Brown dotted pattern)
 - National Park (Green dotted pattern)

- Biological Resources**
- Bivalve (Shell icon)
 - Crab (Crab icon)
 - Fish/Nursery Area (Fish icon)
 - Gastropod (Gastropod icon)
 - Shrimp (Shrimp icon)

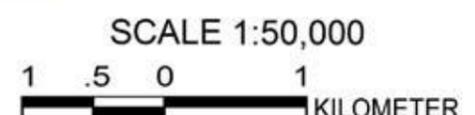
- Human-Use/Oil Spill Response Resources**
- Beach (Flag icon)
 - Subsistence Fishing (Fishing boat icon)

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Thung Tako District and Sawi District and seven islands off the coast, namely: Ko Raet, Ko Thong Kaew, Ko Sup, Ko Khang Sua, Ko Rang Ha, Ko Maphrao and Ko Yo, with areas of 0.022 km², 0.009 km², 0.005 km², 0.054 km², 0.045 km², 0.209 km² and 0.028 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); gravel beaches (ESI 6A) and mangroves (ESI 10B).

Biological Resources

Patches of fringing mangrove forests are situated along the coast of Ao Sawi. Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites* and *Pavona* species and are protected resources of Mu Ko Chumphon National Park. Both mangroves and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods and bivalves.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Sawi is a white sand beach lined with coconut trees. Compared with other tourist beaches, Hat Sawi is less developed, but accommodations and restaurants are available for tourists.

Local communities along the coastal area and Tako River are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

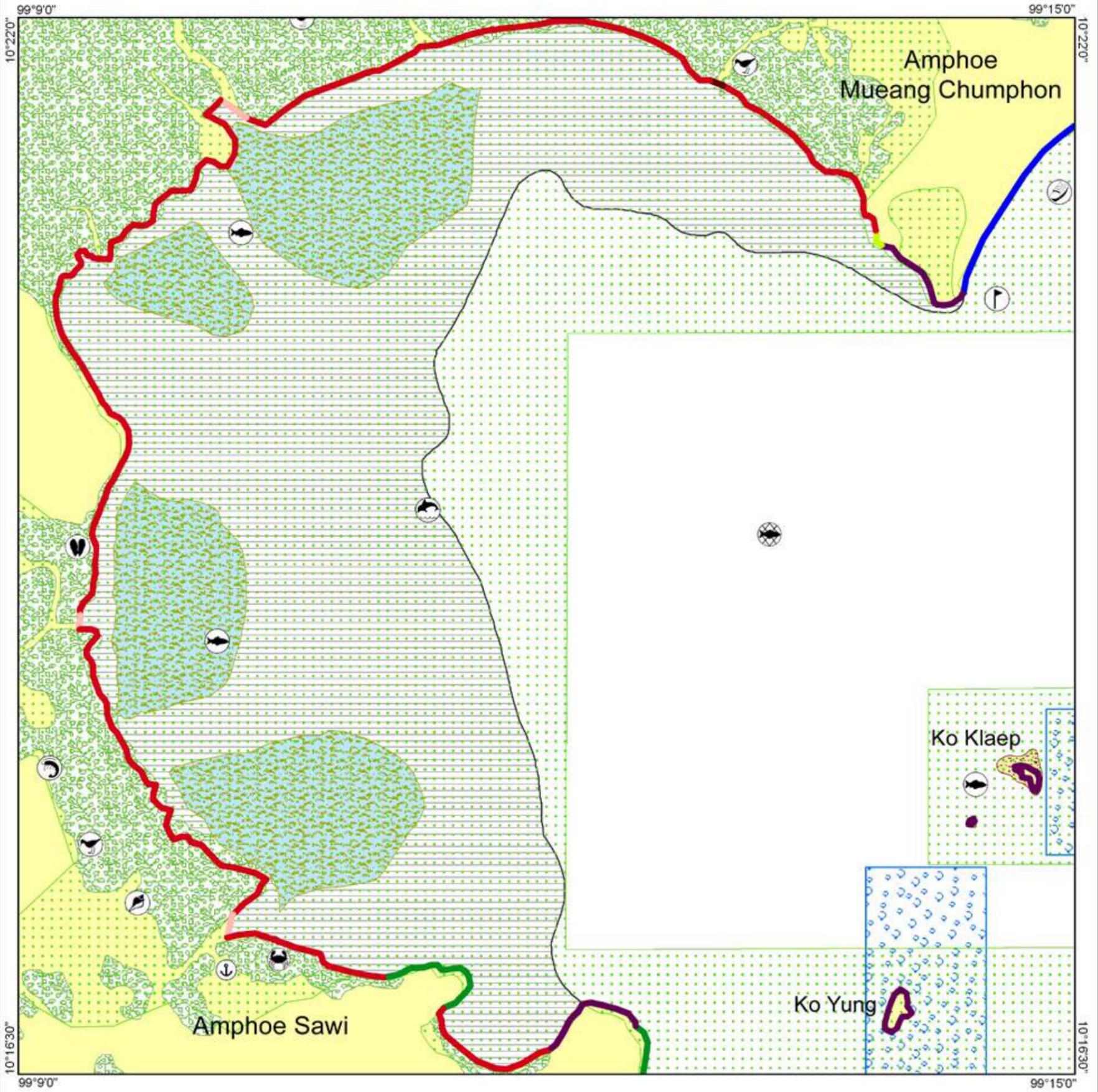
Parts of the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 72



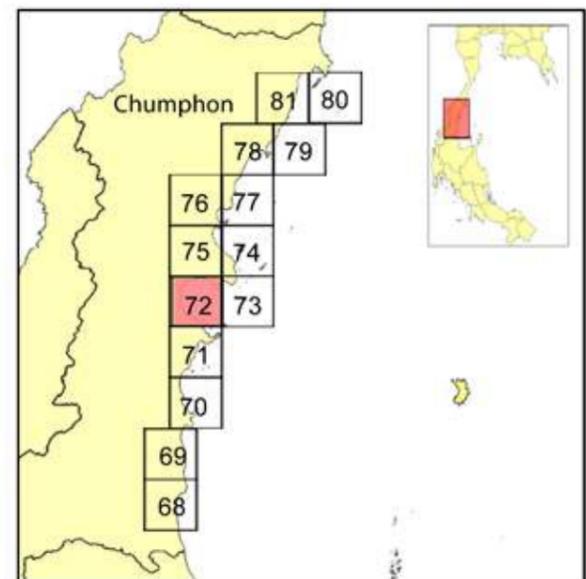
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 6A
 - ESI 6B
 - ESI 9A
 - ESI 10B

- Biological/Human-Use Areas**
- Artificial Reef
 - Coral Reef
 - Mangroves
 - National Park
 - Seagrass Beds
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal
 - Shrimp

- Human-Use/ Oil Spill Response Resources**
- Beach
 - Ferry
 - Fishing Port
 - Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
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 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Ao Thung Ka Sawi, a partially enclosed bay with an area of 48.16 km² located between Sawi District and Mueang Chumphon District. The bay has an emerged shoreline with mudflats covering an area of 20.8 km². These mudflats were formed by sedimentation processes of rivers and canals and are abundant with mangroves and seagrass beds. Major canals that flow into the bay include Khlong Chumphon, Khlong Wisai, Khlong Sawi and Khlong Sawi Thoa. There are two islands in the area, namely: Ko Klaep and Ko Yung, with areas of 0.025 km² and 0.067 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; fine-to medium-grained sand beaches (ESI 3); gravel beaches (ESI 6A); riprap (ESI 6B); sheltered tidal flats (ESI 9A); and mangroves (ESI 10B). Most of the shoreline within the bay is covered with mangroves, while sand beaches are situated in Ao Thung Ma Kham.

Biological Resources

Large areas of riverine and fringing mangrove forests, with an area of 20.8 km², are situated along the coast of Ao Thung Ka Sawi. Seagrass beds, with an area of 10.64 km², in the bay are dominated with *Enhalus acorides*, *Halophila ovalis* and *Halophila beccarii*. Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites* and *Pavona* species and are protected resources of Mu Ko Chumphon National Park. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and shorebirds.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Due to healthy and abundant coastal resources in the area, marine mammals like dugongs and dolphins can always be found in Ao Thung Ka Sawi.

Human Use Features

Hat Thung Ma Kham in Ao Thung Ma Kham is a white sand beach alternating with boulders and rocks. Ferry boats going to Ko Tao and Ko Phangan are docked in the area.

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A fishing port is also located in Sawi District.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

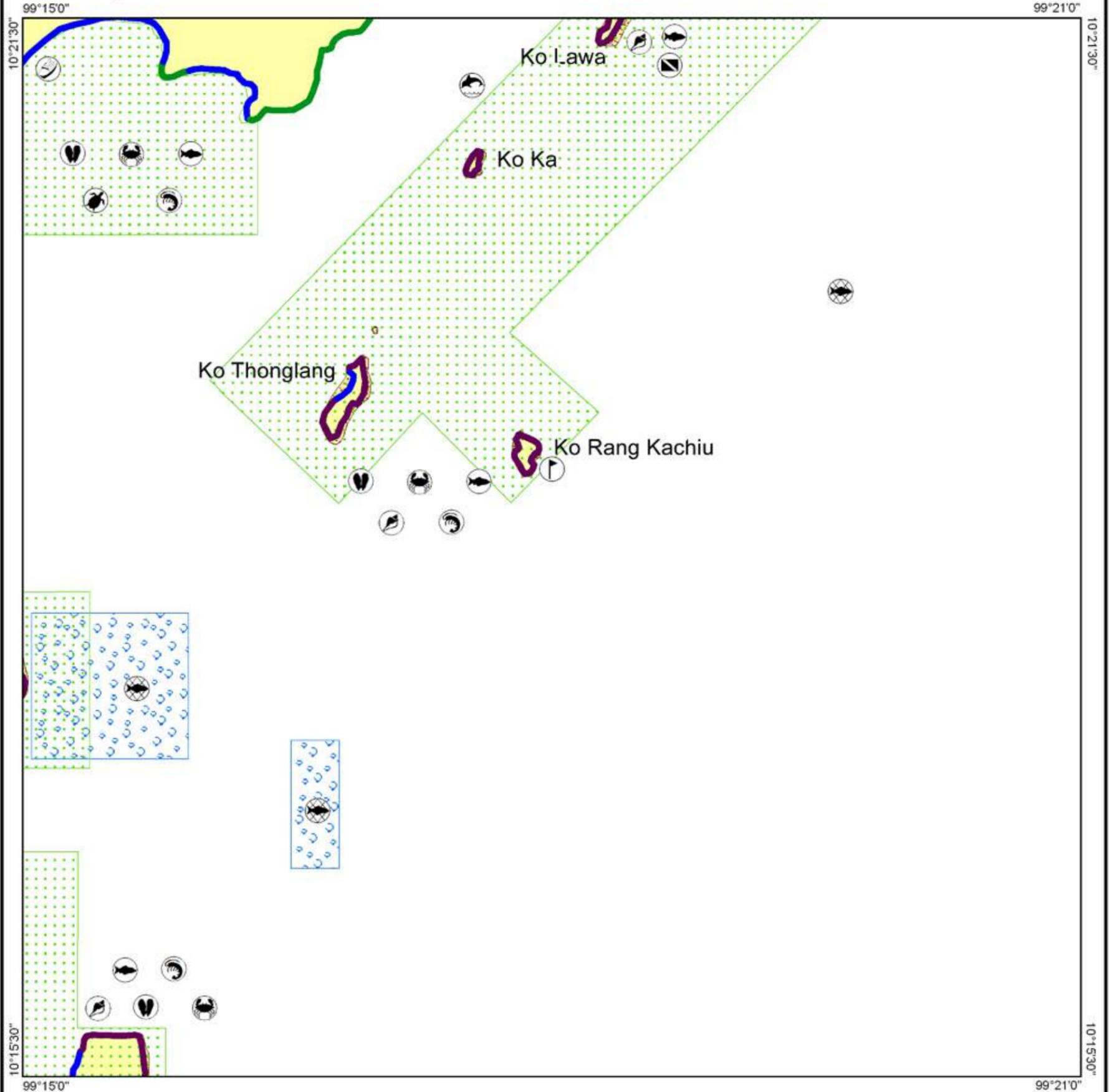
Parts of the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 73



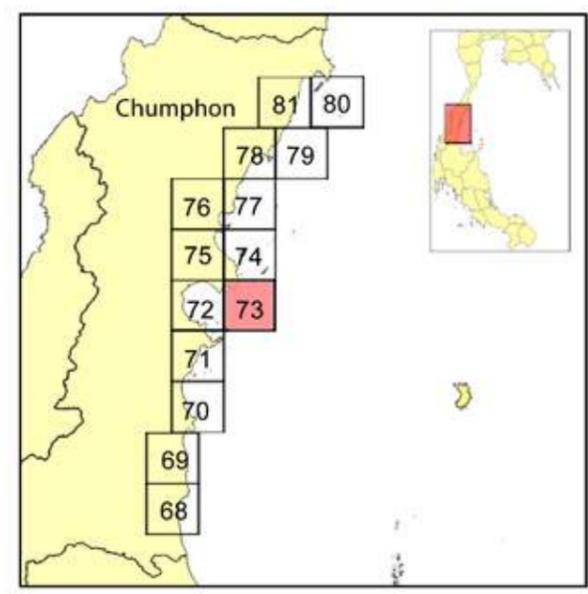
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 6A

- Biological Resources**
- Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal
 - Shrimp
 - Turtle

- Human-Use/ Oil Spill Response Resources**
- Beach
 - Diving
 - Ferry
 - Subsistence Fishing

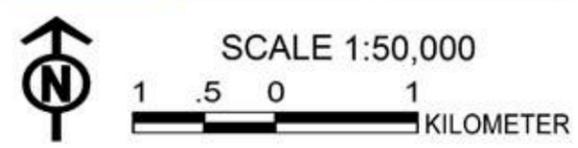
- Biological/Human-Use Areas**
- Artificial Reef
 - Coral Reef
 - National Park

Location of Map



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General Information

This area covers three islands off the coast of Ao Thung Ka Sawi, namely: Ko Lawa, Ko Thonglang and Ko Rang Kachiu, with areas of 0.057 km², 0.147 km² and 0.063 km², respectively, as well as some parts of Ko Klaep continued from the previous map.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; and fine- to medium-grained sand beaches (ESI 3) and gravel beaches (ESI 6A) in Ao Thung Ma Kham.

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites* and *Pavona* species and are protected resources of Mu Ko Chumphon National Park. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods and bivalves.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Due to healthy and abundant coastal resources, marine mammals like dugongs and dolphins can always be found in the area.

Human Use Features

Hat Thung Ma Kham in Ao Thung Ma Kham is a white sand beach alternating with boulders and rocks. Ferry boats going to Ko Tao and Ko Phangan are docked in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

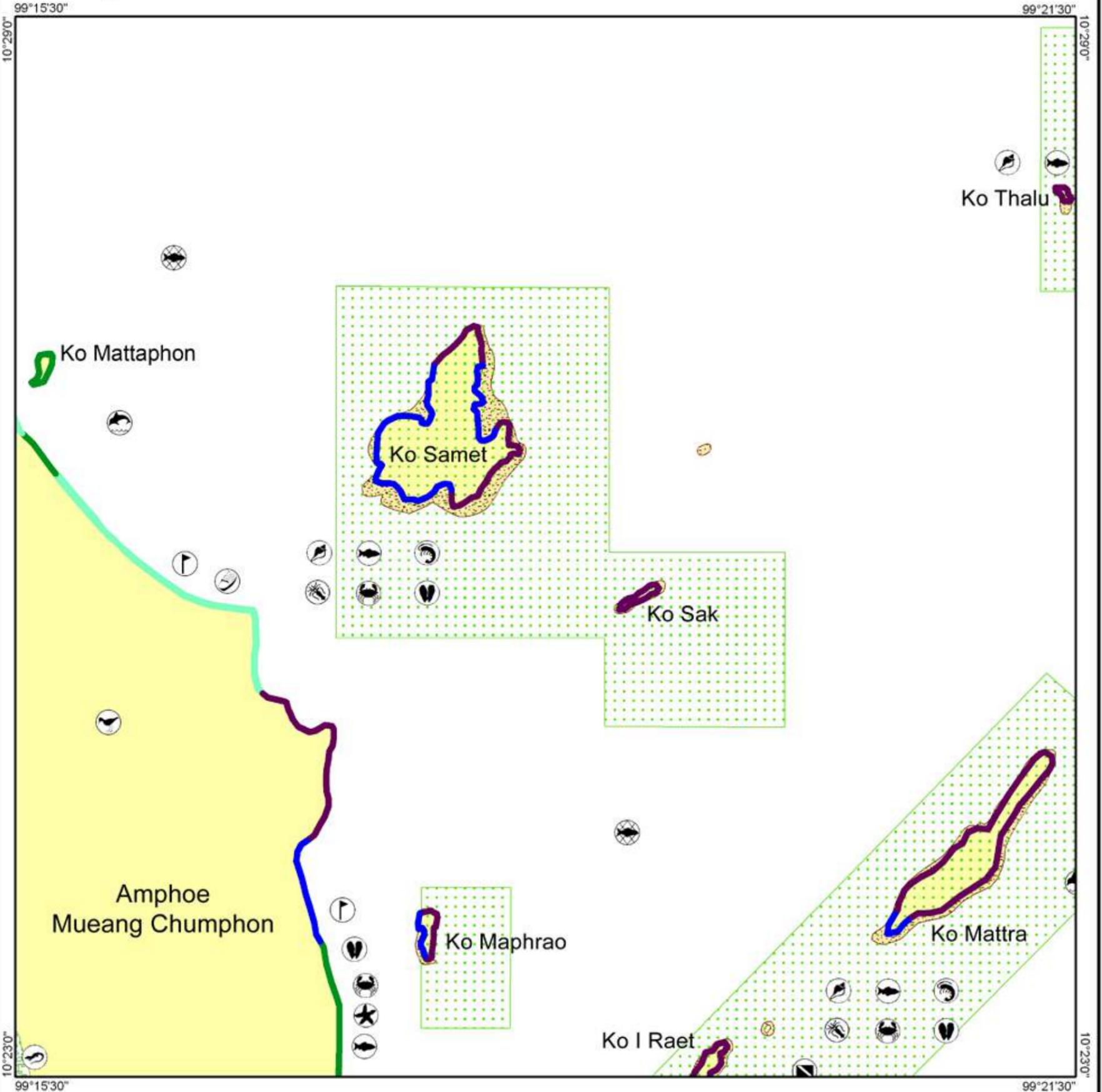
Parts of the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 74



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 6A

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- National Park

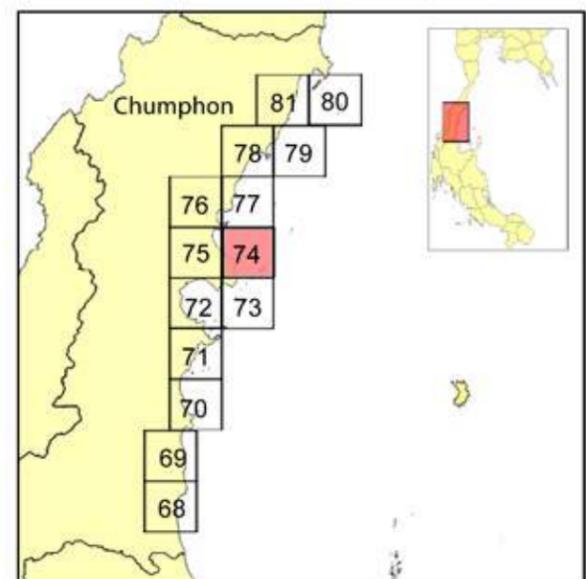
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Ferry
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Chumphon District. Small islands off the coast in the area include Ko Mattaphon, Ko Samet, Ko Thalu, Ko Sak, Ko Maphrao, Ko Mattra and Ko I Raet, with areas of 0.032 km², 1.467 km², 0.006 km², 0.03 km², 0.06 km², 0.719 km² and 0.121 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; fine-to medium-grained sand beaches (ESI 3); mixed sand and gravel beaches (ESI 5); and gravel beaches (ESI 6A).

Biological Resources

A small patch of mangroves (at the bottom-left corner of the map) extends from Ao Thung Ka Sawi. Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites* and *Pavona* species and are protected resources of Mu Ko Chumphon National Park. Both mangroves and coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, reptiles, amphibians, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Due to healthy and abundant coastal resources, marine mammals like dugongs and dolphins can always be found in the area.

Human Use Features

Hat Sairee is a popular tourist beach in Chumphon Province with white sand and clear seawater suitable for swimming.

Ferry boats going to Ko Tao and Ko Phangan are docked in the area near the mouth of Chumphon River. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

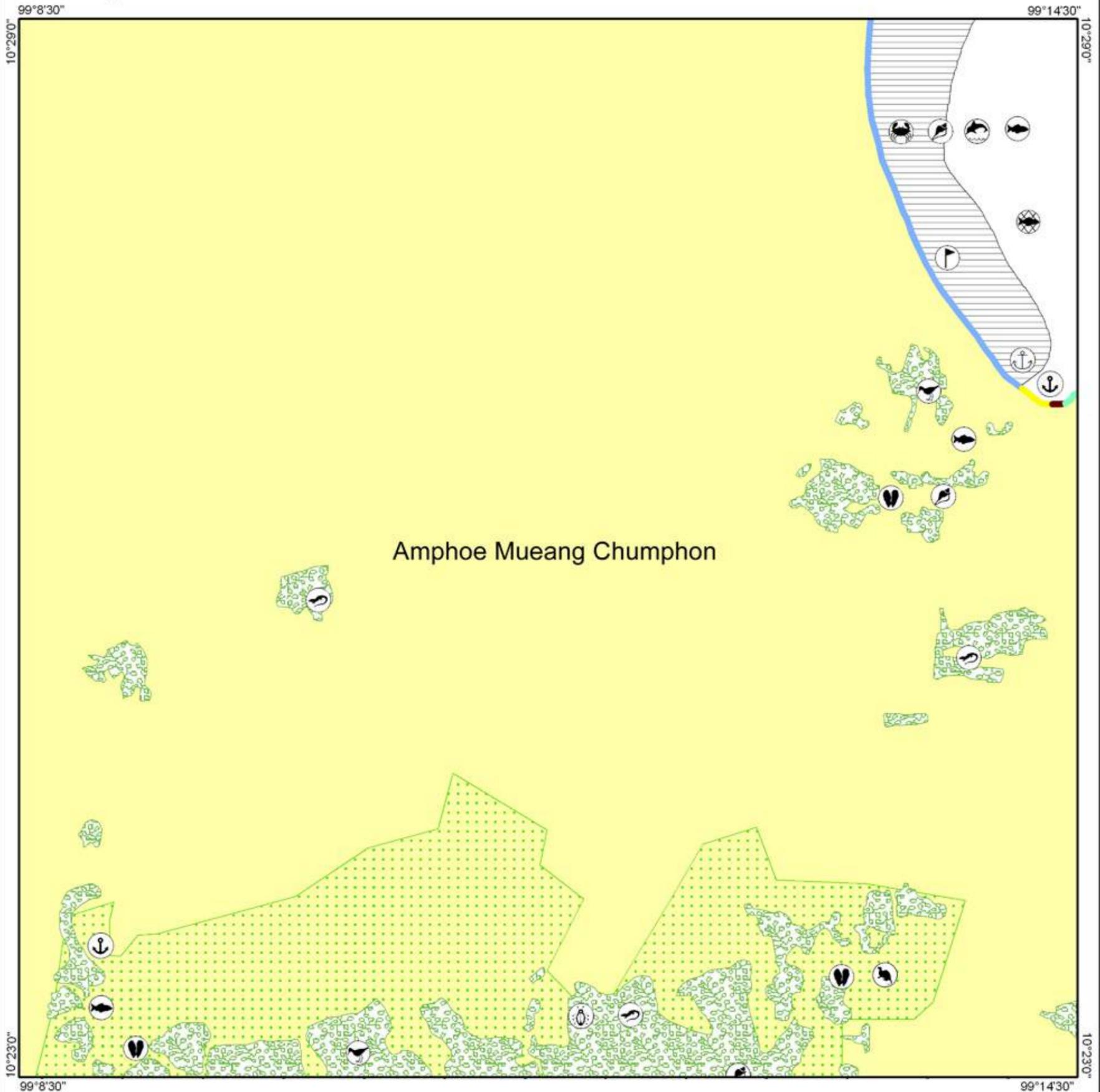
The islands in the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 75



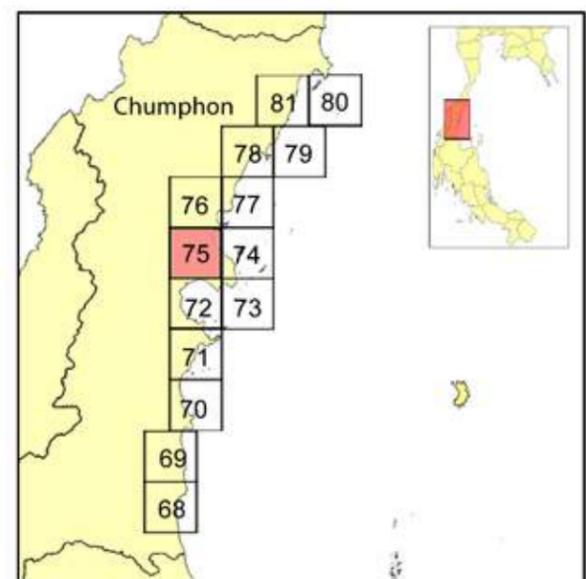
- Shoreline Classification**
- ESI 4
 - ESI 5
 - ESI 7
 - ESI 8

- Biological/Human-Use Areas**
- Mangroves
 - National Park
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Insect
 - Marine Mammal
 - Reptile and Amphibian
 - Terrestrial Mammal

- Human-Use/
Oil Spill Response Resources**
- Beach
 - Fishing Port
 - Marina
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Mueang Chumphon District. Its neighboring districts include Sawi, Tha Sae and Pathio of Chumphon Province, and Kra Buri of Ranong Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), exposed tidal flats (ESI 7) and sheltered solid man-made structures (ESI 8).

Biological Resources

Patches of mangroves along canals and those extending from Ao Thung Ka Sawi are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Due to healthy and abundant coastal resources, marine mammals like dugongs and dolphins can always be found in the area.

Human Use Features

Hat Chumphon is a tourist beach with white coarse-grained sand and lines of coconut trees.

A marina and fishing port are located along the canal and the river mouth in the area.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

Parts of the area belong to Mu Ko Chumphon National Park. The park was established on 24 February 1999 and has a total area of 321 km², covering the coastal area and islands from Mueang Chumphon District to Lang Suan District.

Around 50 limestone islands are situated within the national park, including the main islands of Ko Ngam Yai, Ko Ngam Noi, Ko Kalok, Ko Thalu, Ko Lak Ngam, Ko Samet, Ko Mattra, Ko Maphrao, Ko Lak Raet, Ko Lawa, Ko Kula, Ko Rang Kachiu, Ko Klaep and Ko Khram.

The mainland coast consists of sand beaches and mudflats with various types of forest ecosystems, such as beach forests, mangrove forests and limestone forests, with a high variety of species. Coral reefs within the national park have an approximate area of 6.5 km². Whale sharks, dugongs and dolphins can be found in this marine protected area.

Chumphon Province

Thailand - 76



Amphoe Mueang Chumphon

Shoreline Classification

- ESI 5
- ESI 9A

Biological/Human-Use Areas

- Tidal Flats

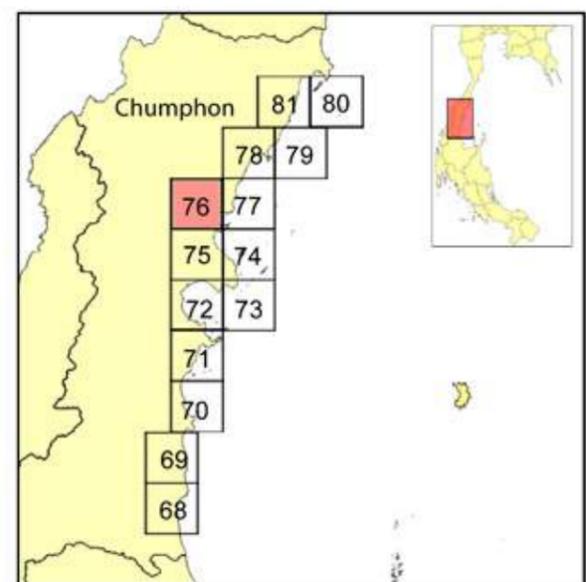
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Turtle

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Chumphon District. Its neighboring districts include Sawi, Tha Sae and Pathio of Chumphon Province, and Kra Buri of Ranong Province. The area includes Ao Phanang Tak, a small bay located in Na Thung and Na Cha-ang subdistricts.

Shoreline

Along the coast in the area are mixed sand and gravel beaches (ESI 5) and sheltered tidal flats (ESI 9A) which are usually found on the river mouth or canal where sediments are deposited.

Biological Resources

Tidal flats with mixed substrates of mud, sand and gravel are important habitats to various coastal and marine organisms, especially benthic organisms, such as fish, crabs, shrimp, bivalves and gastropods.

Some marine organisms can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters.

Sea turtles can also be found in the area.

Human Use Features

Along the bay are mixed sand and gravel beaches lined with coconut trees, adding to a peaceful environment where tourists can relax.

Subsistence fishing is also done in the area.

Oil Spill Response Resources

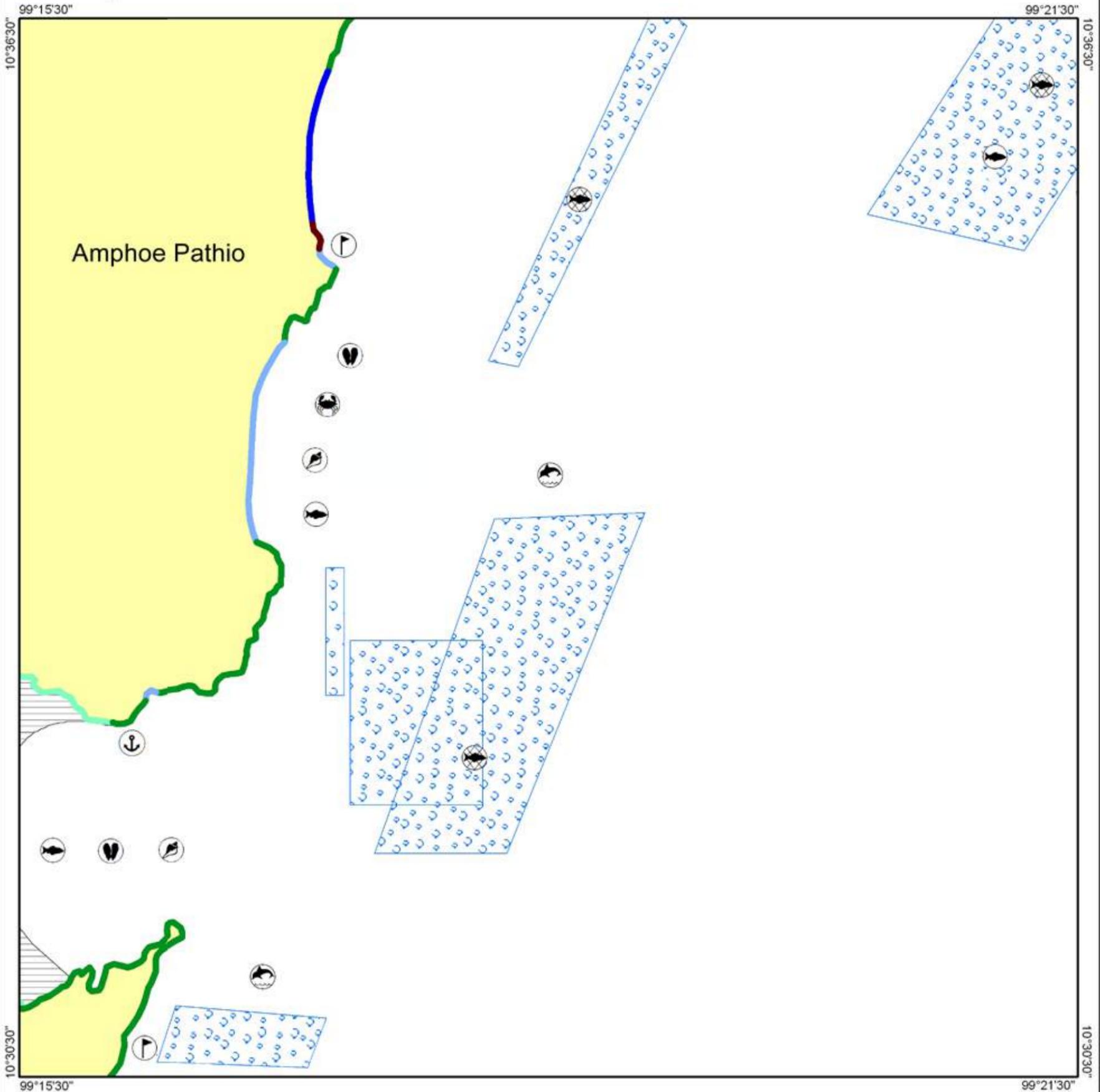
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 77



Shoreline Classification

- ESI 3
- ESI 4
- ESI 5
- ESI 6A
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Tidal Flats

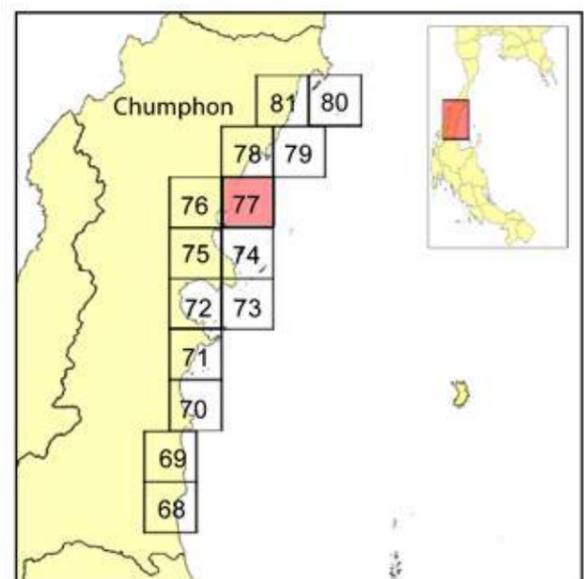
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Pathio District. Its neighboring districts include Mueang Chumphon and Tha Sae of Chumphon Province, and Bang Saphan Noi of Prachuap Khiri Khan Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), gravel beaches (ESI 6A) and exposed tidal flats (ESI 7).

Biological Resources

Some marine organisms, especially benthic organisms like crabs, gastropods and bivalves, can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals can also be found in the area.

Human Use Features

Hat Thung Wua Laen is a 2-km-long white sand beach where environment-friendly tourism is practiced. Some accommodations and restaurants are available for tourists. Next to this beach is Hat Saphli, a white sand beach alternating with boulders and rocks.

Local communities along the coastal area are involved in subsistence fishing. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A fishing port is also located north of Ao Phanang Tak.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 78



Shoreline Classification

- ESI 3
- ESI 4
- ESI 6A
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Mangroves

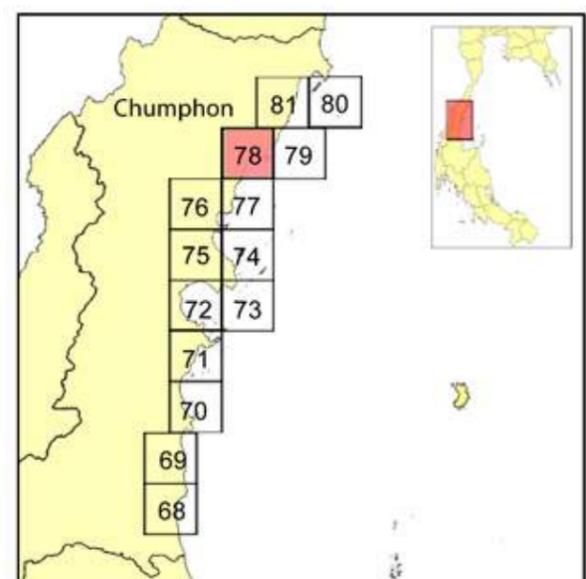
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Pathio District. Its neighboring districts include Mueang Chumphon and Tha Sae of Chumphon Province, and Bang Saphan Noi of Prachuap Khiri Khan Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), gravel beaches (ESI 6A) and exposed tidal flats (ESI 7).

Biological Resources

Riverine mangrove forests along Khlong Bang Son are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within muddy and sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals can also be found in the area.

Human Use Features

Hat Ao Bang Son is a curved white sand beach about 3 km long starting from Hat Saphli to Laem Taen cape.

Local communities along the coastal area are involved in subsistence fishing. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

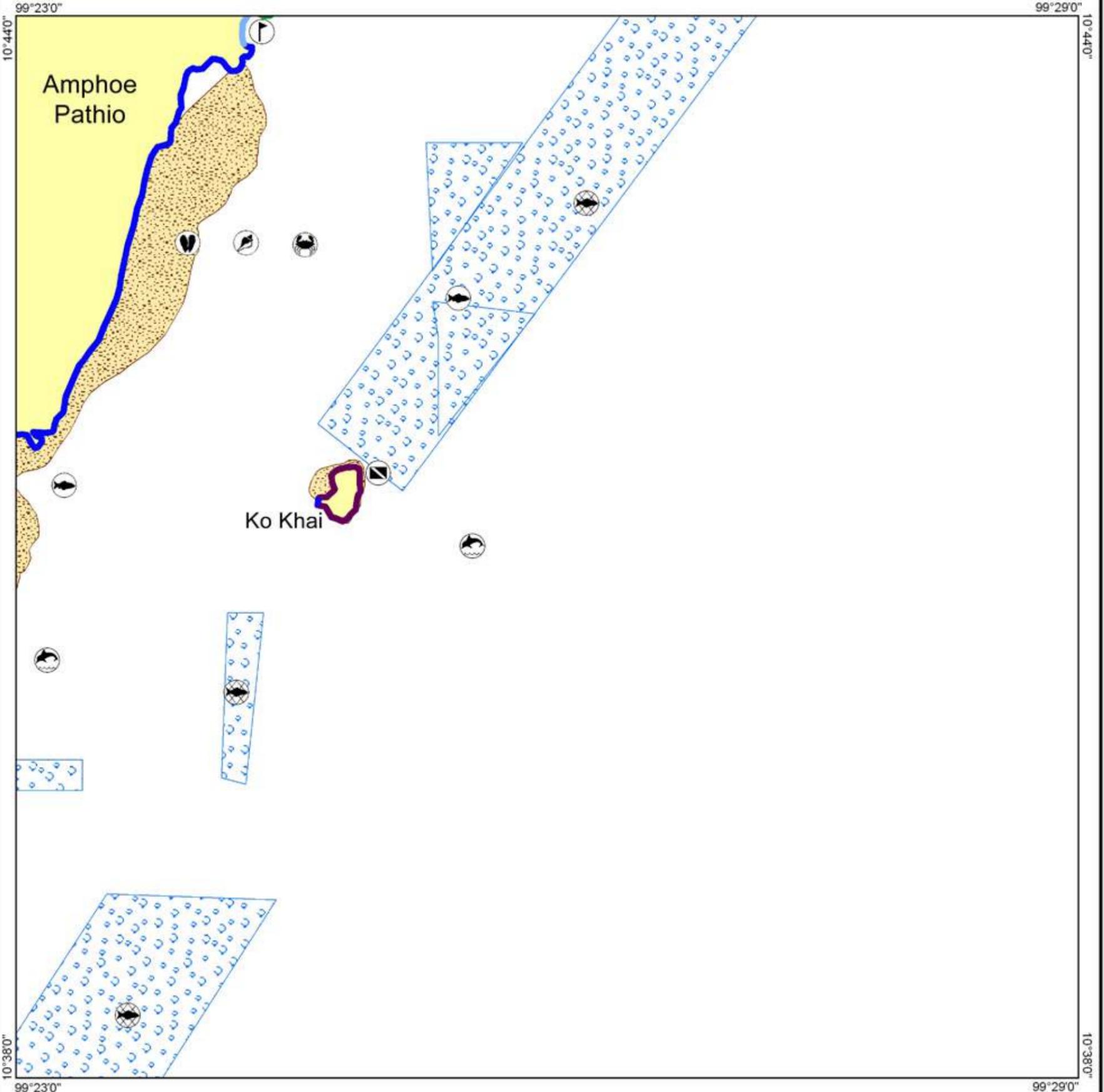
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 79



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef

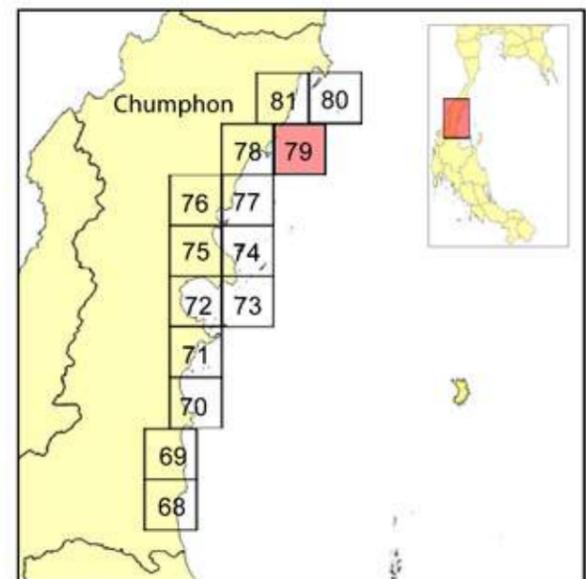
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers a part of Pathio District and the island of Ko Khai with an area of 0.174 km².

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in Ko Khai; fine- to medium-grained sand beaches (ESI 3); and coarse-grained sand beaches (ESI 4).

Biological Resources

Coral reefs along the coasts of Ao Thung Sang and Ko Khai are dominated with *Acropora*, *Porites* and *Pavona* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods and bivalves.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Due to healthy and abundant coastal resources, marine mammals like dugongs and dolphins can always be found in the area.

Human Use Features

Hat Ao Thung Sang, a white sand beach along the bay, has clear seawater and coral reefs, making it suitable for swimming and diving.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Khai, attracting many visitors to the area.

Oil Spill Response Resources

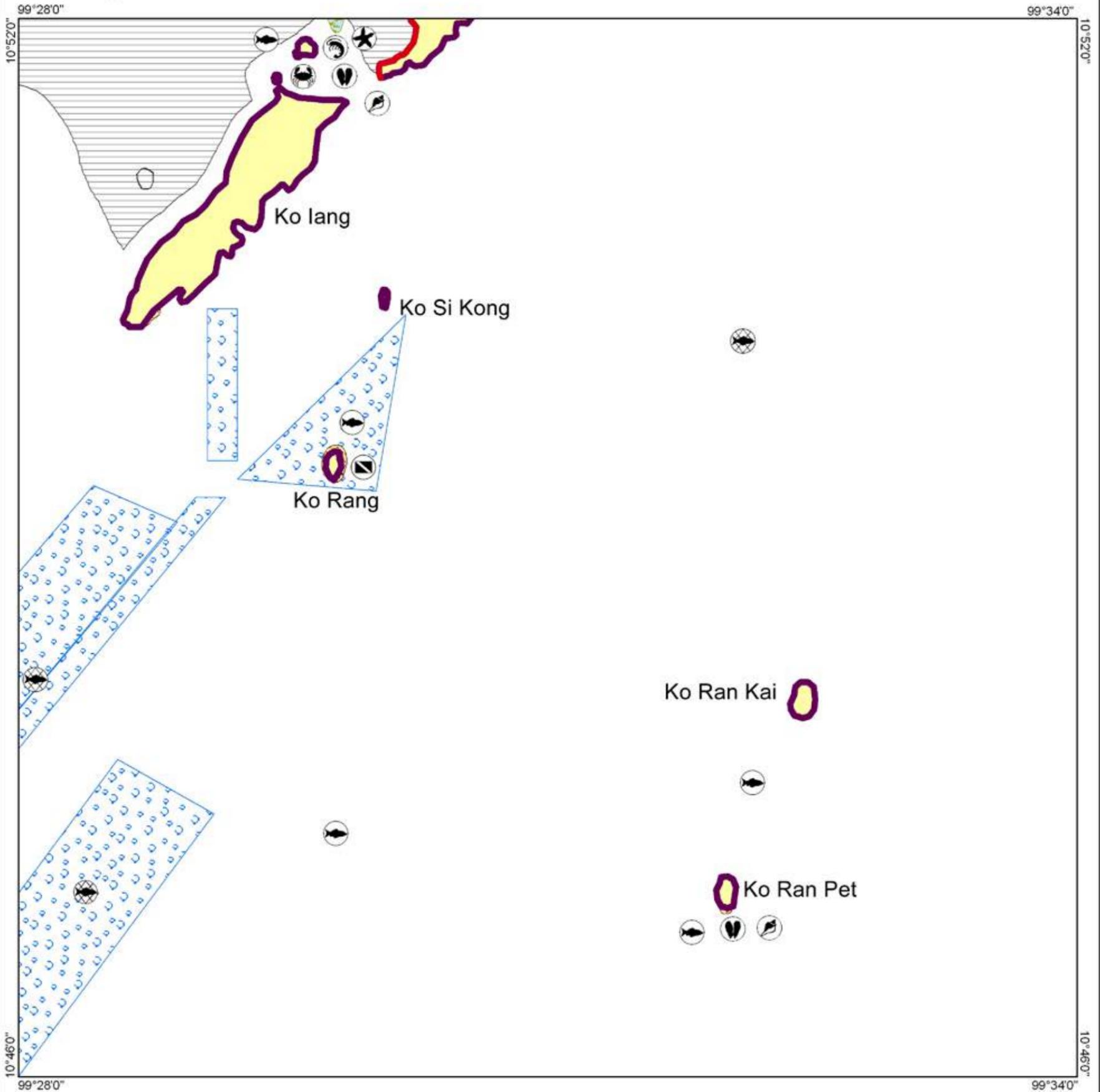
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 80



Shoreline Classification

- ESI 1
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Seagrass Beds
- Tidal Flats

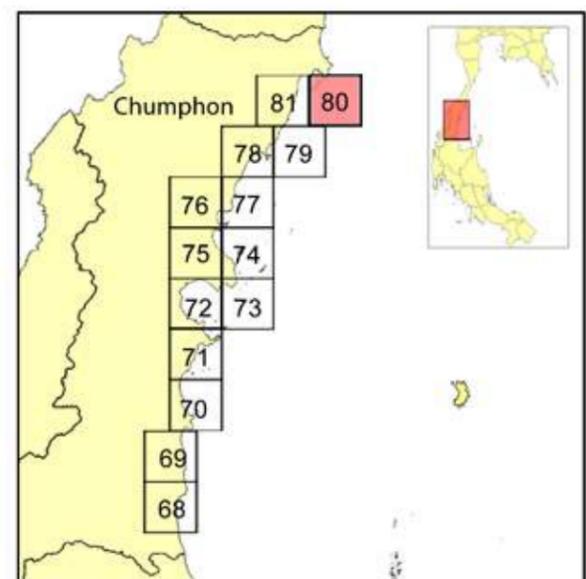
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Diving
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers a part of Ao Pathio in Pathio District and five small islands off the coast, namely: Ko lang, Ko Si Kong, Ko Rang, Ko Ran Kai and Ko Ran Pet, with areas of 1.965 km², 0.017 km², 0.055 km², 0.016 km² and 0.024 km², respectively.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1), while mangroves (ESI 10B) are situated along the sheltered side Kho Khao Kiu cape.

Biological Resources

A small patch of seagrass beds between Laem Son cape and Kho Khao Kiu cape are dominated with *Enhalus acorides*, *Halophila ovalis* and *Halophila beccarii*. Coral reefs along the coasts of Ko Rang and Ko Ran Pet are dominated with *Acropora*, *Porites* and *Pavona* species. Both seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Si Kong, Ko Rang, Ko Ran Kai and Ko Ran Pet, attracting many visitors to the area.

Oil Spill Response Resources

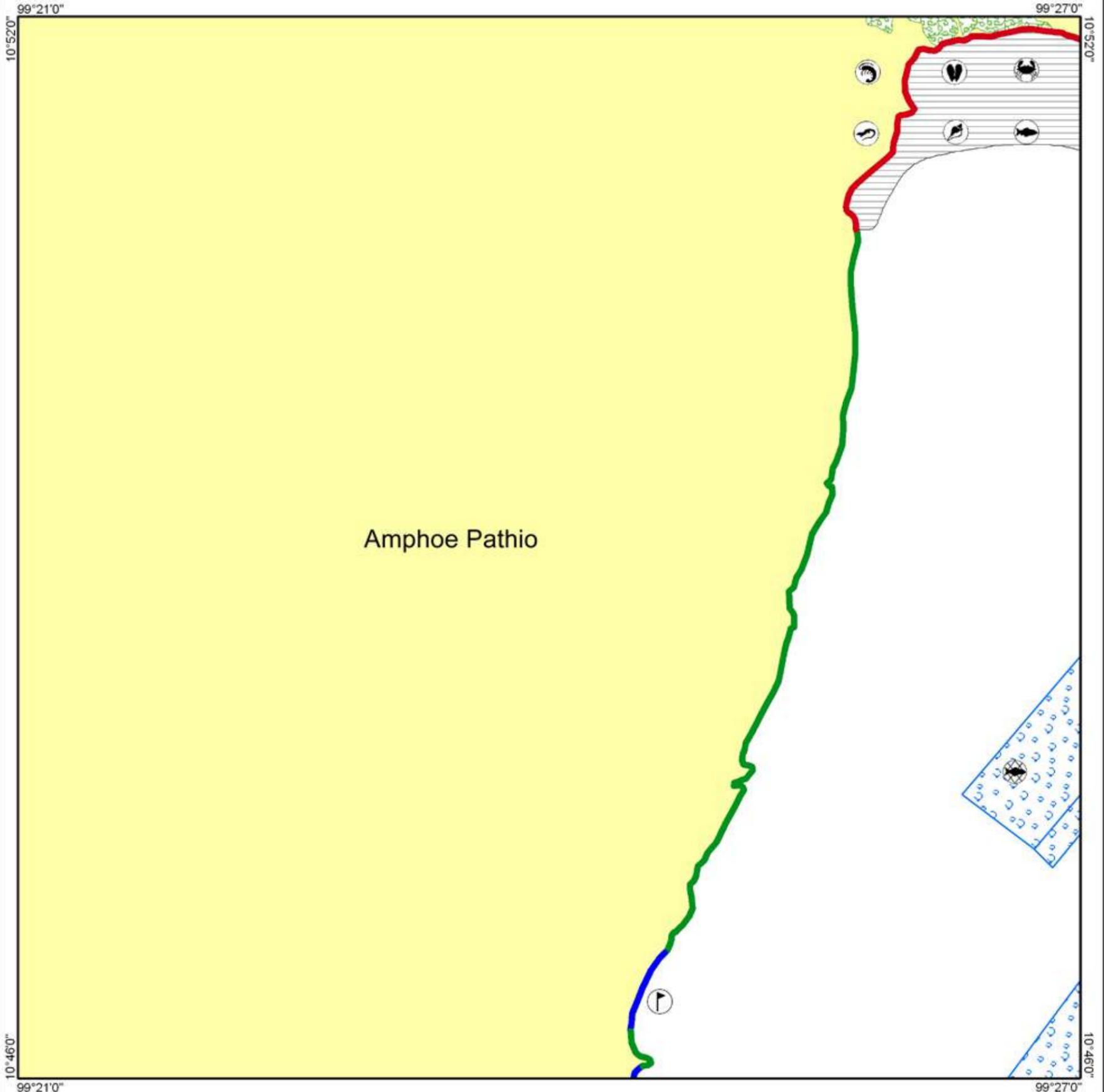
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 81



Shoreline Classification

- ESI 3
- ESI 6A
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

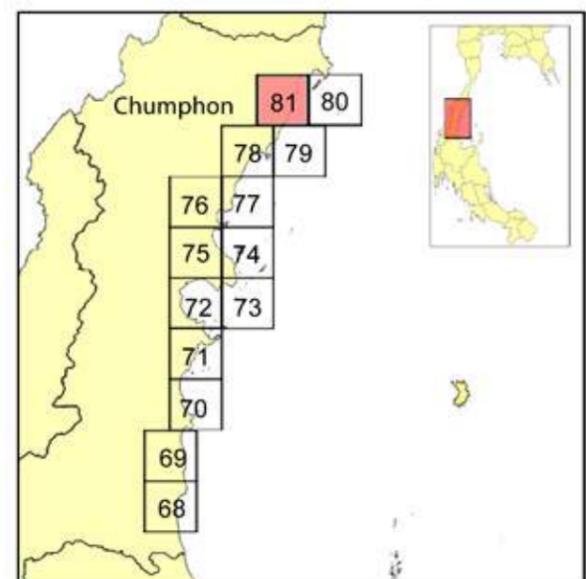
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
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 1278 Yotha Road, Taladnoi, Samphantawong
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Not for Navigation



SCALE 1:50,000



General Information

The area is located in Ao Pathio in Pathio District. Its neighboring districts include Mueang Chumphon and Tha Sae of Chumphon Province, and Bang Saphan Noi of Prachuap Khiri Khan Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), gravel beaches (ESI 6A) and mangroves (ESI 10B).

Biological Resources

Riverine mangrove forests along the canal north of Ao Pathio and fringing mangrove forests along the shoreline within the bay are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods and bivalves.

Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Pak Klong is a gravel beach extending from Had Ao Thung San to Khlong Pathio.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

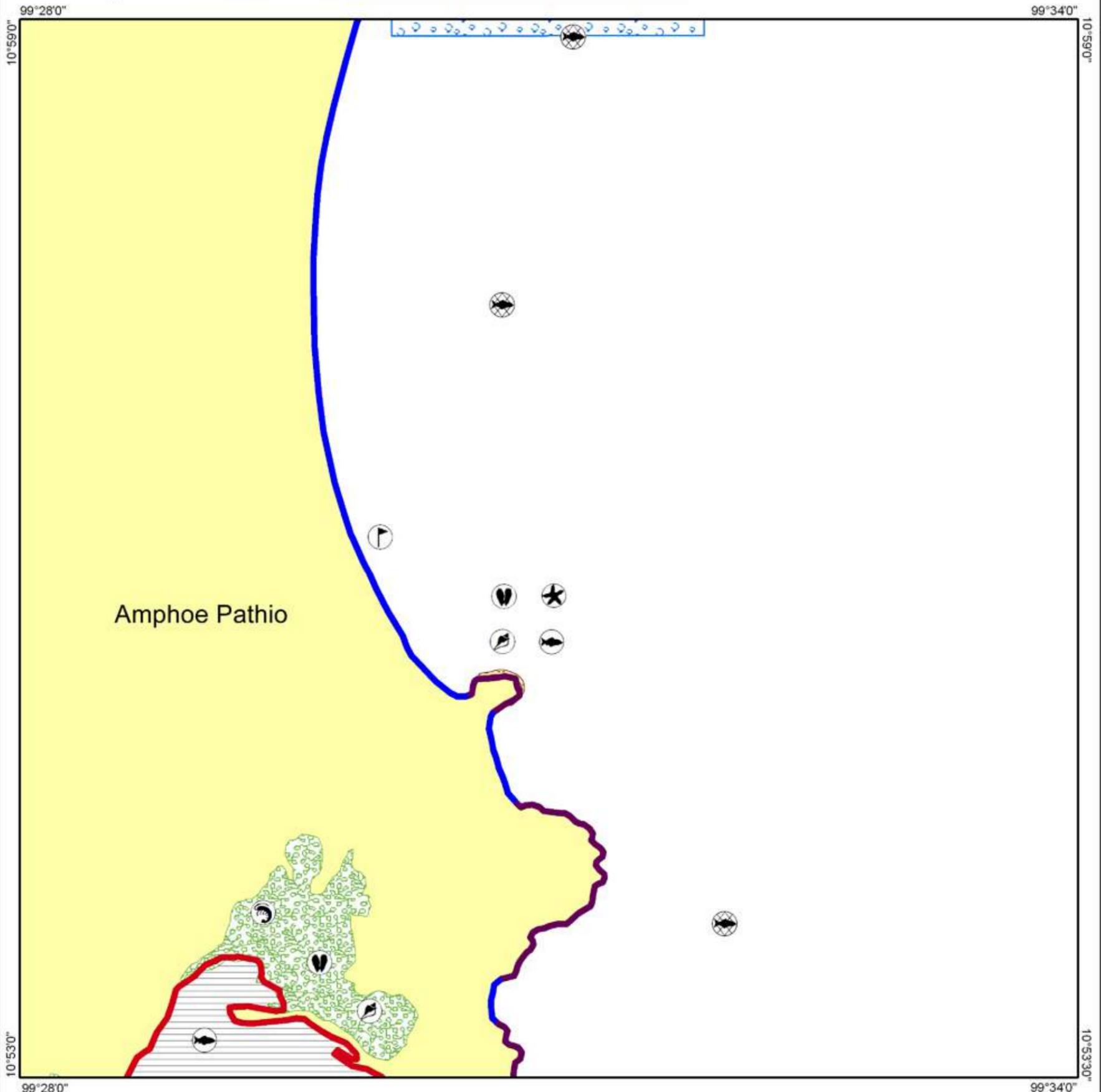
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chumphon Province

Thailand - 82



Shoreline Classification

- ESI 1
- ESI 3
- ESI 10B

Biological Resources

- Bivalve
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp

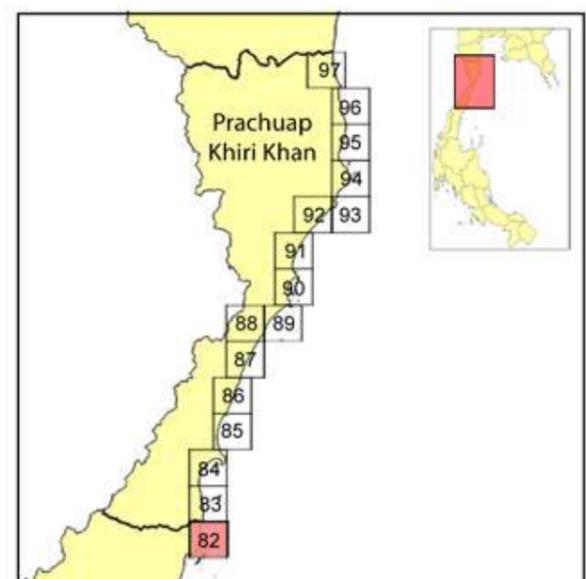
Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Tidal Flats

Location of Map



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SCALE 1:50,000



General Information

This area covers Ao Bang Berd and the northern part of Ao Pathio in Pathio District. Its neighboring districts include Mueang Chumphon and Tha Sae of Chumphon Province, and Bang Saphan Noi of Prachuap Khiri Khan Province.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3) along Ao Bang Berd and mangroves (ESI 10B) along Ao Pathio.

Biological Resources

Fringing mangrove forests in Ao Pathio are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Bang Berd is a beautiful 600-m-long white sand beach with sand dunes and abundant forests in the area. Also known locally as Hat Tham Thong, this beach is less developed compared to other tourist beaches. Coastal communities are situated north of the beach.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

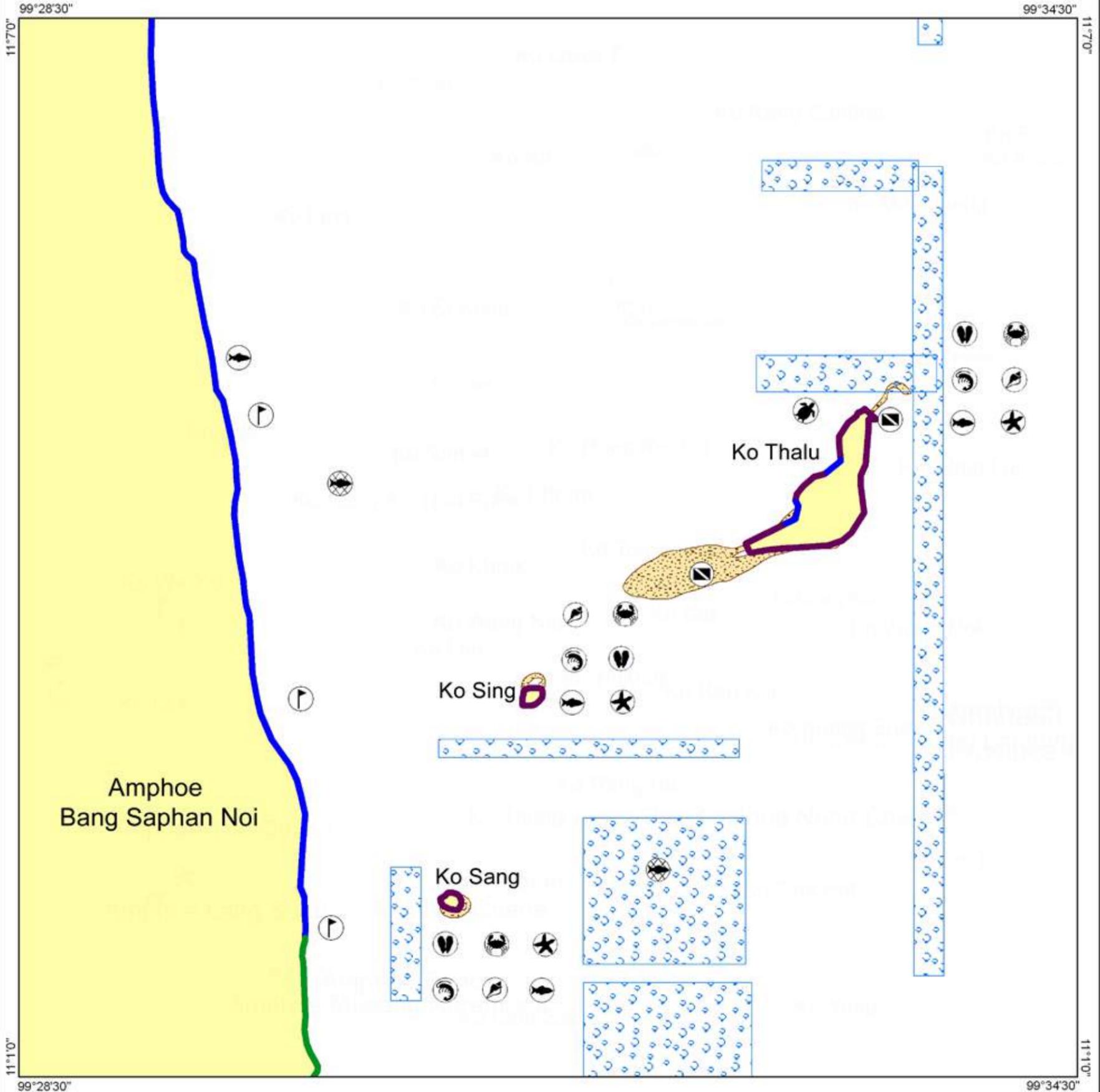
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 83



Shoreline Classification

- ESI 1
- ESI 3
- ESI 6A

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef

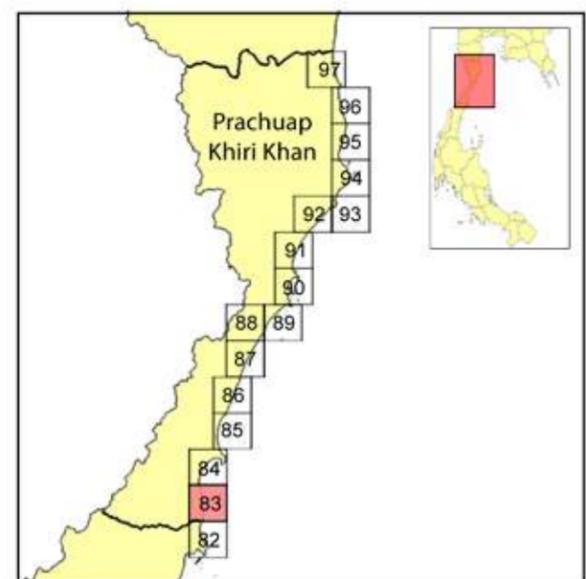
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Turtle

Human-Use/ Oil Spill Response Resources

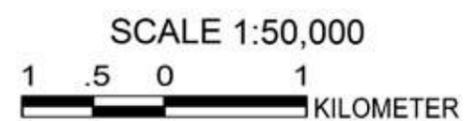
- Beach
- Diving
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Bang Saphan Noi District near the border of Myanmar. Its neighboring districts include Bang Saphan of Prachuap Khiri Khan Province, and Tha Sae and Pathio of Chumphon Province. Off the coast in the area are three small islands, namely: Ko Thalu, Ko Sing and Ko Sang, with areas of 1.178 km², 0.016 km² and 0.018 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; and fine- to medium-grained sand beaches (ESI 3) and gravel beaches (ESI 6A) along the mainland shoreline.

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora*, *Porites*, *Galaxea* and *Goniopora* species. Coral reefs are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Sea turtles can also be found in the area.

Human Use Features

Hat Ao Bang Saphan Noi is a light brown sand beach lined with pine trees. Tourist facilities, such as accommodations, restaurants and convenience stores, are available in the area. Local fishing communities and coconut farms are also situated on this beach. Hat Fung Dang in Sai Thong Subdistrict is a gravel beach with local fishing communities.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Thalu, Ko Sing and Ko Sang, attracting many visitors to the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

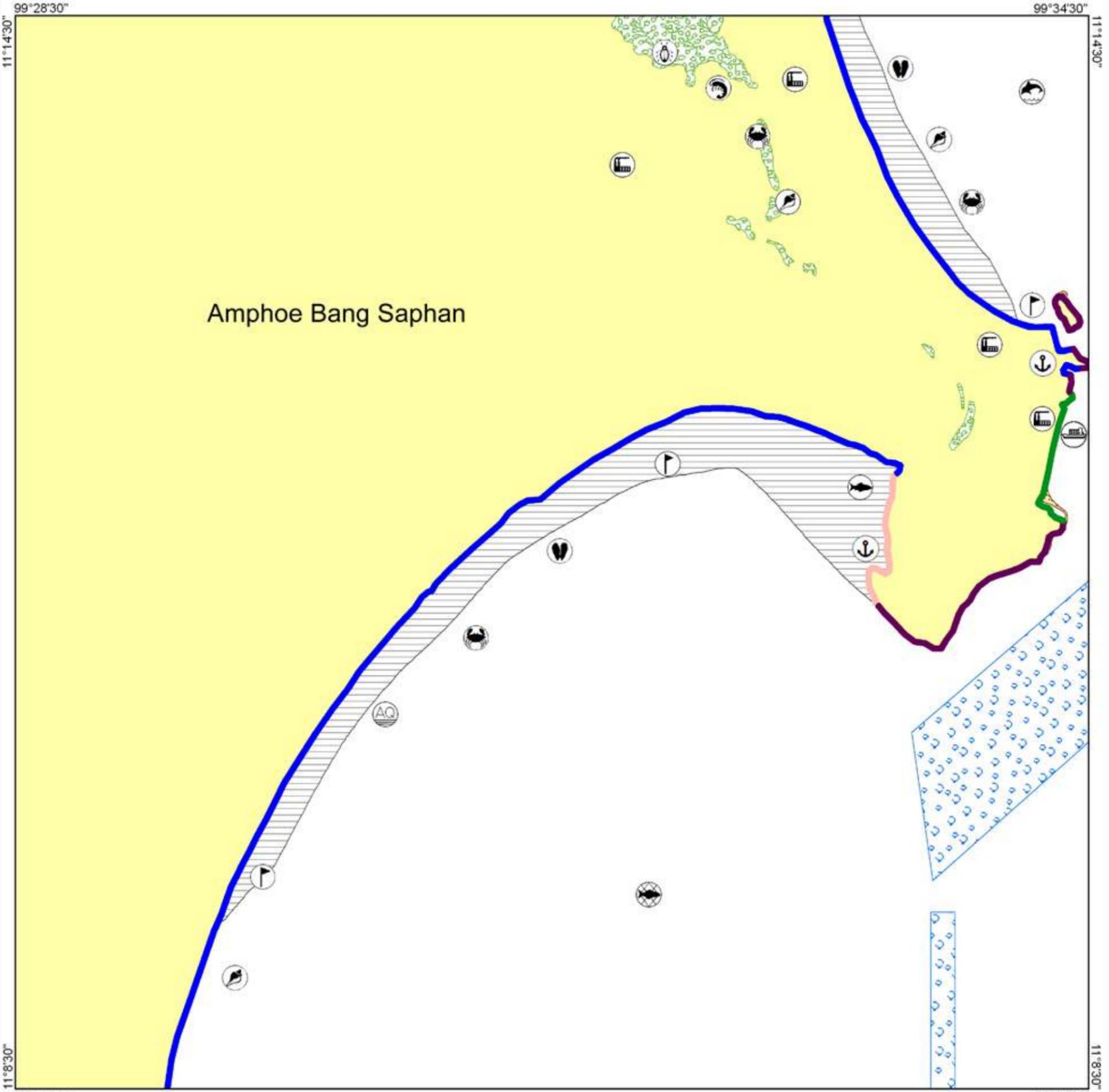
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 84



Shoreline Classification

- ESI 1
- ESI 3
- ESI 6A
- ESI 9A

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Tidal Flats

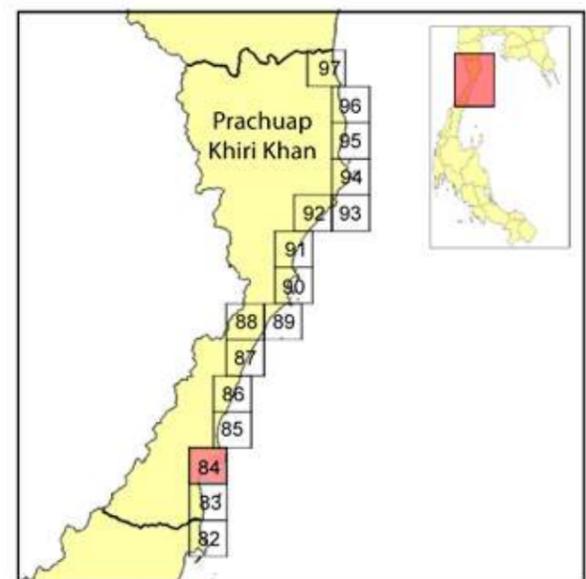
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Shrimp

Human-Use/ Oil Spill Response Resources

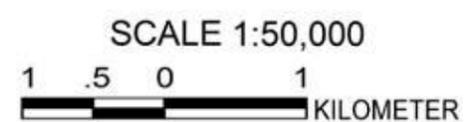
- Aquaculture
- Beach
- Factory
- Fishing Port
- Harbor
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Bang Saphan District near the border of Myanmar. Its neighboring districts include Bang Saphan Noi and Thap Sakae.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) along the cape, fine- to medium-grained sand beaches (ESI 3), gravel beaches (ESI 6A) and sheltered tidal flats (ESI 9A).

Biological Resources

Riverine mangrove forests along Khlong Mae Ramphueng and small patches of coral reefs on the northeastern coast of the cape are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, gastropods and bivalves.

Some marine organisms can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Hat Suan Luang in Phong Prapas Subdistrict is a white sand beach where most of the coastal area is used for fisheries. Hat Mae Ramphueng, a white sand beach about 2 to 3 km long in Mae Ramphueng Subdistrict, has local fishing communities located south of the beach. Hat Ao Bor Thong Lang is a curved white sand beach lined with Indian almond trees.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A harbor, fishing port and factories are located at the eastern coast of the cape. Some factories are also situated near Khlong Mae Ramphueng.

Oil Spill Response Resources

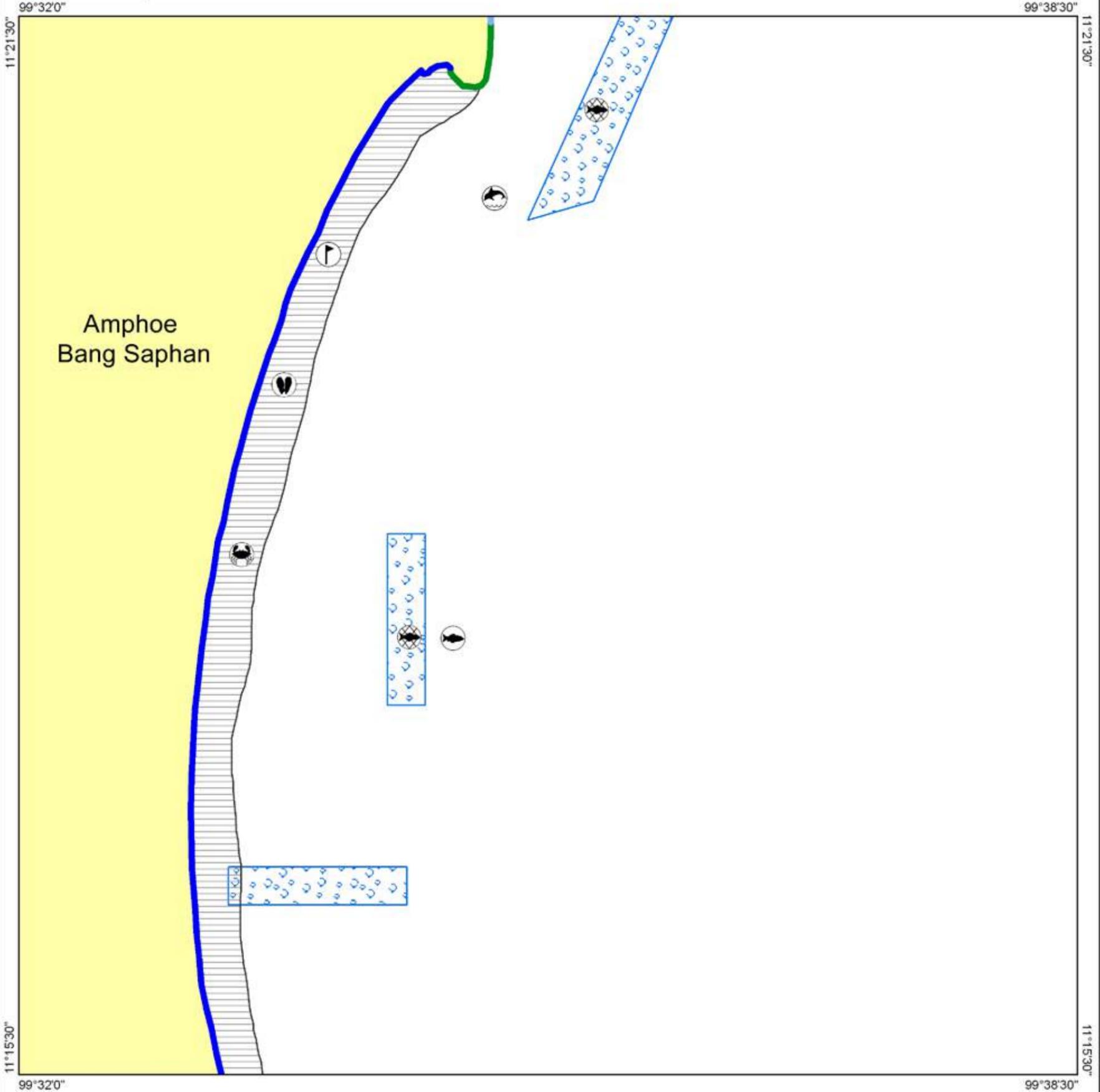
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 85



Shoreline Classification

- ESI 3
- ESI 4
- ESI 6A

Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Marine Mammal

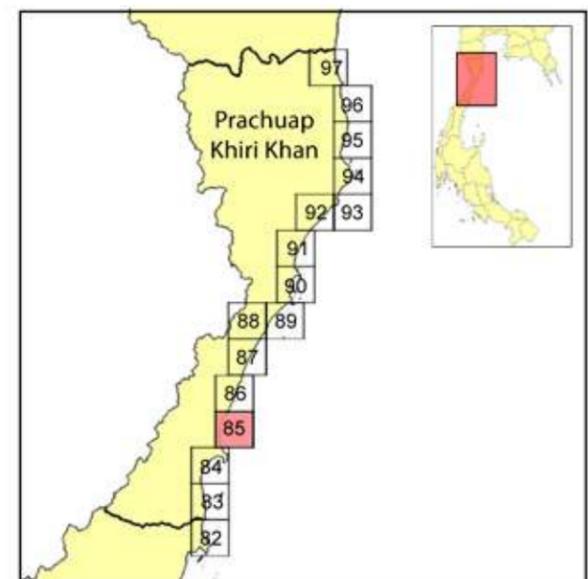
Human-Use/Oil Spill Response Resources

- Beach
- Subsistence Fishing

Biological/Human-Use Areas

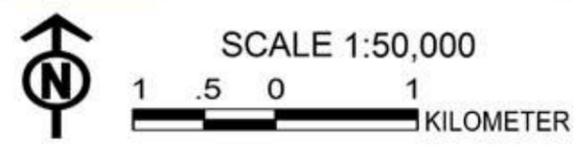
- Artificial Reef
- Tidal Flats

Location of Map



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Not for Navigation



General Information

This area is located in Bang Saphan District near the border of Myanmar. Its neighboring districts include Bang Saphan Noi and Thap Sakae.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and gravel beaches (ESI 6A).

Biological Resources

Some marine organisms, especially benthic organisms like crabs and bivalves, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Hat Ao Bor Thong Lang is a curved white sand beach lined with Indian almond trees.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

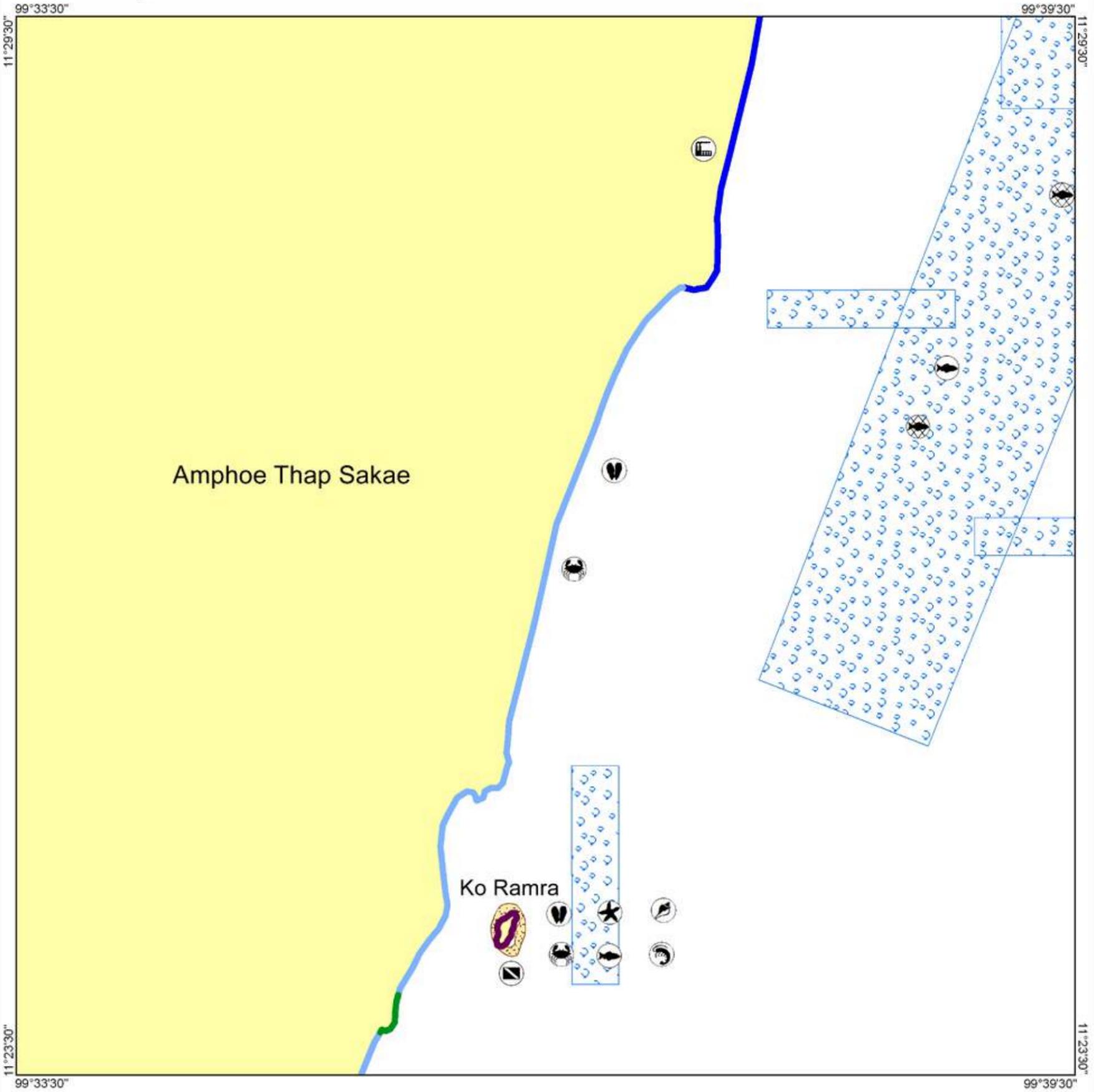
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 86



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 6A

Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp

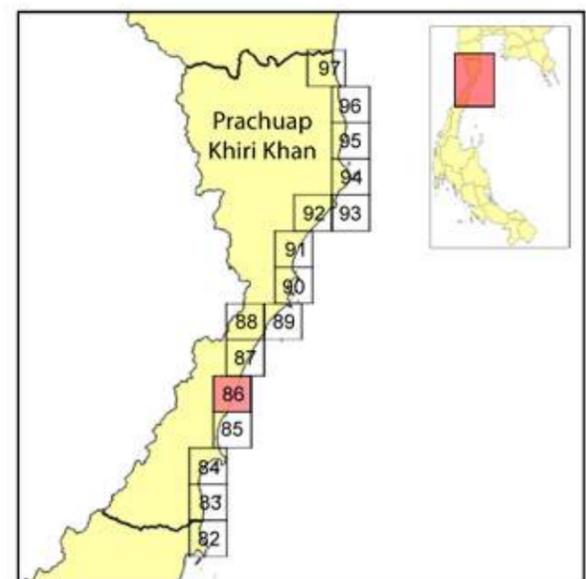
Human-Use/ Oil Spill Response Resources

- Factory
- Diving
- Subsistence Fishing

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Tidal Flats

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Thap Sakae District near the border of Myanmar. Its neighboring districts include Bang Saphan and Mueang Prachuap Khiri Khan. Off the coast in the area is Ko Ramra with an area of 0.049 km².

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1) in Ko Ramra, fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and gravel beaches (ESI 6A).

Biological Resources

Coral reefs along the coast of Ko Ramra are dominated with *Acropora* and *Goniopora* species. Coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Beaches in the area are less developed compared with other tourist beaches. In some parts of the area, tourist facilities, such as accommodations and restaurants, are available. Ko Ramra is a popular diving site in Prachuap Khiri Khan Province.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Some factories are also located in the area.

Oil Spill Response Resources

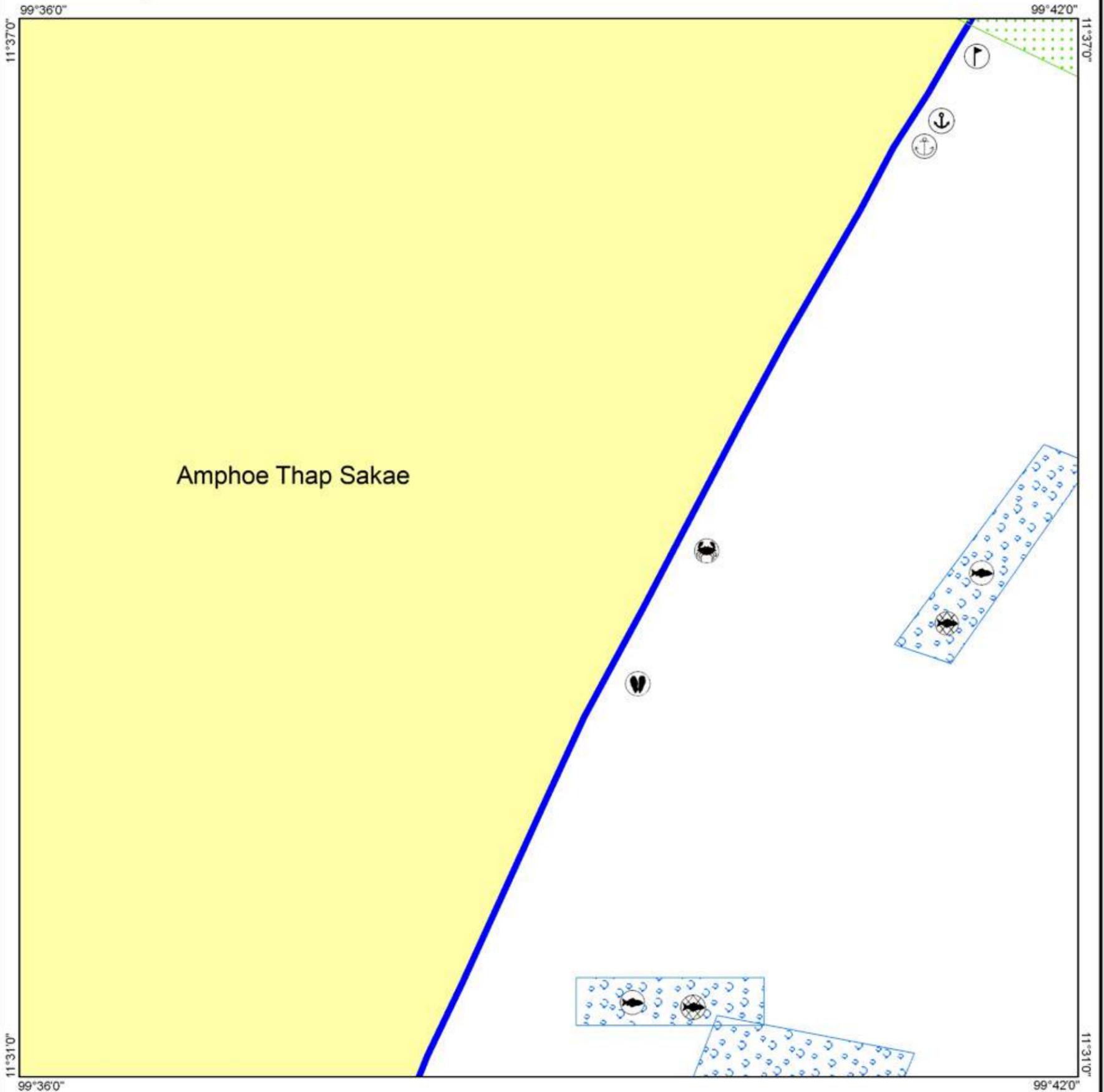
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 87



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Artificial Reef
- National Park

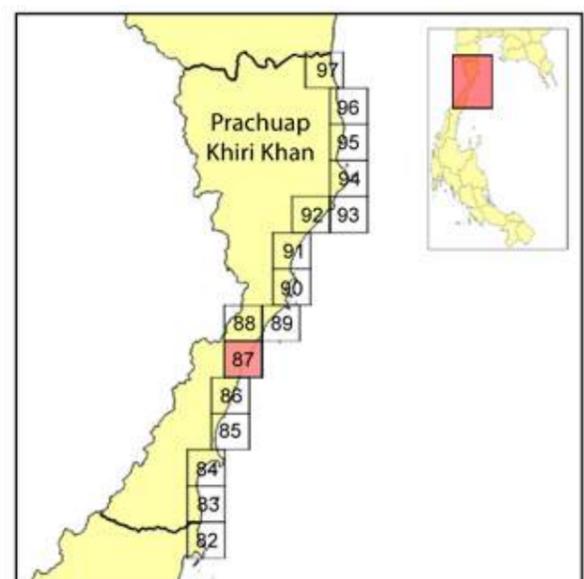
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Thap Sakae District near the border of Myanmar. Its neighboring districts include Bang Saphan and Mueang Prachuap Khiri Khan.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms like crabs and bivalves, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Huay Yang is a 3-km-long white sand beach in the area. It is less developed compared to other tourist beaches and still retains its natural features. Tourist facilities, such as accommodations and restaurants, are available in some areas of Hat Huay Yang. Local fishing communities are also situated along the beach.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A fishing port and marinas are situated on the northern part of Hat Huay Yang near Hat Wanakon National Park. Factories are also present in the area.

Oil Spill Response Resources

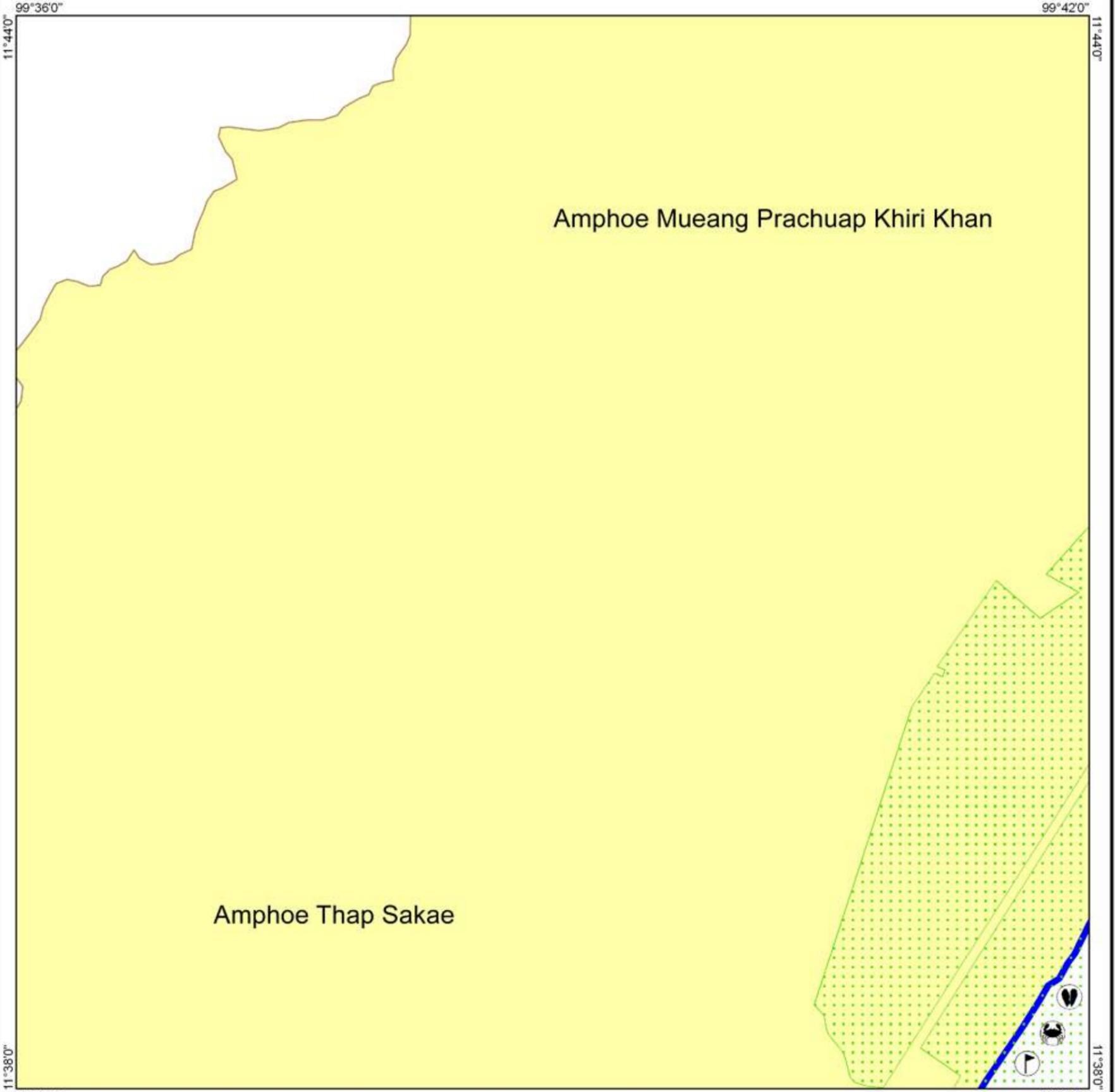
There is no oil spill response resource in the area.

Special Issue

A small part of the area was designated under Hat Wanakon National Park on 30 December 1992. The national park covers a total area of 38 km² consisting of terrestrial environments (59.5 percent) dominated by beach forests and plantations, and marine and coastal environments (40.5 percent). At least 61 species of terrestrial species were found in the area, such as birds, jungle fowls, squirrels, snakes and porcupines. Various marine life, such as fish, shrimp, echinoderms, sea turtles and dolphins, can be found on coral reefs in the national park.

Prachuap Khiri Khan Province

Thailand - 88



Shoreline Classification

ESI 3

Biological Resources

Bivalve

Crab

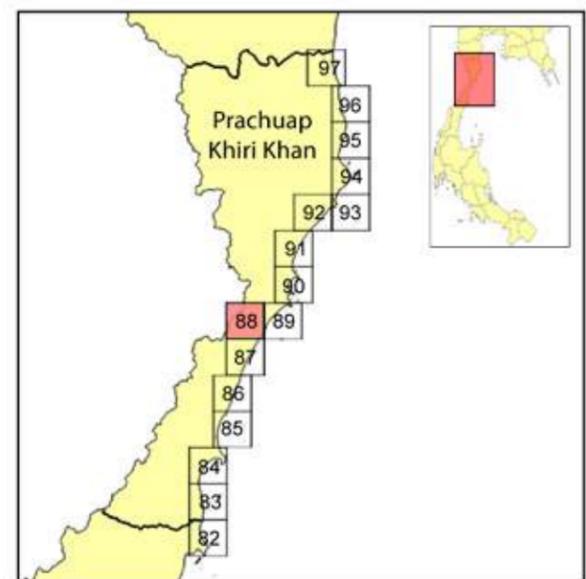
Human-Use/ Oil Spill Response Resources

Beach

Biological/Human-Use Areas

National Park

Location of Map



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General Information

This area covers parts of Thap Sakae District and Mueang Prachuap Khiri Khan District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms like crabs and bivalves, can be found within sandy substrates.

Human Use Features

Hat Wanakon, which extends from Hat Huay Yang from the previous map, is a popular white sand beach lined with pine trees. As part of Hat Wanakon National Park, the beach still retains its natural features. Tourist facilities, such as accommodations and restaurants, are available and managed by the national park.

Oil Spill Response Resources

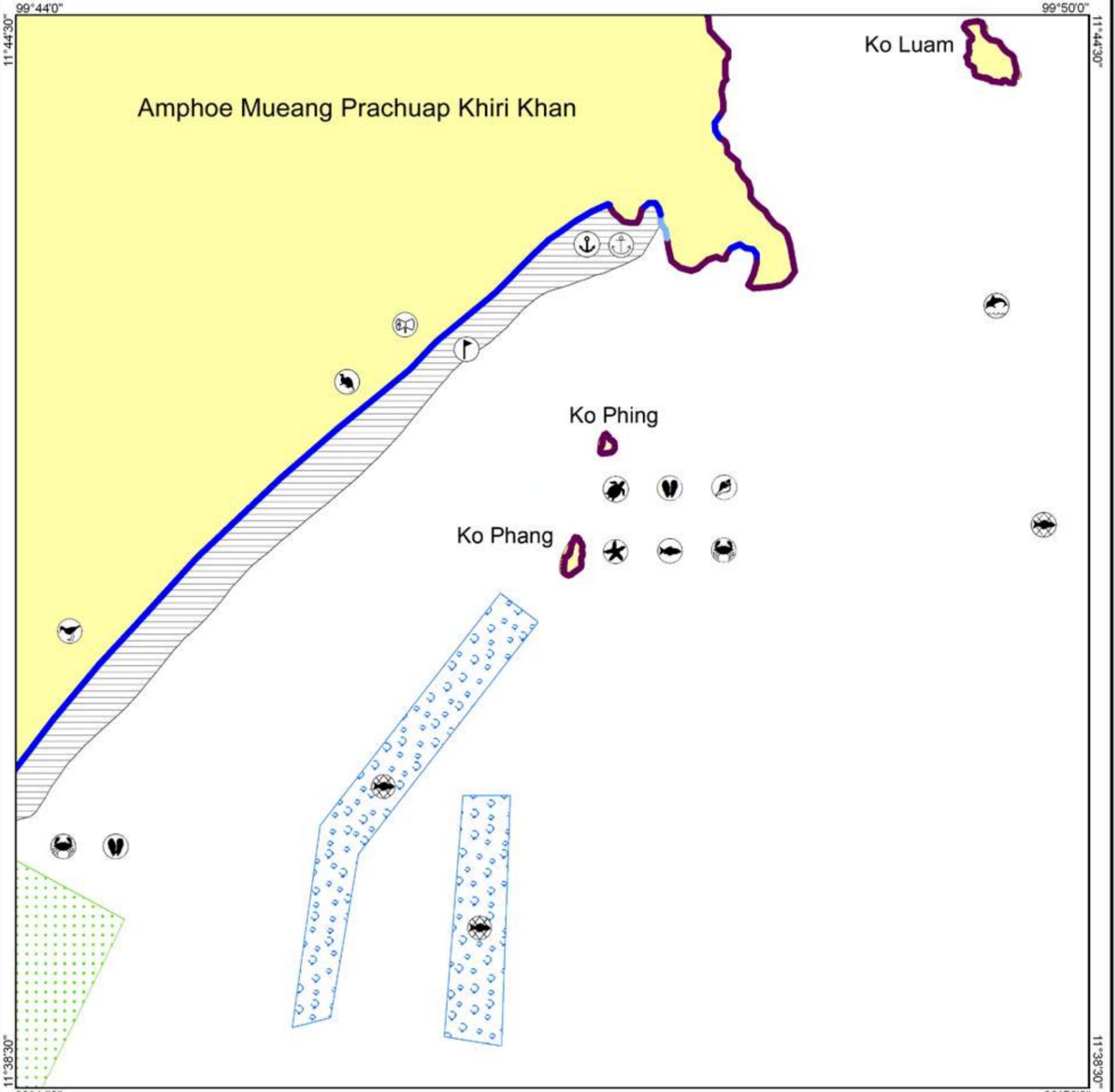
There is no oil spill response resource in the area.

Special Issue

Hat Wanakon was designated under Hat Wanakon National Park on 30 December 1992. The national park covers a total area of 38 km² consisting of terrestrial environments (59.5 percent) dominated by beach forests and plantations, and marine and coastal environments (40.5 percent). At least 61 species of terrestrial species were found in the area, such as birds, jungle fowls, squirrels, snakes and porcupines. Various marine life, such as fish, shrimp, echinoderms, sea turtles and dolphins, can be found on coral reefs in the national park.

Prachuap Khiri Khan Province

Thailand - 89



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- National Park
- Tidal Flats

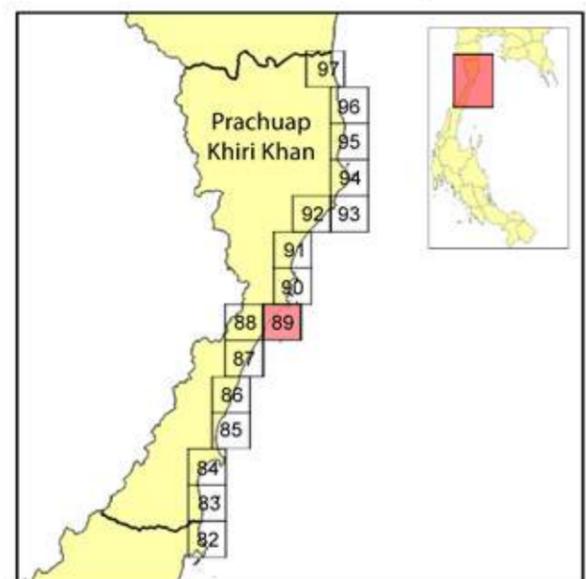
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

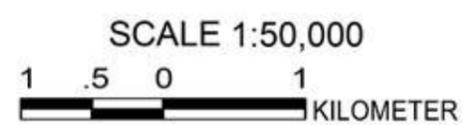
- Beach
- Fishing Port
- Marina
- Oil Tank
- Subsistence Fishing

Location of Map



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General Information

This area is located in Mueang Prachuap Khiri Khan District near the border of Myanmar. Its neighboring districts include Kui Buri and Thap Sakae. Off the coast in the area are three small islands, namely: Ko Luam, Ko Phing and Ko Phang, with areas of 0.238 km², 0.021 km² and 0.057 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; fine- to medium-grained sand beaches (ESI 3); and coarse-grained sand beaches (ESI 4).

Biological Resources

Coral reefs along the coasts of the islands are dominated by *Acropora*, *Porites* and *Pocillopora* species. Coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dolphins and whales, and sea turtles can be found in the area.

Seashore birds, migrant birds and terrestrial mammals are also present in areas near Hat Wanakon National Park.

Human Use Features

Hat Wah Kor is a white sand beach where tourist facilities and a science museum are located. Dense local fishing communities are also situated in some areas of the beach. Another beach, Hat Khlong Wan, also has fishing communities, as well as a fishing port and a marina.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

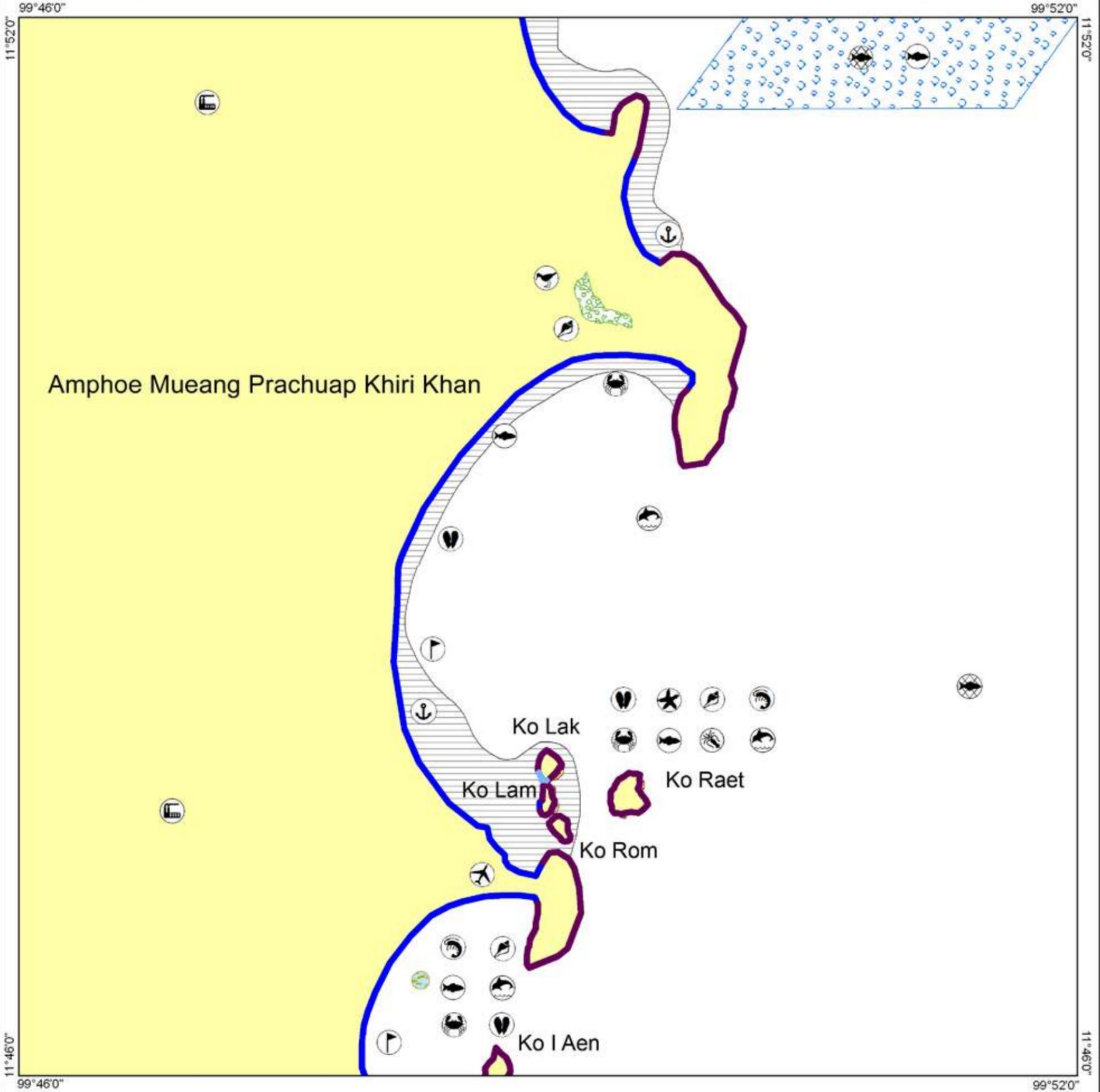
There is no oil spill response resource in the area.

Special Issue

A small part of the area was designated under Hat Wanakon National Park on 30 December 1992. The national park covers a total area of 38 km² consisting of terrestrial environments (59.5 percent) dominated by beach forests and plantations, and marine and coastal environments (40.5 percent). At least 61 species of terrestrial species were found in the area, such as birds, jungle fowls, squirrels, snakes and porcupines. Various marine life, such as fish, shrimp, echinoderms, sea turtles and dolphins, can be found on coral reefs in the national park.

Prachuap Khiri Khan Province

Thailand - 90



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

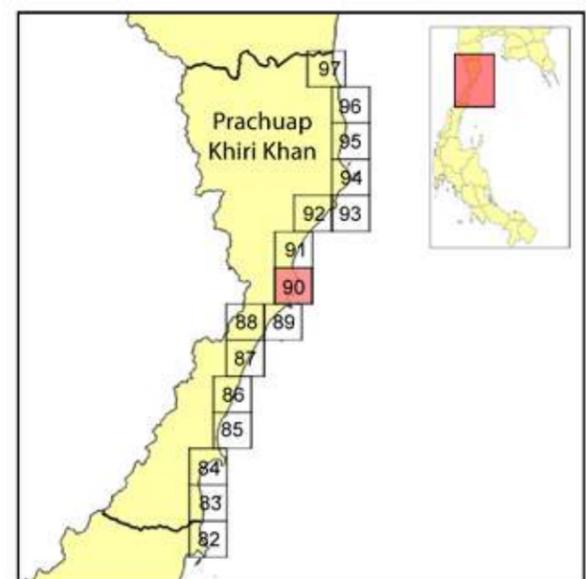
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Airport
- Beach
- Factory
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area is located in Mueang Prachuap Khiri Khan District. Its neighboring districts include Kui Buri and Thap Sakae of Prachuap Khiri Khan Province and Tanintharyi Division of the Republic of the Union of Myanmar. Off the coast in the area are the islands of Ko Raet, Ko Lak, Ko Rom and Ko Lam and a part of Ko I Aen, with areas of 0.183 km², 0.054 km², 0.045 km², 0.042 km² and 0.062 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), especially in the islands; and fine- to medium-grained sand beaches (ESI 3) and coarse-grained sand beaches (ESI 4).

Biological Resources

Small patches of riverine mangrove forests are situated along Khlong Wan canal. A small patch of seagrass beds in Ao Ma Noa consists of two dominant species, *Halodule pinifolia* and *Halophila ovalis*. Coral reefs along the coasts of Ko Raet and Ko Lak are dominated with *Acropora*, *Porites*, *Montipora* and *Galaxea* species. Various marine organisms enhance the coral reefs to become more biologically diverse. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, insects, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals like whales and dolphins can also be found in the area.

Human Use Features

The tourist beach in Ao Prachuap Khiri Khan is 8 km long stretching from Khoa Ta Mong Lai in the north to Khoa Lom Muak in the south. Small islands near the coast create a beautiful and scenic view by the beach. South of this beach is Ao Ma Noa, a 4-km-long white sand beach. Tourist facilities, such as restaurants and accommodations, are available in both beaches.

Prachuap Khiri Khan Military Airport, located between Ao Prachuap Khiri Khan and Ao Ma Noa, is managed by the Royal Thai Air Force and covers an area of 6 km².

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Factories are also situated in the area, about 1.5 km from the coast.

Oil Spill Response Resources

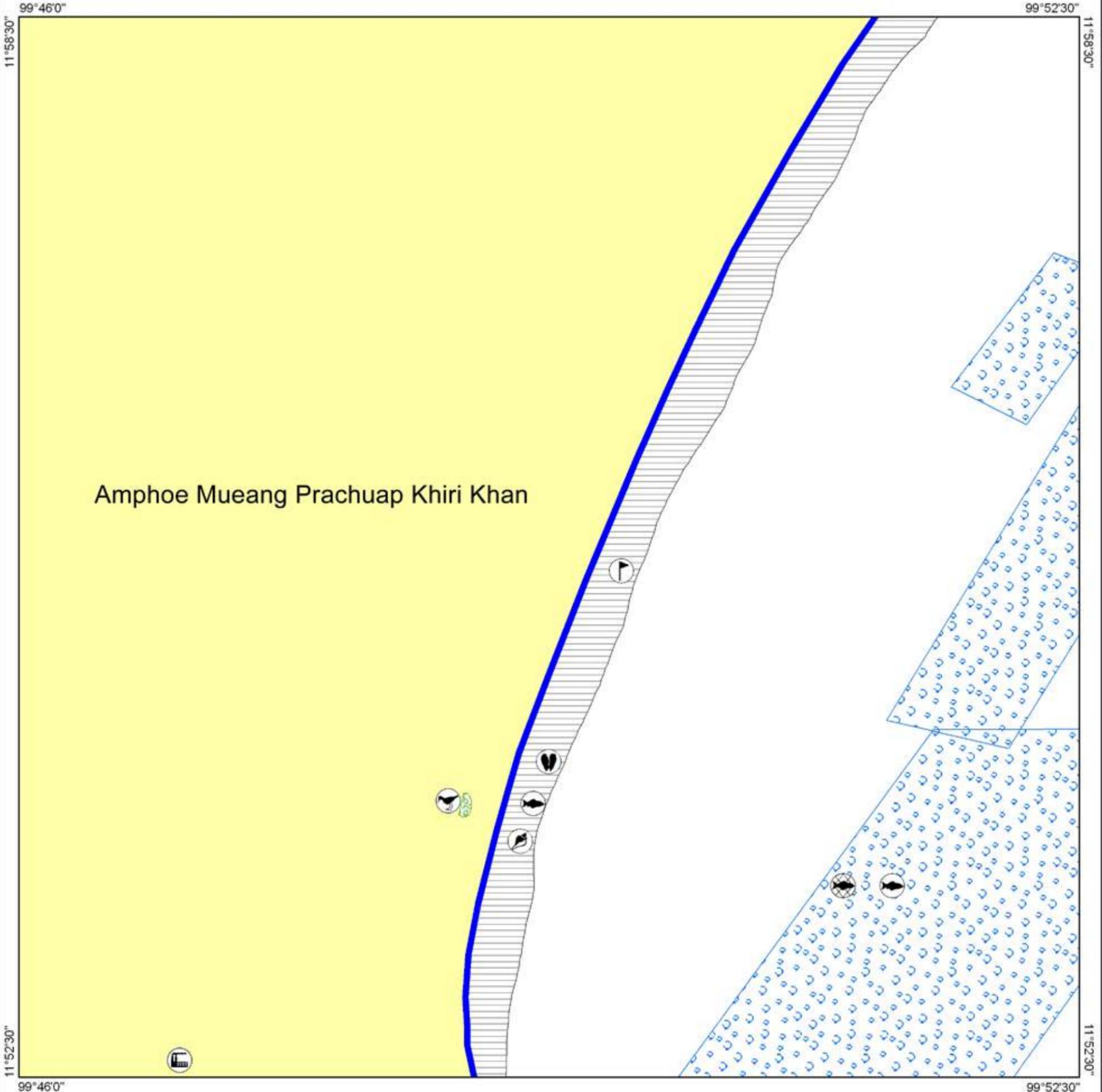
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 91



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

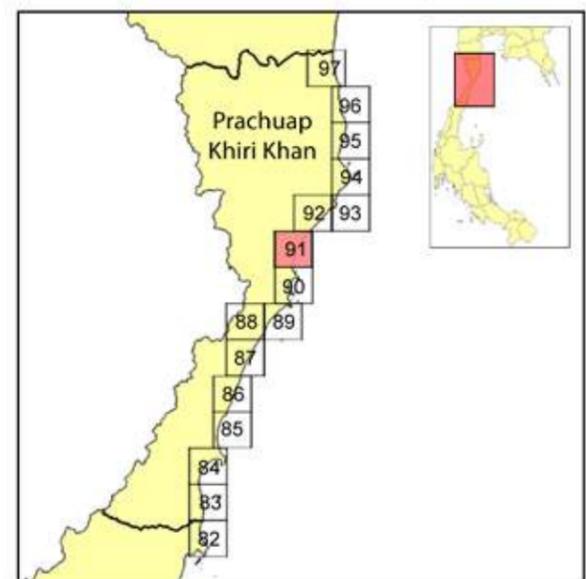
Biological Resources

- Bird
- Bivalve
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Beach
- Factory
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Prachuap Khiri Khan District. Its neighboring districts include Kui Buri and Thap Sakae of Prachuap Khiri Khan Province and Tanintharyi Division of the Republic of the Union of Myanmar.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

A small patch of mangroves and a long stretch of tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, bivalves, gastropods and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Aside from the beach in Hat Khan Kradai in Ao Noi Subdistrict, tourists can also visit Khan Kradai temple and local fishing communities in the area.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Factories are also situated in the area, about 1.5 km from the coast.

Oil Spill Response Resources

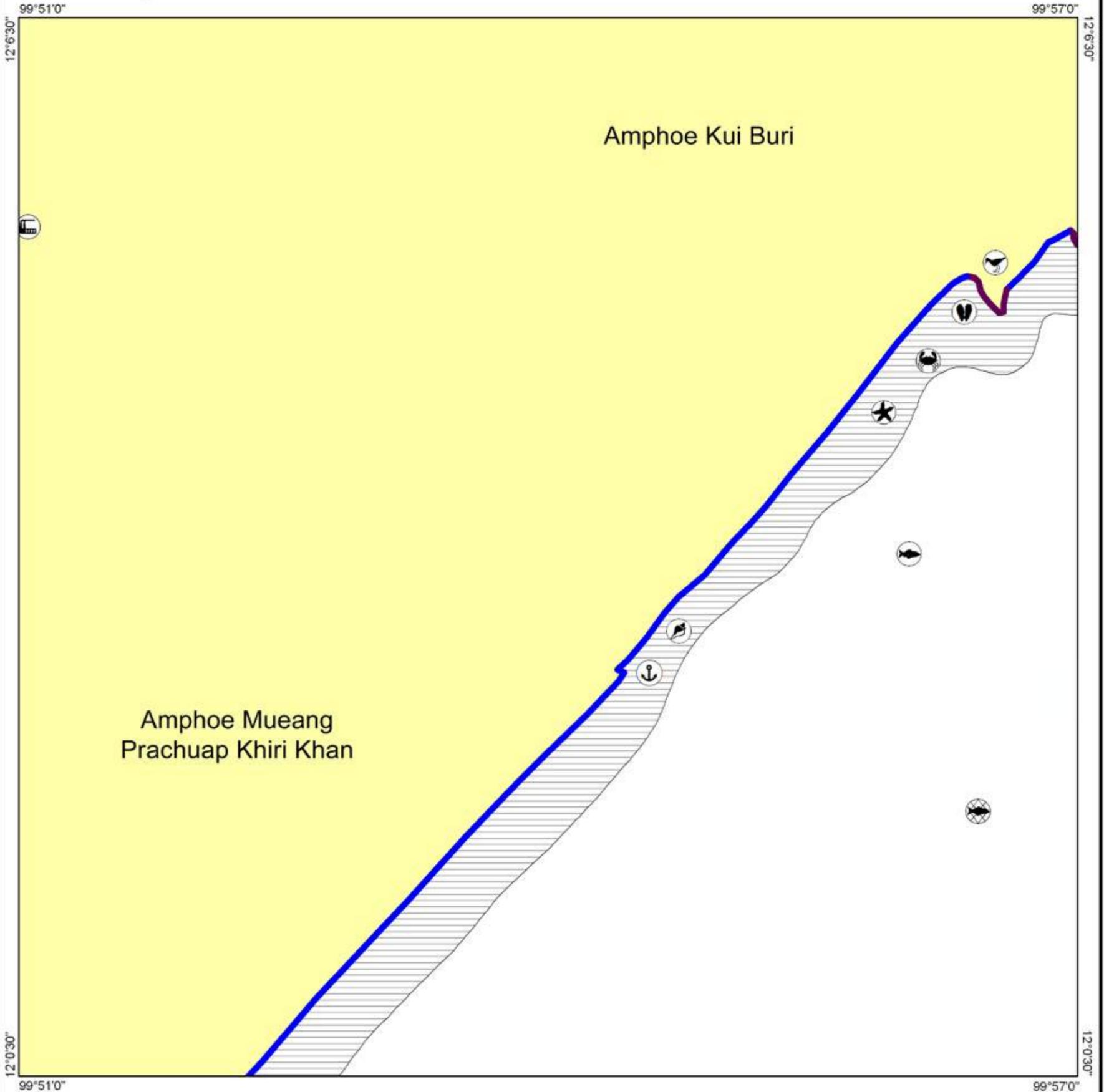
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 92



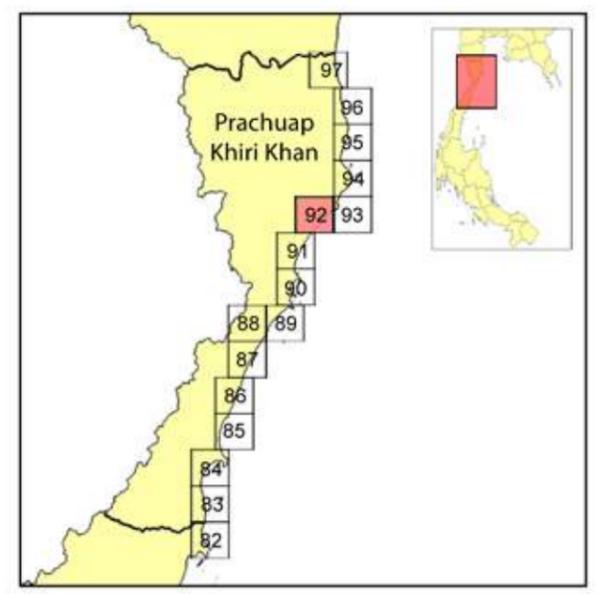
Shoreline Classification
 ESI 1 (Purple line)
 ESI 3 (Blue line)

Biological/Human-Use Areas
 Tidal Flats (Hatched area)

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod

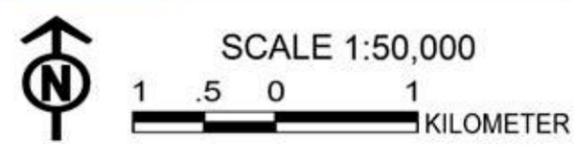
- Human-Use/ Oil Spill Response Resources**
- Factory
 - Fishing Port
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Mueang Prachuap Khiri Khan District and Kui Buri District.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, bivalves, gastropods, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters.

Human Use Features

The beach in the area, an extension of Hat Khan Kradai from the previous map, has muddy substrates brought by the outflow of many canals in the area.

A fishing port is situated at Khlong Kui.

Oil Spill Response Resources

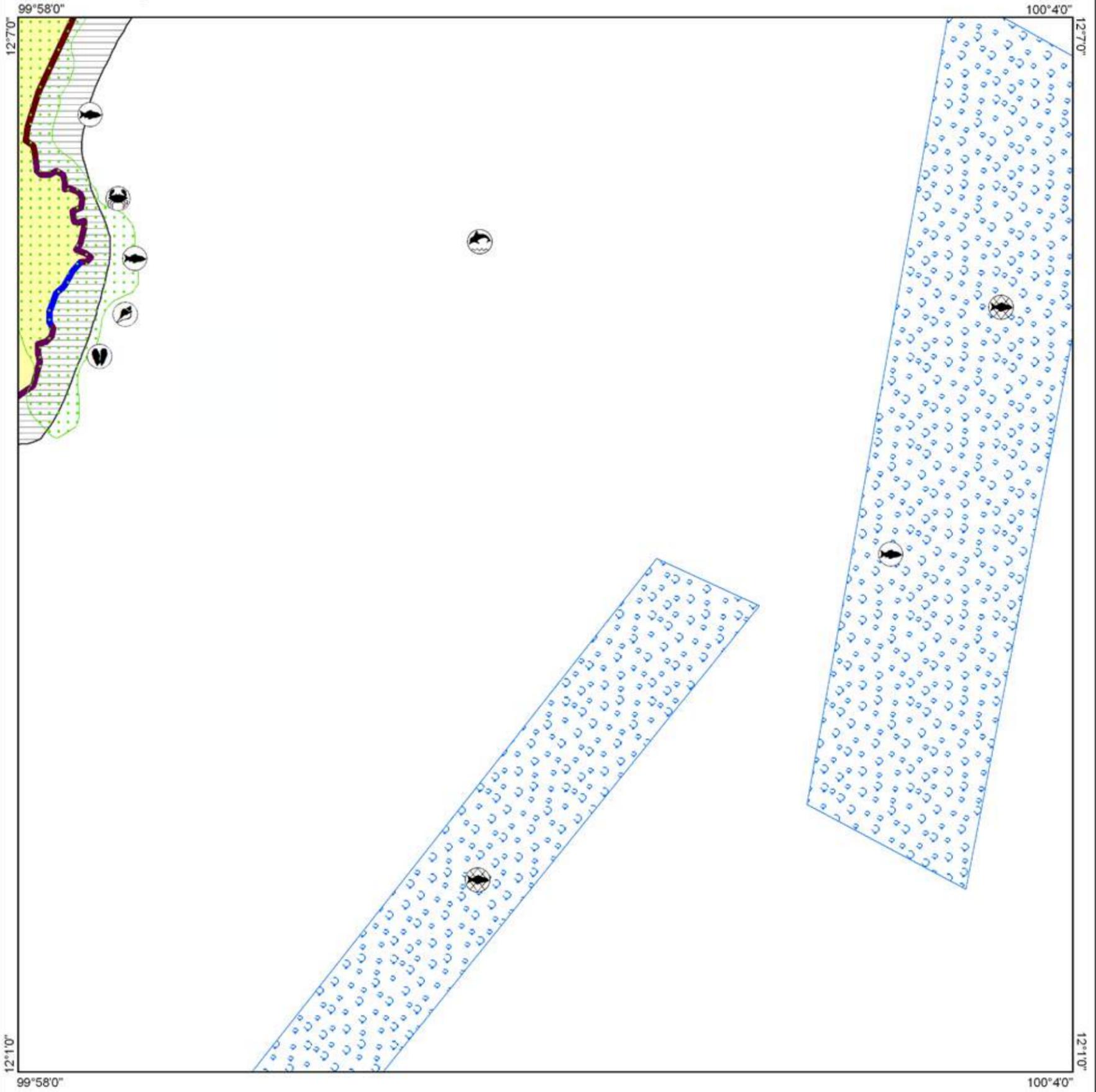
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 93



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- National Park
- Tidal Flats

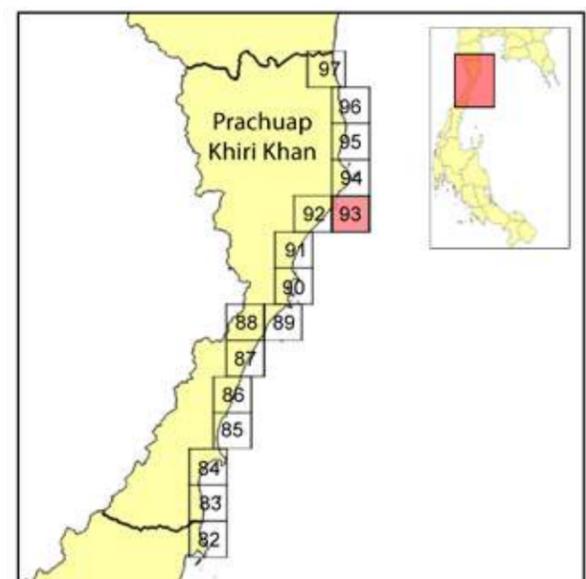
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Kui Buri District. Its neighboring districts include Sam Roi Yot and Mueang Prachuap Khiri Khan.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, bivalves and gastropods.

Some marine organisms, especially benthic organisms, can be found within sandy, rocky and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

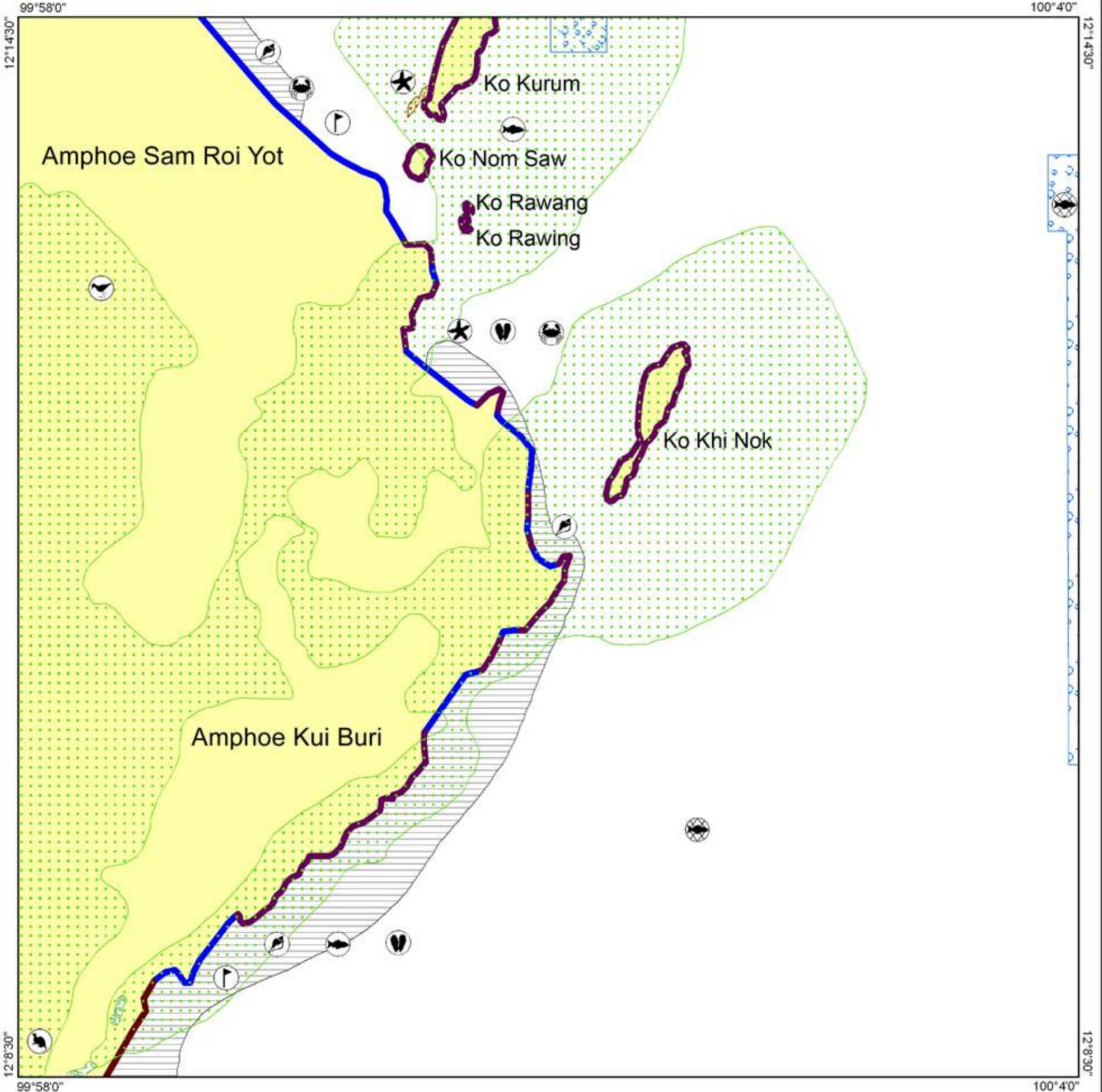
There is no oil spill response resource in the area.

Special Issue

A part of this area was designated under Khao Sam Roi Yot National Park on 28 June 1966. The national park covers a total area of 164 km², including the Sam Roi Yot Mountain Range, which stretches for 20 km along the coast. The park is also recognized as one of Thailand's Ramsar sites with abundant coastal and marine environments. The islands of Ko Rawang, Ko Rawing, Ko Khi Nok, Ko Nom Saw and Ko Kurum are located within the Ramsar site. Regarded for its high significance as a complex ecosystem, Khao Sam Roi Yot National Park hosts a large number of species of birds, amphibians, reptiles, small mammals and rare marine animals.

Prachuap Khiri Khan Province

Thailand - 94



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- National Park
- Tidal Flats

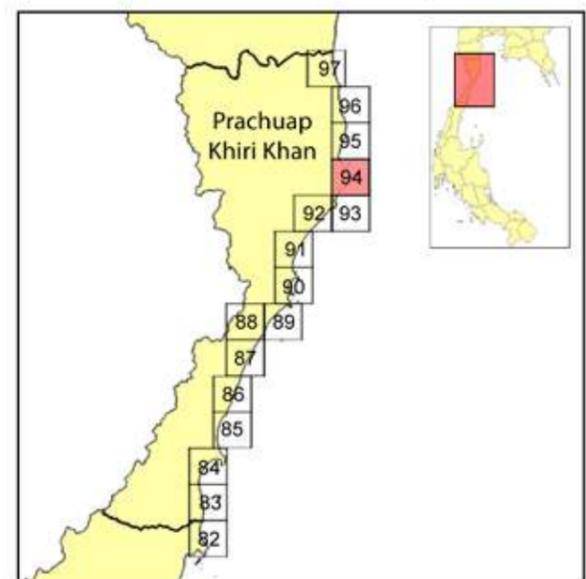
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Terrestrial Mammal

Human-Use/Oil Spill Response Resources

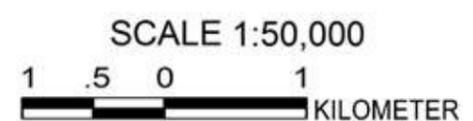
- Beach
- Subsistence Fishing

Location of Map



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General Information

This area covers the coastline shared by Kui Buri District and Sam Roi Yot District, as well as five small islands off the coast, namely: Ko Rawang, Ko Rawing, Ko Khi Nok, Ko Nom Saw and Ko Kurum, with areas of 0.004 km², 0.013 km², 0.077 km², 0.403 km² and 0.559 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Acropora* and *Porites* species. Small patches of riverine mangroves are present along small canals. Both coral reefs and mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, bivalves, gastropods, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy, rocky and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Tourist beaches in the area include Hat Laem Sala on the northern coast and Sam Phraya on the southern coast.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Following local fisheries law, any form of fishing is not allowed within national park areas.

Oil Spill Response Resources

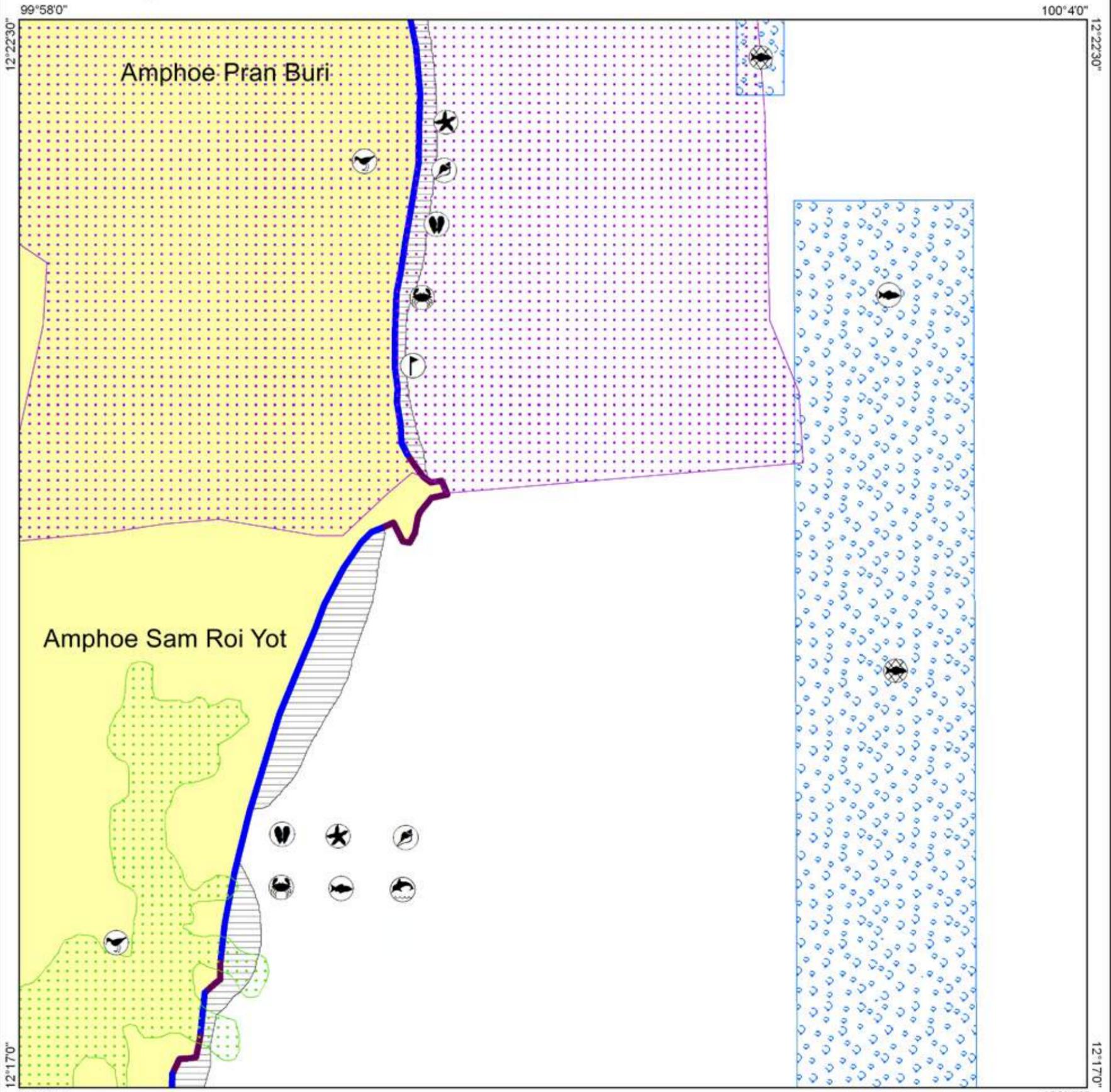
There is no oil spill response resource in the area.

Special Issue

Parts of this area were designated under Khao Sam Roi Yot National Park on 28 June 1966. The national park covers a total area of 164 km², including the Sam Roi Yot Mountain Range, which stretches for 20 km along the coast. The park is also recognized as one of Thailand's Ramsar sites with abundant coastal and marine environments. The islands of Ko Rawang, Ko Rawing, Ko Khi Nok, Ko Nom Saw and Ko Kurum are located within the Ramsar site. Regarded for its high significance as a complex ecosystem, Khao Sam Roi Yot National Park hosts a large number of species of birds, amphibians, reptiles, small mammals and rare marine animals.

Prachuap Khiri Khan Province

Thailand - 95



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- National Park
- Special Management Area
- Tidal Flats

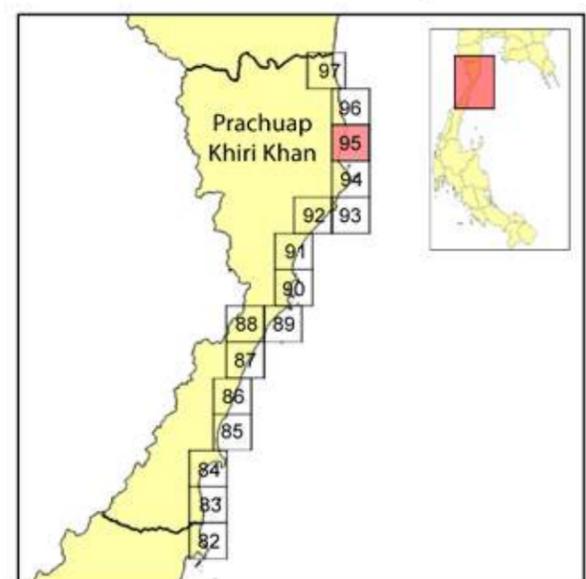
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Sam Roi Yot District and Pran Buri District.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, bivalves, gastropods and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy, rocky and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Species of birds can be found within the national park and the special environmental management area. Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Hat Koa Ka Lok or Hat Taw Kosa in Pak Nam Pran Subdistrict is a long white sand beach in the area. Local fishing communities are situated on the northern part of the beach.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Following local fisheries law, any form of fishing is not allowed within national park areas.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Pran Buri District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

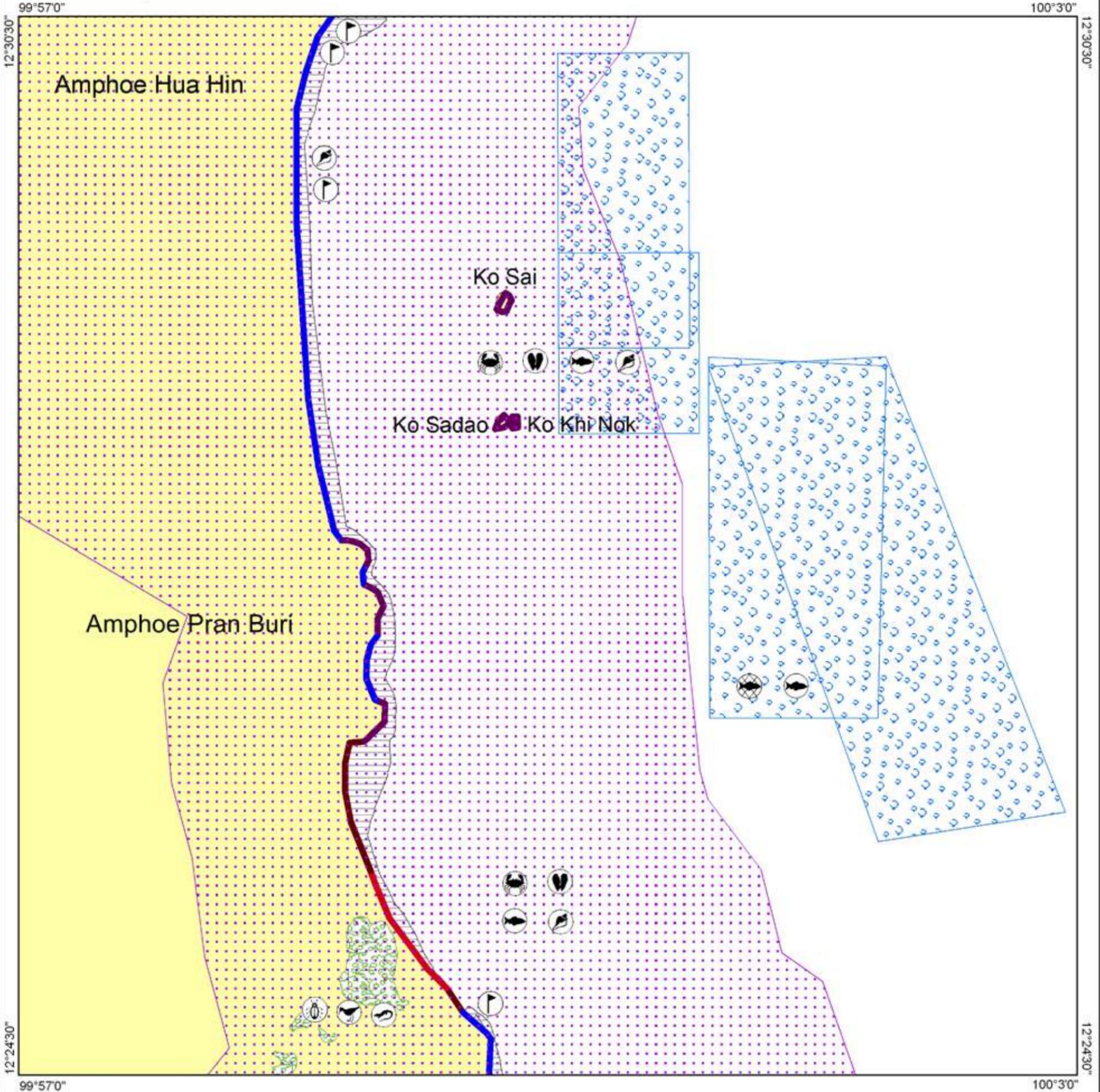
There is no oil spill response resource in the area.

Special Issue

Parts of this area were designated under Khao Sam Roi Yot National Park on 28 June 1966. The national park covers a total area of 164 km², including the Sam Roi Yot Mountain Range, which stretches for 20 km along the coast. The park is also recognized as one of Thailand's Ramsar sites with abundant coastal and marine environments. The islands of Ko Rawang, Ko Rawing, Ko Khi Nok, Ko Nom Saw and Ko Kurum are located within the Ramsar site. Regarded for its high significance as a complex ecosystem, Khao Sam Roi Yot National Park hosts a large number of species of birds, amphibians, reptiles, small mammals and rare marine animals.

Prachuap Khiri Khan Province

Thailand - 96



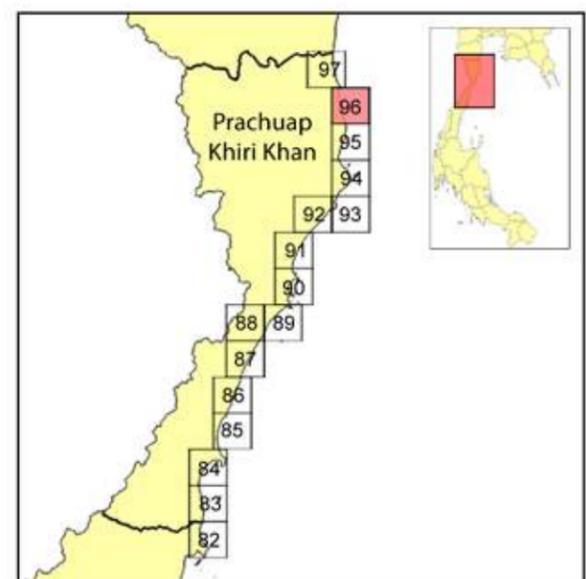
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 7
 - ESI 10B

- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves
 - Special Management Area
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Insect
 - Reptile and Amphibian

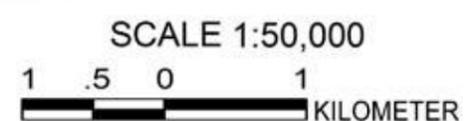
- Human-Use/ Oil Spill Response Resources**
- Beach
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the coastline shared by Pran Buri District and Hua Hin District, as well as three small islands off the coast, namely: Ko Khi Nok, Ko Sadao and Ko Sai.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3) along the northern coast, exposed tidal flats (ESI 7) and mangroves (ESI 10B) in Pran Buri Forest Park.

Biological Resources

Riverine mangrove forests are situated along two canals, Khlong Kao and Khlong Kob, within Pran Buri Forest Park, which has an area of 3.17 km². Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and shorebirds. Some marine organisms, especially benthic organisms, can be found within sandy, rocky and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Dense local fishing communities are situated along Hat Pak Nam Pran located south of the mouth of Pran Buri River. Hat Kao Tao is a 2-km-long white sand beach located north of the river toward Hua Hin District. The northern part of this beach is suitable for tourism, while the southern part is also dense with fishing communities.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Pran Buri District and Hua Hin District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

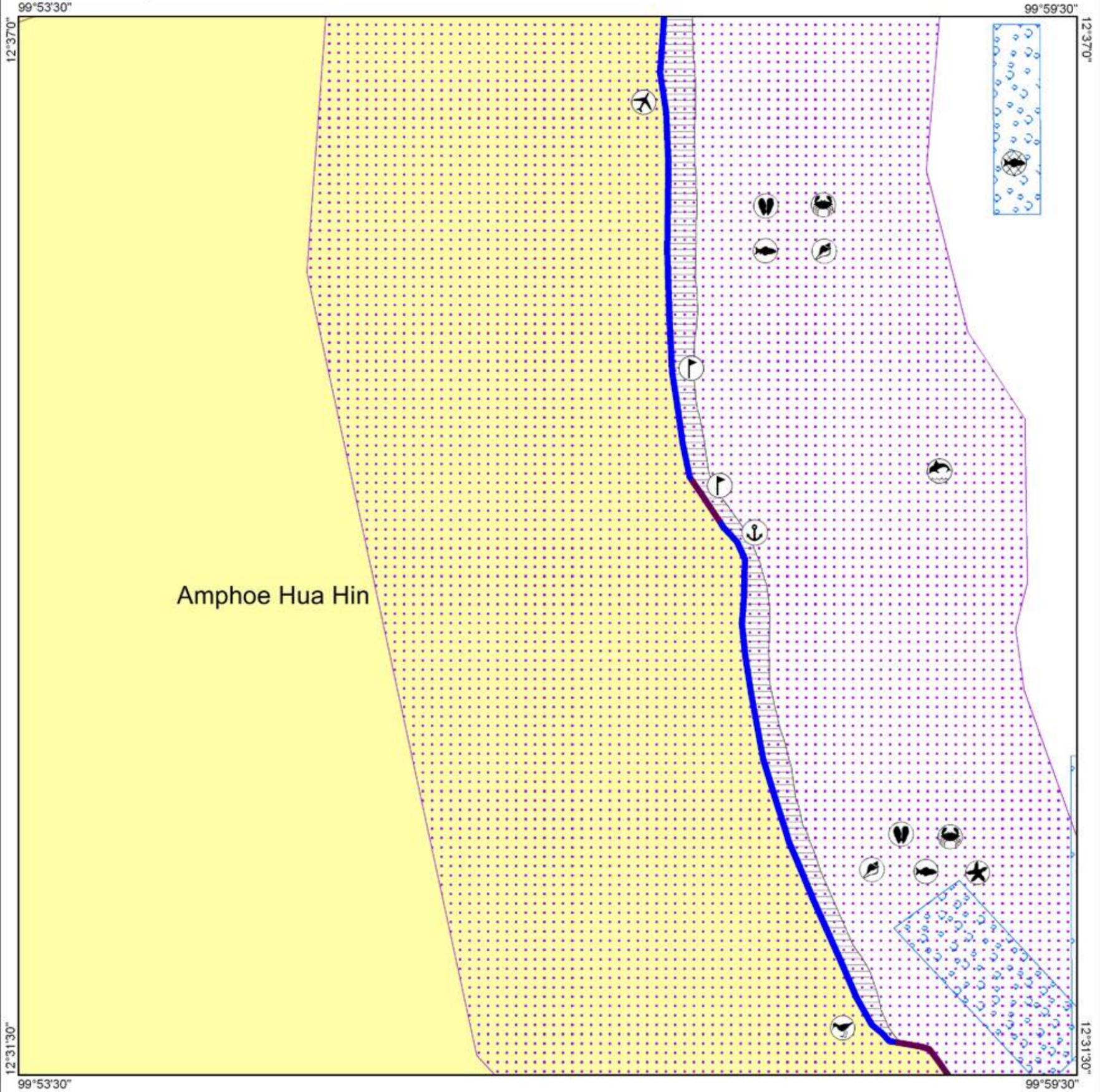
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Prachuap Khiri Khan Province

Thailand - 97



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Special Management Area
- Tidal Flats

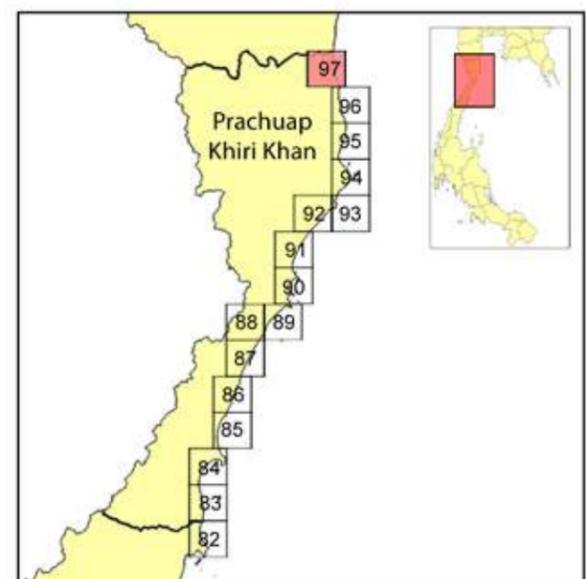
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Airport
- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Hua Hin District near the border of Myanmar. Its neighboring districts include Pran Buri of Prachuap Khiri Khan Province and Cha-am District of Phetchaburi Province.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs along Khao Takiap cape and solid man-made structures in the middle of the shoreline (ESI 1), as well as fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, bivalves, gastropods, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy, rocky and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Hat Hua Hin is a long white sand beach visited by many tourists each year. Tourist facilities, such as a tourist information center, accommodations, restaurants and nightlife establishments, are available.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

A fishing port and commercial centers are situated in the middle of the beach. Hua Hin Airport, located north of the beach, is managed by the Department of Civil Aviation for commercial and aviation training purposes.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Hua Hin District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

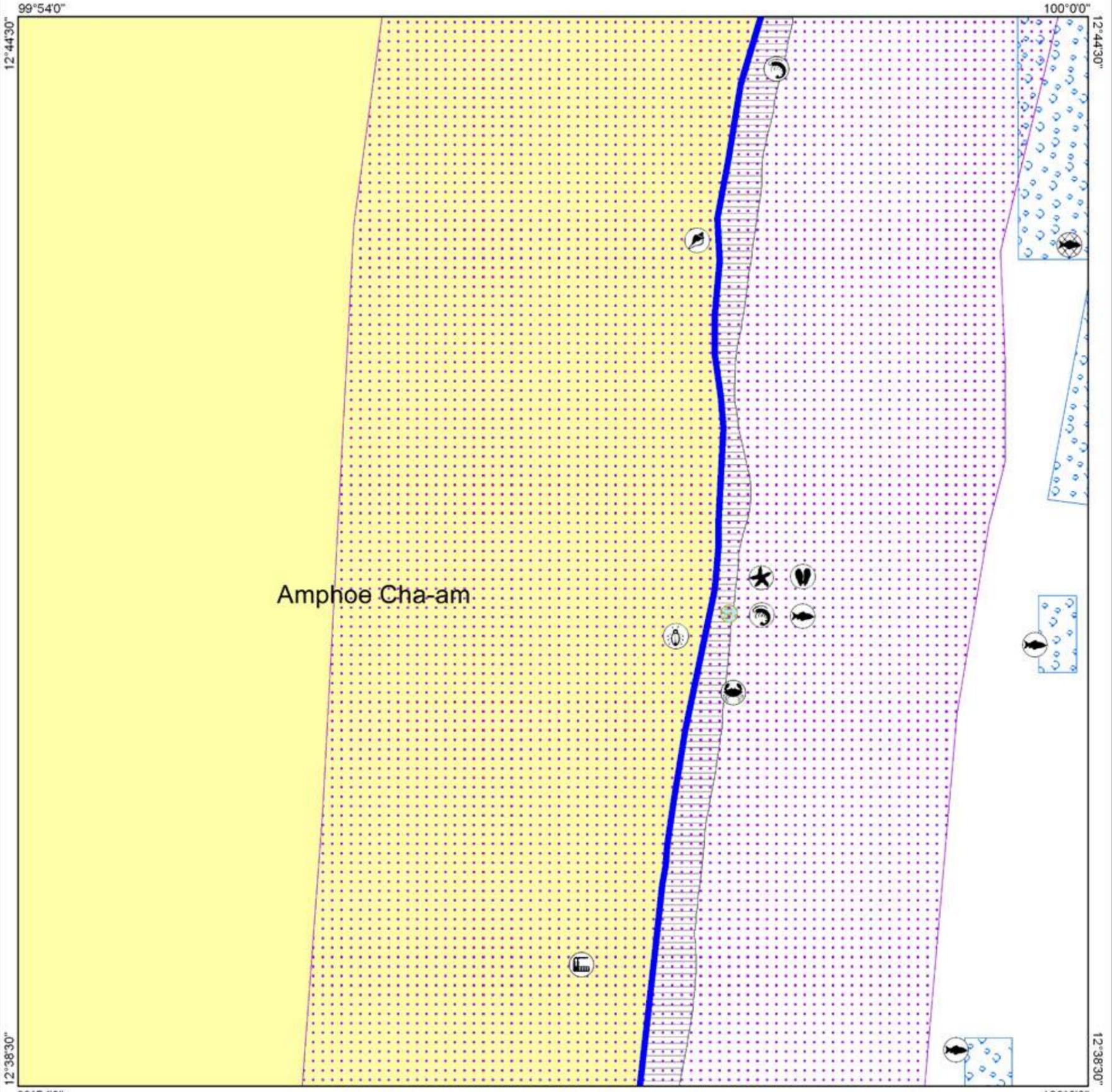
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 98



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Seagrass Beds
- Special Management Area
- Tidal Flats

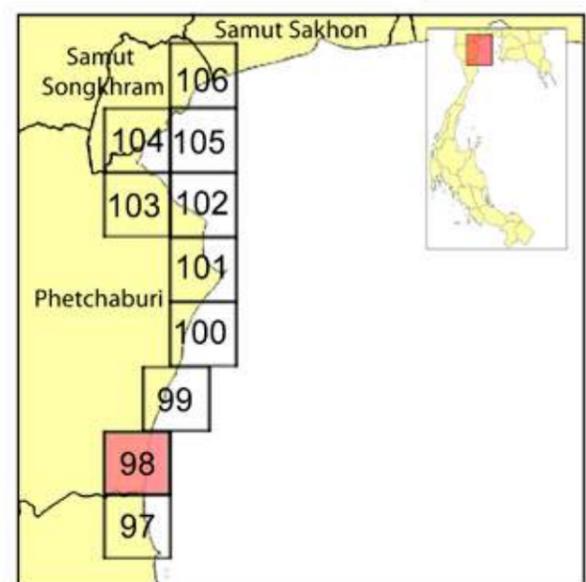
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Shrimp

Human-Use/ Oil Spill Response Resources

- Factory
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Cha-am District. Its neighboring districts include Hua Hin of Prachuap Khiri Khan Province and Tha Yang District of Phetchaburi Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

A small patch of seagrass beds near the mouth of Khlong Bang Kla Noi canal is dominated with *Ruppia maritima*. Seagrass beds, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, bivalves, gastropods and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Cha-am is a popular white sand beach extending from Hat Hua Hin. Tourist facilities, such as a tourist information center, accommodations and restaurants, are available.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Cha-am District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

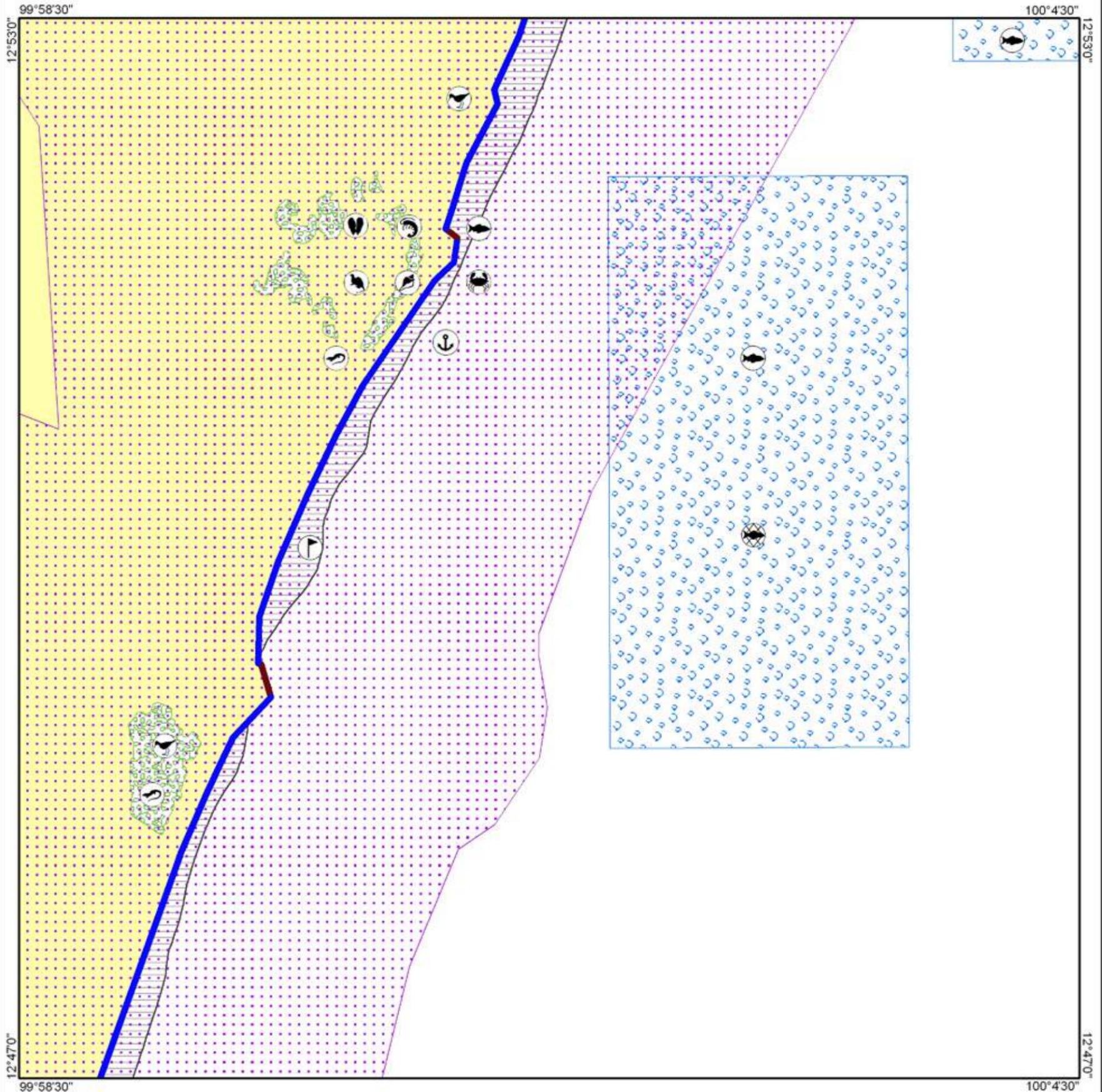
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 99



Shoreline Classification

- ESI 3
- ESI 7

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Special Management Area
- Tidal Flats

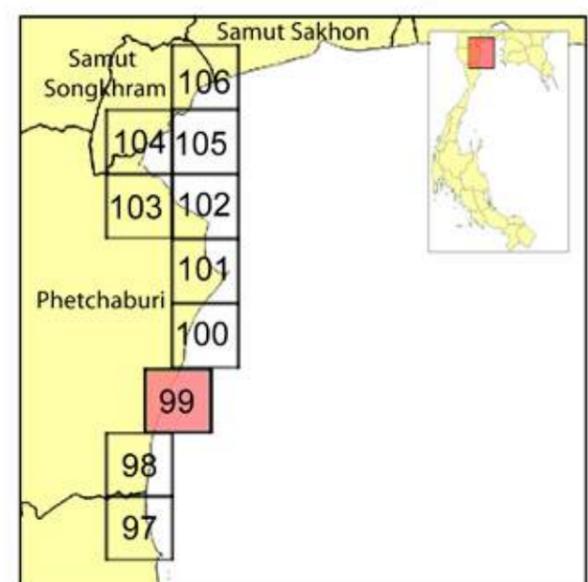
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the northern part of Hat Cha-am in Cha-am District. Its neighboring districts include Hua Hin of Prachuap Khiri Khan Province and Tha Yang District of Phetchaburi Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) and exposed tidal flats (ESI 7).

Biological Resources

Tidal flats along the coast and riverine mangrove forests along Khlong Cha-am canal in the northern part of Hat Cha-am are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Cha-am is a popular white sand beach extending from Hat Hua Hin. Tourist facilities, such as a tourist information center, accommodations and restaurants, are available.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. A fishing port is also present in the area.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Cha-am District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

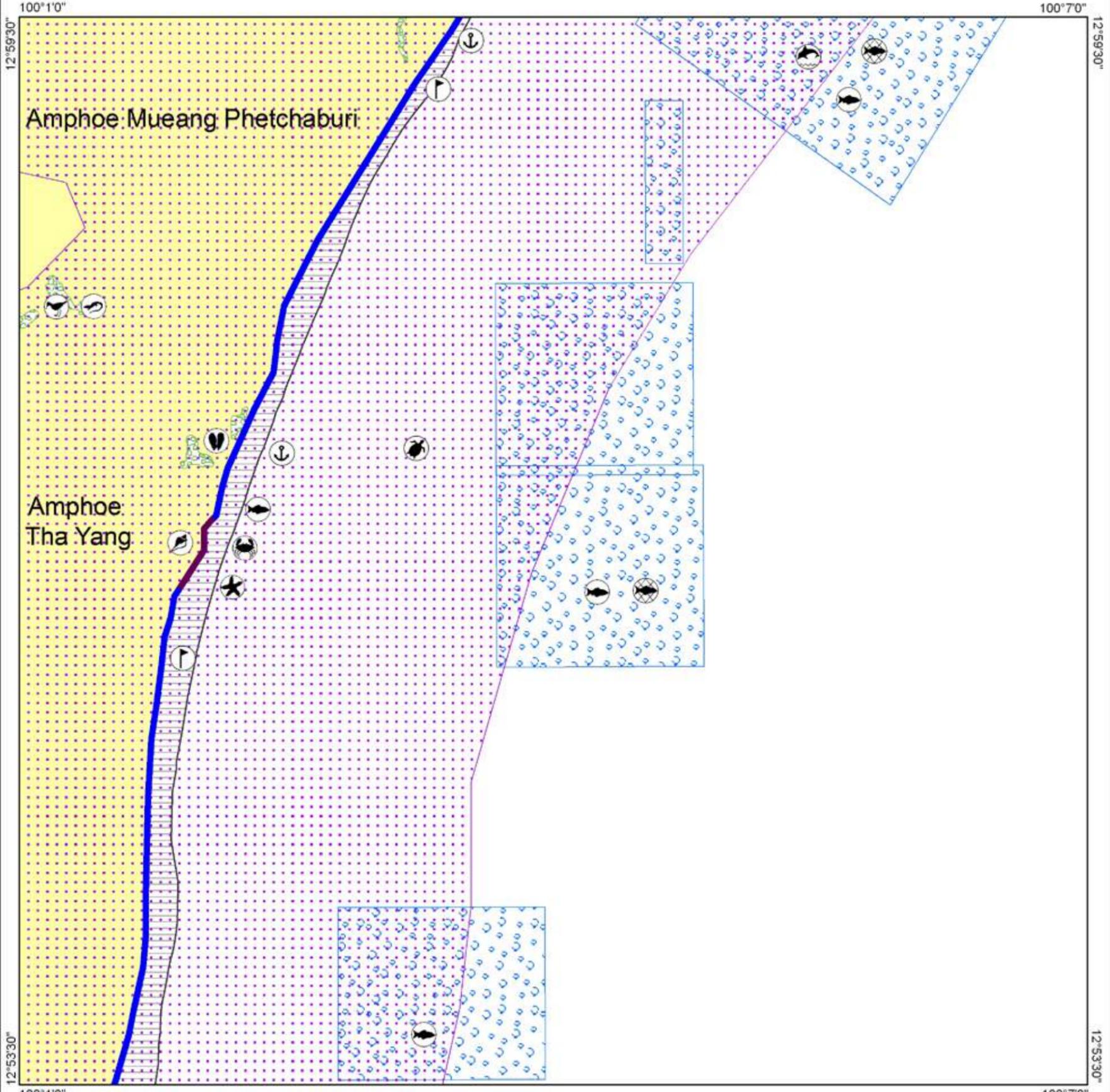
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 100



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Special Management Area
- Tidal Flats

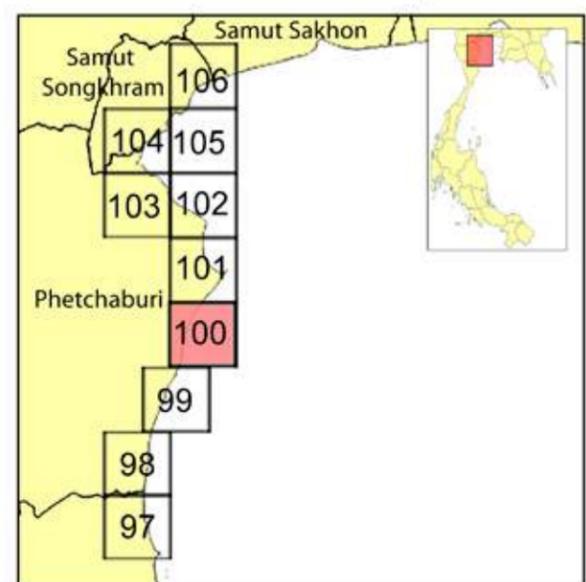
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Turtle

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by Tha Yang District and Mueang Phetchaburi District.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Tidal flats along the coast and patches of riverine mangrove forests along Khlong Puek Tian, Khlong Ta Kob and Khlong Bang Kao canals are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, reptiles, amphibians, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as whales and dolphins, and sea turtles can also be found in the area.

Human Use Features

Tourist beaches in the area include Hat Chao Sam Ram in Mueang Phetchaburi District and Hat Puek Tian and Hat Petch in Tha Yang District. Tourist facilities, such as a tourist information center, accommodations and restaurants, are available in all three beaches.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. Fishing ports are also present in the area.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Tha Yang District and Mueang Phetchaburi District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

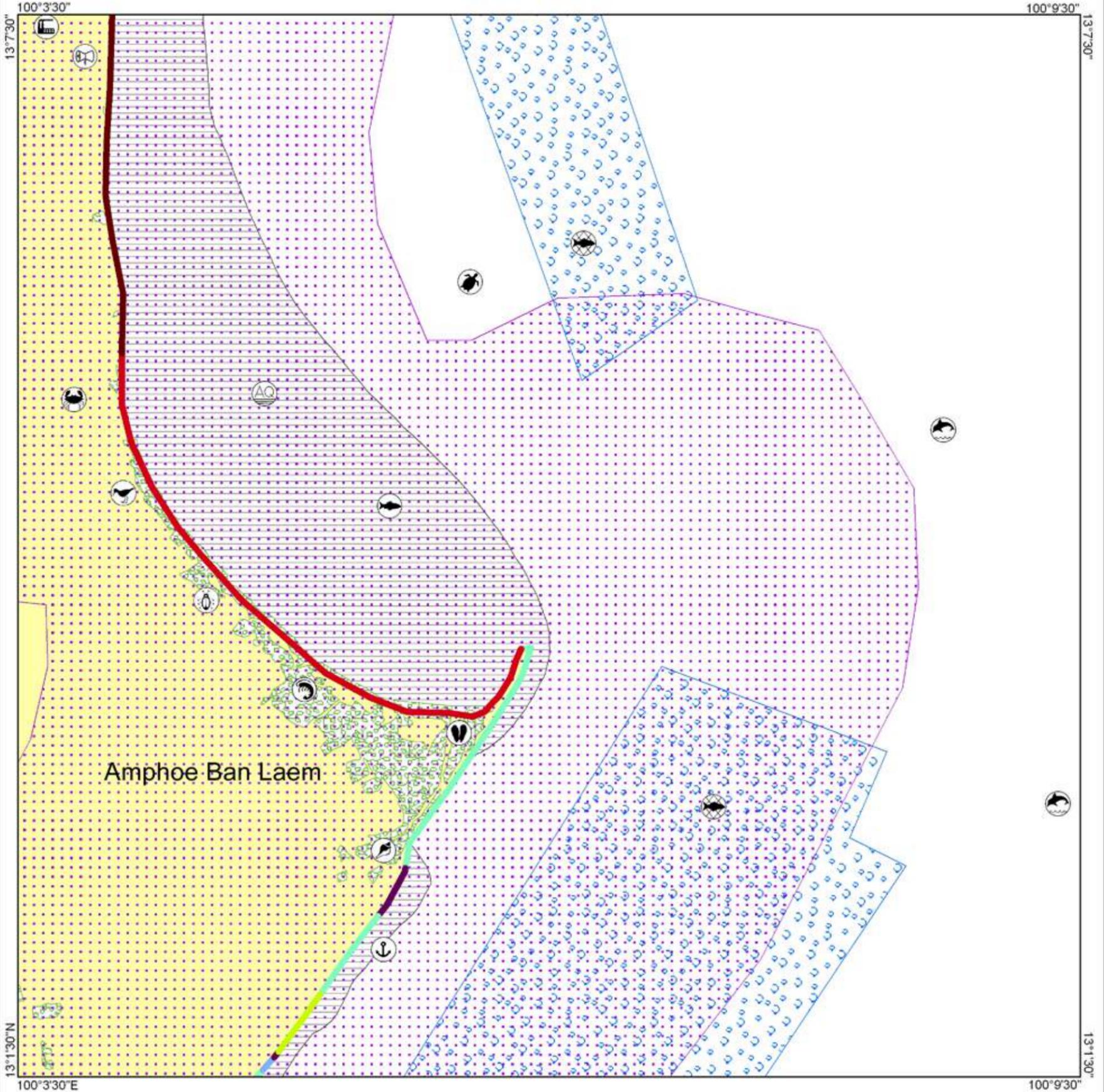
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 101



Shoreline Classification

- ESI 1
- ESI 4
- ESI 5
- ESI 6B
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Special Management Area
- Tidal Flats

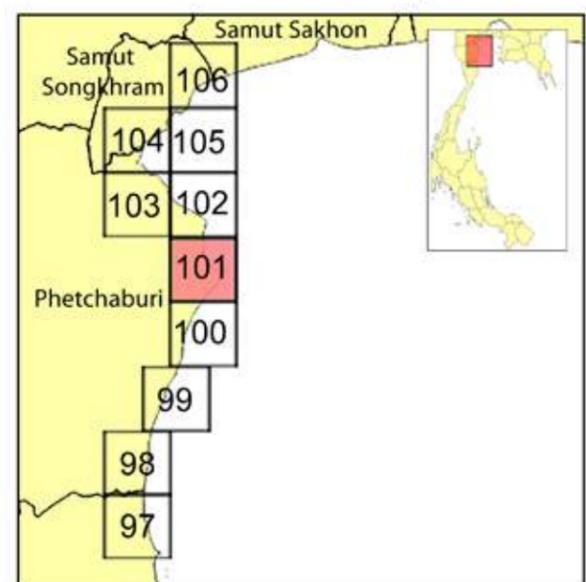
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Shrimp
- Turtle

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Factory
- Fishing Port
- Oil Tank
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
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Not for Navigation



SCALE 1:50,000



General Information

This area covers Ao Laem Pak Bia in Ban Laem District. Its neighboring districts include Mueang Phetchaburi and Khao Yoi of Phetchaburi Province, and Amphawa and Mueang Samut Songkhram of Samut Songkhram Province.

Shoreline

Along the coast in the area are exposed solid man-made structures (ESI 1), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), ripraps (ESI 6B), exposed tidal flats (ESI 7) and mangroves (ESI 10B). Mangroves and exposed tidal flats are situated along Ao Laem Pak Bia, while sandy beaches are located south of the bay. Ripraps and man-made structures are in place in the area to mitigate coastal erosion.

Biological Resources

Riverine and fringing mangrove forests in Ao Laem Pak Bia covering a total area of 29.71 km² is a well-known site for bird watching, indicating high biodiversity in the area. Large areas of tidal flats along the bay are abundant with blood cockles and mussels. Both mangroves and tidal flats are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as whales and dolphins, and sea turtles can also be found in the area.

Human Use Features

Hat Laem Pak Bia or Hat Laem Luang is a mixed sand and gravel beach with ripraps and other coastal protection structures in place. The beach is a popular site for bird watching and picnics.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species. A fishing port is also located in the area.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Ban Laem District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

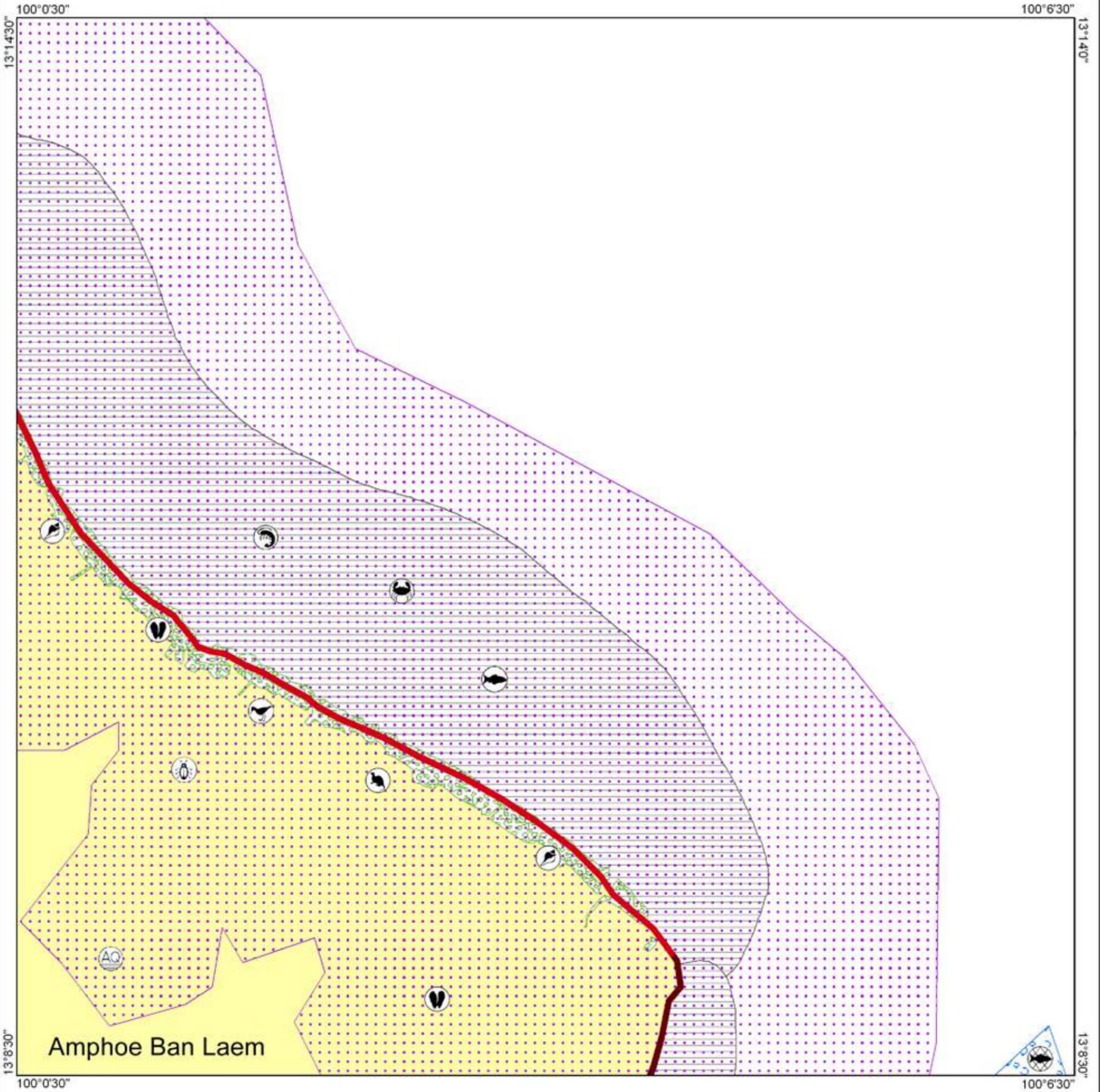
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 102



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Special Management Area
- Tidal Flats

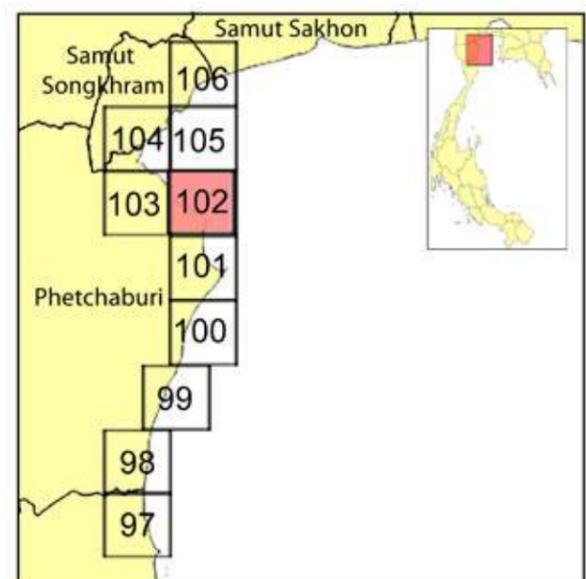
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the northern part of Ao Laem Pak Bia and parts of Ao Bang Taboon in Ban Laem District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) in Ao Laem Pak Bia and mangroves (ESI 10B) in Ao Bang Taboon.

Biological Resources

Fringing mangrove forests in Ao Bang Taboon and large areas of tidal flats, where blood cockles and mussels are abundant, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Ban Laem District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

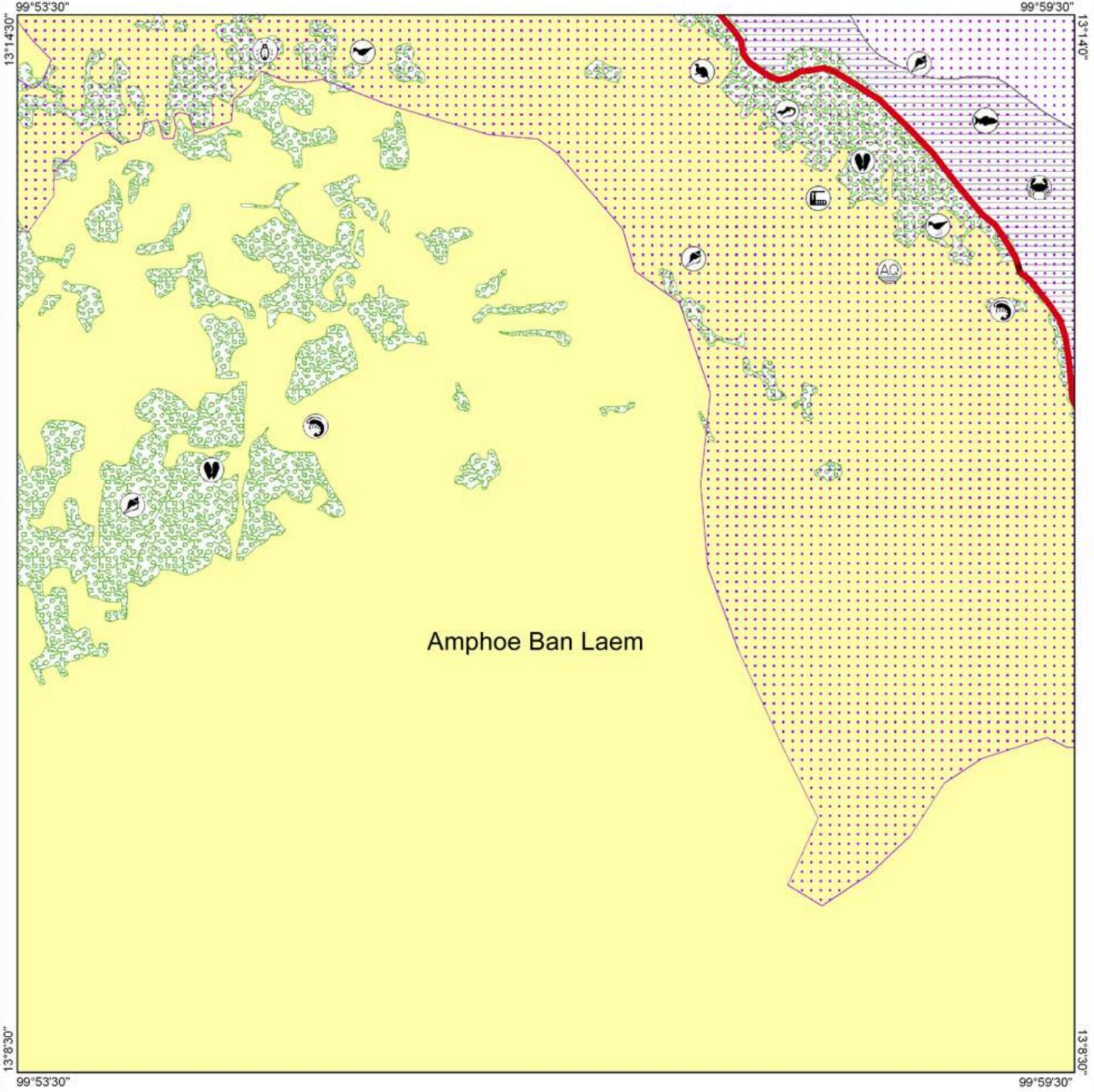
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi Province

Thailand - 103



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Special Management Area
- Tidal Flats

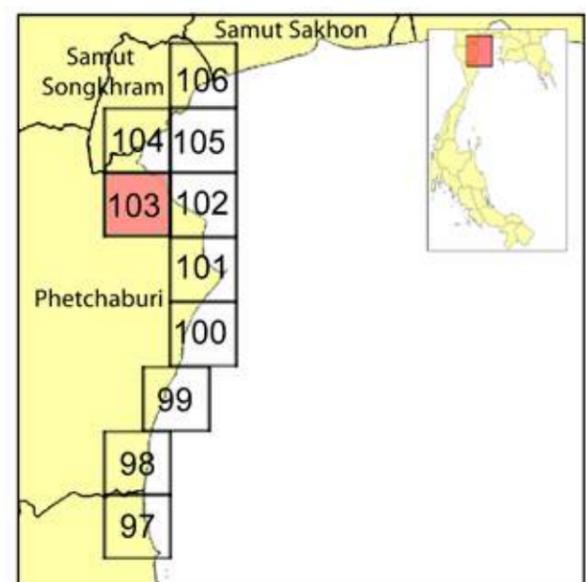
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Factory

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Ban Laem District, covering Ao Bang Taboon and areas along Bang Taboon River.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and mangroves (ESI 10B).

Biological Resources

Fringing mangrove forests are situated along the coast of Ao Bang Taboon, while riverine mangrove forests are located along Phetchaburi River and Khlong Khun Sai canal. Large areas of tidal flats along the bay are abundant with blood cockles and mussels. Both mangroves and tidal flats are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming.

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Ban Laem District were designated as an Environmental Protection Area on 19 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

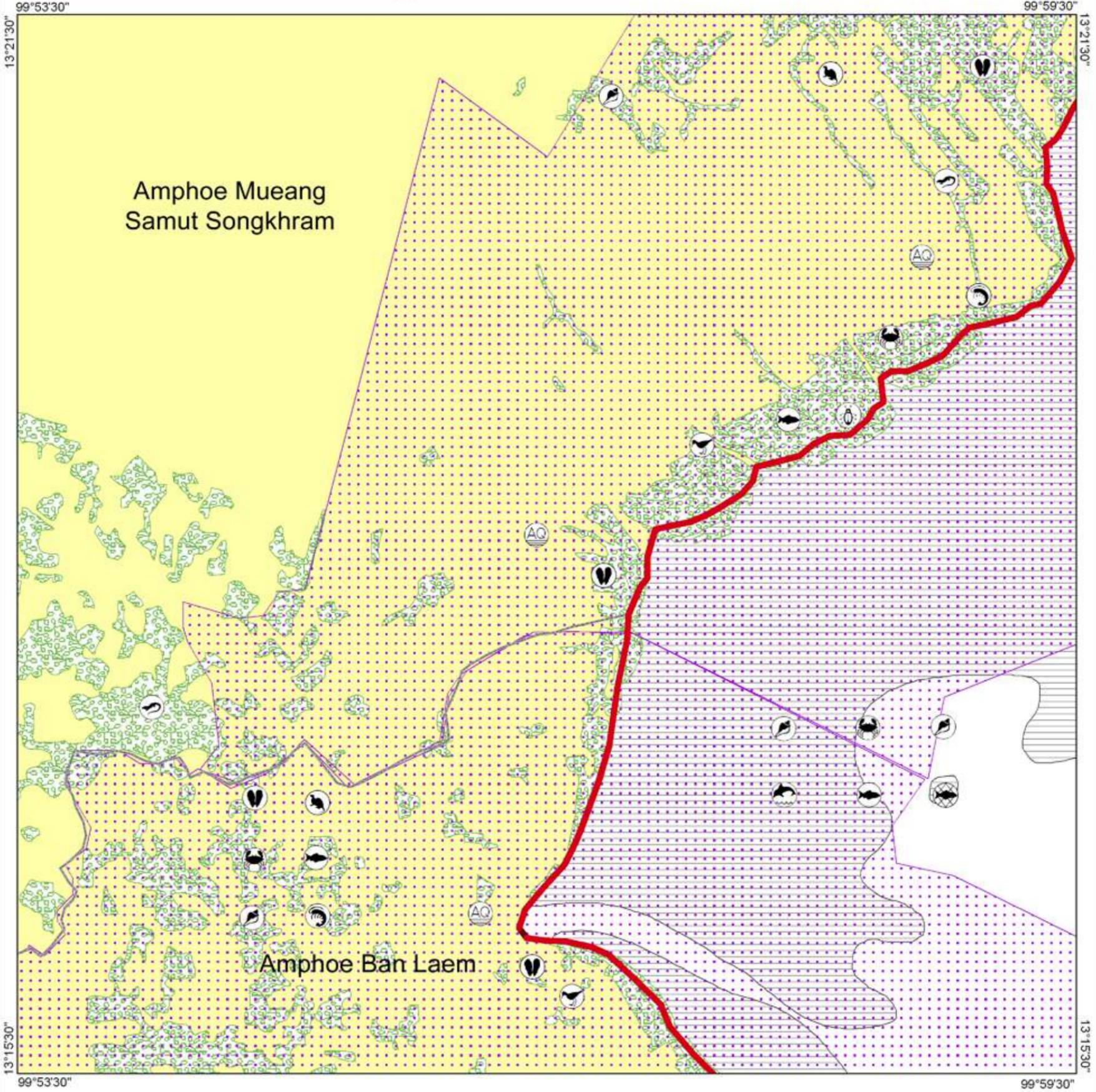
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Phetchaburi - Samut Songkhram Province

Thailand - 104



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Special Management Area
- Tidal Flats

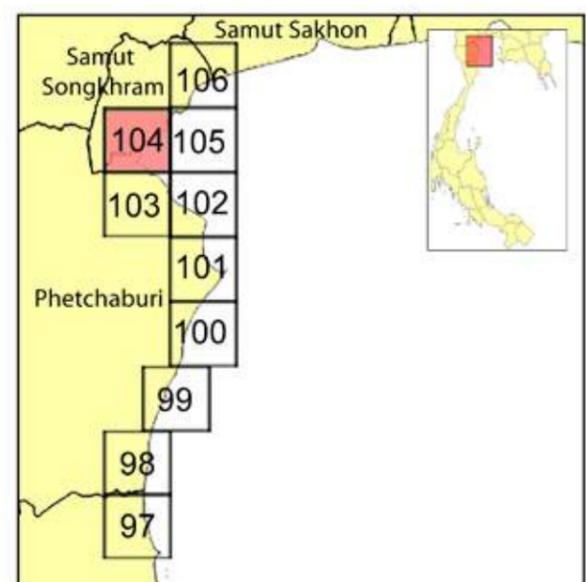
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by Ban Laem District of Phetchaburi Province and Mueang Samut Songkhram District of Samut Songkhram Province, as well as Ao Bang Taboon and Bang Taboon river basin.

Bang Taboon River diverges from Phetchaburi River at Ban Laem District and flows 13 km northward before emptying into Ao Bang Taboon.

Large mudflats in the area were formed through sedimentation processes on the estuary. Don Hoi Lot, a Ramsar wetland recognized on 5 July 2000, is a large smooth expanse of mudflats with an area of 24.09 km², located near the mouth of Mae Klong River.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) at the mouth of Bang Taboon River and mangroves (ESI 10B) in Ao Bang Taboon.

Biological Resources

Fringing mangrove forests are situated along the coast of Ao Bang Taboon, while riverine mangrove forests are located along Bang Taboon River and other canals influenced by tidal processes. Some parts of Don Hoi Lot are abundant with endemic razor clams (*Solen regularis*). Both mangroves and tidal flats are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt making.

Similar with nearby districts, terrestrial and marine areas in Mueang Samut Songkhram District are currently undergoing designation as an Environmental Protection Area under the National Environment Preservation and Promotion B.E. 2535 to control and mitigate threats and human impact to its fragile environment.

Oil Spill Response Resources

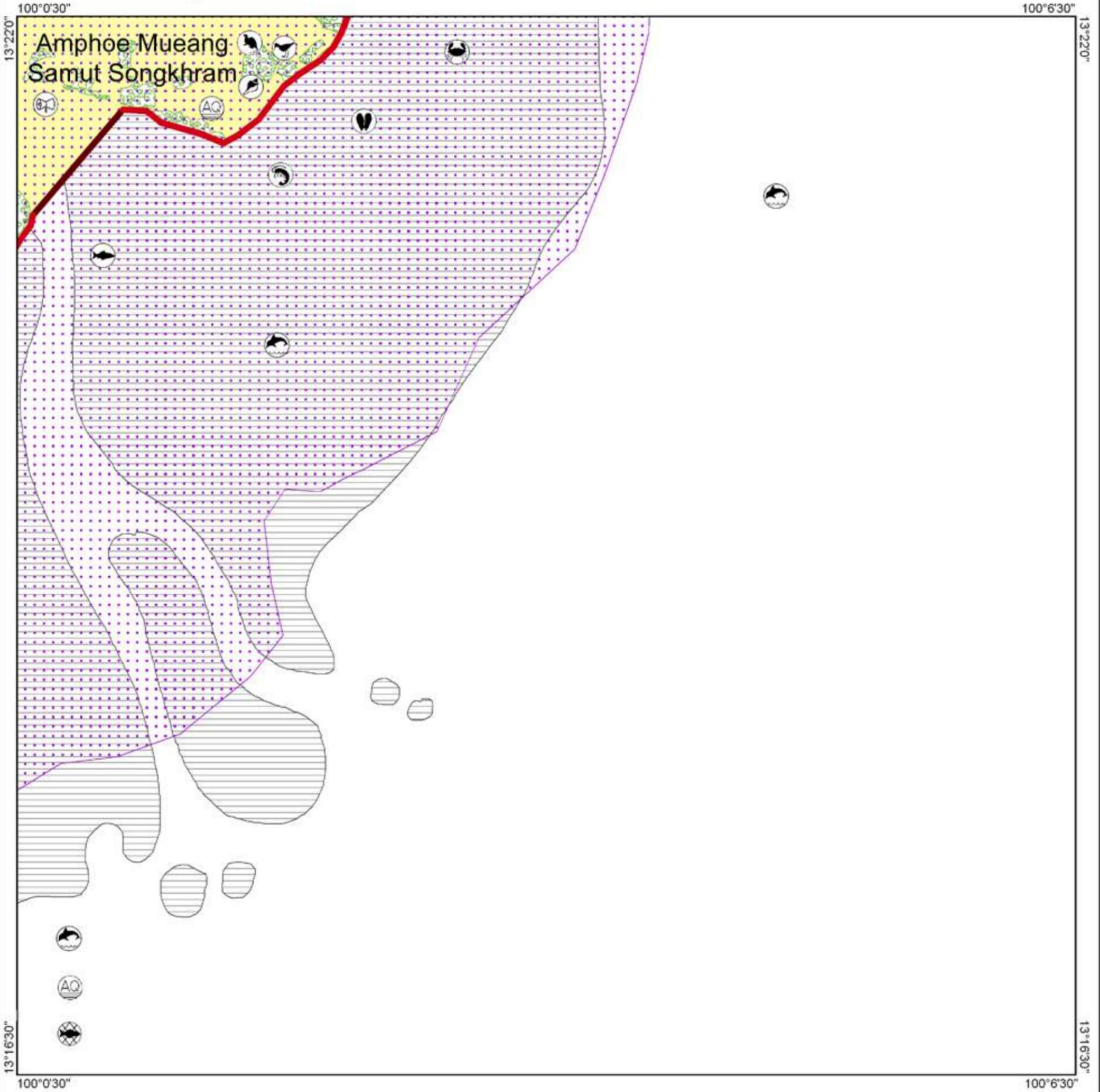
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Songkhram Province

Thailand - 105



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Special Management Area
- Tidal Flats

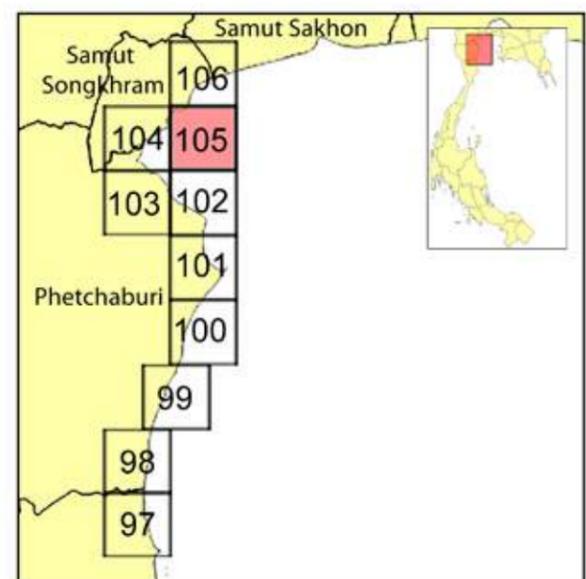
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Oil Storage Tank
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Samut Songkhram District and includes the subdistricts of Bang Chakreng, Bang Kaeo, Laem Yai and Khlong Khon.

Situated at the mouth of Mae Klong River is Don Hoi Lot, a large expanse of mudflats which emerges during low tides. This Ramsar wetland has a total area of 24.09 km².

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) formed from the accumulation of river and marine sediments, and mangroves (ESI 10B) situated along Ao Mae Klong.

Biological Resources

Fringing mangrove forests are situated along the coast of Ao Mae Klong, while riverine mangrove forests are located along Mae Klong River, its tributaries and other canals influenced by tidal processes. Some parts of Don Hoi Lot are abundant with endemic razor clams (*Solen regularis*) and at least 10 more species of mollusks. At least 18 bird species can also be found in Don Hoi Lot and in nearby mangroves. Both mangroves and tidal flats are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt making.

Similar with nearby districts, terrestrial and marine areas in Mueang Samut Songkhram District are currently undergoing designation as an Environmental Protection Area under the National Environment Preservation and Promotion B.E. 2535 to control and mitigate threats and human impact to its fragile environment.

Oil Spill Response Resources

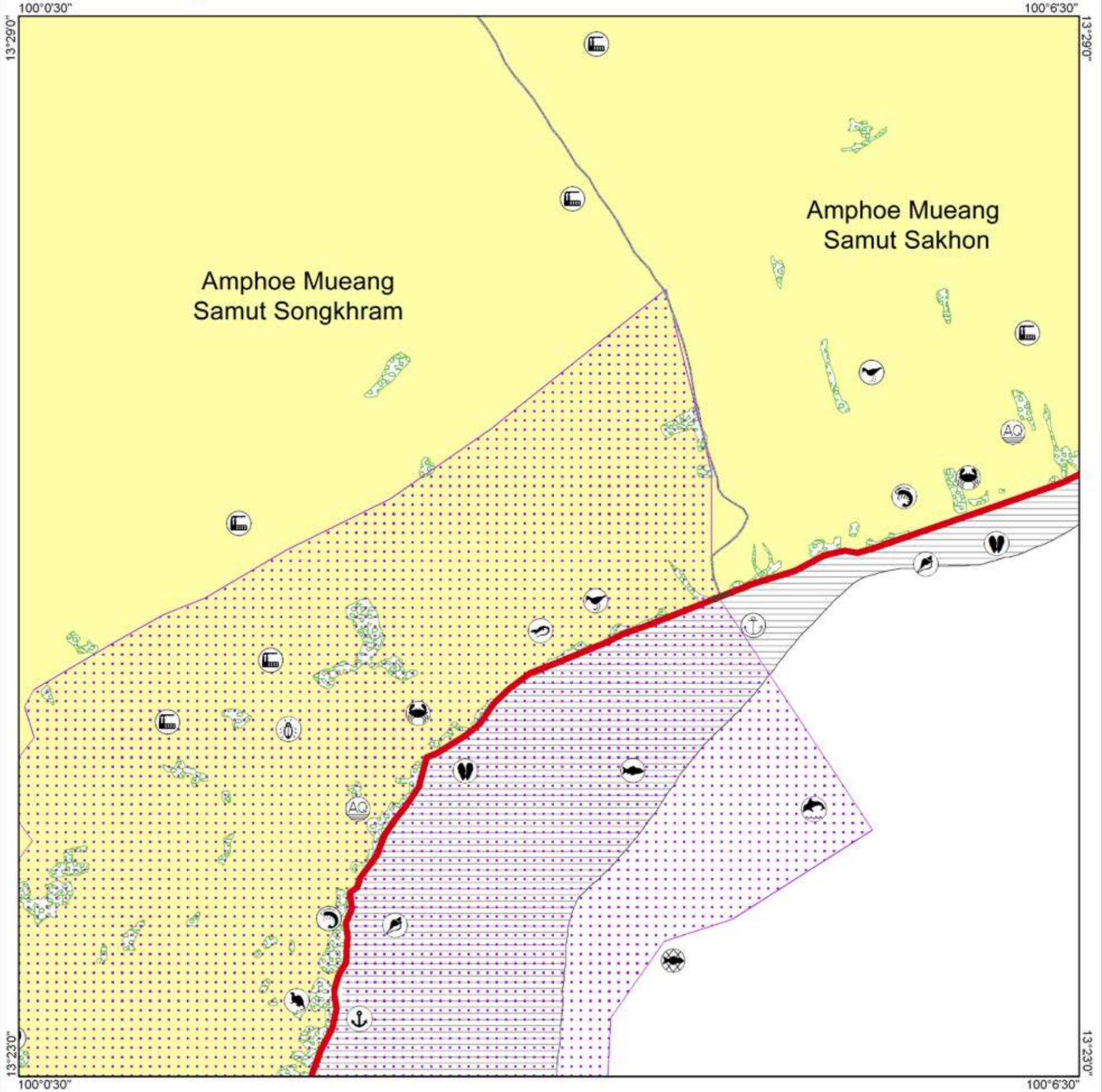
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Songkhram - Samut Sakhon Province

Thailand - 106



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Special Management Area
- Tidal Flats

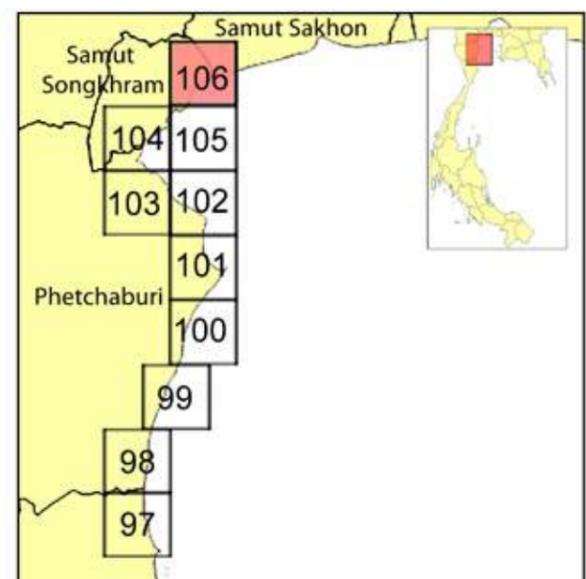
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Factory
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area covers the coastline shared by Mueang Samut Songkhram District of Samut Songkhram Province and Mueang Samut Sakhon District of Samut Sakhon Province. Don Hoi Lot extends to this area from the previous map.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and mangroves (ESI 10B).

Biological Resources

Patches of fringing mangrove forests are located along the coast, while riverine mangrove forests are situated along canals influenced by tidal processes. Some parts of Don Hoi Lot are abundant with endemic razor clams (*Solen regularis*) and at least 10 more species of mollusks. At least 18 bird species can also be found in Don Hoi Lot and in nearby mangroves. Both mangroves and tidal flats are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt making.

Fishing ports and fisheries-related factories are also present in the area.

Similar with nearby districts, terrestrial and marine areas in Mueang Samut Songkhram District are currently undergoing designation as an Environmental Protection Area under the National Environment Preservation and Promotion B.E. 2535 to control and mitigate threats and human impact to its fragile environment.

Oil Spill Response Resources

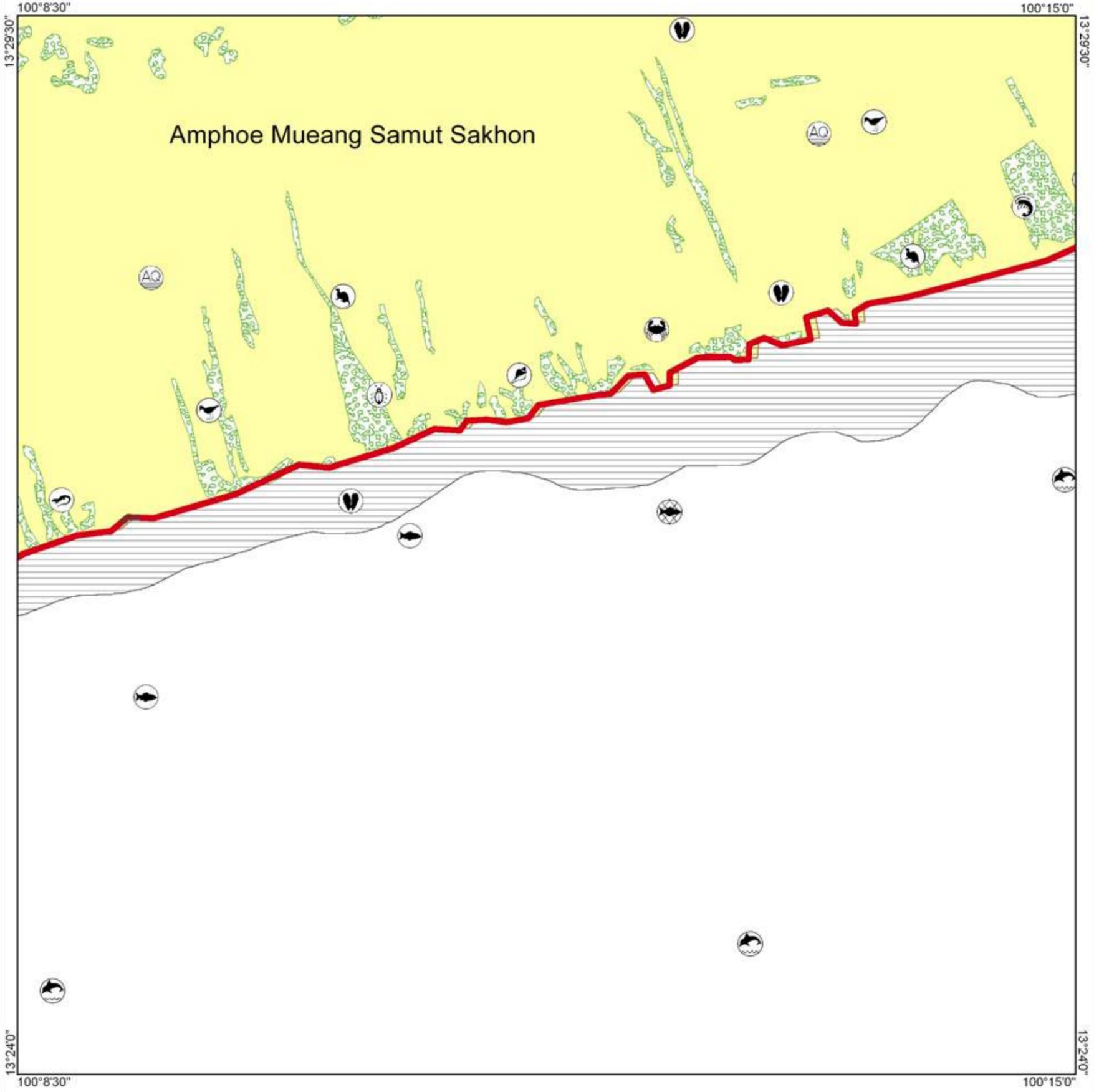
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Sakhon Province

Thailand - 107



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

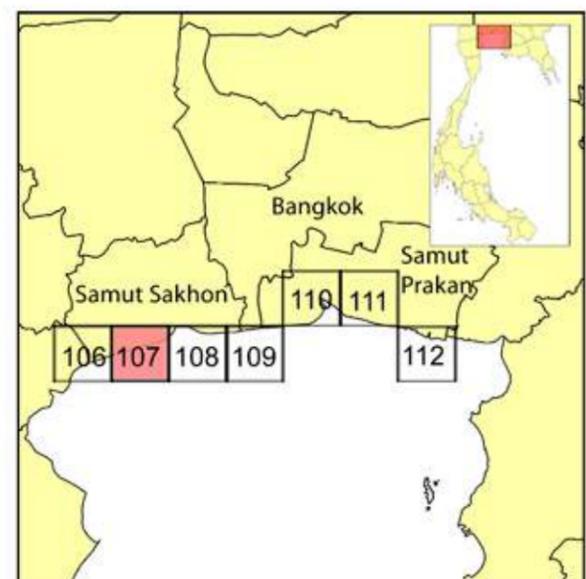
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

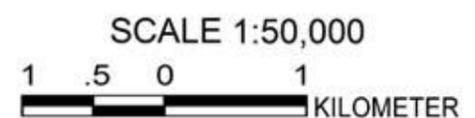
- Aquaculture
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Mueang Samut Sakhon District. Its neighboring districts include Mueang Samut Songkhram of Samut Songkhram Province, Ban Phaeo and Krathum Baen of Samut Sakhon Province and Bang Khun Thian of Bangkok.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7), which are formed from accumulated sediments from Mae Klong and Tha Chin rivers, and mangroves (ESI 10B).

Biological Resources

Patches of fringing mangrove forests are located along the coast, while riverine mangrove forests are situated along rivers and other canals influenced by tidal processes. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt making.

Oil Spill Response Resources

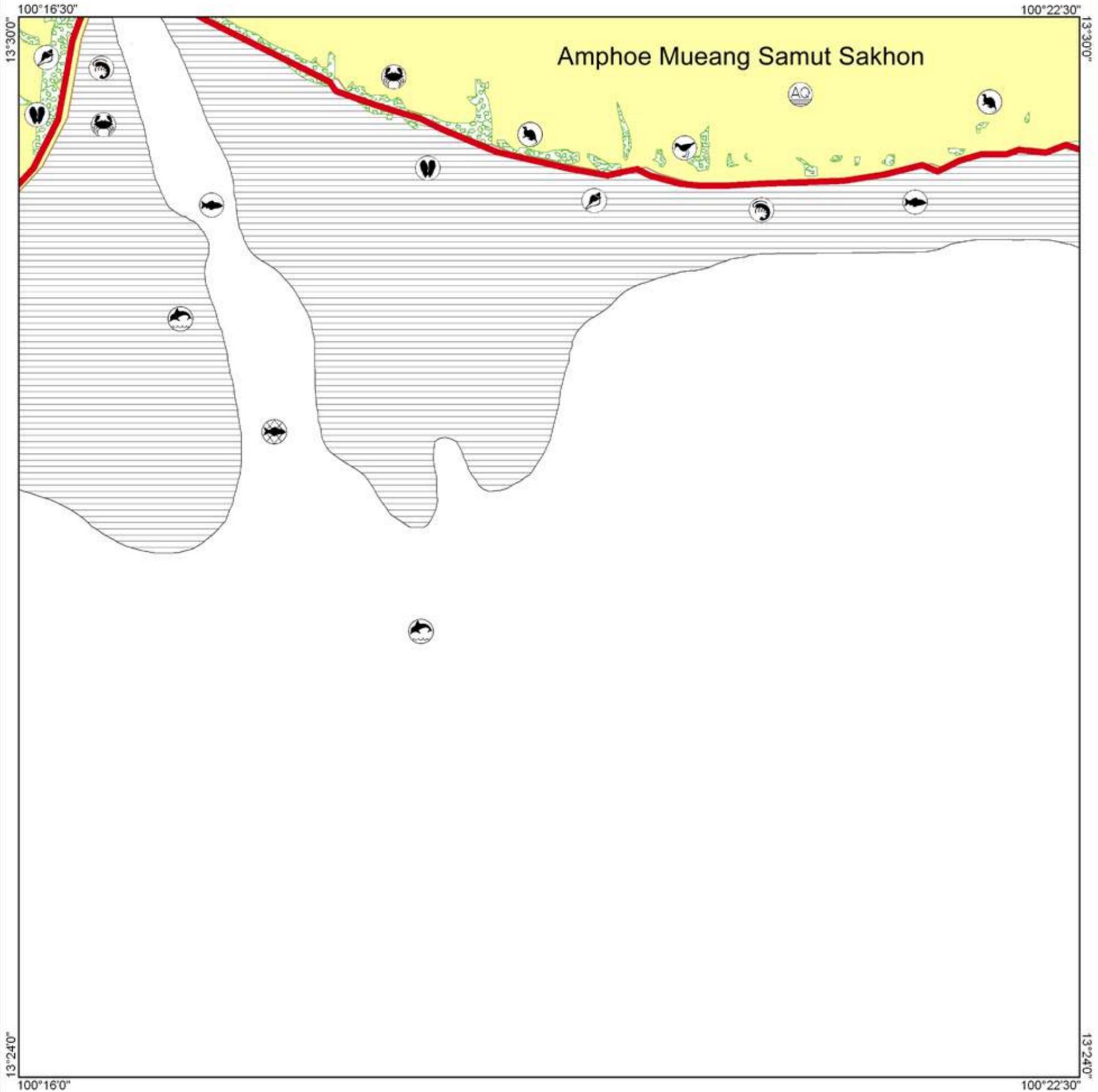
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Sakhon Province

Thailand - 108



Shoreline Classification

— ESI 10B

Biological/Human-Use Areas

■ Mangroves

▨ Tidal Flats

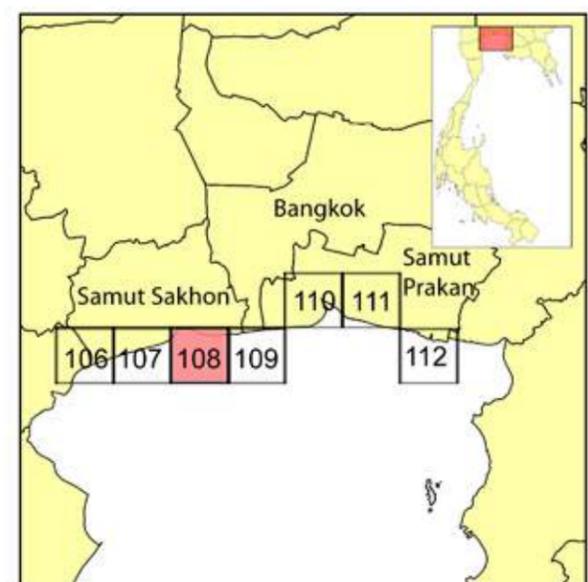
Biological Resources

- 🐦 Bird
- 🐚 Bivalve
- 🦀 Crab
- 🐟 Fish/Nursery Area
- 🐌 Gastropod
- 🐬 Marine Mammal
- 🦐 Shrimp
- 🐾 Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- 🌿 Aquaculture
- 🎣 Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area is located in Mueang Samut Sakhon District and includes Tha Chin river delta. The river splits from Chao Phraya River at Chainat Province and then flows through the central plain before emptying out at Ao Mahachai. Tha Chin River is an important body of water in central Thailand, providing means of transportation and water supply for domestic and agricultural use.

Shoreline

Along the coast in the area are small patches of mangroves (ESI 10B), especially near the mouth of Tha Chin River. Mudflats along the coast were formed from accumulated sediments from the river.

Biological Resources

Patches of fringing mangrove forests are located along the coast, while riverine mangrove forests are situated along Tha Chin River and other canals influenced by tidal processes. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt making.

Oil Spill Response Resources

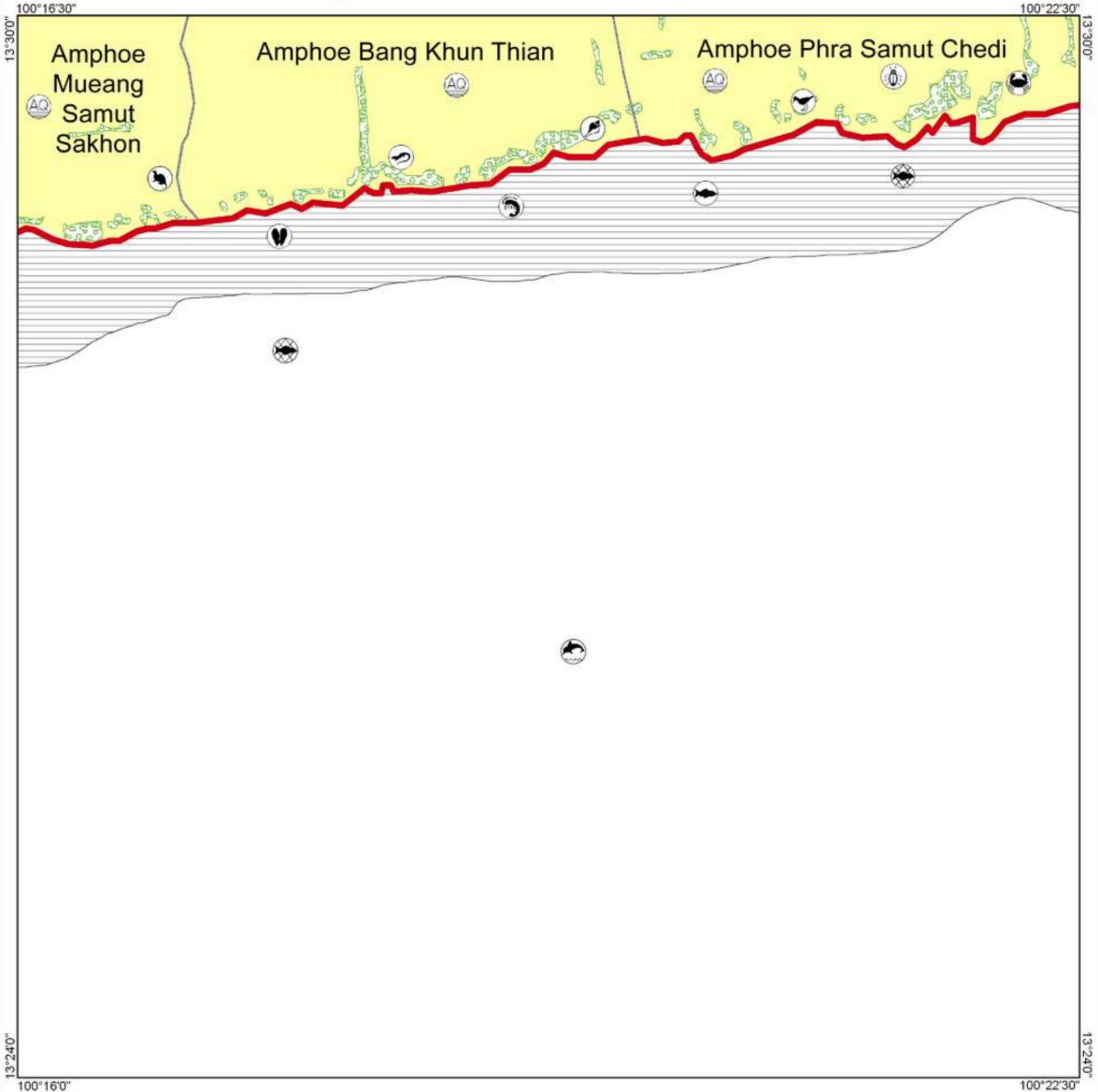
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Sakhon - Bangkok - Samut Prakan Province

Thailand - 109



Shoreline Classification

ESI 10B

Biological/Human-Use Areas

Mangroves

Tidal Flats

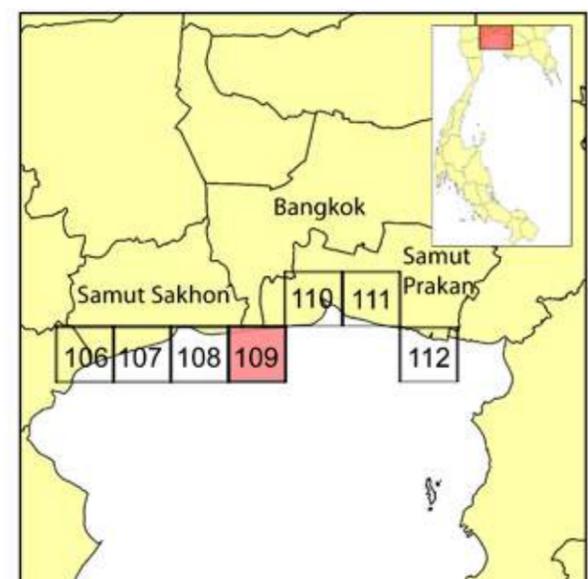
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Mueang Samut Sakhon District of Samut Sakhon Province, Bang Khun Thian District of Bangkok and Phra Samut Chedi District of Samut Prakan Province.

Shoreline

Along the coast in the area are small patches of mangroves (ESI 10B). Mudflats along the coast were formed from accumulated sediments from Tha Chin and Chao Phraya rivers.

Biological Resources

Patches of fringing mangrove forests are located along the coast, while riverine mangrove forests are situated along rivers and other canals influenced by tidal processes. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing, aquaculture and salt production. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp farming, as well as salt fields.

Various organizations are currently attempting to rehabilitate mangrove forests in the area. Restoration projects have taken place to help promote environmental balance and mitigate severe coastal erosion. Also, ecotourism and sustainable tourism practices are being developed and promoted in the area, such as bird watching at Bang Khun Thian District and a Mangrove Ecosystem Learning Center at Samae Dam Subdistrict.

Oil Spill Response Resources

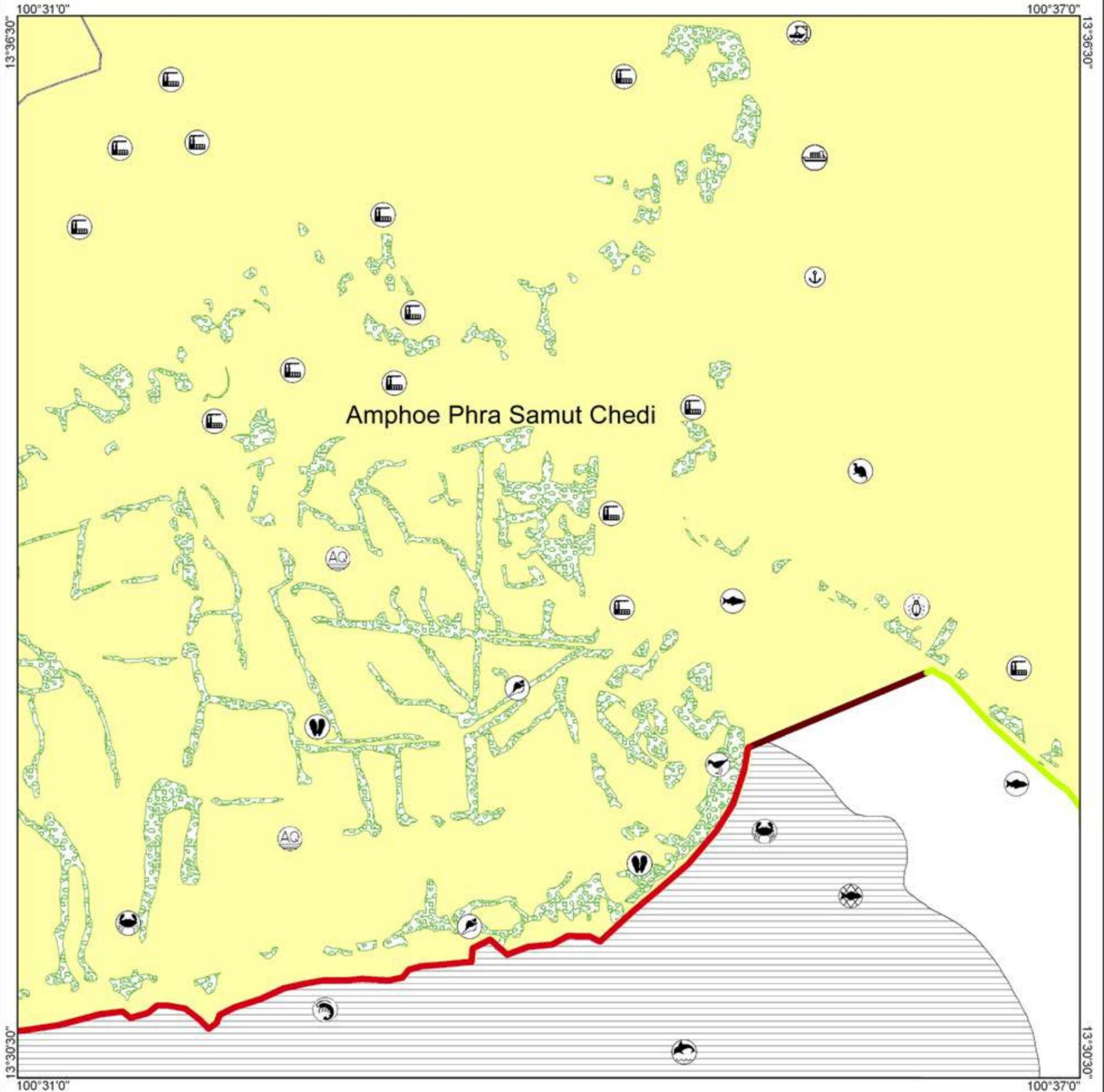
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Prakan Province

Thailand - 110



Shoreline Classification

- ESI 6B
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

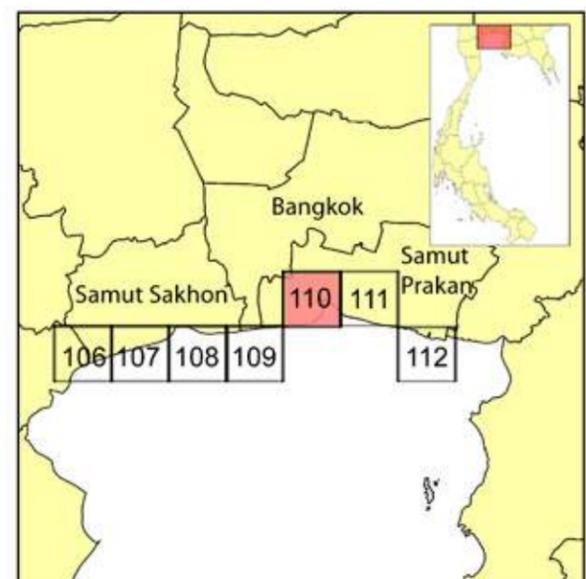
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Shrimp
- Terrestrial Mammal

Human Use/ Oil Spill Response Resources

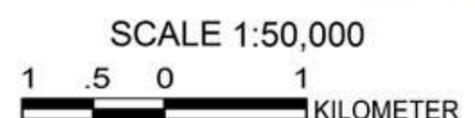
- Aquaculture
- Factory
- Fishing Port
- Harbor
- Oil Spill Response Feature
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Phra Samut Chedi District. Its neighboring districts include Bang Khun Thian and Thung Khru of Bangkok, and Phra Pradaeng and Mueang Samut Prakan of Samut Prakan Province.

Shoreline

Along the coast in the area are ripraps (ESI 6B) built on the eastern shoreline to prevent coastal erosion, exposed tidal flats (ESI 7) near the mouth of Chao Phraya River and mangroves (ESI 10B) with muddy substrates situated along the western shoreline.

Biological Resources

Patches of mangrove forests are situated along the coast and small canals. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, gastropods, bivalves, shorebirds and terrestrial mammals. Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters. Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Although there are no beaches in the area, historical sites and the seaside environment, especially along the western coast, attract many visitors. Tourist facilities, such as restaurants and homestays, are available in the area. The nutrient-rich sediments from Chao Phraya River provide a suitable environment for coastal aquaculture of various marine species, such as fish, shrimp, mussels, mud crabs and razor clams. Factories, marinas and harbors are also located inland near river areas.

Oil Spill Response Resources

Oil spill response resources are available at the Marine Training Center in Samut Prakan Province. The equipment list is shown below:

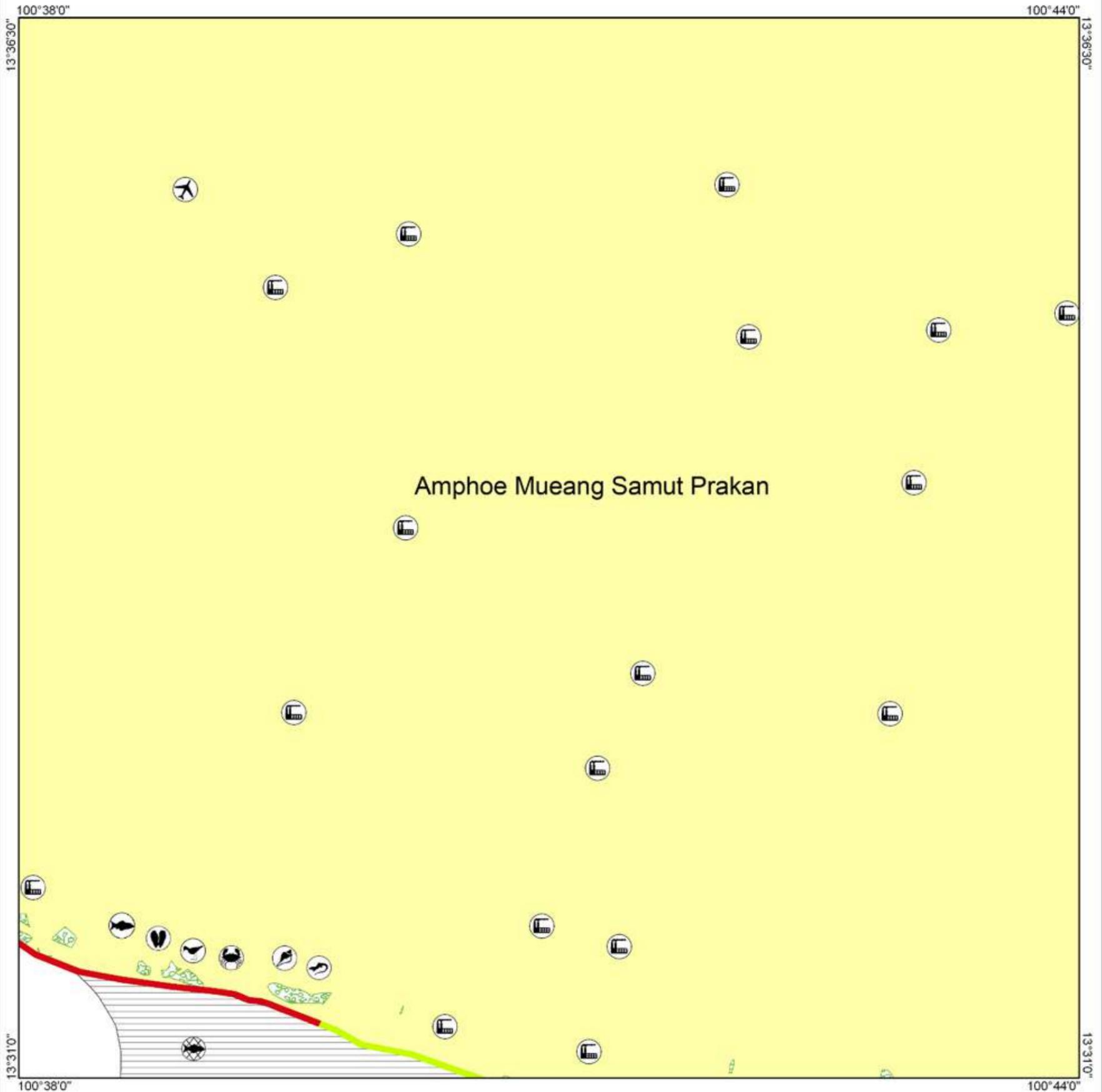
	Equipment	Stock Unit
Containment boom	RO-BOOM 2000 (3 x 200 m on winders)	600 m
	RO-BOOM 1500 (3 x 200 m on winders)	600 m
	RO-BOOM 1300 (1 x 200 m on winders)	200 m
	RO-BOOM 1000 ASTM (5 x 320 m)	1,600 m
	Seasentinel (2 x 200 m on winders)	400 m
	RQUAGARD AIRFLEX 150 (1 x 200 m on winders)	400 m
Skimmer	SEA MOP 4090 Skimmer	1 set
	SEA MOP 3040 Skimmer	1 set
	RO-DISC 15 Skimmer	1 set
	DESMI-250 Weir Skimmer	1 set
	RO-VAC MK II Portable Vacuum Skimmer	1 set
	Dragonfly Weri Skimmer (25 ton/h)	1 set
	Floating Skimming Head (1 ton/h)	1 set
	Rope Mop Skimmer model RM-090 DV	1 set
	Disc Skimmer model MDS-20Y	1 set
Storage tanks	RO-TANK 5 & 10 m ³	4 sets
	Floating Storage (5 m ³)	1 set
	Pillow Tank (1.5 m ³)	1 set
	Temporary Storage Tank (2.5 m ³)	1 set
Dispersant sprayer	RO-CLEAN Dispersant Sprayer	1 set
Dispersant	RO-CLEAN Dispersant	5,000 L
	DASIC	400 L
Others	DESMI DOP-250 Portable Pump	1 set
	Gerni 4600 High Pressure Cleaner	1 set
	Hi-Cap Air Blower	1 set
	Sorbents	1 set
Vessels	Anti-Pollution Vessel (30.6 m)	1
	Anti-Pollution Vessel with Rop Mop Unit (15 m)	1
	Work Boat (7 m)	1
	Work Boat (5 m)	1
	Anti-Pollution Vessel (41 m)	1

Special Issue

There is no special issue in the area.

Samut Prakan Province

Thailand - 111



Shoreline Classification

- ESI 6B
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

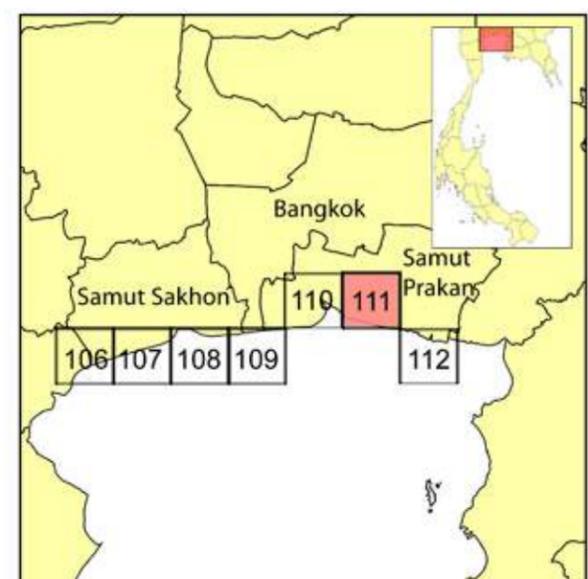
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian

Human Use/ Oil Spill Response Resources

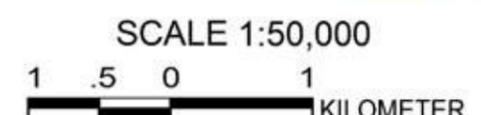
- Airport
- Factory
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Mueang Samut Prakan District east of Chao Phraya River. Its neighboring districts include Phra Samut Chedi, Bang Phli, Bang Bo and Phra Pradaeng of Samut Prakan Province.

Shoreline

Along the coast in the area are ripraps (ESI 6B) built on the eastern shoreline to prevent coastal erosion and mangroves (ESI 10B) with muddy substrates situated along the western shoreline.

Biological Resources

Small patches of mangrove forests are situated along the coast and small canals. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal waters.

The coastal area is an important habitat for at least 150 species of birds. At least seven species of herons (*Ardeidae*) are resident birds in the area, while migrant birds, especially migrant seagulls which appear from October to April, can also be found.

Marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Bang Pu Seaside Resort, located at the coast of Bang Pu Mai Subdistrict 10 km from Bangkok, is a popular tourist destination managed by the Royal Thai Army. Its abundant mangroves make it a suitable place for bird watching and nature trips. Tourist facilities, such as restaurants and accommodations, are available.

Mueang Samut Prakan District is recognized as an industrial hub due to its proximity to Bangkok and its access to Chao Phraya River as a channel of transportation. Suvarnabhumi International Airport, Thailand's biggest airport, is located in nearby Bang Phli District.

Oil Spill Response Resources

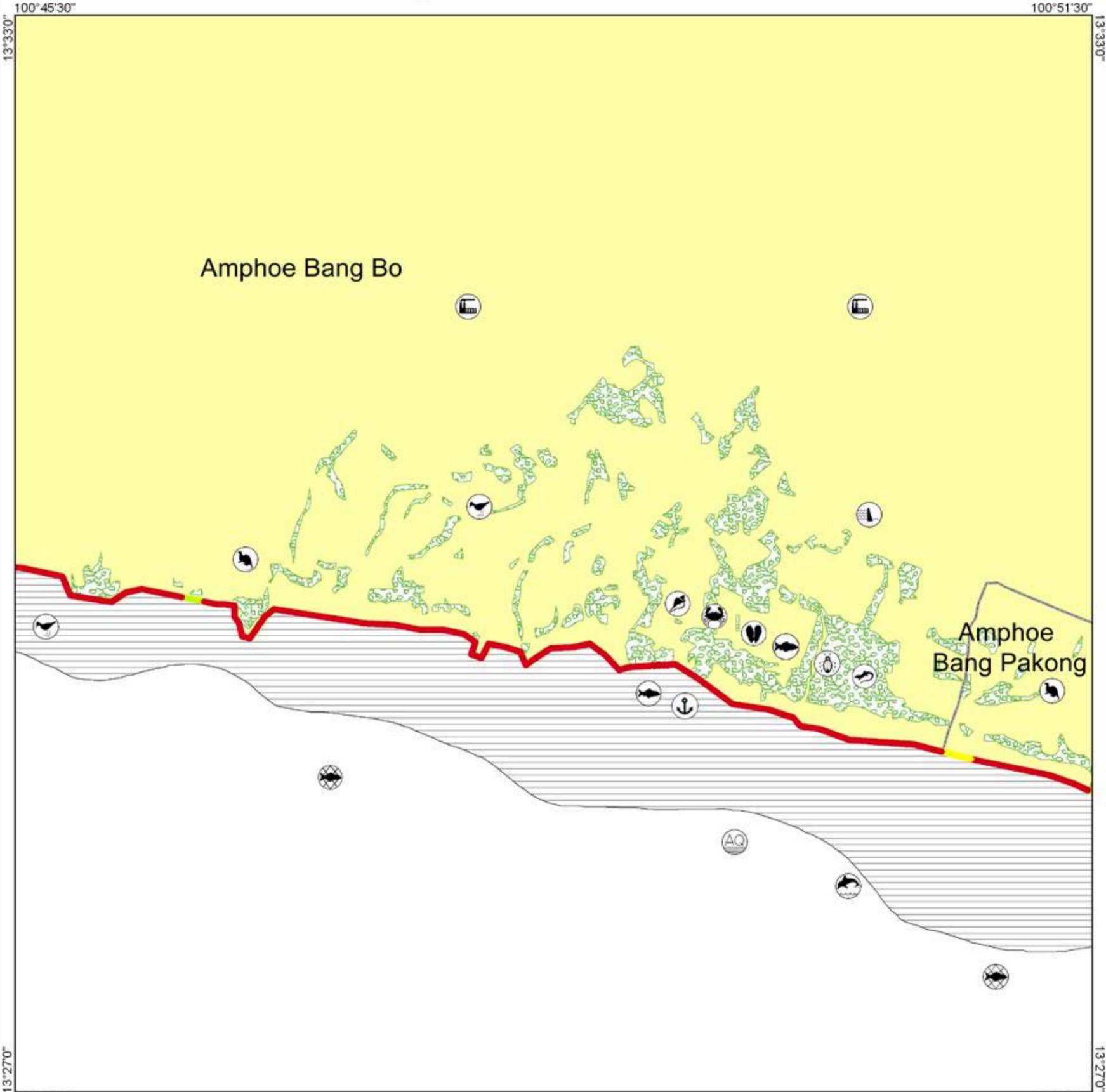
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Samut Prakan - Chachoengsao Province

Thailand - 112



Shoreline Classification

- ESI 6B
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

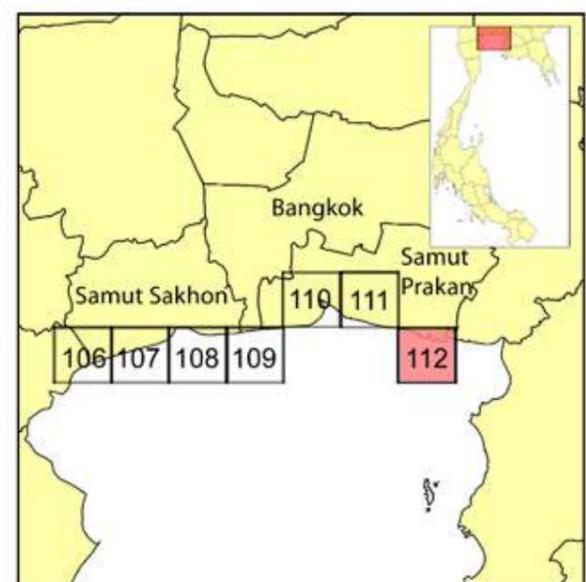
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian

Human Use/ Oil Spill Response Resources

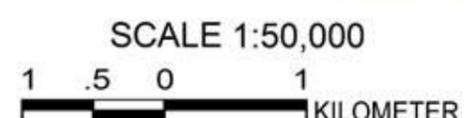
- Aquaculture
- Factory
- Fishing Port
- Lock and Dam
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Bang Bo District of Samut Prakan Province and Bang Pakong District of Chachoengsao Province.

Shoreline

Along the coast in the area are ripraps (ESI 6B), sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Patches of mangrove forests are situated along Khlong Dan, Khlong Mai and Khlong Hong Thong canals. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal and pelagic waters.

Migrant birds and marine mammals, such as whales and dolphins, can also be found in the area.

Human Use Features

Subsistence fishing and aquaculture are practiced in coastal areas, while shrimp ponds, fish ponds and rice farms are present in inland areas.

Factories, fishing ports and a lock and dam are also located in the area.

Oil Spill Response Resources

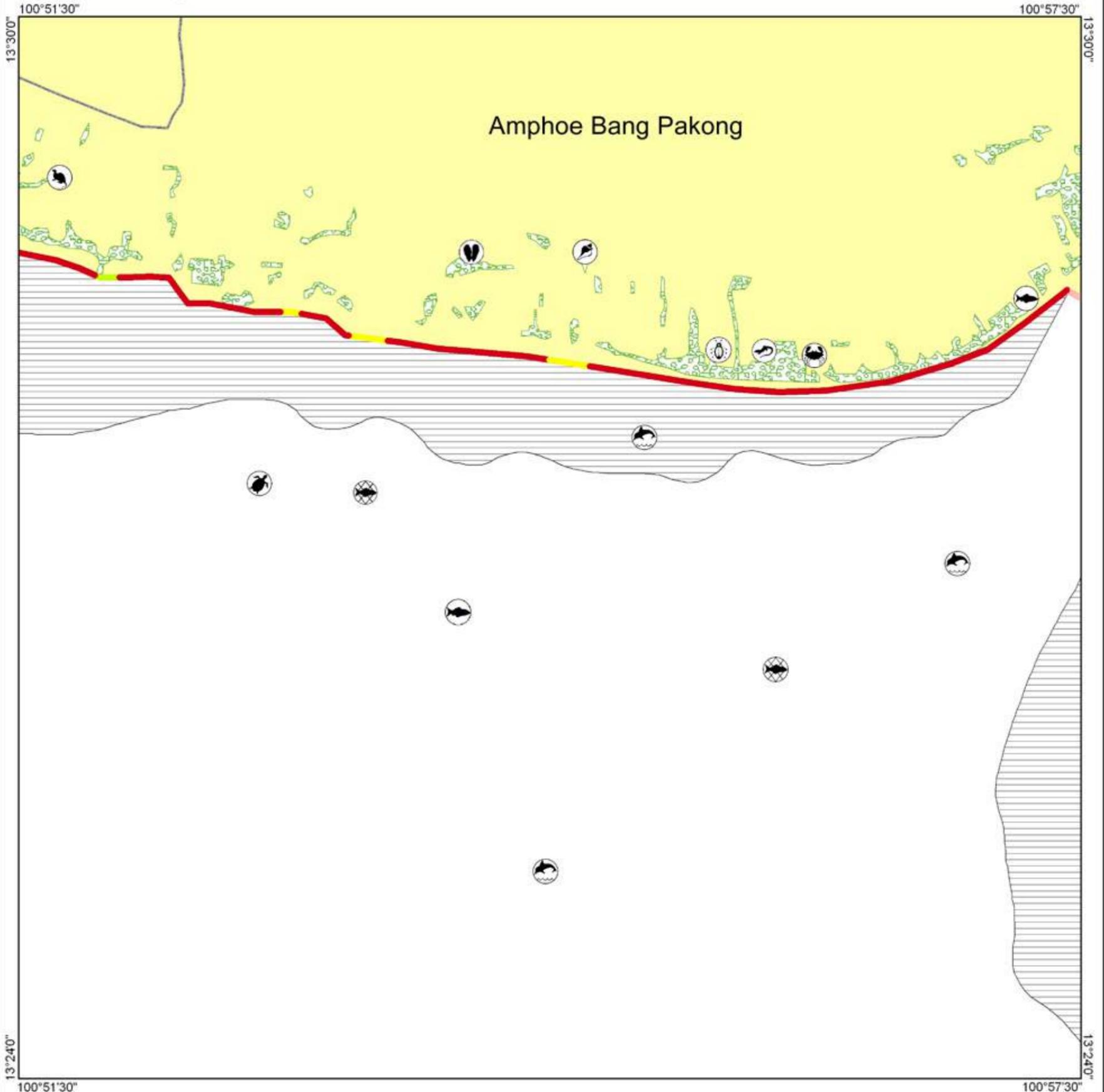
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chachoengsao - Chonburi Province

Thailand - 113



Shoreline Classification

- ESI 6B
- ESI 8
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

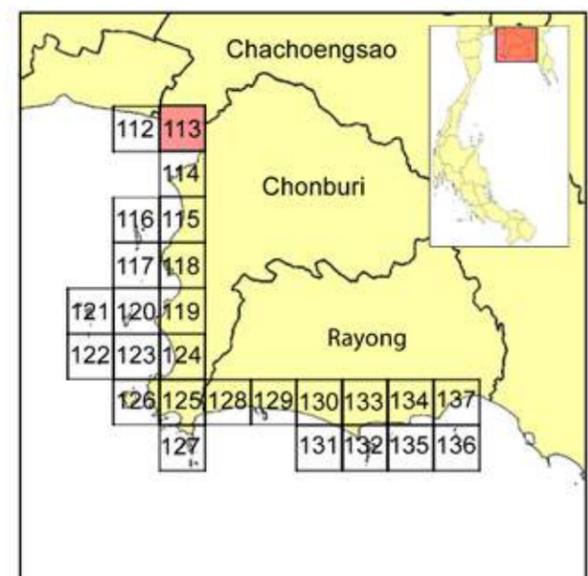
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Bang Pakong District of Chachoengsao Province and Mueang Chonburi District of Chonburi Province.

The area includes the delta region of Bang Pakong River, which originates from the confluence of Nakhon Nayok and Prachinburi rivers and stretches for 230 km before emptying out at Tha Kham Subdistrict. Bang Pakong River is an important body of water in eastern Thailand, providing water resources for irrigation, aquaculture, industries and municipal and domestic use.

Shoreline

Along the coast in the area are ripraps (ESI 6B), sheltered man-made structures (ESI 8), sheltered tidal flats (ESI 9A) at the mouth of Bang Pakong River and small patches of mangroves (ESI 10B).

Biological Resources

Fringing mangrove forests are located along the coast, while riverine mangrove forests are situated along Bang Pakong River and other canals influenced by tidal processes. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, insects, reptiles, amphibians, gastropods, bivalves and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found within muddy substrates, while fish communities can be found in coastal and pelagic waters.

Dolphins and whales can be frequently found in the brackish waters of the river delta, including the Irrawaddy dolphin (*Orcaella brevirostris*), Indo-Pacific humpback dolphin (*Sousa chinensis*), finless porpoise (*Neophocaena phocaenoides*) and Bryde's whale (*Balaenoptera edeni*).

Various species of resident and migrant birds also inhabit the mudflats and nearby mangroves in the area.

Human Use Features

Local communities along the coastal area are involved in subsistence fishing and aquaculture. Aquaculture areas are located behind fringing mangrove forests, where large areas of mangroves were cut down to accommodate shrimp and fish ponds.

Dolphin and whale watching is a popular tourist activity in the area attracting many visitors each year. Restaurants and accommodations like homestays are available for tourists.

Oil Spill Response Resources

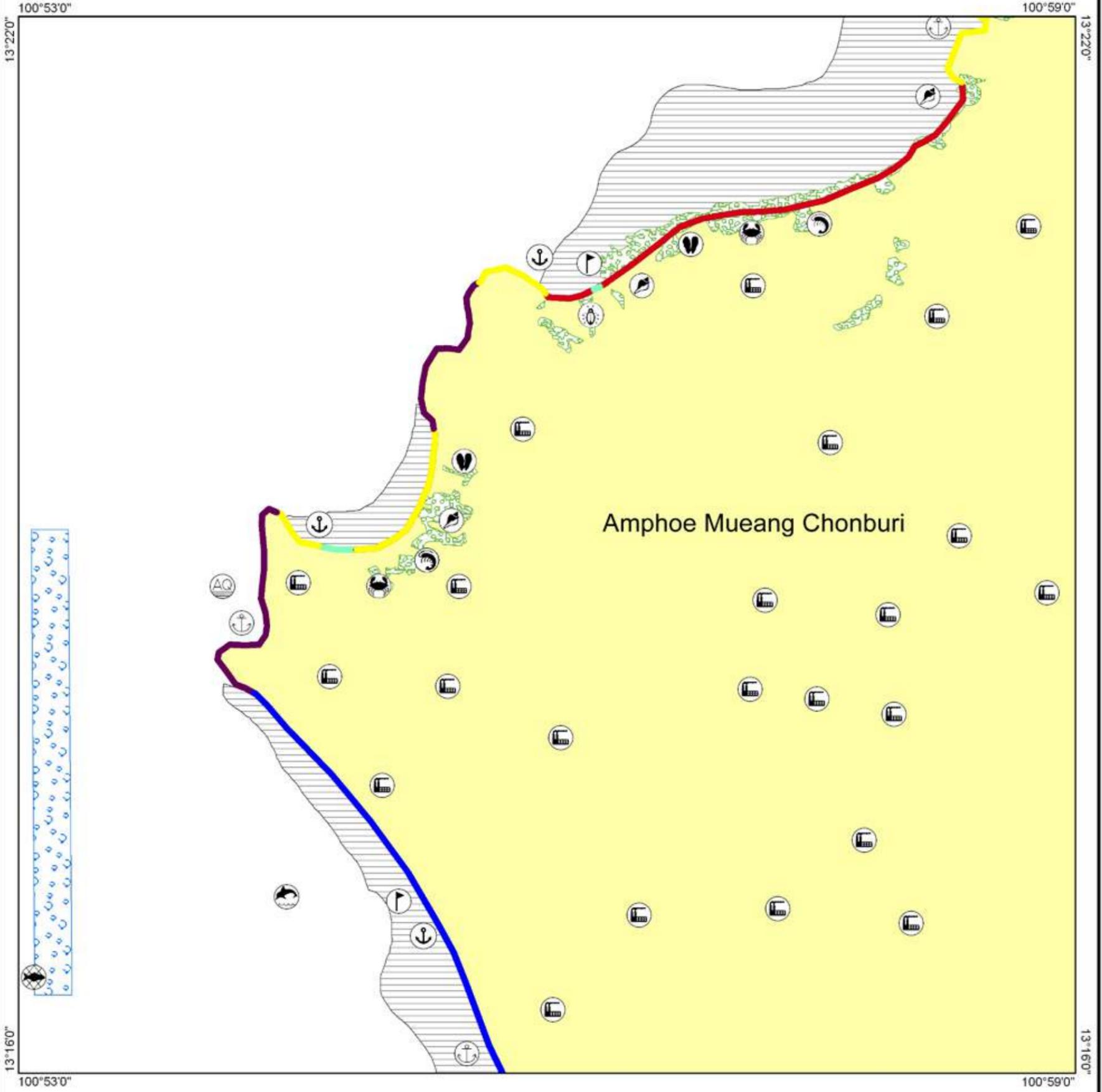
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 114



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

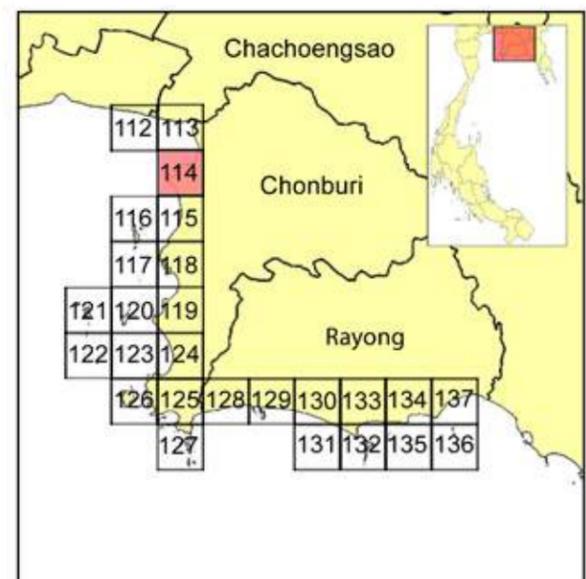
Biological Resources

- Bivalve
- Crab
- Gastropod
- Insect
- Marine Mammal
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Factory
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Mueang Chonburi District. Its neighboring districts include Phan Thong, Ban Bueng and Si Racha of Chonburi Province; and Bang Pakong of Chachoengsao Province.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3); mixed sand and gravel beaches (ESI 5); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

Small patches of fringing mangrove forests are located along the coast of various subdistricts, including Bang Pla Soi, Makham Yong, Khlong Tamru and Samet, while riverine mangrove forests are situated along Khlong Bang Pla Soi, Khlong Kapi and Khlong Bo Takhian canals. Mangroves, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, gastropods and bivalves.

Some marine organisms, especially benthic organisms, can be found within sandy and muddy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Dolphins and whales can be frequently found in the brackish waters of Bang Pakong river delta, including the Irrawaddy dolphin (*Orcaella brevirostris*), Indo-Pacific humpback dolphin (*Sousa chinensis*), finless porpoise (*Neophocaena phocaenoides*) and Bryde's whale (*Balaenoptera edeni*).

Human Use Features

Tourist activities in the area include bird watching and mangrove tours. The Mangrove Forest Conservation and Study Center at Samet Subdistrict was established to promote ecotourism and conserve the remaining mangrove forests of Chonburi Province.

Dense local fishing communities are located along the coast. Coastal aquaculture of blood cockles, mussels, oysters and fish is also practiced extensively. Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Factories, industrial estates and infrastructures, such as fishing ports and marinas, are present in the area. Hat Bang Saen is a 2-km-long white sand beach in Saen Suk Subdistrict. It is a popular weekend and holiday destination and has available tourist facilities.

Oil Spill Response Resources

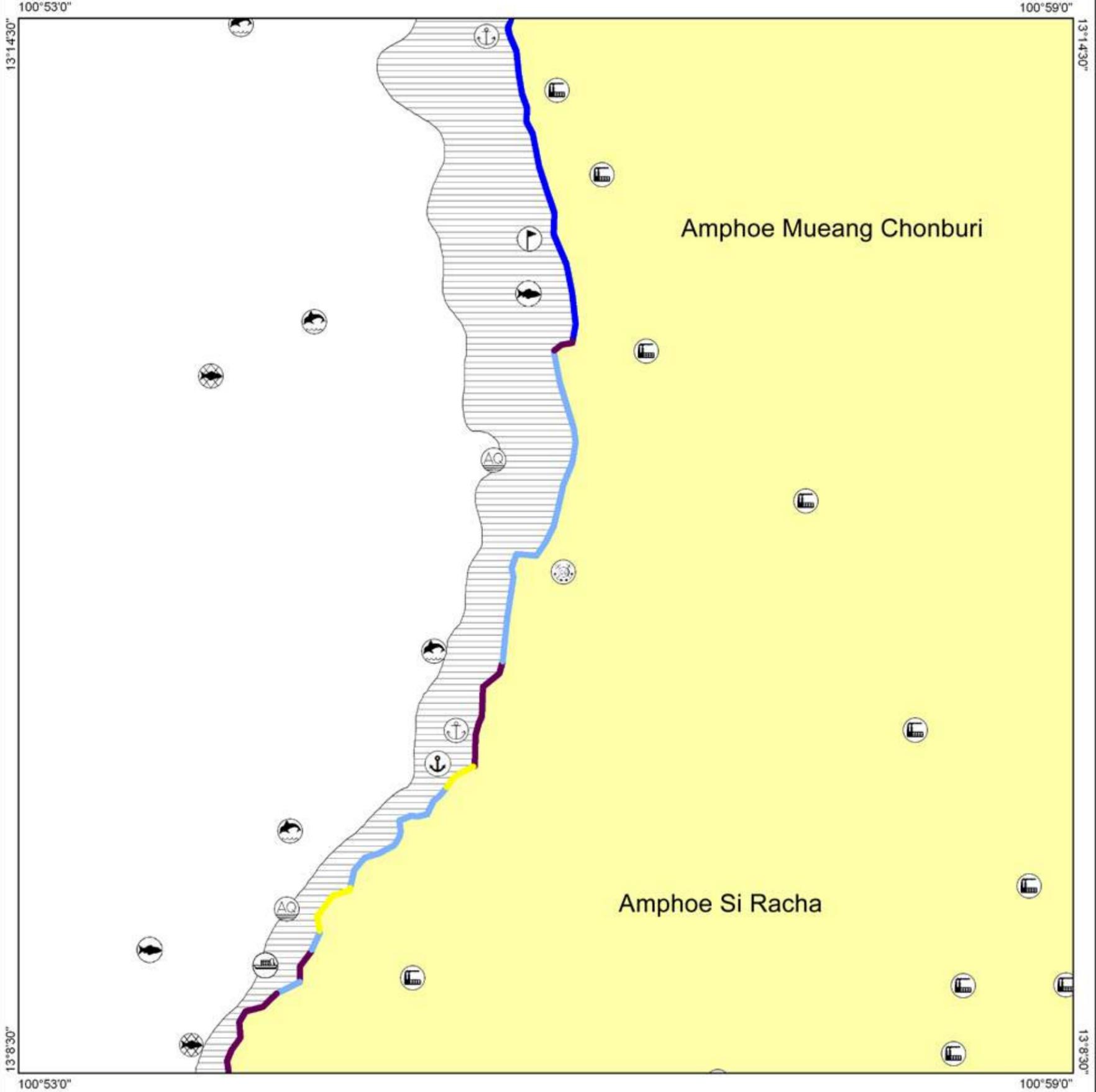
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 115



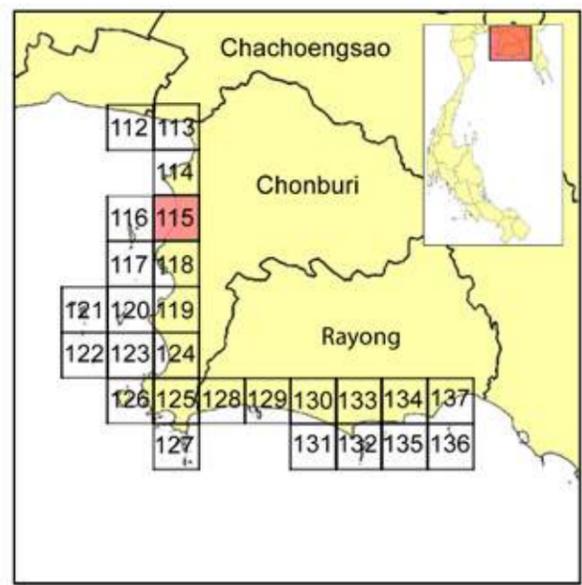
- Shoreline Classification**
- ESI 1 (Purple line)
 - ESI 3 (Blue line)
 - ESI 4 (Light Blue line)
 - ESI 8 (Yellow line)

- Biological Resources**
- Marine Mammal (Icon)
 - Fish/Nursery Area (Icon)

- Human-Use/ Oil Spill Response Resources**
- Aquaculture (Icon)
 - Beach (Icon)
 - Coast Guard (Icon)
 - Factory (Icon)
 - Fishing Port (Icon)
 - Harbor (Icon)
 - Marina (Icon)
 - Subsistence Fishing (Icon)

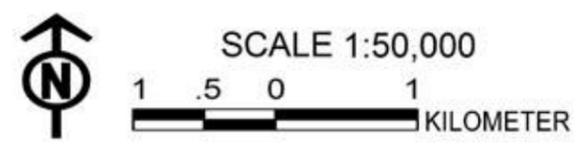
- Biological/Human-Use Areas**
- Tidal Flats (Hatched pattern)

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Mueang Chonburi District and Si Racha District.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); and sheltered solid man-made structures (ESI 8).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Some marine organisms, especially benthic organisms, can be found within muddy and sandy substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Hat Bang Saen, a popular tourist beach, extends into the northern coast of the area.

Along the coast are fishing ports, marinas and harbors, where boats to Ko Si Chang are available.

Local communities in coastal areas are involved in subsistence fishing and aquaculture. Coastal aquaculture of blood cockles, mussels, oysters and fish is practiced extensively in the area.

Factories are also present in the area.

Oil Spill Response Resources

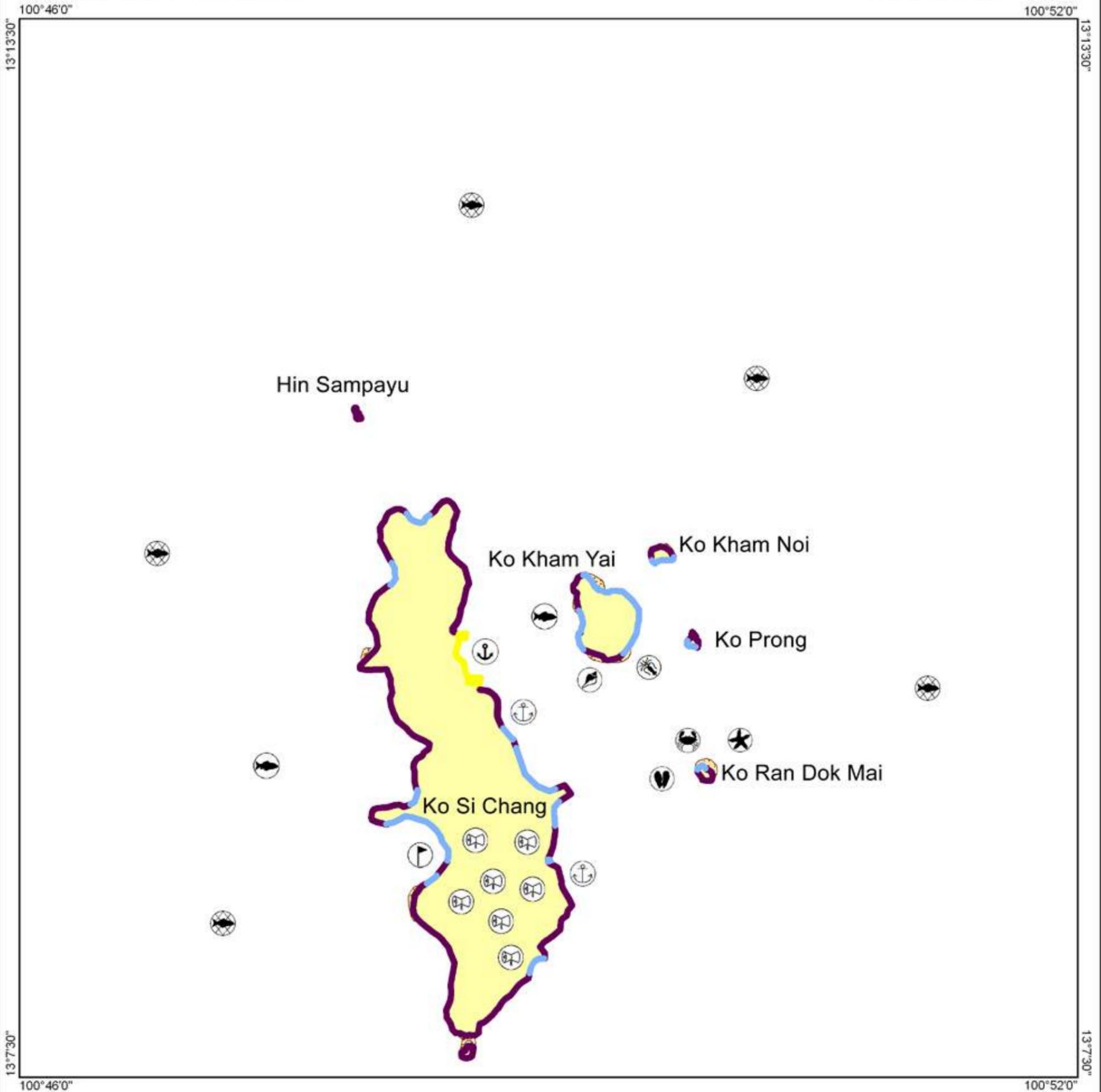
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 116



Shoreline Classification

- ESI 1
- ESI 4
- ESI 8

Biological/Human-Use Areas

- Coral Reef

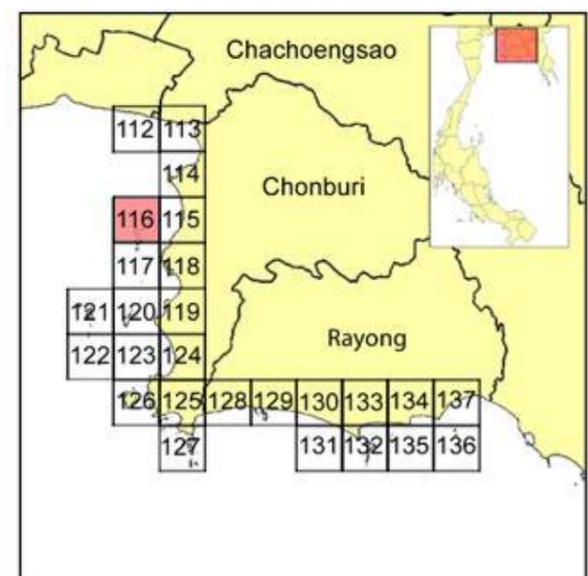
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Marina
- Oil Tank
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area is located in Ko Si Chang District and covers the main island of Ko Si Chang with an area of 6.712 km². The area also includes smaller islands, namely: Ko Kham Yai, Ko Kham Noi, Ko Prong and Ko Ran Dok Mai, with areas of 0.458 km², 0.019 km², 0.006 km² and 0.013 km², respectively. Hin Sampayu, an underwater pinnacle, is located north of the main island. Ko Si Chang is located 12 km off the coast of Si Racha District.

Shoreline

Along the coasts in the islands are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) alternating with coarse-grained sand beaches (ESI 4). Sheltered solid man-made structures (ESI 8) are located on the eastern part of Ko Si Chang where dense local fishing communities are situated along the coast.

Biological Resources

Coral reef flats and slopes, about 30 to 70 m wide, are dominated with *Porites*, *Pocillopora* and *Goniastrea* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, squid, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Tourist beaches in the islands attract many visitors. Hat Tham Khao Phang and Hat Hin Klom on the western coast of Ko Si Chang are popular for their sunset views.

Local communities in the area are involved in subsistence fishing within coastal waters around the islands.

Two marinas and a fishing port are situated along the eastern coast of Ko Si Chang. Oil tanks are also present in the main island.

Oil Spill Response Resources

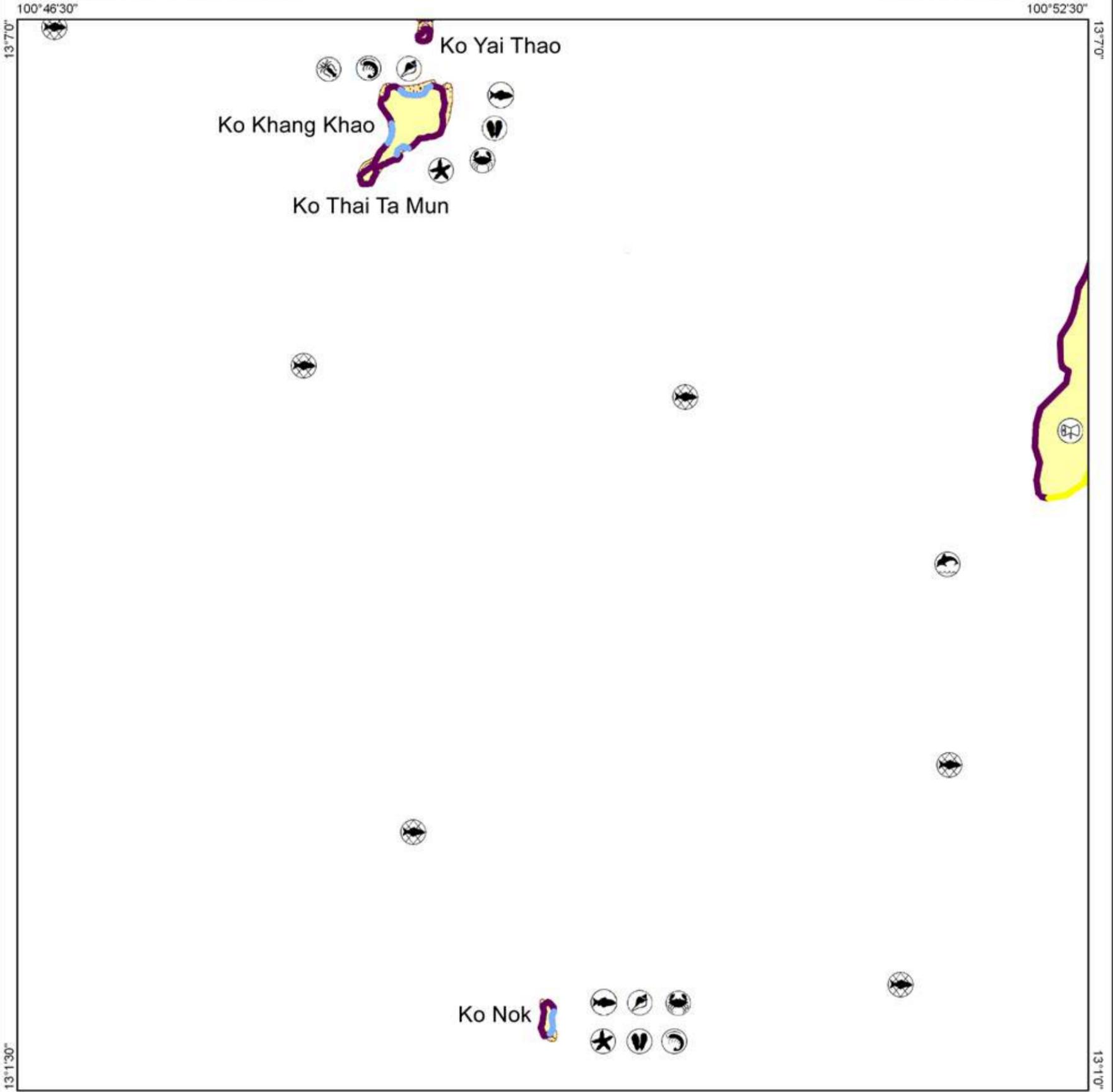
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 117



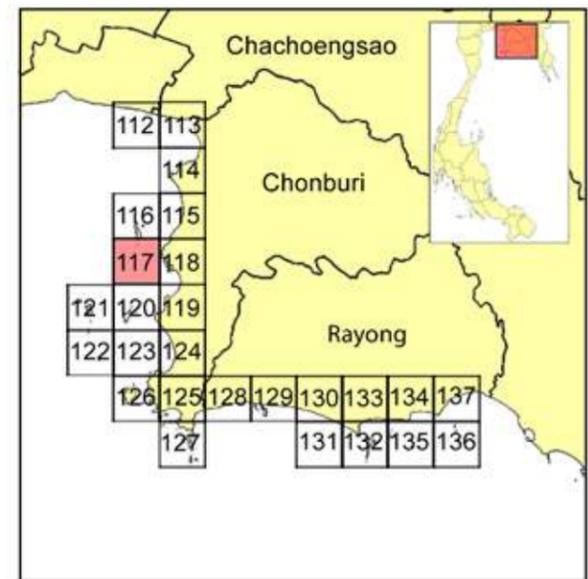
- Shoreline Classification**
- ESI 1
 - ESI 4
 - ESI 8

- Biological/Human-Use Areas**
- Coral Reef

- Biological Resources**
- Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal
 - Shrimp
 - Squid/Octopus

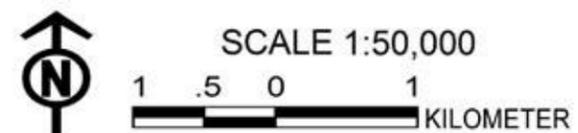
- Human-Use/ Oil Spill Response Resources**
- Oil Tank
 - Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
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 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the islands south of Ko Si Chang, namely: Ko Yai Thao, Ko Khang Khao, Ko Thai Ta Mun and Ko Nok, with areas of 0.021 km², 0.389 km², 0.032 km² and 0.028 km², respectively. A small part of the coast of Laem Chabang City is also included in the map.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with coarse-grained sand beaches (ESI 4). Sheltered solid man-made structures (ESI 8) are situated on the coast of Laem Chabang City.

Biological Resources

Coral reef flats and slopes along the coasts of the islands are dominated with *Porites*, *Pocillopora*, *Favites*, *Favia*, *Goniopora*, *Pavona*, *Acropora* and *Galaxea* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals like dolphins and whales can also be found in the area.

Human Use Features

Islands in the area attract many tourists for its small beaches and diving sites.

Subsistence fishing is done on coastal waters around the islands.

Oil tanks are located on the coast of Laem Chabang City.

Oil Spill Response Resources

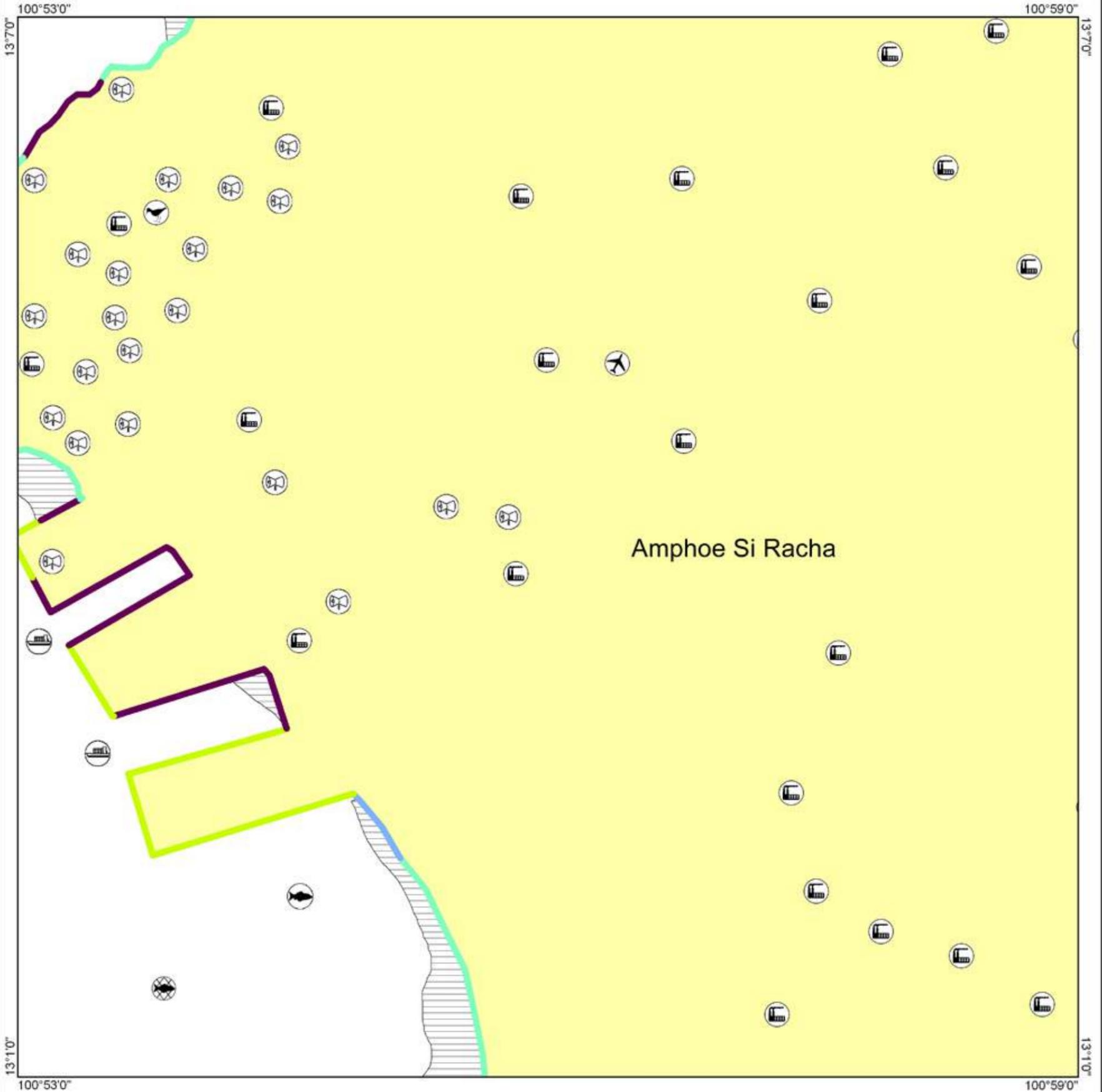
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 118



Shoreline Classification

- ESI 1
- ESI 4
- ESI 5
- ESI 6B

Biological/Human-Use Areas

- Tidal Flats

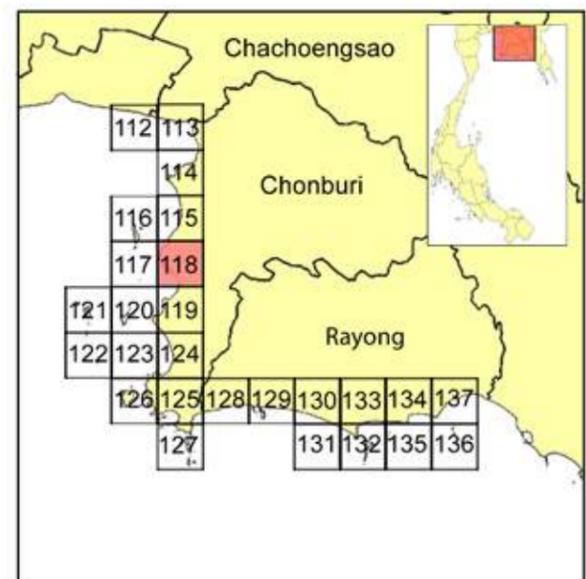
Biological Resources

- Bird
- Fish/Nursery Area

Human-Use/ Oil Spill Response Resources

- Airport
- Factory
- Harbor
- Oil Tank
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
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Not for Navigation



SCALE 1:50,000



General Information

This area covers the Laem Chabang Industrial Estate, a heavily industrialized zone in Si Racha District. Its neighboring districts include Mueang Chonburi, Ban Bueng and Bang Lamung of Chonburi Province; and Pluak Daeng of Rayong Province.

Shoreline

Exposed solid man-made structures (ESI 1) and ripraps (ESI 6B) are situated along the international seaport in Laem Chabang Industrial Estate, while coarse-grained sand beaches (ESI 4) and mixed sand and gravel beaches (ESI 5) are located south of the seaport.

Biological Resources

Biodiversity in the area is low due to various industrial activities that generate pollution and threaten biological resources.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal waters.

Human Use Features

Various infrastructures, such as harbors, ports, roads, oil tanks and factories, have been built in the area to support the industries within the Laem Chabang Industrial Estate.

Si Racha Airport, a small private airport of the Sahabhadana Bhiboon Group, is located in the area.

Oil Spill Response Resources

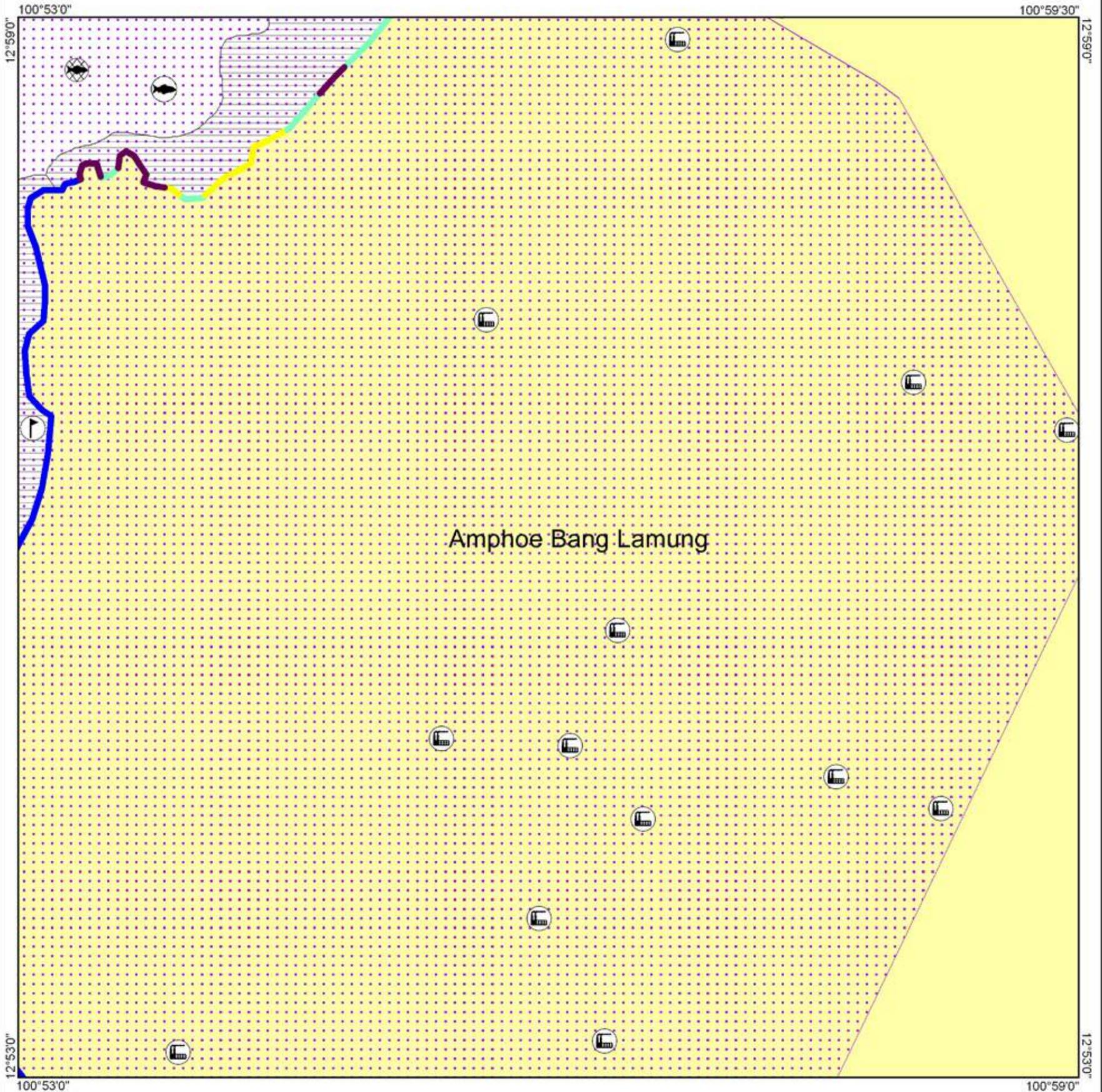
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 119



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 8

Biological/Human-Use Areas

- Special Management Area
- Tidal Flats

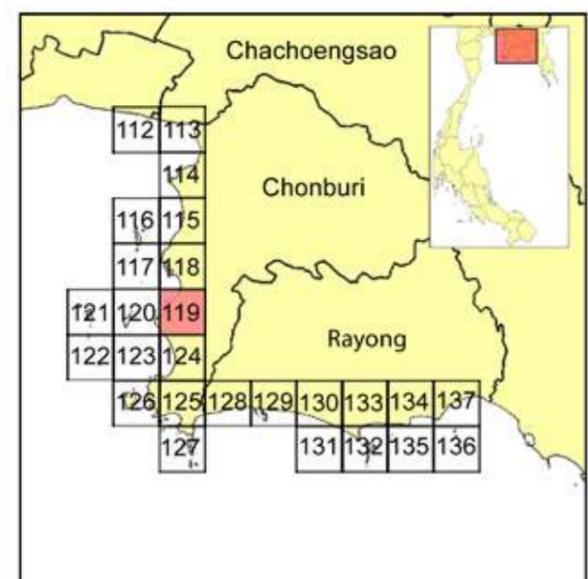
Biological Resources

- Fish/Nursery Area

Human-Use/ Oil Spill Response Resources

- Beach
- Factory
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Bang Lamung District. Its neighboring districts include Si Racha and Sattahip of Chonburi Province; and Ban Chang, Nikhom Phattana and Pluak Daeng of Rayong Province.

Shoreline

Along the coast in the area are exposed rocky shores and solid man-made structures (ESI 1), fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5) and sheltered solid man-made structures (ESI 8).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal waters.

Human Use Features

The area covers the northern and central parts of Hat Pattaya, one of Thailand's famous tourist destinations with a 3-km-long white sand beach lined with coconut trees. The northern part of the beach has a more relaxing environment and is suitable for swimming, while the busier central part has many accommodations, restaurants and other facilities for tourists.

Factories are also present in the area.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Pattaya City and the islands of Ko Lan, Ko Khrok and Ko Sak were designated as an Environmental Protection Area on 30 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

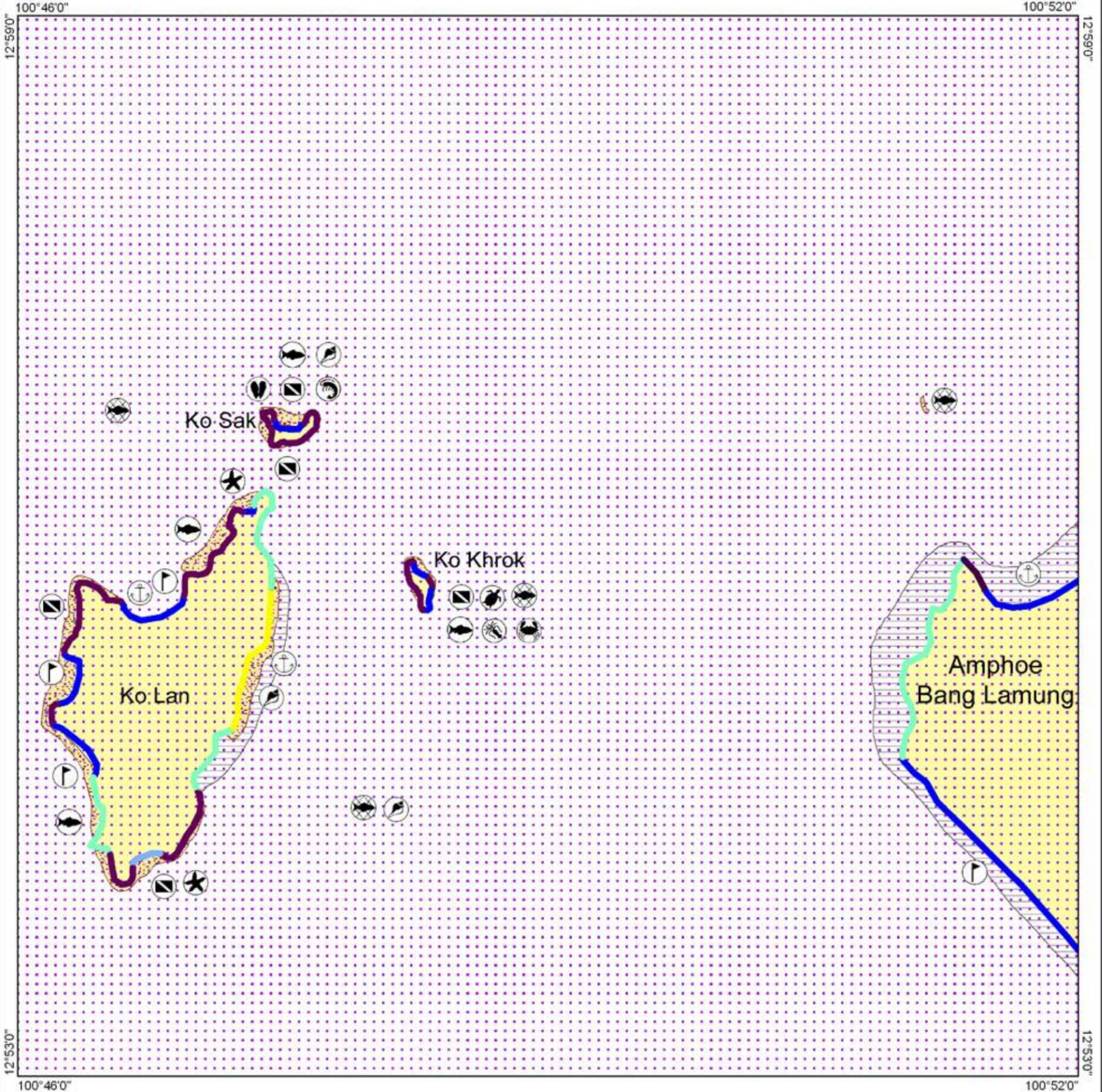
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 120



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 8

Biological/Human-Use Areas

- Coral Reef
- Special Management Area
- Tidal Flats

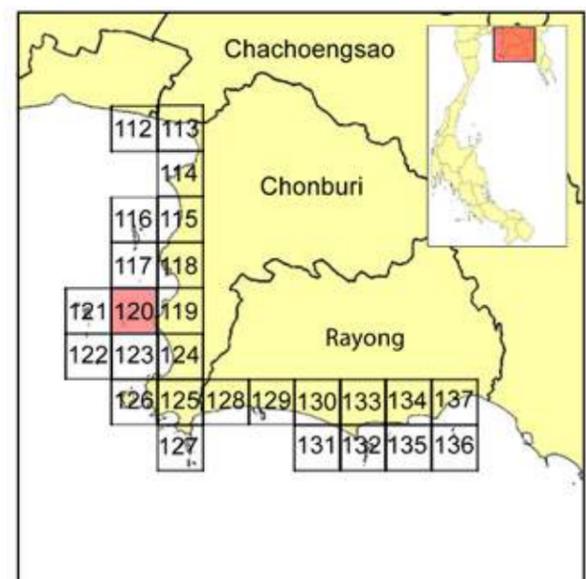
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

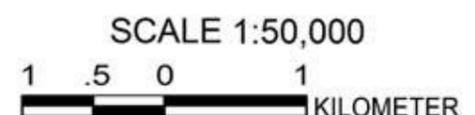
- Beach
- Diving
- Marina
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
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 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Pattaya City in Bang Lamung District and three islands off the coast, namely: Ko Lan, Ko Khrok and Ko Sak, with areas of 5.259 km², 0.075 km² and 0.109 km², respectively.

Shoreline

Along the coasts in the mainland and smaller islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and mixed sand and gravel beaches (ESI 5). Sheltered solid man-made structures (ESI 8) are located on the eastern shores of Ko Lan, where dense local fishing communities are situated along the coast.

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Porites*, *Montipora*, *Symphyllia*, *Pocillopora*, *Pavona*, *Acropora*, *Favia* and *Goniastrea* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Sea turtles can also be found in the area.

Human Use Features

The southern part of Hat Pattaya in the mainland is crowded with tourist facilities, such as accommodations, restaurants, nightlife establishments and water sports shops. In contrast, Hat Jomtien, 4 km south of Hat Pattaya, has a 6-km-long white sand beach with a more relaxing environment suitable for swimming and other water-based activities. Several tourist beaches in Ko Lan include Hat Ke Re, Hat Nuan, Hat Kruat, Hat Tham, Hat Samae, Hat Thien, Hat Sang Wan, Hat Ta Wean, Hat Thong Lang and Hat Ta Yai.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in the islands, attracting many visitors to the area. Dive shops providing tourists with diving lessons and tour packages are available in Pattaya City.

A marina is located at the southern coast of Hat Pattaya, where boats going to nearby islands are available. Na Ban Pier in Ko Lan is located on the eastern side of the island.

To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Pattaya City and the islands of Ko Lan, Ko Khrok and Ko Sak were designated as an Environmental Protection Area on 30 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

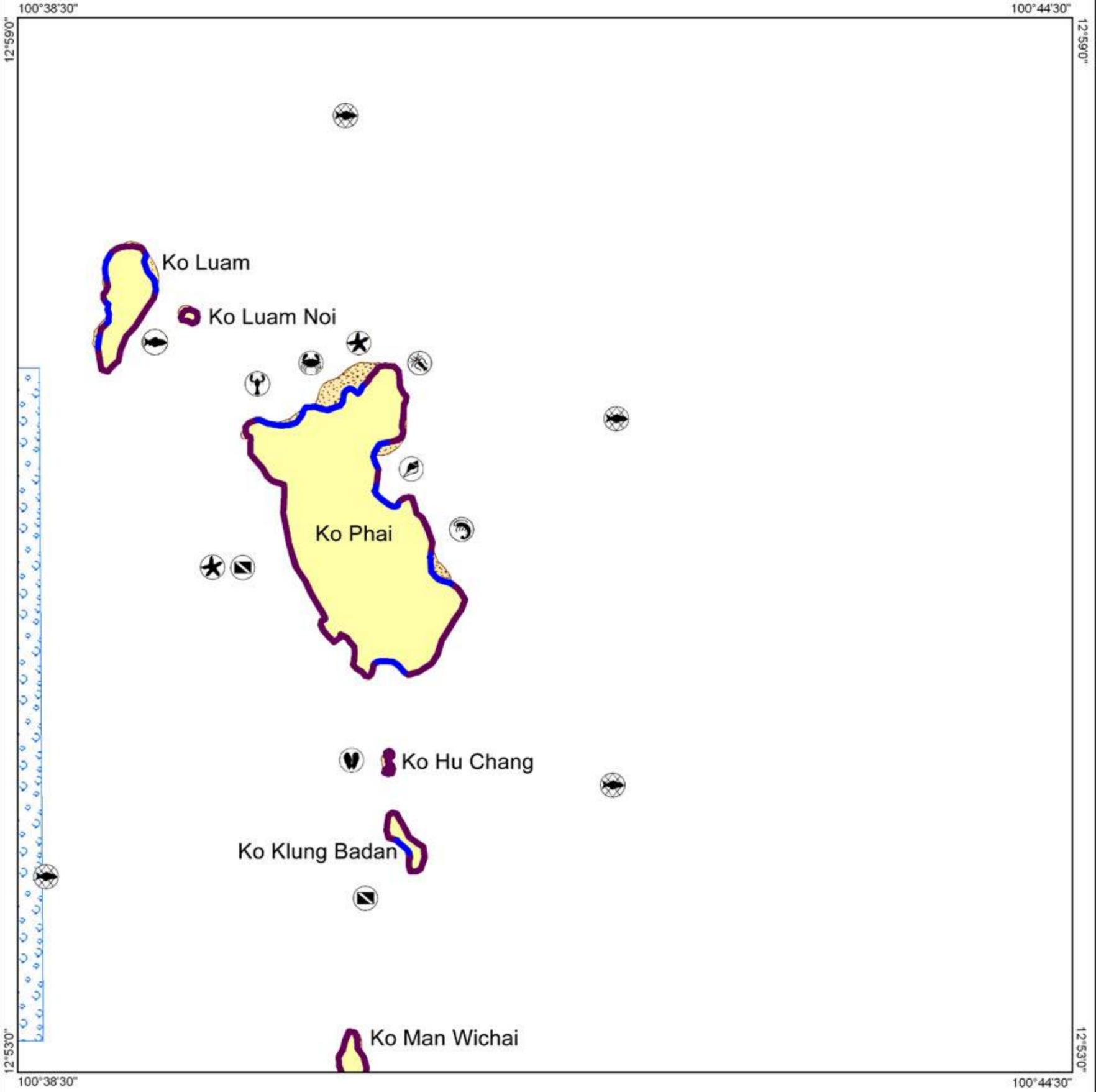
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 121



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef

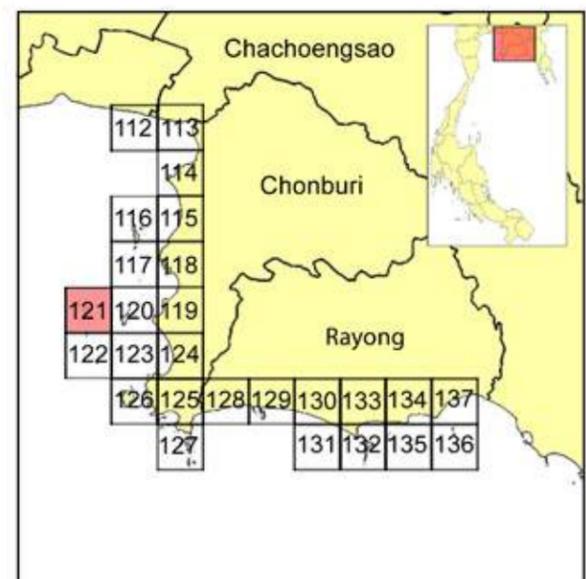
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/Oil Spill Response Resources

- Diving
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area covers Mu Ko Phai, a small archipelago located 23 km from Hat Pattaya. The islands of Mu Ko Phai under the administration of the Royal Thai Navy are Ko Phai, Ko Luam, Ko Luam Noi, Ko Hu Chang, Ko Klung Badan and Ko Man Wichai, with areas of 4.00 km², 0.490 km², 0.011 km², 0.03 km², 0.086 km² and 0.222 km², respectively.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Porites*, *Platygyra*, *Favia*, *Favites*, *Goniopora*, *Pavona* and *Acropora* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Several beaches are situated along the coasts of Ko Luam, Ko Phai, Ko Man Wichai and Ko Klung Badan.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in the islands, attracting many visitors to the area. Dive shops providing tourists with diving lessons and tour packages are available in Pattaya City.

Subsistence fishing is also done on coastal waters around the islands and on artificial reefs west of Mu Ko Phai.

Oil Spill Response Resources

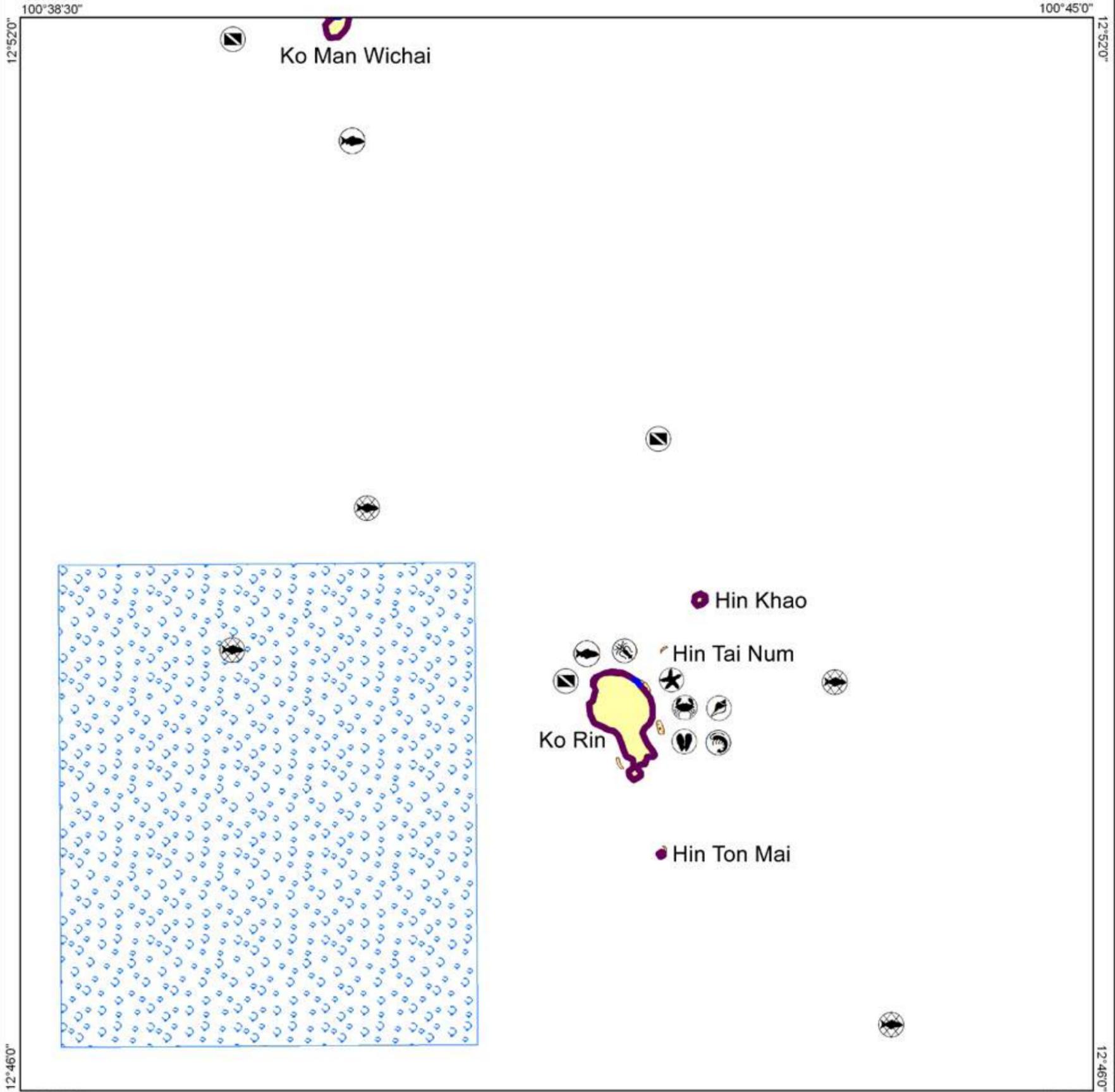
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 122



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef

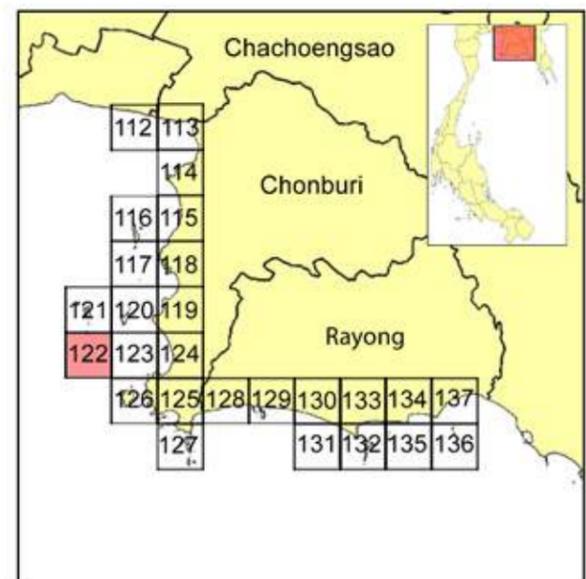
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Diving
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the islands south of Mu Ko Phai, namely: Hin Ton Mai, Ko Rin and Hin Khao, with areas of 0.003 km², 0.423 km² and 0.006 km², respectively. Hin Tai Num, an underwater pinnacle, is also located in the area. The islands are also under the administration of the Royal Thai Navy.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1) and a small area of fine- to medium-grained sand beach (ESI 3) on the northeastern shore of Ko Rin.

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Porites*, *Platygyra*, *Favia*, *Favites*, *Goniopora*, *Pavona* and *Acropora* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in the islands, attracting many visitors to the area. Dive shops providing tourists with diving lessons and tour packages are available in Pattaya City.

Subsistence fishing is also done on coastal waters around the islands and on artificial reefs west of Ko Rin.

Oil Spill Response Resources

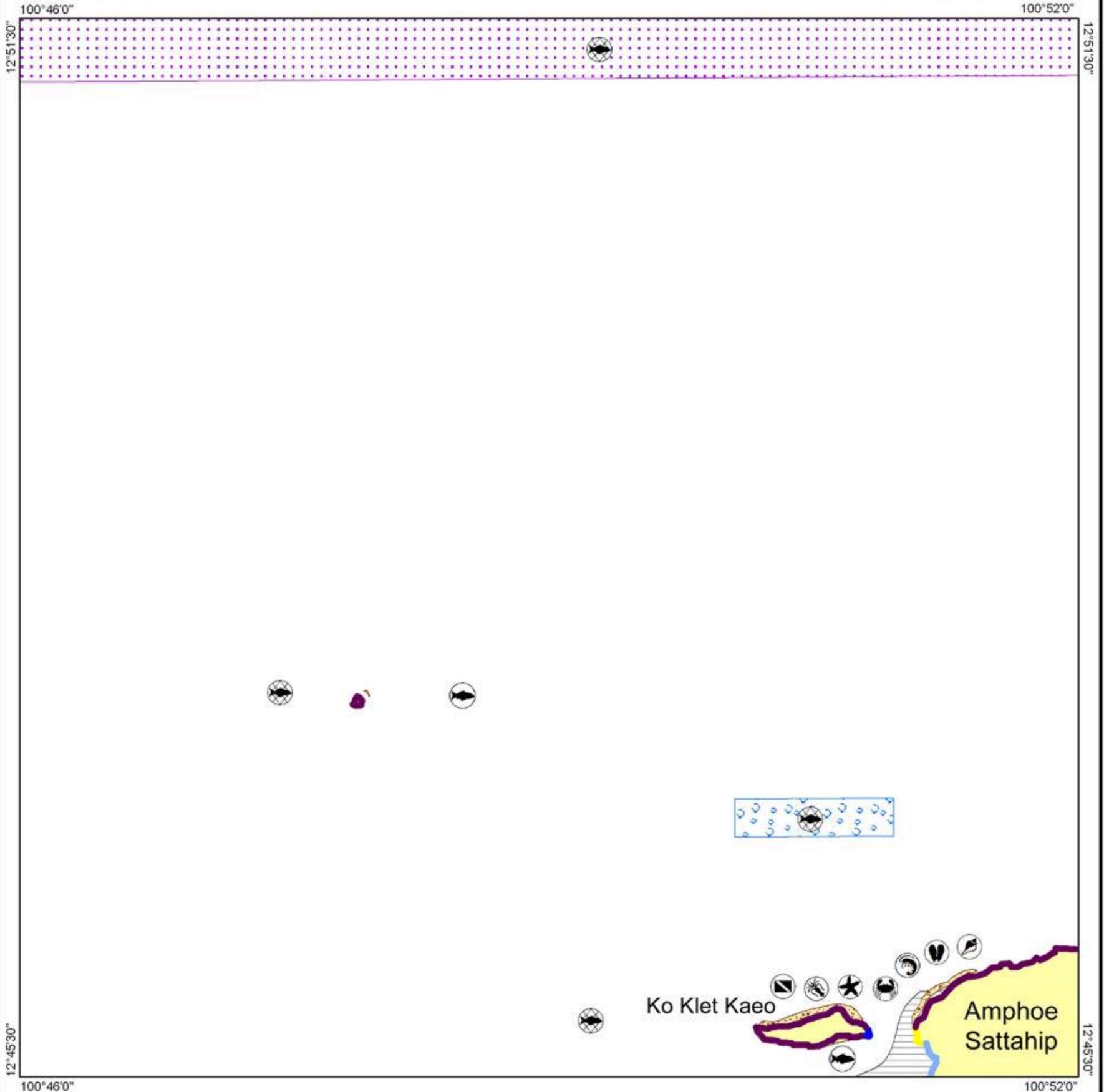
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 123



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Special Management Area
- Tidal Flats

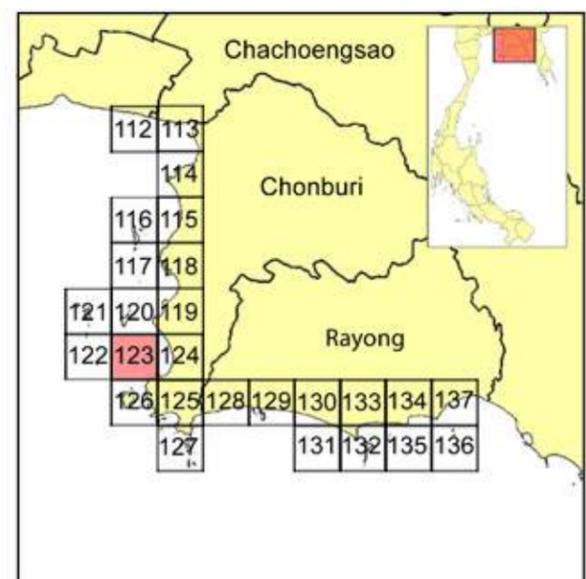
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

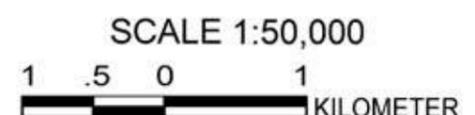
- Diving
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers a part of Sattahip District and its coastal waters. Its neighboring districts include Bang Lamung of Chonburi Province and Ban Chang of Rayong Province. The area also includes Ko Klet Kaeo located 700 m off the coast of Sattahip Naval Base. The island has an area of 0.021 km² and is under the administration of the Royal Thai Navy.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and sheltered solid man-made structures (ESI 8).

Biological Resources

Coral reefs along the coasts of Ko Klet Kaeo and Sattahip Naval Base, as well as on the underwater pinnacle in the area, are dominated with *Porites*, *Galaxea*, *Lobophyllia*, *Platygyra* and *Favia* species. Coral reef ecosystems have diverse biotic components with unique environmental characteristics and are important habitats providing shelter, food sources and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and artificial reefs.

Human Use Features

Beaches along the coast of Sattahip Naval Base are mostly covered by coarse-grained sand.

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Klet Kaeo, attracting many visitors to the area.

Subsistence fishing is also done on artificial reefs north of Ko Klet Kaeo.

To control and mitigate threats and human impact to its fragile environment, marine areas under Bang Lamung District on the northern part of the map were designated as an Environmental Protection Area on 30 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

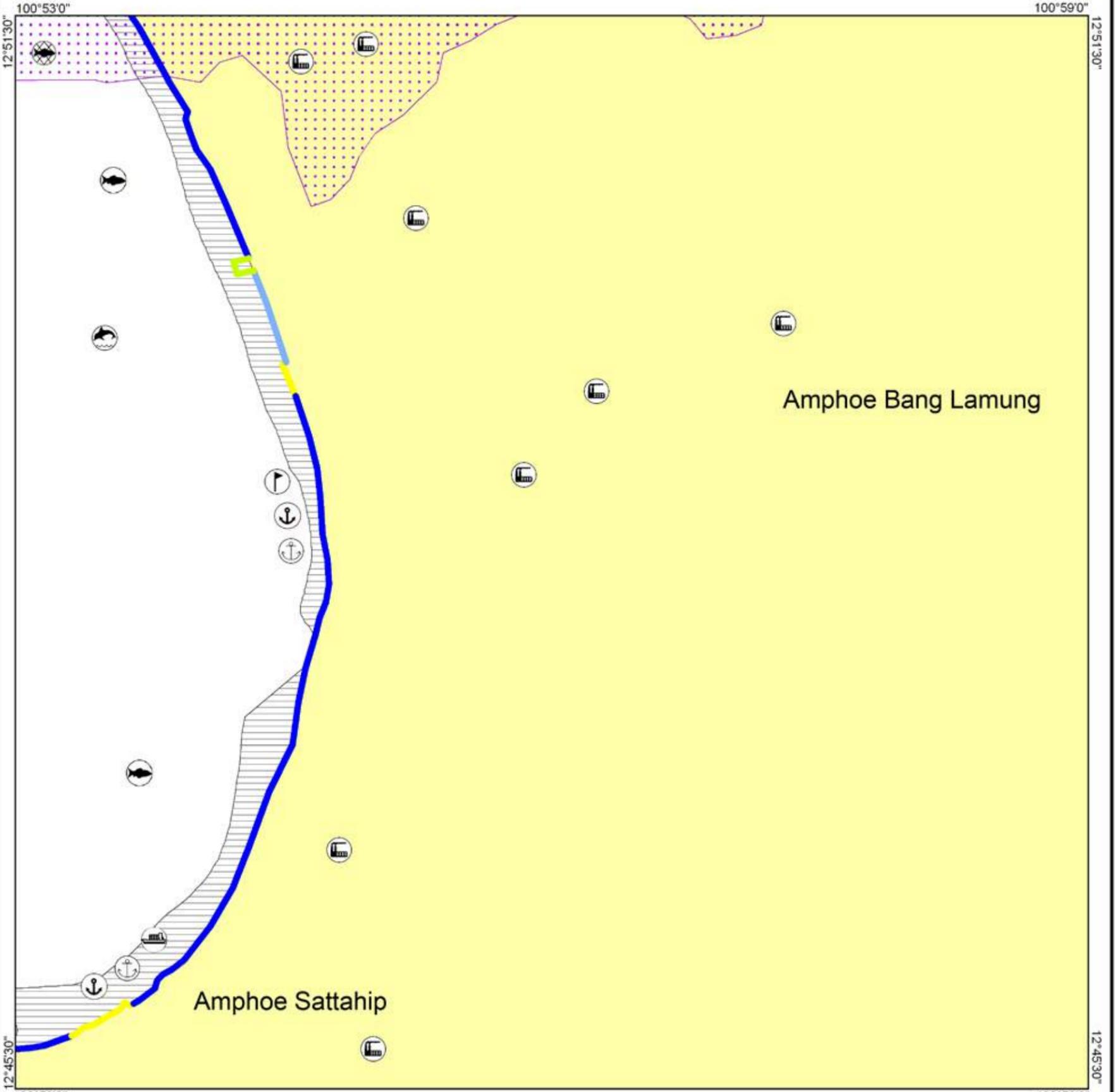
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 124



Shoreline Classification

- █ ESI 3
- █ ESI 4
- █ ESI 6B
- █ ESI 8

Biological/Human-Use Areas

- Special Management Area
- Tidal Flats

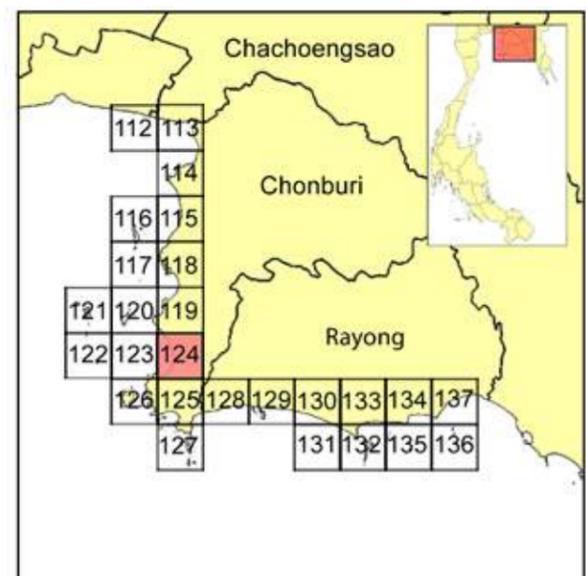
Biological Resources

- Marine Mammal
- Fish/Nursery Area

Human-Use/Oil Spill Response Resources

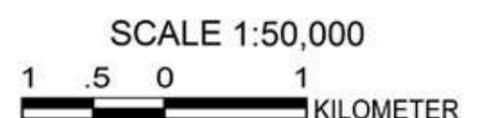
- Beach
- Factory
- Fishing Port
- Harbor
- Marina
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Sattahip District and Bang Lamung District, including Ao Bang Sare extending from Hat Jomtien.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), ripraps (ESI 6B) and sheltered solid man-made structures (ESI 8) in dense local fishing communities south of Ao Bang Sare.

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in coastal waters.

Marine mammals can also be found in the area.

Human Use Features

Hat Bang Sare is a 700-m-long beach lined with coconut trees and has many restaurants and accommodations available for tourists.

Local fishing communities along Ao Bang Sare are involved in subsistence fishing and supply fresh seafood to establishments in the beach.

Fishing ports, harbors and marinas are located south of the bay. Factories are also present in the area. To control and mitigate threats and human impact to its fragile environment, terrestrial and marine areas in Bang Lamung District were designated as an Environmental Protection Area on 30 July 2010 under the National Environment Preservation and Promotion B.E. 2535.

Oil Spill Response Resources

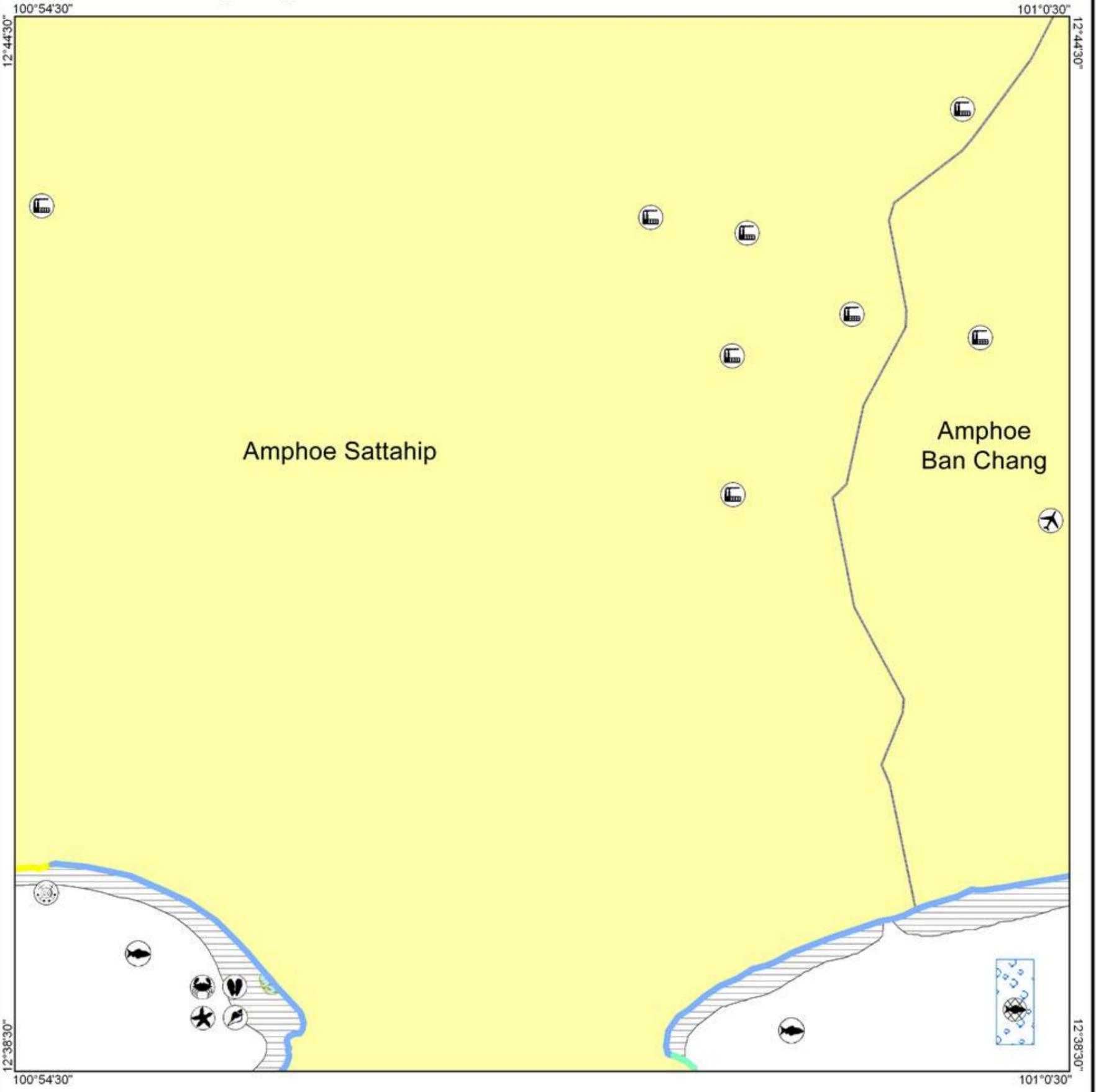
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi - Rayong Province

Thailand - 125



Shoreline Classification

- ESI 4
- ESI 5
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Tidal Flats
- Seagrass Beds

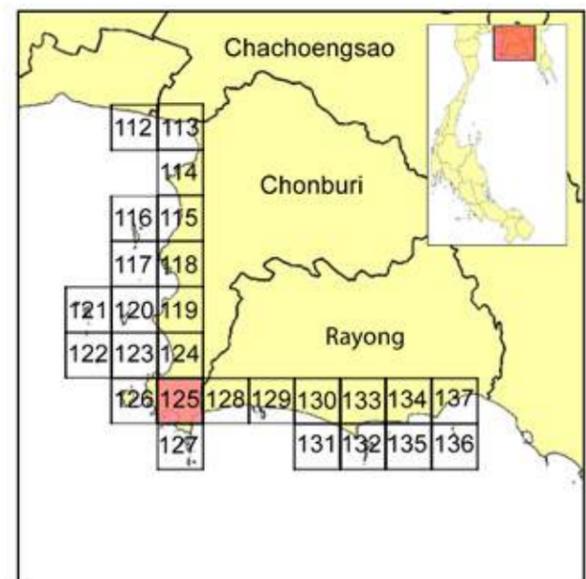
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Airport
- Coast Guard
- Factory
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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Not for Navigation



SCALE 1:50,000



General Information

This area covers the coastline shared by Sattahip District of Chonburi Province and Ban Chang of Rayong Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5) and sheltered solid man-made structures (ESI 8).

Biological Resources

A small patch of seagrass beds in Ao Sattahip is dominated with *Halophila decipiens*, *Halophila minor* and *Halodule uninervis*. Seagrass beds, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Coarse-grained sand beaches are situated along Ao Sattahip and the coastline near U-Tapao International Airport.

The Royal Thai Navy, serving as coast guard in the area, has a naval base open for visitors and tourists. Minimized human activity and impact has helped the naval base maintain the natural surroundings in its area.

Subsistence fishing is also done on artificial reefs in the area.

Oil Spill Response Resources

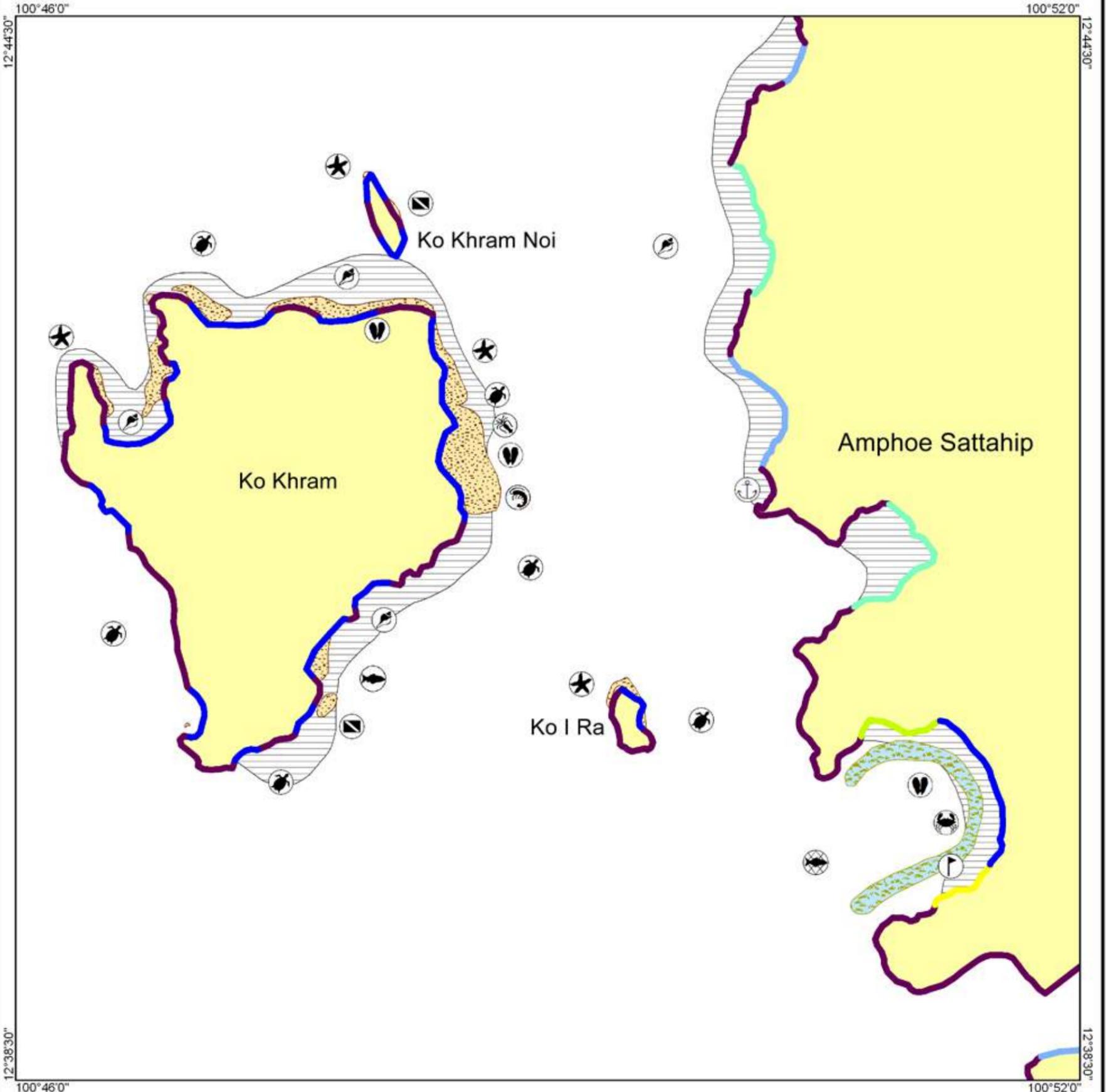
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chonburi Province

Thailand - 126



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6B
- ESI 8

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds
- Tidal Flats

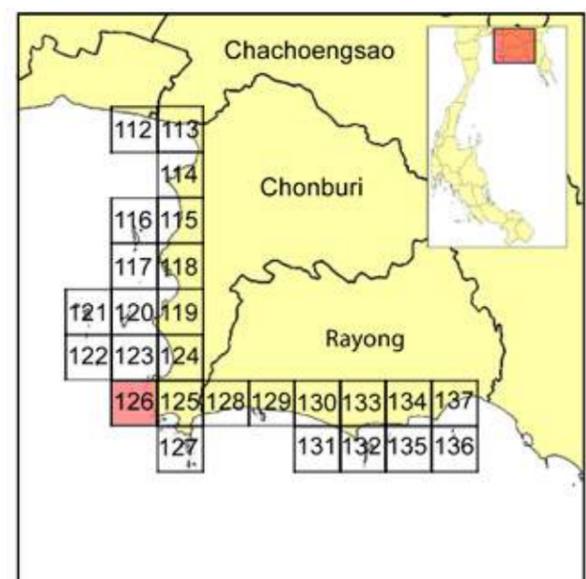
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus
- Turtle

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Marina
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
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Not for Navigation



SCALE 1:50,000



General Information

This area covers the western coast of Sattahip District and nearby islands, namely: Ko Khram, Ko Khram Noi and Ko I Ra, with areas of 13.9 km², 0.072 km² and 0.184 km², respectively. Most of the area is under the administration of the Royal Thai Navy.

Shoreline

Along the coasts in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), ripraps (ESI 6B) and sheltered solid man-made structures (ESI 8).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Porites*, *Acropora*, *Platygyra* and *Goniopora* species. Seagrass beds along Ao Toei Ngam consist of three species, namely: *Halophila decipiens*, *Halophila minor* and *Halodule uninervis*. Both coral reefs and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various marine and coastal organisms, such as fish, crabs, shrimp, squid, gastropods, bivalves and echinoderms.

Ko Khram is strictly administered by the Royal Thai Navy to preserve the island's natural habitats and nesting grounds of green sea turtles (*Chelonia mydas*) and hawksbill sea turtles (*Eretmochelys imbricata*).

Human Use Features

Hat Toei Ngam is a popular weekend and holiday destination located at the naval base in Sattahip District. The beach is 1.5 km long but only 400 m is open to tourists.

Similar to other islands with coral reefs, Ko Khram is also popular for its diving sites, while some beaches and coastal areas are designated as nesting grounds for sea turtles.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

The Center for Sea Turtle Conservation was established at Ko Khram in 1992 and administered by the Royal Thai Navy to protect endangered sea turtles from various threats. Sea turtle eggs are carefully excavated from nests and moved to protected areas until they hatch and are released into the sea. Ko Khram should be considered as a high priority area for protection from oil spill incidents.

Chonburi Province

Thailand - 127



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6A
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Seagrass Beds
- Tidal Flats

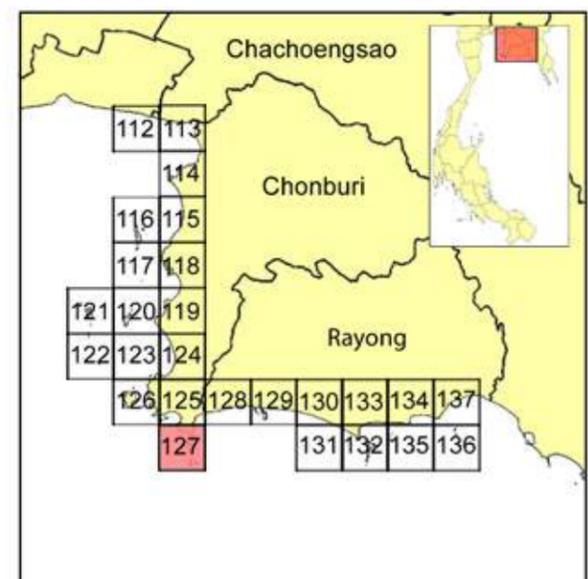
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus
- Turtle

Human-Use/ Oil Spill Response Resources

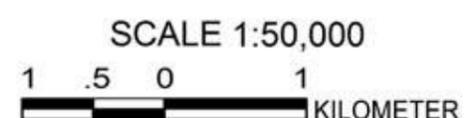
- Coast Guard
- Diving
- Fishing Port
- Marina
- Oil Tank
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the southern coast of Sattahip District and nearby islands, namely: Ko Maeo, Ko Chorakhe, Ko Kham, Ko Samae San, Ko Raet, Ko Chang Klua, Ko Rong Khon, Ko Chuang and Ko Chan, with areas of 0.006 km², 0.07 km², 0.512 km², 4.22 km², 0.716 km², 0.036 km², 0.015 km², 1.248 km² and 0.42 km², respectively. Most of the area is under the administration of the Royal Thai Navy.

Shoreline

Along the coasts in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), gravel beaches (ESI 6A) and sheltered solid man-made structures (ESI 8).

Biological Resources

Coral patches and coral reefs along the coasts of the islands are dominated with *Porites*, *Acropora*, *Platygyra*, *Galaxea* and *Fungia* species. Patches of seagrass beds on the northern coast of Ko Kham and between Ko Samae San and Ko Raet consist of three species, namely: *Halophila decipiens*, *Halophila minor* and *Halodule uninervis*. Both coral reefs and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Sea turtles and marine mammals, such as dolphins and dugongs, can also be found in the area.

Human Use Features

Several tourist beaches in the area are suitable for various water activities, such as swimming, diving and water sports. Tourist facilities have been developed to support the growing number of visitors.

Serving as coast guard in the area, the naval base of the Royal Thai Navy is supported by related infrastructures built for military purposes, such as marinas, ports and oil tanks.

Subsistence fishing is also done on coastal waters and artificial reefs in the area.

Oil Spill Response Resources

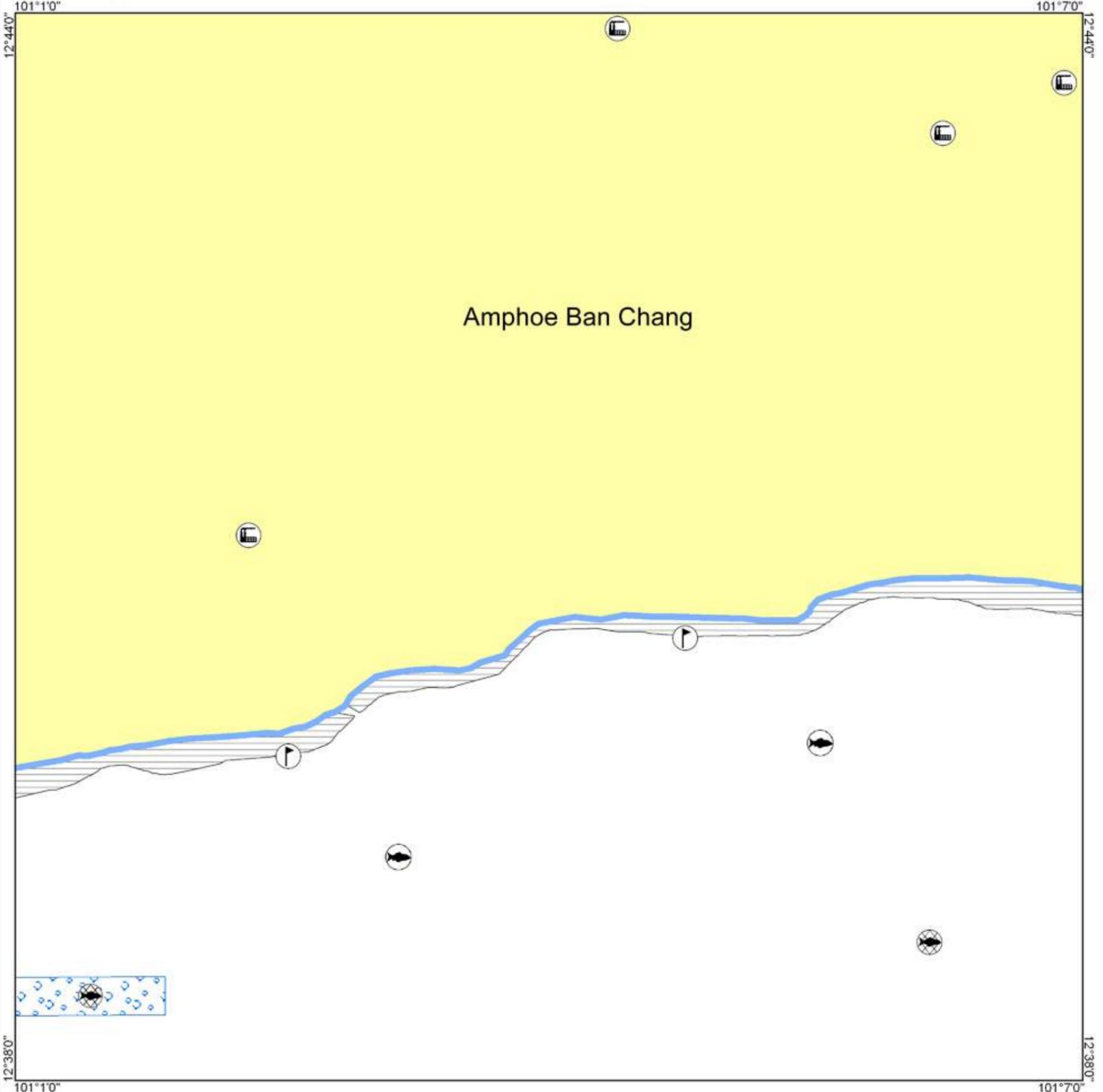
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Rayong Province

Thailand - 128



Shoreline Classification

ESI 4

Biological/Human-Use Areas

Artificial Reef

Tidal Flats

Biological Resources

Fish/Nursery Area

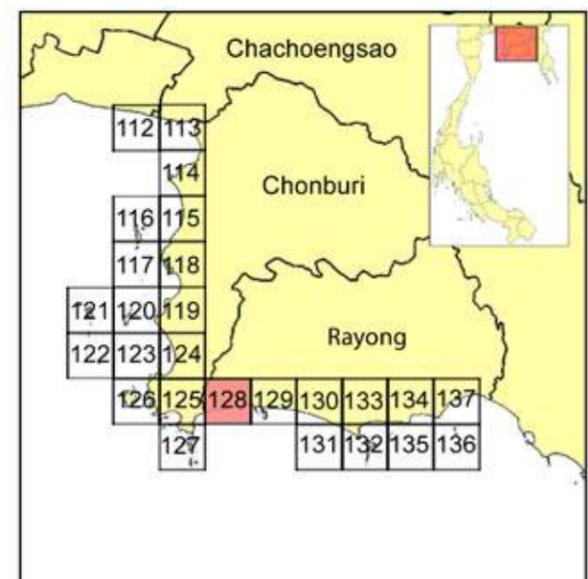
Human-Use/ Oil Spill Response Resources

Beach

Factory

Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000



General Information

This area covers Map Ta Phut Industrial Estate, Thailand's largest industrial park, in Ban Chang District. Its neighboring districts include Sattahip and Bang Lamung of Chonburi Province, and Nikhom Phatthana and Mueang Rayong of Rayong Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4).

Biological Resources

Tidal flats in the area are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Tourist beaches in the area include the following: Hat Phla in Phla Subdistrict, a 500-m-long beach lined with pine trees; Hat Phayoon in Ban Chang Subdistrict, a 3-km-long beach with light gray sand; and Hat Nam Rin, a 1-km-long beach with light brown sand located near Map Ta Phut Industrial Estate. These beaches are popular weekend and holiday destinations for tourists.

Subsistence fishing is also done on coastal waters and artificial reefs in the area.

Oil Spill Response Resources

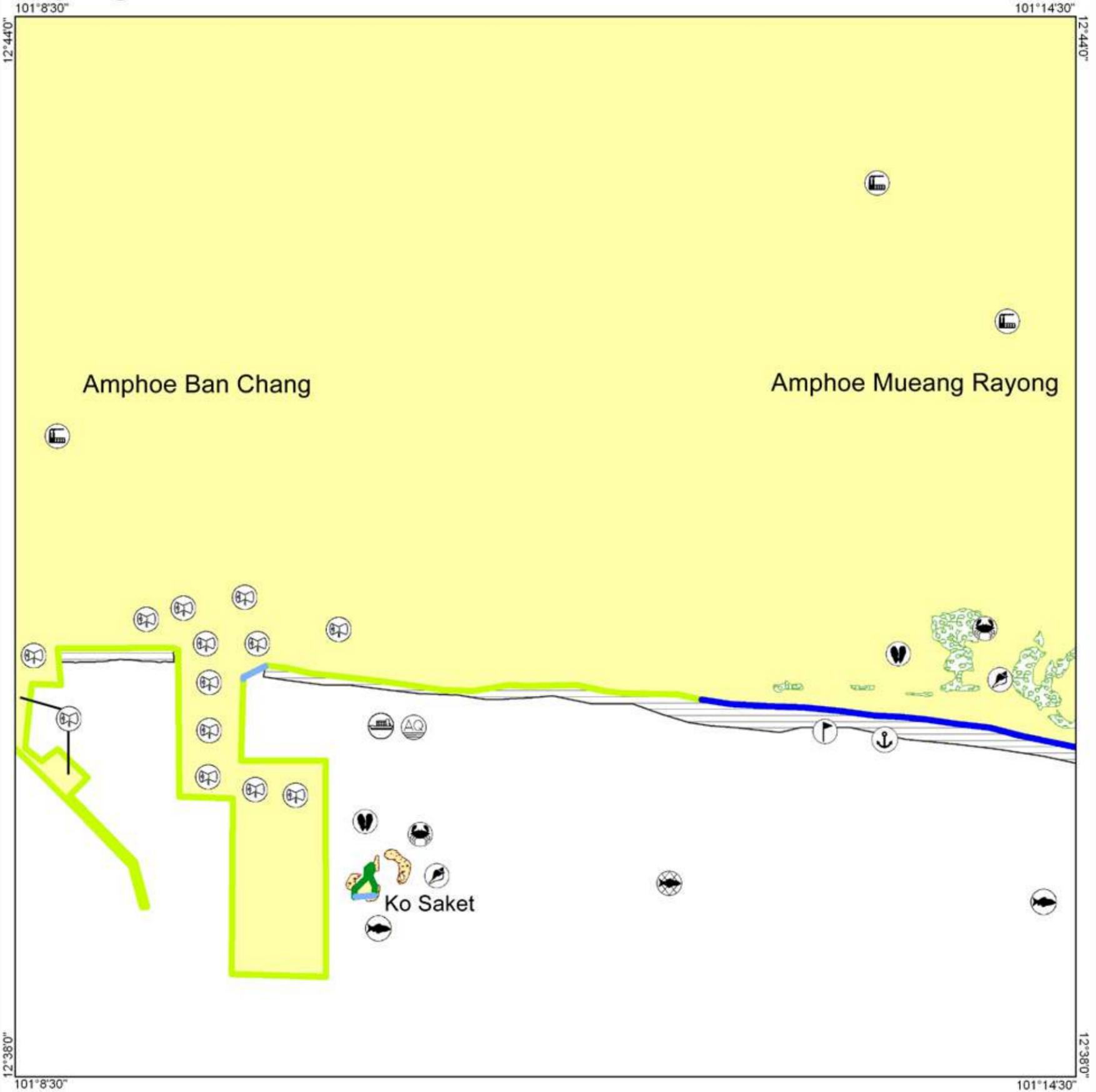
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Rayong Province

Thailand - 129



Shoreline Classification

- ESI 3
- ESI 4
- ESI 6B
- ESI 6A

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Tidal Flats

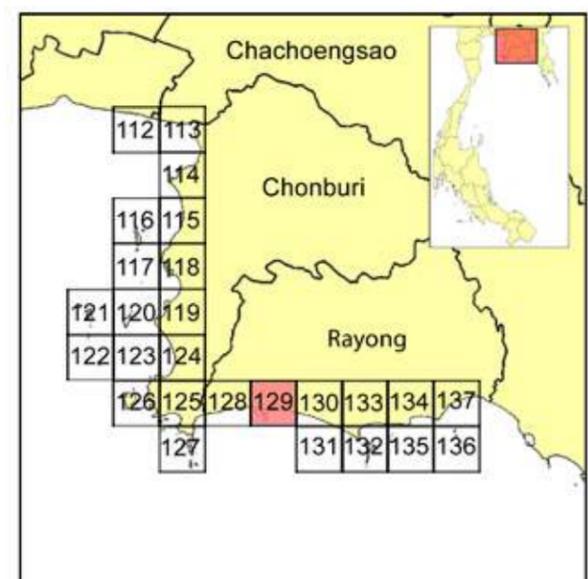
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Factory
- Fishing Port
- Harbor
- Oil Tank
- Subsistence Fishing

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by Ban Chang District and Mueang Rayong District, as well as Ko Saket, a small island with an area of 0.042 km² located 1 km off the coast of the town of Map Ta Phut.

Shoreline

Along the coasts in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), gravel beaches (ESI 6A) and ripraps (ESI 6B), which were constructed along the shore as coastal protection. Next to the ripraps are sandy beaches stretching eastward to the mouth of Rayong River.

Biological Resources

Large areas of riverine mangrove forests are located along Rayong River. Coral reefs along Ko Saket are dominated with *Porites*, *Acropora* and *Pocillopora* species. Both mangroves and coral reefs, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Hat Sang Chan and Had Laem Charoen are two beaches in the area affected by severe coastal erosion. Groins and offshore breakwaters were constructed as protective structures, but these may reduce the natural beauty of the beaches.

Local communities along the coastal area are involved in subsistence fishing.

A fishing port, harbor, oil tanks and factories are also present in the area.

Oil Spill Response Resources

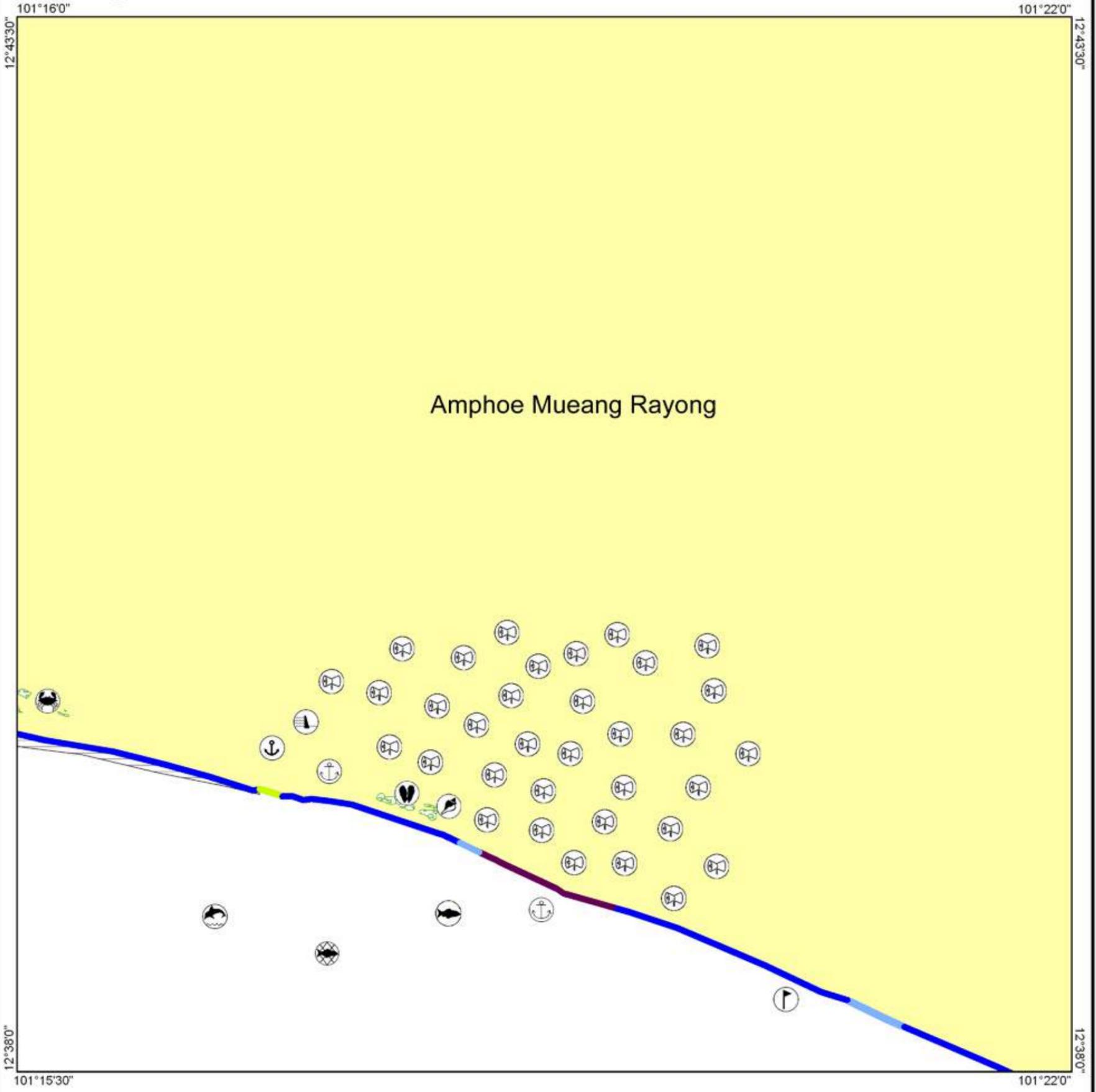
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Rayong Province

Thailand - 130



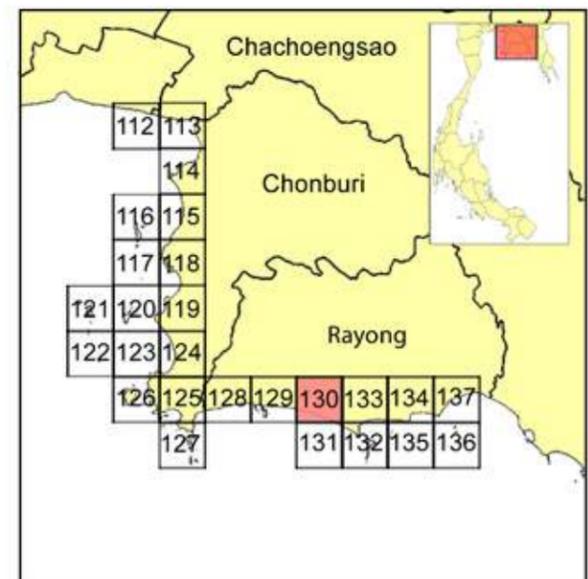
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 4
 - ESI 6B

- Biological/Human-Use Areas**
- Mangroves
 - Tidal Flats

- Biological Resources**
- Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal

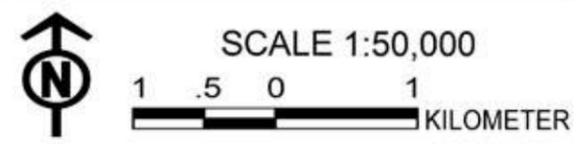
- Human-Use/ Oil Spill Response Resources**
- Beach
 - Fishing Port
 - Lock and Dam
 - Marina
 - Oil Tank
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Mueang Rayong District. Its neighboring districts include Ban Chang, Nikhom Phatthana, Ban Khai, Wang Chan and Klaeng of Rayong Province.

Shoreline

Along the coast in the area are exposed solid man-made structures (ESI 1) in oil transport ports, fine-to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4) and ripraps (ESI 6B) constructed near the mouth of Rayong River for coastal protection.

Biological Resources

Small patches of riverine mangrove forests along Rayong River, as well as tidal flats in the area, are important habitats providing shelter, food sources and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods and bivalves.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal waters.

Marine mammals can also be found in the area.

Human Use Features

Hat Mae Rumphueng is a 12-km-long white sand beach located east of the mouth of Rayong River. Tourism is active in the area, especially during weekends and holidays. Tourist facilities are available at the central part of the beach.

Local communities along Hat Laem Charoen are involved in subsistence fishing on coastal waters.

A fishing port, marina, oil tanks and lock and dam are also present in the area.

Oil Spill Response Resources

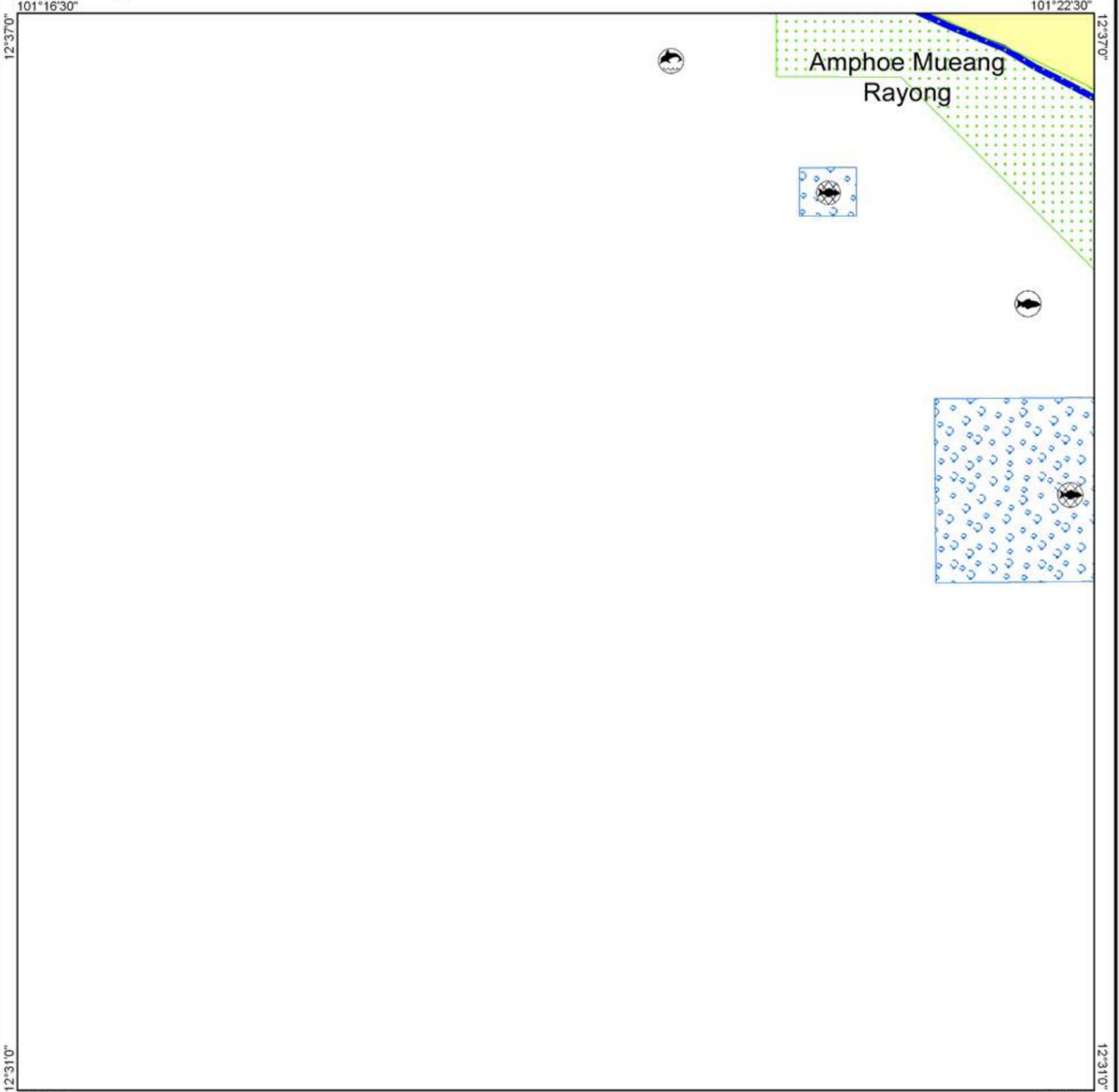
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Rayong Province

Thailand - 131



Shoreline Classification

ESI 3

Biological/Human-Use Areas

- Artificial Reef
- National Park

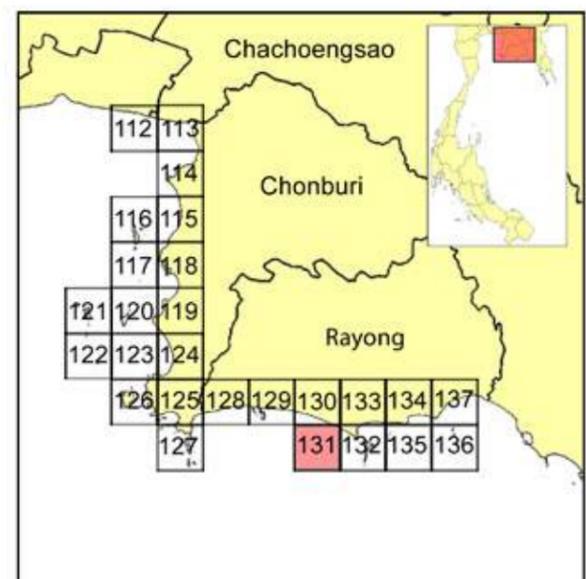
Biological Resources

- Fish/Nursery Area
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers a part of Mueang Rayong District and the marine waters off its coast. Its neighboring districts include Ban Chang, Nikhom Phatthana, Ban Khai, Wang Chan and Klaeng of Rayong Province.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs, whales and dolphins, can also be found in the area.

Human Use Features

The beach in the area is part of Hat Mae Rumphueng, a 12-km-long white sand beach located east of the mouth of Rayong River.

Local communities along Hat Mae Rumphueng are involved in subsistence fishing on coastal waters and artificial reefs.

Oil Spill Response Resources

There is no oil spill response resource in the area.

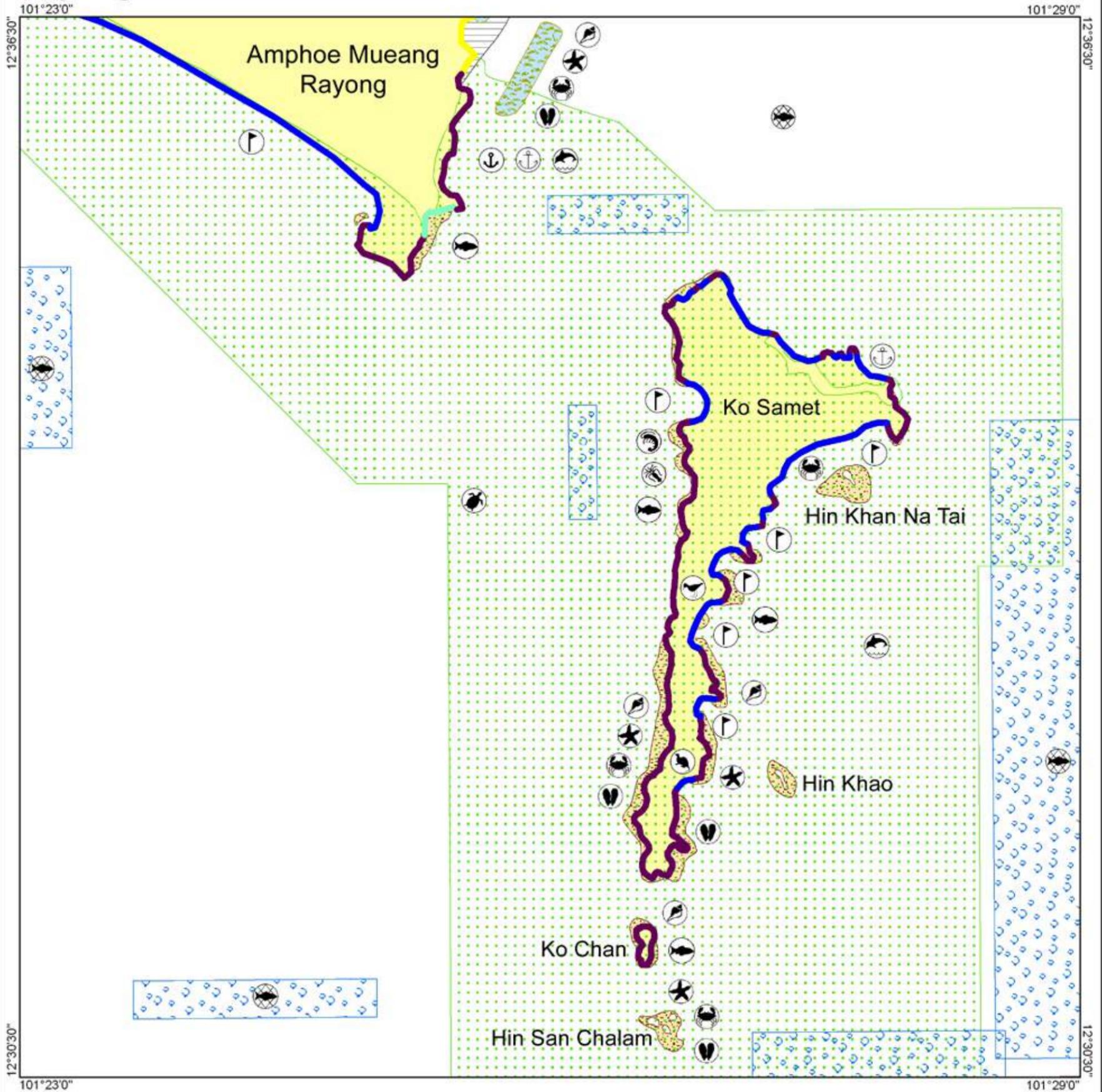
Special Issue

Coastal waters in the area belong to Khao Laem Ya–Mu Ko Samet National Park, which was established on 1 October 1981. The national park covers 131 km² of terrestrial and marine areas, including the islands of Ko Samet, Ko Chan, Ko Kudi, Ko Kruai, Ko Kham, Ko Pla Tin, Ko Talu and Ko Khangkao.

Within the national park, dry evergreen forests on the mainland and island areas and beach forests along the coasts are important habitats for various animals, such as small terrestrial wildlife, birds, reptiles and amphibians. Coral reefs within the park provide habitats for marine organisms. These reefs are popular diving sites as well, attracting many tourists to visit the national park each year.

Rayong Province

Thailand - 132



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- National Park
- Seagrass Beds

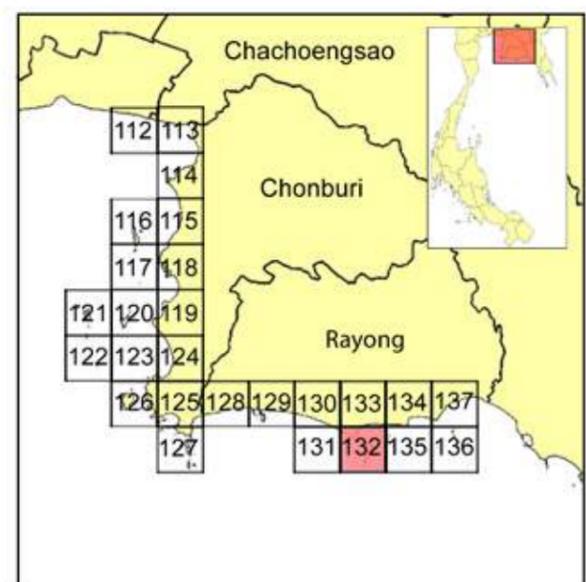
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus
- Marine Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers Laem Ya, Laem Ket and Laem Tan in Mueang Rayong District and two islands off the coast, namely: Ko Samet and Ko Chan, with areas of 5.312 km² and 0.041 km², respectively. Ko Samet has nearby underwater pinnacles, namely: Hin Khan Na Tai and Hin Khao on the east and Hin San Chalam on the south.

Shoreline

Along the coasts in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5) and sheltered solid man-made structures (ESI 8).

Biological Resources

Coral reefs along the coasts of Laem Ya, Laem Ket, Ko Samet and Ko Chan are dominated with *Porites*, *Acropora* and *Diploastrea* species. Seagrass along the coast of Ao Laem Tan consist of two dominant species, *Enhalus acorides* and *Halophila ovalis*. Both coral reefs and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves, shorebirds and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs, whales and dolphins, can also be found in the area.

Human Use Features

Many tourist beaches are situated along the northern and eastern coasts of Ko Samet. Hat Sai Kaeo on the eastern side of the island is a popular white sand beach among local and foreign tourists. Tourist facilities are available in Ko Samet.

Marinas are located in Ao Laem Ya on the mainland and Ao Klang in Ko Samet.

Subsistence fishing is done on coastal waters and artificial reefs in the area. A fishing port is also located in Ao Laem Ya.

Oil Spill Response Resources

There is no oil spill response resource in the area.

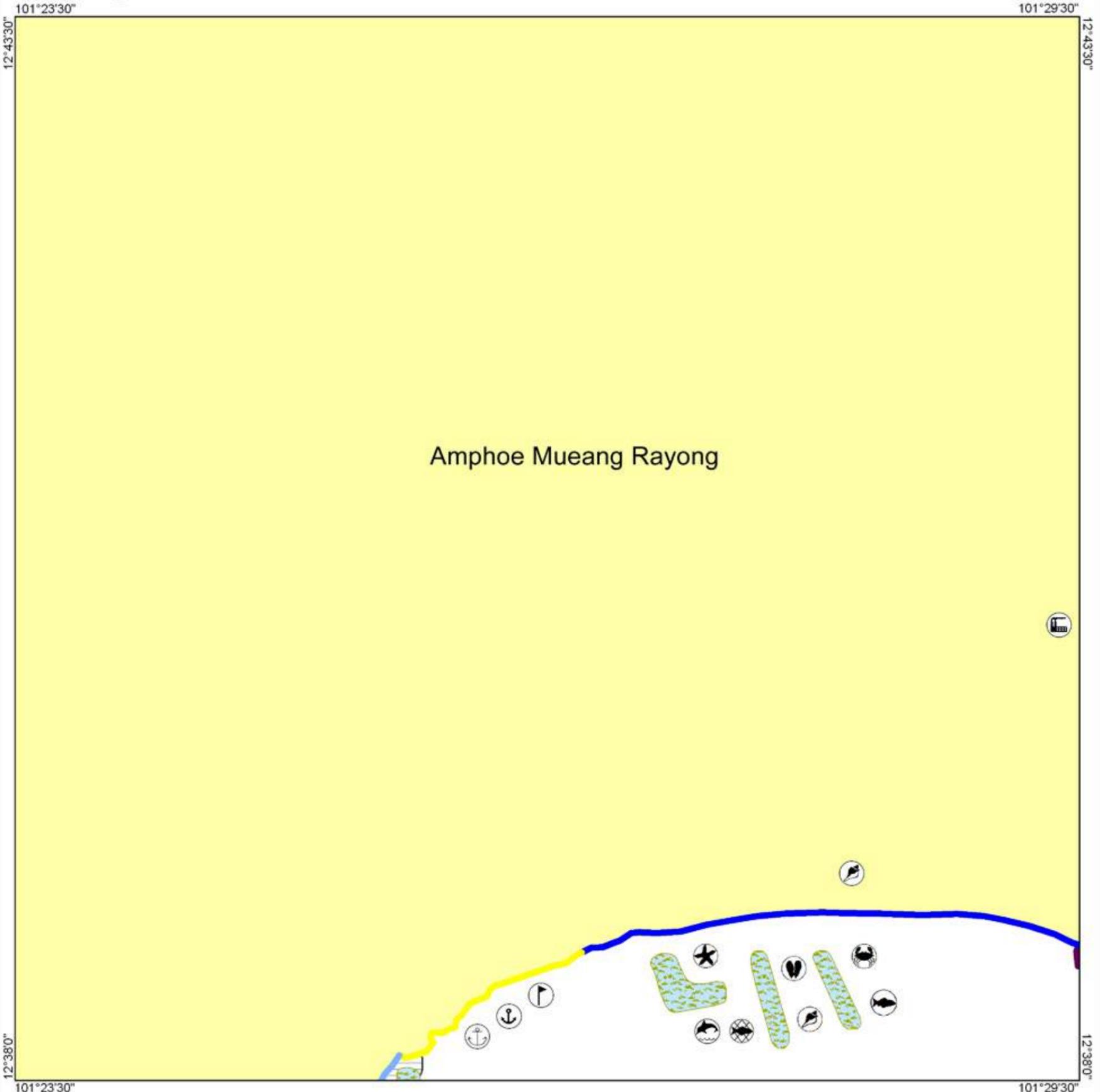
Special Issue

Majority of the area belongs to Khao Laem Ya–Mu Ko Samet National Park, which was established on 1 October 1981. The national park covers 131 km² of terrestrial and marine areas, including the islands of Ko Samet, Ko Chan, Ko Kudi, Ko Kruai, Ko Kham, Ko Pla Tin, Ko Talu and Ko Khangkao.

Within the national park, dry evergreen forests on the mainland and island areas and beach forests along the coasts are important habitats for various animals, such as small terrestrial wildlife, birds, reptiles and amphibians. Coral reefs within the park provide habitats for marine organisms. These reefs are popular diving sites as well, attracting many tourists to visit the national park each year.

Rayong Province

Thailand - 133



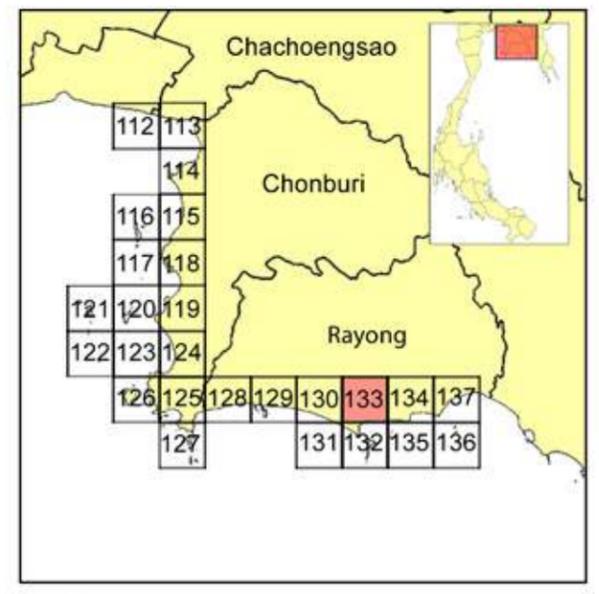
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 4
 - ESI 8

- Biological/Human-Use Areas**
- Tidal Flats
 - Seagrass Beds

- Biological Resources**
- Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Marine Mammal

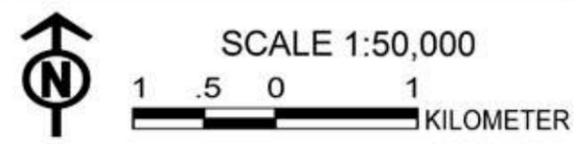
- Human-Use/ Oil Spill Response Resources**
- Beach
 - Factory
 - Fishing Port
 - Marina
 - Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Mueang Rayong District. Its neighboring districts include Ban Chang, Nikhom Phatthana, Ban Khai, Wang Chan and Klaeng.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); and sheltered solid man-made structures (ESI 8) in Phe Subdistrict, where dense coastal communities are located.

Biological Resources

Seagrass beds along the coast of Hat Phe consist of two dominant species, *Enhalus acorides* and *Halophila ovalis*. Seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy substrates, while fish communities can be found in coastal waters.

Marine mammals, such as dugongs, whales and dolphins, can also be found in the area.

Human Use Features

The eastern coast of Hat Phe in Ban Phe Village stretching up to the mouth of Klang canal is lined with pine trees and has available tourist facilities, such as resorts, accommodations and restaurants. The busier western coast has a fishing port, marina, local fishing communities and commercial centers, including a popular seafood market.

Local communities along Hat Phe are involved in subsistence fishing on coastal waters.

Factories are also present in the area.

Oil Spill Response Resources

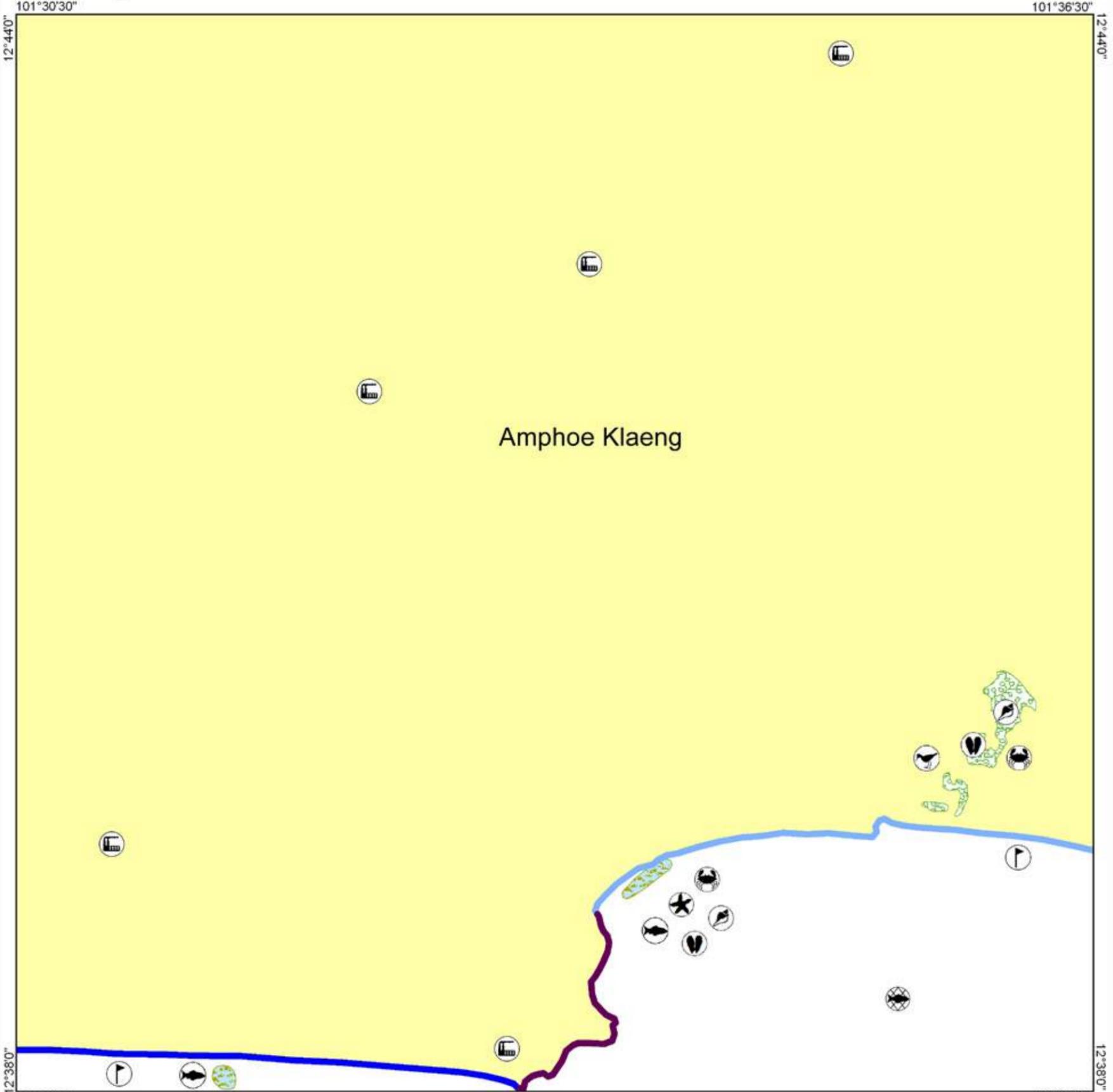
There is no oil spill response resource in the area.

Special Issue

There is special issue in the area.

Rayong Province

Thailand - 134



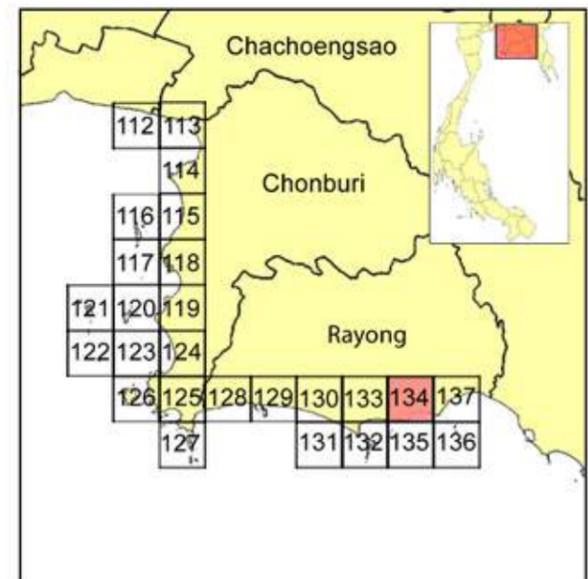
- Shoreline Classification**
- ESI 1 (Purple line)
 - ESI 3 (Blue line)
 - ESI 4 (Light blue line)

- Biological/Human-Use Areas**
- Seagrass Beds (Green wavy pattern)
 - Mangroves (Green grid pattern)

- Biological Resources**
- Bird (Bird icon)
 - Bivalve (Shell icon)
 - Crab (Crab icon)
 - Echinoderm (Star icon)
 - Fish/Nursery Area (Fish icon)
 - Gastropod (Shell icon)

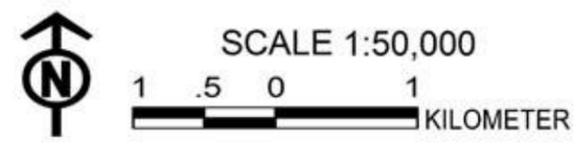
- Human-Use/ Oil Spill Response Resources**
- Beach (Flag icon)
 - Factory (Factory icon)
 - Subsistence Fishing (Fishing boat icon)

Location of Map



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 Marine Department, Ministry of Transport
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Not for Navigation



General Information

This area is located in Klaeng District. Its neighboring districts include Mueang Rayong, Wang Chan and Khao Chamao of Rayong Province; and Kaeng Hang Maeo and Na Yai Am of Chanthaburi Province.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) between Hat Suan Son and Hat Mae Phim; fine- to medium-grained sand beaches (ESI 3); and coarse-grained sand beaches (ESI 4).

Biological Resources

Patches of riverine mangrove forests are situated along Khlong La Won canal. Small patches of seagrass beds along the coasts of Hat Mae Phim and Hat Suan Son consist of two dominant species, *Enhalus acorides* and *Halophila ovalis*. Both mangroves and seagrass beds are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy, muddy and rocky substrates, while fish communities can be found in coastal waters.

Human Use Features

Hat Suan Son is a 6.5-km-long beach lined with pines trees, while Hat Mae Phim is a 8-km-long beach with local fishing communities involved in subsistence fishing on nearby coastal waters.

Factories are also present in the area.

Oil Spill Response Resources

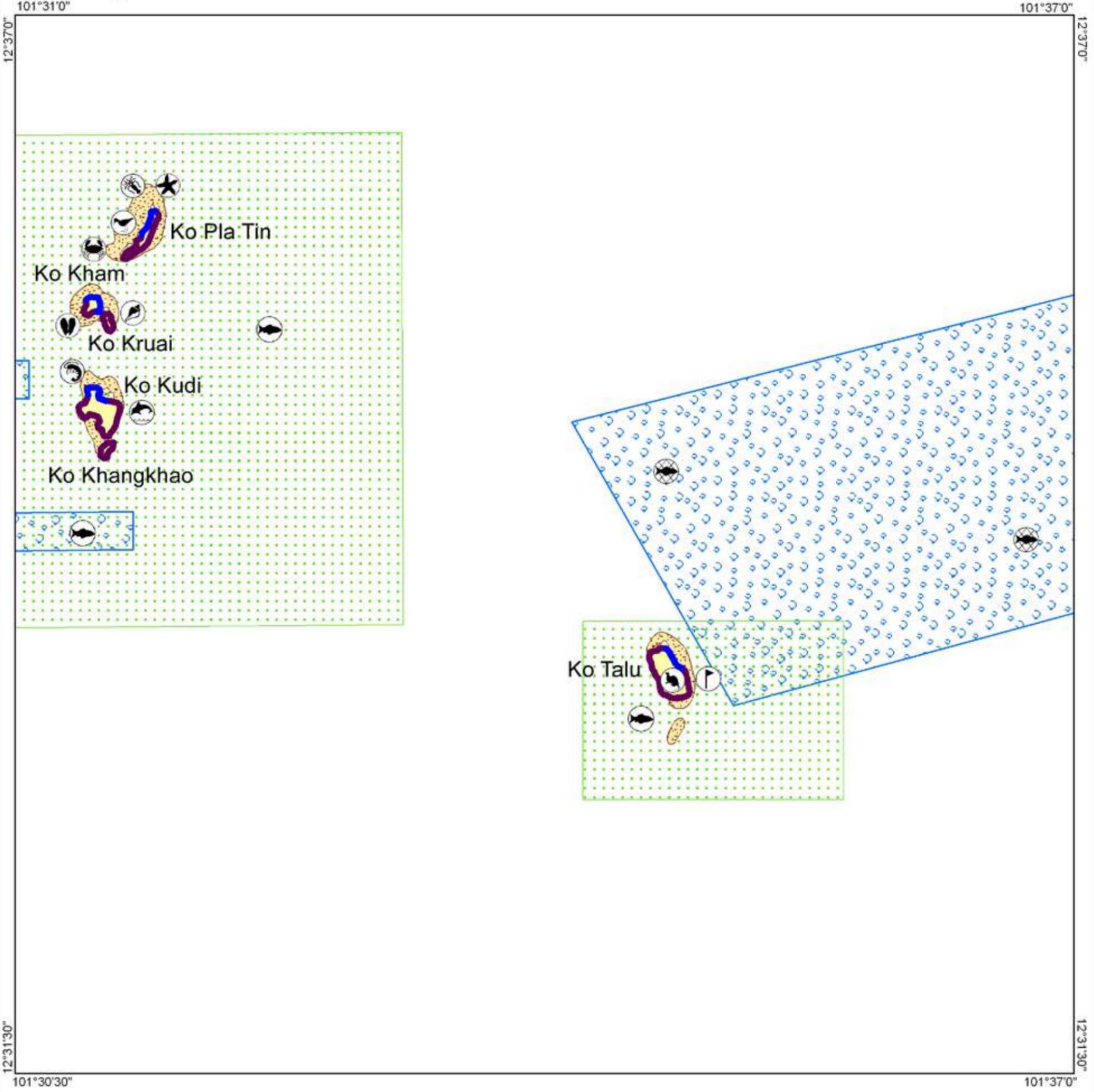
There is no oil spill response resource in the area.

Special Issue

There is special issue in the area.

Rayong Province

Thailand - 135



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- National Park

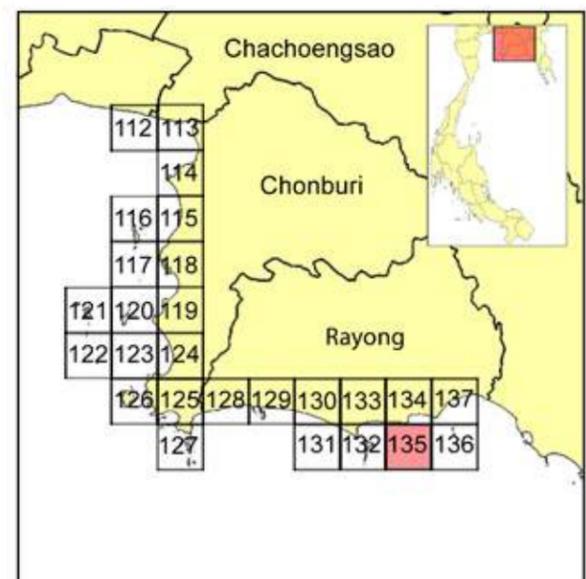
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the islands off the coast of Klaeng District, namely: Ko Pla Tin, Ko Kham, Ko Kruai, Ko Kudi, Ko Khangkhao and Ko Talu, with areas of about 1 km², 0.423 km², 0.456 km², 1.501 km², 0.337 km² and 1.437 km², respectively.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Coral reefs along the coasts of the islands are dominated with *Porites* and *Acropora* species. Coral reefs are important habitats providing food sources, shelter and nesting and breeding grounds to various marine organisms such as fish, crabs, shrimp, squid, octopus, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Shorebirds, marine mammals and terrestrial mammals can also be found in the area.

Human Use Features

Several white sand beaches along the coasts of the islands are visited by tourists. Subsistence fishing is done on coastal waters and artificial reefs in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

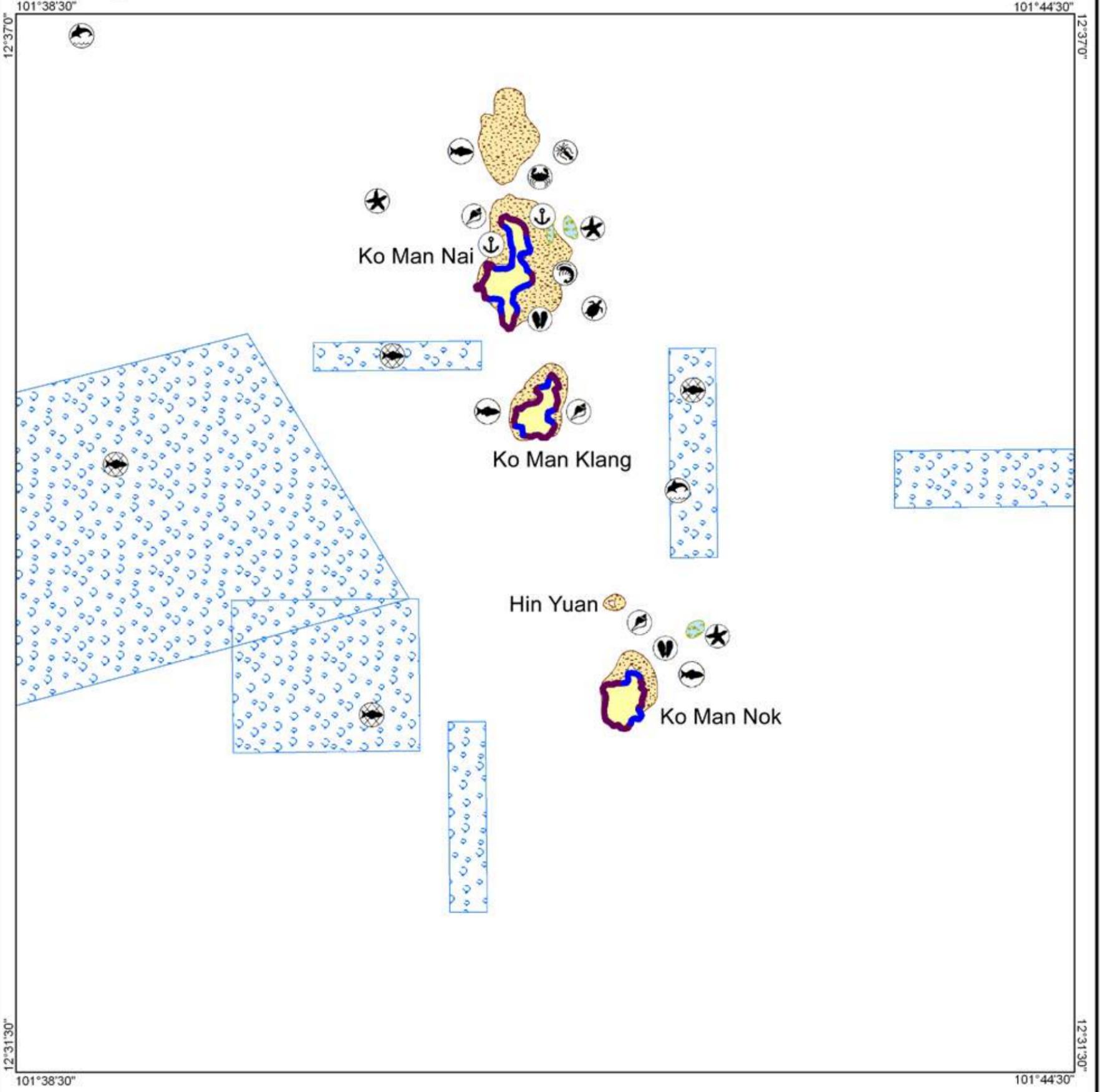
Special Issue

Islands in the area belong to Khao Laem Ya–Mu Ko Samet National Park, which was established on 1 October 1981. The national park covers 131 km² of terrestrial and marine areas, including the islands of Ko Samet, Ko Chan, Ko Kudi, Ko Kruai, Ko Kham, Ko Pla Tin, Ko Talu and Ko Khangkhao.

Within the national park, dry evergreen forests on the mainland and island areas and beach forests along the coasts are important habitats for various animals, such as small terrestrial wildlife, birds, reptiles and amphibians. Coral reefs within the park provide habitats for marine organisms. These reefs are popular diving sites as well, attracting many tourists to visit the national park each year.

Rayong Province

Thailand - 136



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Seagrass Beds

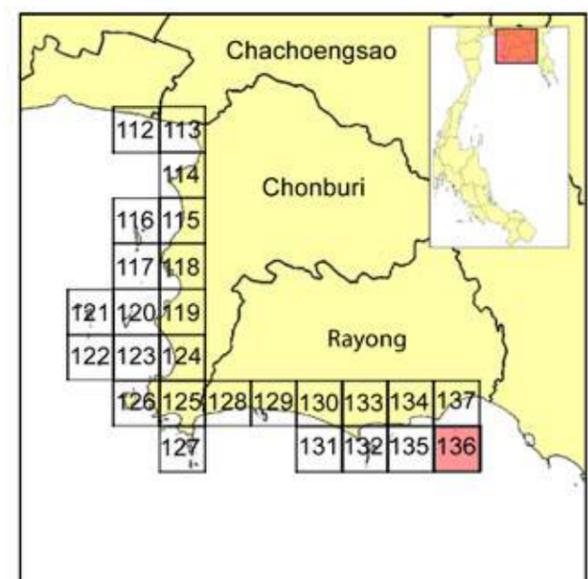
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus
- Turtle

Human-Use/ Oil Spill Response Resources

- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area covers the islands off the coast of Klaeng District, namely: Ko Man Nai, Ko Man Klang and Ko Man Nok, with areas of 3.361 km², 2.006 km² and 2.003 km², respectively. The area also includes Hin Yuan, an underwater pinnacle.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Patches of seagrass beds on sandy substrates near Ko Man Nai and Ko Man Nok consist of two dominant species, *Enhalus acorides* and *Halophila ovalis*. Coral patches along Ko Man Nai and Ko Man Klang and coral reefs along Ko Man Nok are dominated with *Porites*, *Pavona*, *Symphyllia* and *Diploastrea* species. Both seagrass beds and coral reefs are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found within sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals and sea turtles can also be found in the area.

Human Use Features

Several white sand beaches along the coasts of the islands, especially in Ko Man Nai and Ko Man Nok, have accommodations available for tourists.

Subsistence fishing is done on coastal waters and artificial reefs in the area. Fishing ports are situated in Ko Man Nai.

Oil Spill Response Resources

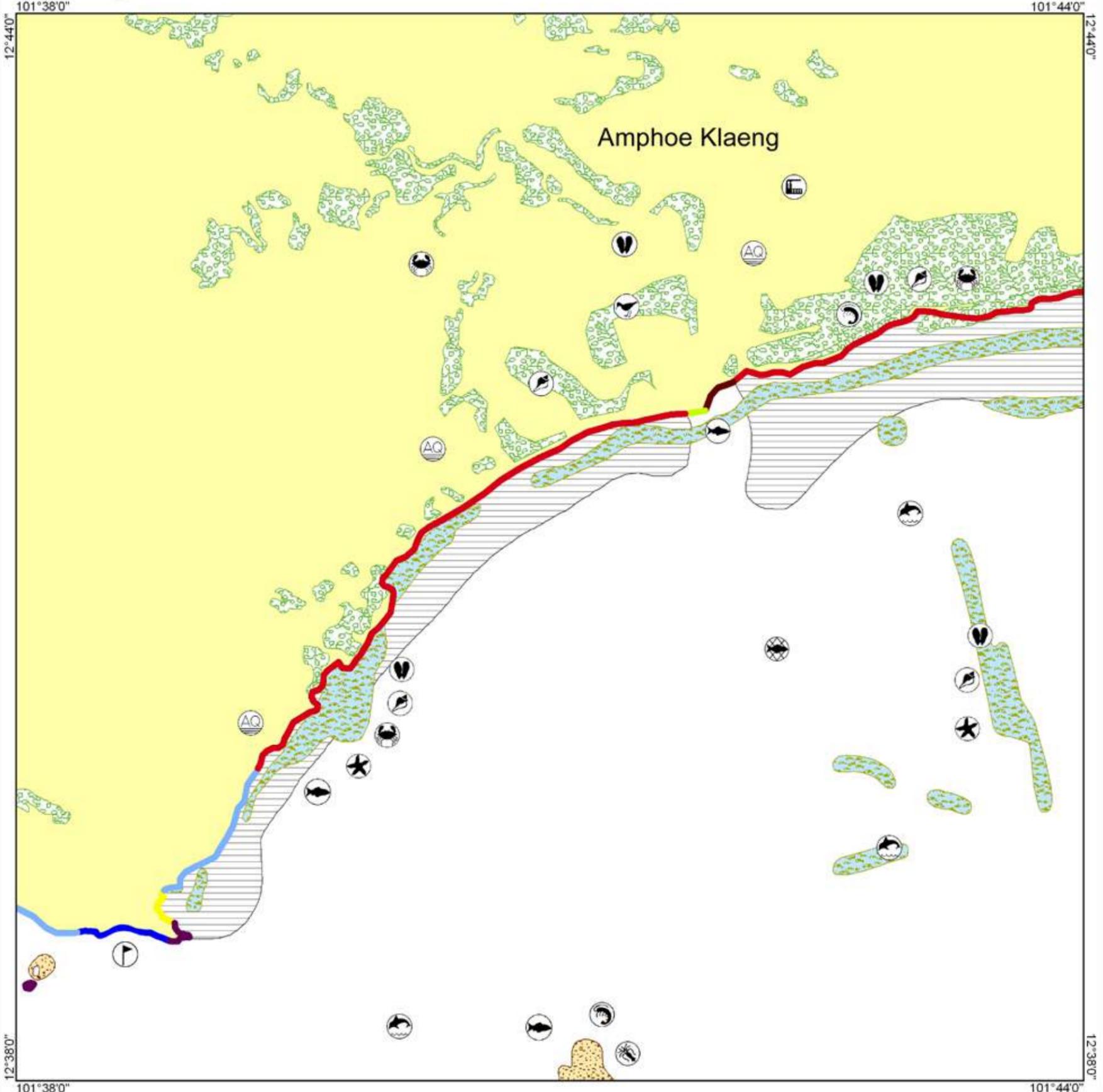
There is no oil spill response resource in the area.

Special Issue

The Sea Turtle Conservation Station is a sea turtle hatchery and research station in Ko Man Nai. The station was under the Department of Fisheries since 1985 until the Department of Marine and Coastal Resources of the Ministry of Natural Resources and Environment became its new administrator in 2003. The station operates through a collaboration with the Royal Thai Navy. The station also serves as a hospital for stranded or injured sea turtles.

Rayong Province

Thailand - 137



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 6B
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

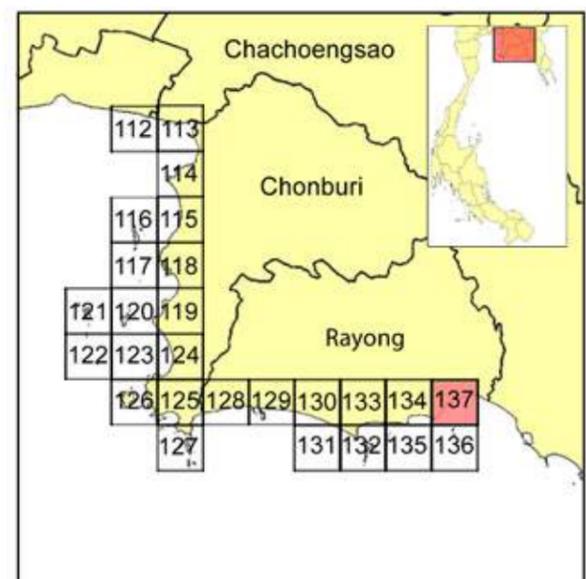
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

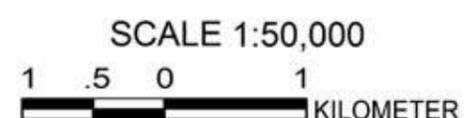
- Aquaculture
- Beach
- Factory
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the delta region of Prasae River, one of the important bodies of water in eastern Thailand. The river flows out into the western coast of Ao Makham Pom in Klaeng District.

Shoreline

Along the coast in the area are mangroves (ESI 10B), rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3) and coarse-grained sand beaches (ESI 4) along the western shores of the bay; and ripraps (ESI 6B) and exposed tidal flats (ESI 7) near the mouth of Prasae River.

Biological Resources

Fringing and riverine mangrove forests in Ao Makham Pom, covering a total area of 10.6 km², are considered the second largest in eastern Thailand. About 2.94 km² of seagrass beds along the bay are dominated with *Halodule uninervis*, *Halodule pinifolia*, *Halophila decipiens* and *Halophila minor*. Coral patches are also located near Ko Man Nai and host a variety of marine species, such as sea anemones, sponges and soft corals. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Abundant mangroves and seagrass beds in the area are important resources for subsistence fishing, as well as aquaculture. Large areas of mangrove forests have been cleared to accommodate shrimp farming. Shrimp ponds can also be found along Prasae River and other small canals.

Oil Spill Response Resources

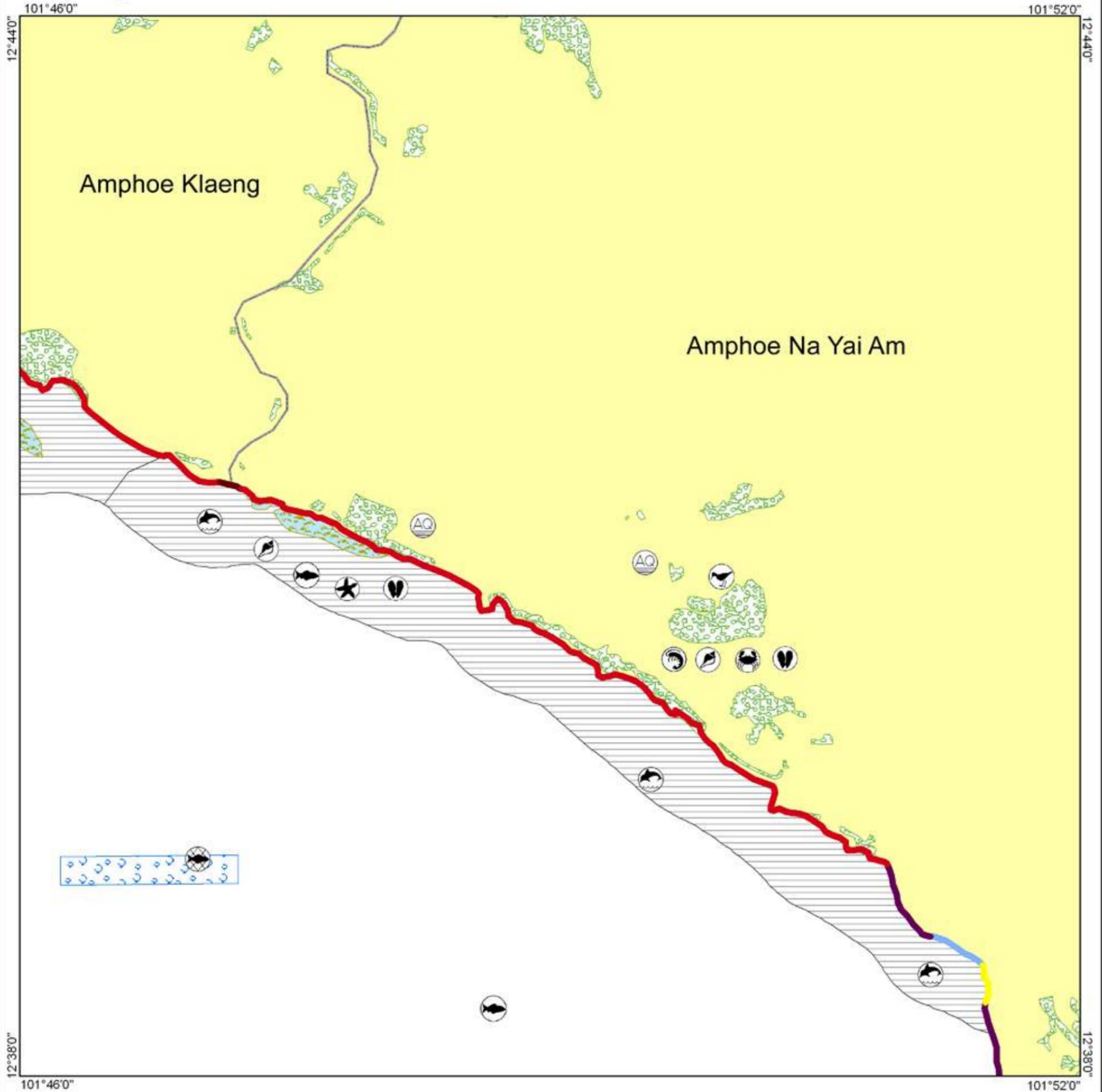
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Rayong - Chanthaburi Province

Thailand - 138



Shoreline Classification

- ESI 1
- ESI 4
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

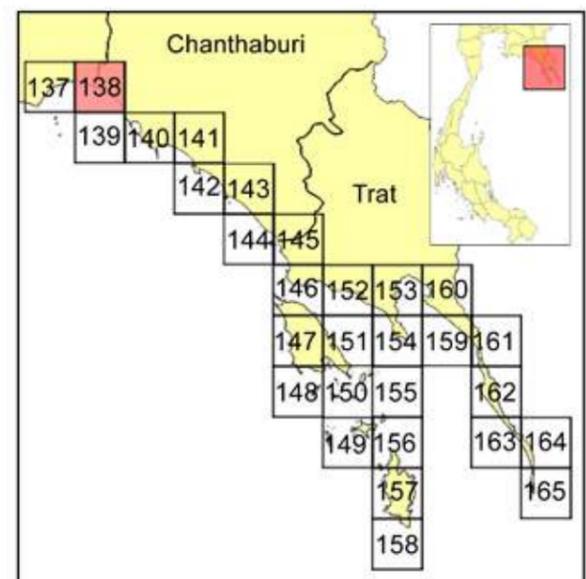
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp

Human-Use/ Oil Spill Response Resources

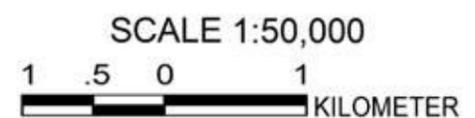
- Aquaculture
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
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 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Klaeng District of Rayong Province and Na Yai Am District of Chanthaburi Province. The area also includes the eastern coast of Ao Makham Pom, where Phangrad River discharges into the bay.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); coarse-grained sand beaches (ESI 4); exposed tidal flats (ESI 7); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

Fringing and riverine mangrove forests in Ao Makham Pom, covering an area of 10.6 km², are considered the second largest in eastern Thailand. About 2.94 km² of seagrass beds along the bay are dominated with *Halodule uninervis*, *Halodule pinifolia*, *Halophila decipiens* and *Halophila minor*. Both mangroves and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Abundant mangroves, seagrass beds and artificial reefs in the area are important resources for subsistence fishing, as well as aquaculture. Large areas of mangrove forests have been cleared to accommodate shrimp farming. Shrimp ponds can also be found along Phangrad River and other small canals.

Oil Spill Response Resources

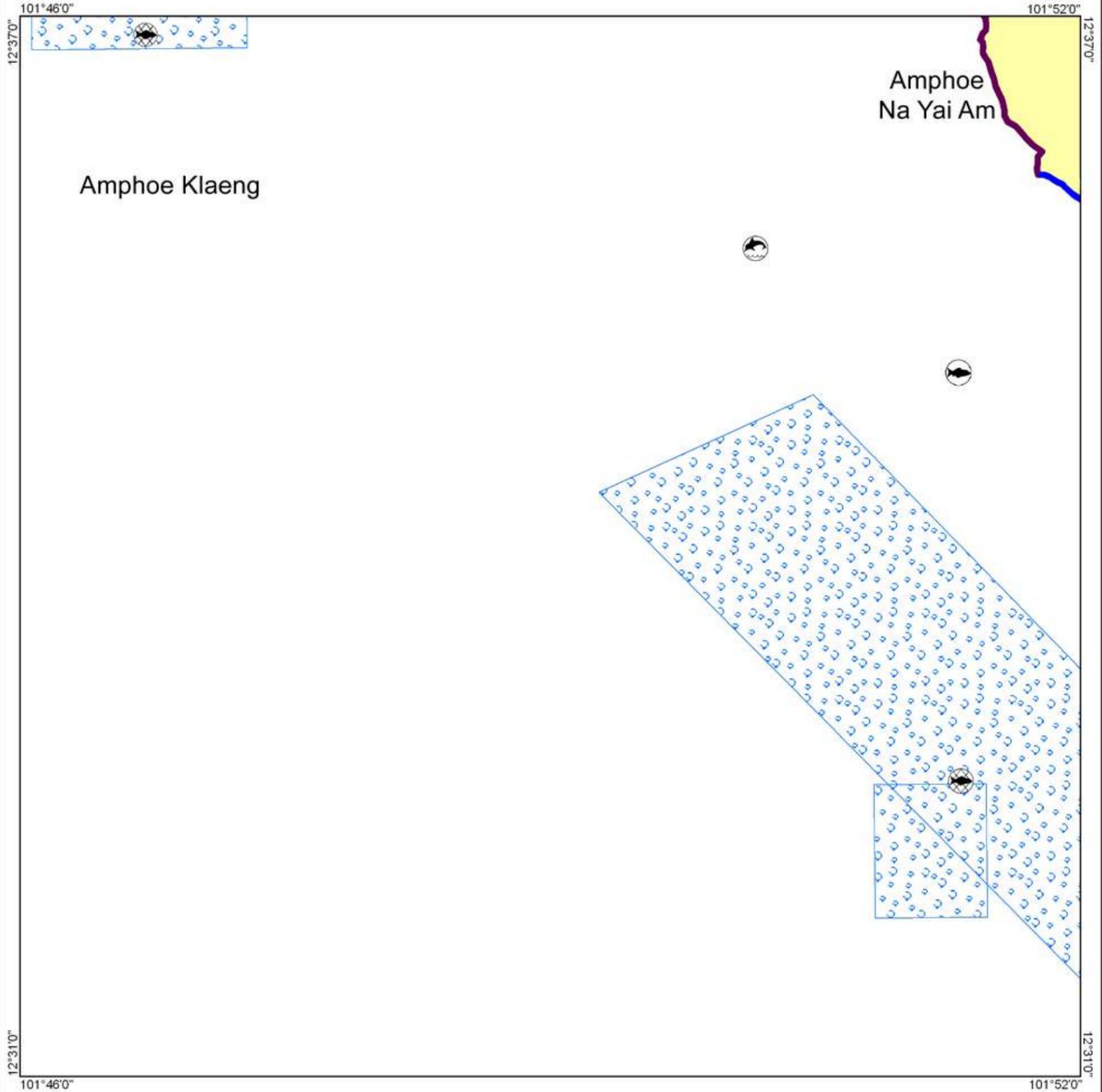
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chanthaburi Province

Thailand - 139



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef

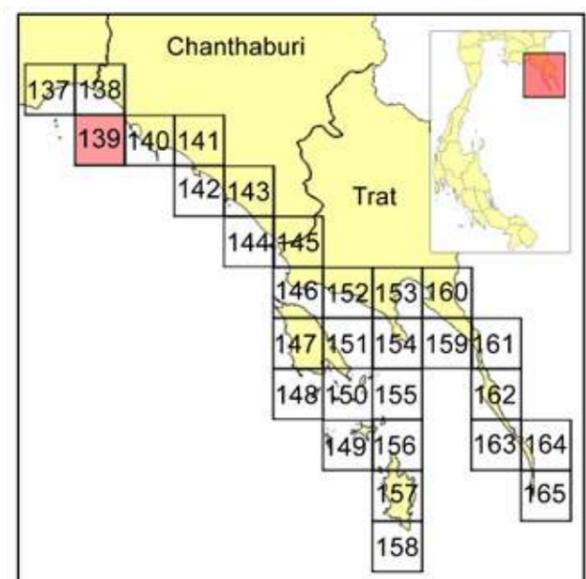
Biological Resources

- Fish/Nursery Area
- Marine Mammal

Human-Use/ Oil Spill Response Resources

- Subsistence Fishing

Location of Map



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SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area is located in Na Yai Am District. Its neighboring districts include Klaeng of Rayong Province and Kaeng Hang Maeo and Tha Mai of Chanthaburi Province.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Some marine organisms, especially benthic organisms, can be found on sandy and rocky substrates, while fish communities can be found in pelagic waters.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Artificial reefs in the area provide more fishing grounds for local communities and are important shelter and habitats for various marine species.

Oil Spill Response Resources

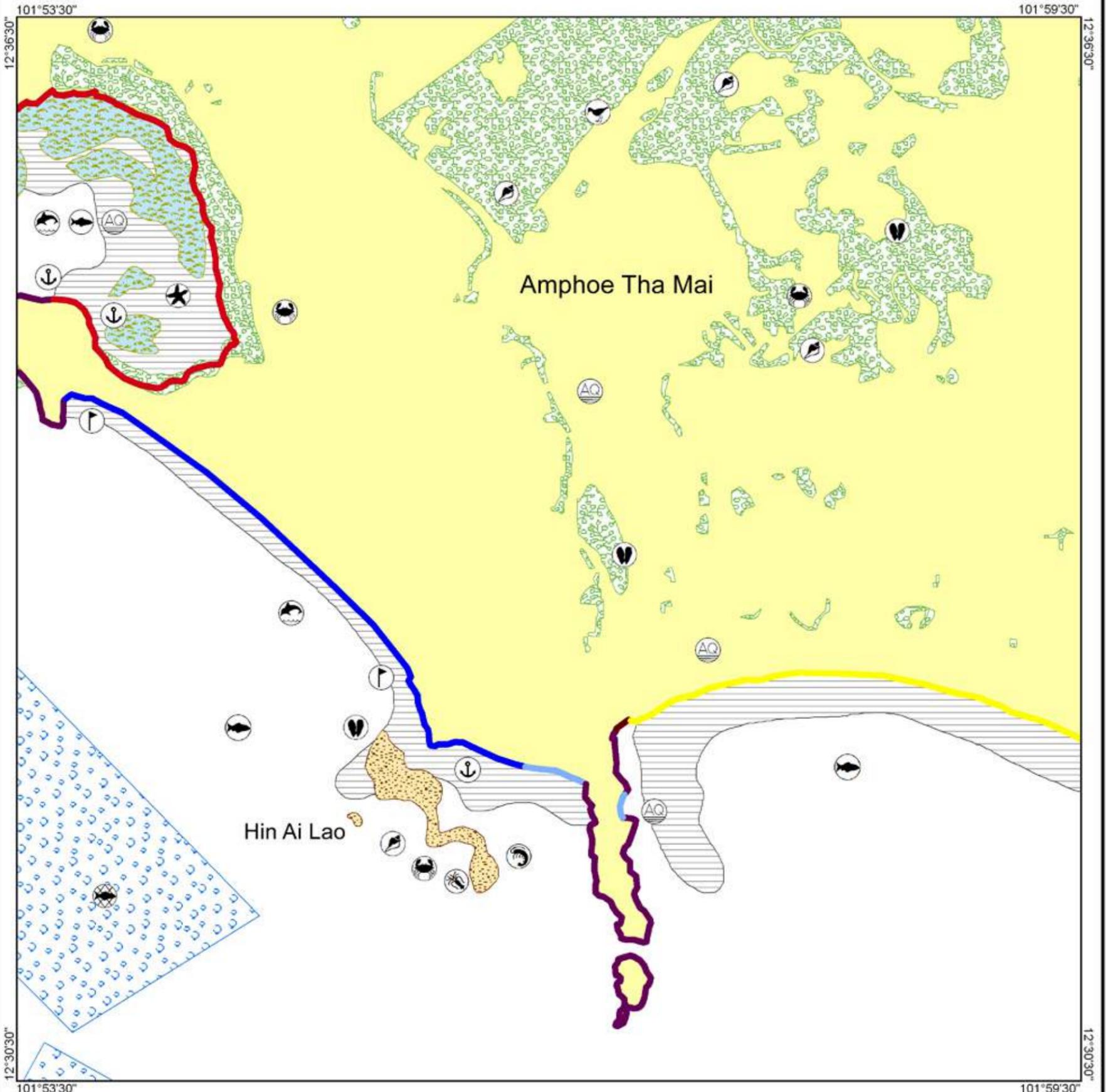
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chanthaburi Province

Thailand - 140



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

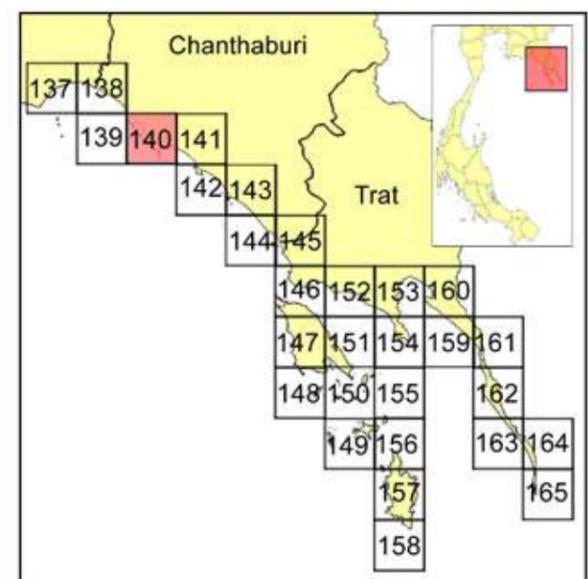
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

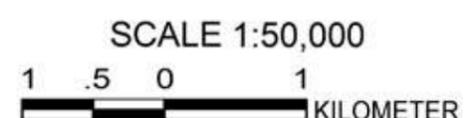
- Aquaculture
- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Tha Mai District. Its neighboring districts include Na Yai Am, Kaeng Hang Maeo, Khao Khitchakut, Mueang Chanthaburi and Laem Sing. The area also includes Ko Chong Saba, with an area of 0.049 km²; and Hin Ai Lao, an underwater pinnacle with an area of 0.526 km².

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), exposed tidal flats (ESI 7), sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B) along Ao Kung Krabaen.

Biological Resources

Dense fringing mangrove forests, with a total area of 1.104 km², are present along Ao Kung Krabaen, while riverine mangrove forests are situated along Khlong Wang Ta Not, Khlong Tha Mai and Khlong Ramphaen canals. About 1.6 km² of seagrass beds along the bay are dominated with *Halodule uninervis*, *Halodule pinifolia*, *Halophila decipiens* and *Halophila minor*. Coral reefs located 300 to 1,300 m off the coast of Hat Chao Lao and Hin Ai Lao are dominated with *Porites*, *Diploastrea*, *Pavona*, *Lobophytum*, *Favia*, *Favitus* and *Platygyra* species. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, gastropods, bivalves, echinoderms and shorebirds. Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs. Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Chao Lao in Khlong Khut Subdistrict is well known for its 10-km-long light brown sand beach lined with coconut trees and fringing reefs near its coast.

Abundant mangroves, seagrass beds and artificial reefs in the area are important resources for subsistence fishing, as well as aquaculture. Large areas of mangrove forests have been cleared to accommodate shrimp farming. Shrimp ponds can also be found along canals.

Fishing ports are also situated along Ao Kung Krabaen and Hat Chao Loa.

Oil Spill Response Resources

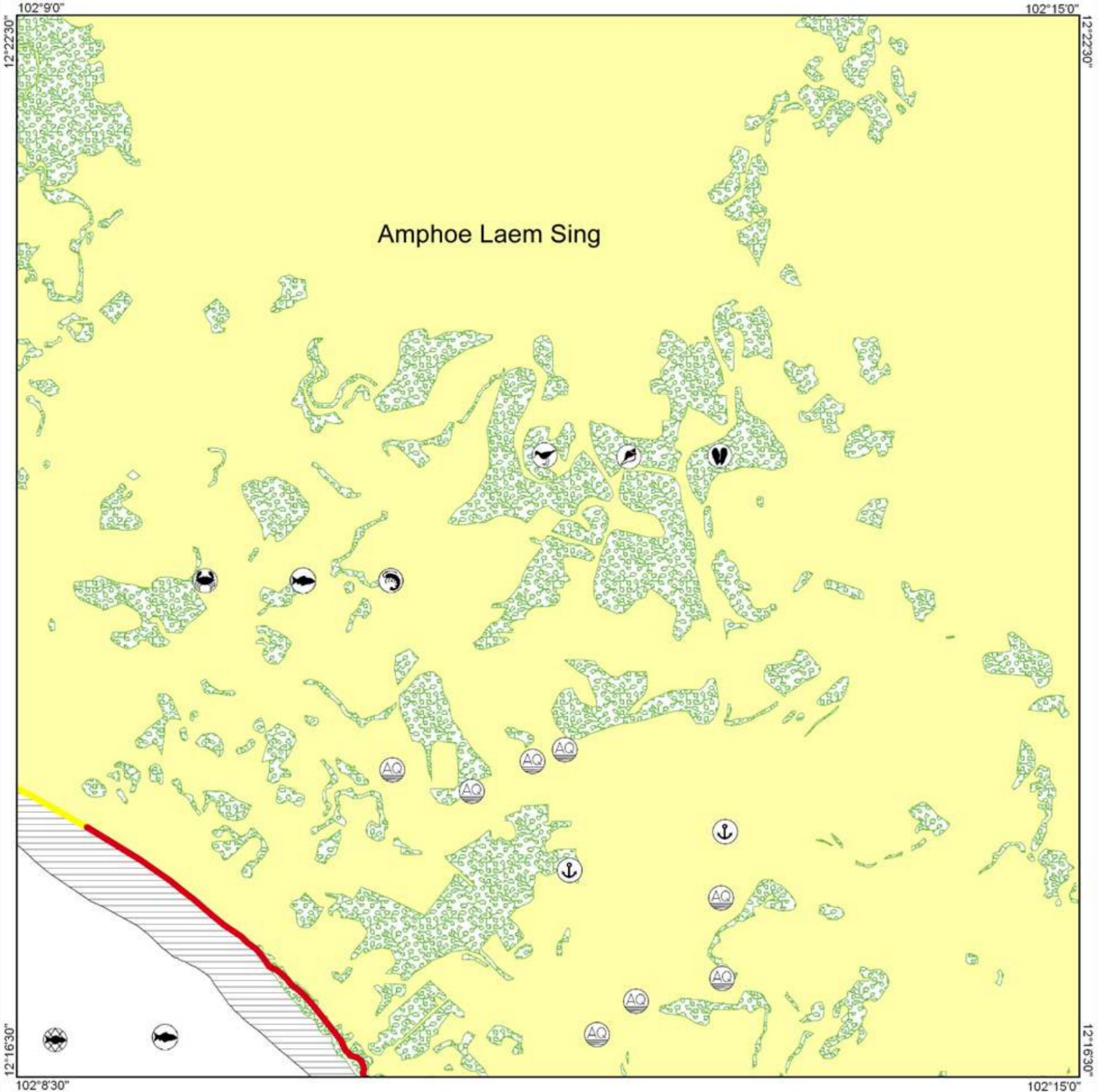
There is no oil spill response resource in the area.

Special Issue

About 18.19 km² of the vicinity of Ao Kung Krabaen was declared as a Non-Hunting Area on 21 July 1999. The Kung Krabaen Bay Royal Development Study Centre was established in the area to promote effective management of coastal fisheries and aquaculture, as well as to enhance integrated environmental management and conservation within these areas.

Chanthaburi Province

Thailand - 141



Shoreline Classification

- █ ESI 8
- █ ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

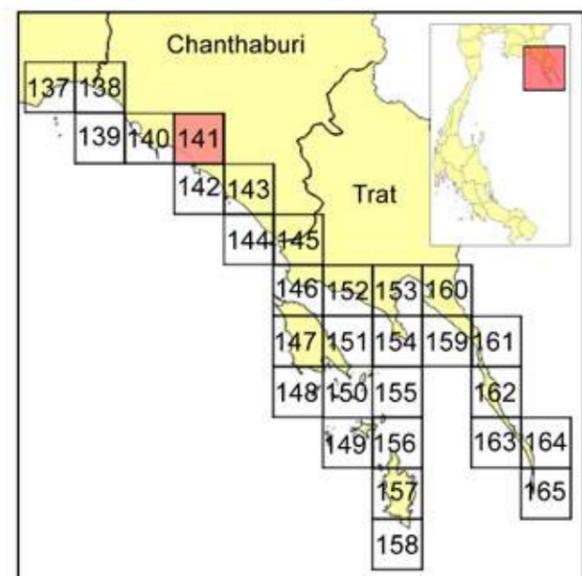
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Laem Sing District. Its neighboring districts include Tha Mai, Mueang Chanthaburi and Khlung. Chanthaburi River, the main river in the province, has many tributaries and has a total length of 123 km.

Shoreline

Along the coast in the area are exposed sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Large areas of riverine mangrove forests are situated along Khlong Ramphaen, a tributary of Chanthaburi River, while small patches of fringing reefs are present along the muddy substrates on the eastern part of Ao Mu Yai. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy and sandy substrates or even attached on man-made structures, while fish communities can be found in coastal waters.

Human Use Features

Abundant mangroves in the area provide important resources for fisheries and aquaculture. Aquaculture is prominently practiced in large areas inland next to fringing and riverine mangroves. Large areas of mangroves have been cleared to accommodate shrimp farming and other purposes. Also, fishing ports are situated along Chanthaburi River.

Oil Spill Response Resources

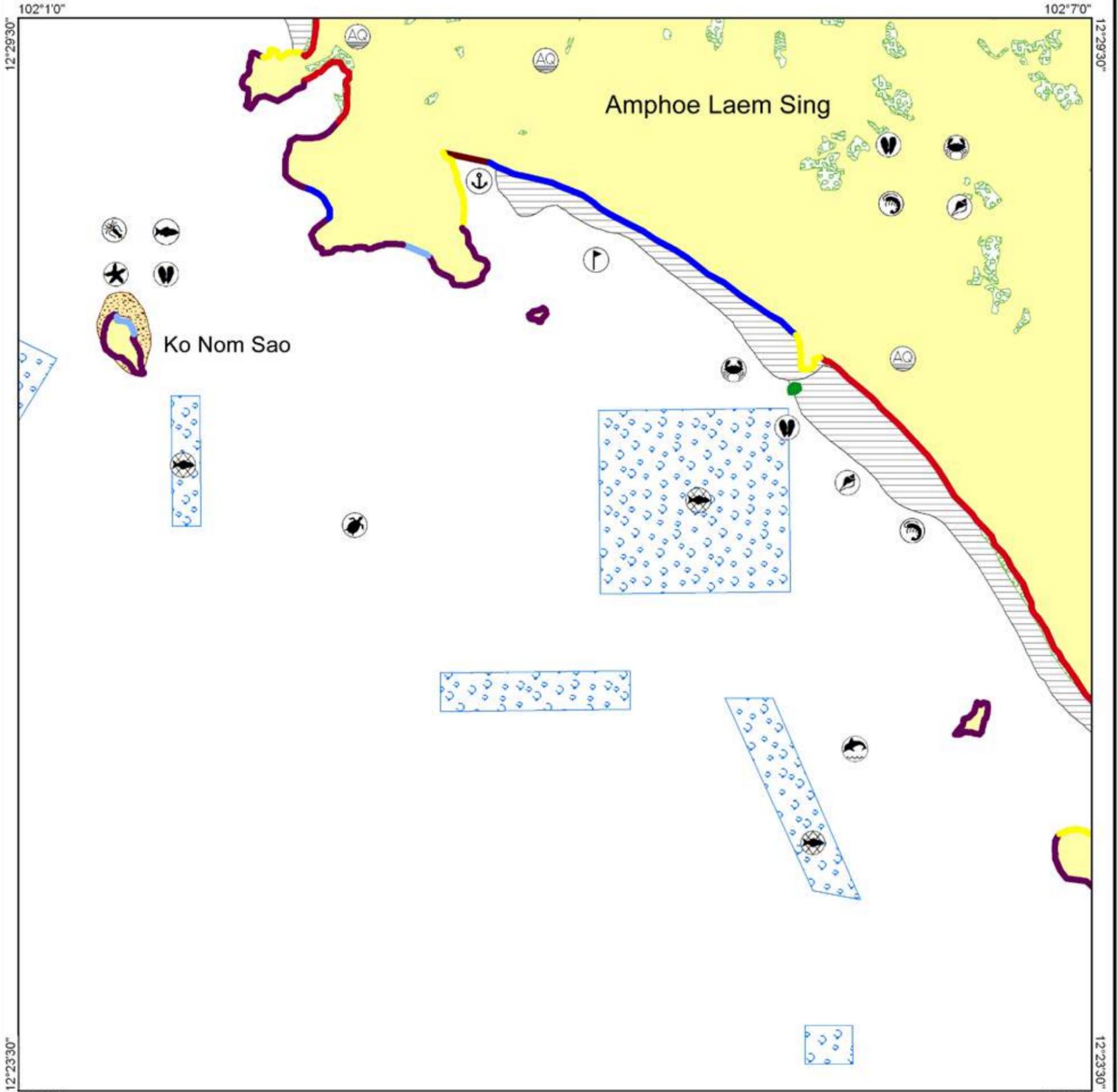
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Chanthaburi Province

Thailand - 142



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 6A
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Tidal Flats

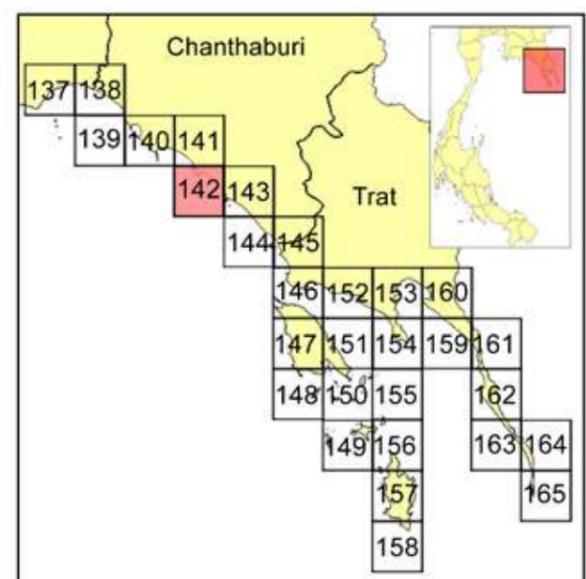
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus
- Turtle

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Fishing Port
- Subsistence Fishing

Location of Map



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Not for Navigation



SCALE 1:50,000



General Information

This area is located in Laem Sing District. The area also includes Chanthaburi River and three islands off the coast, namely: Ko Nom Sao, Ko Chula and Ko Nang Rum, with areas of 0.149 km², 0.026 km² and 0.064 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); gravel beaches (ESI 6A); exposed tidal flats (ESI 7); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

Fringing mangrove forests are situated along Ao Mu Noi, while riverine mangrove forests are present along Chanthaburi River and its tributaries, such as Khlong Ao Khun Chai, Khlong Bang Sa Gao and Khlong Phliu. Along Ko Nom Sao are coral reefs 50 to 100 m wide dominated with *Porites*, *Symphyllia*, *Favia* and *Favitus* species. Both mangroves and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Sea turtles and marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Laem Sing is a white sand beach lined with pine trees situated next to Khao Laem Sing cape and the mouth of Chanthaburi River, where fishing ports are also located. Boats going to Ko Nom Sao, Ko Chula and Ko Nang Rum are available for tourists at these ports. A small beach is located on the northern coast of Ko Nom Sao, but tourist facilities are not yet available.

Abundant mangroves in the area provide important resources for fisheries and aquaculture. Aquaculture is prominently practiced in large areas inland next to fringing and riverine mangroves. Large areas of mangroves have been cleared to accommodate shrimp farming and other purposes. Subsistence fishing is also done on coastal waters and artificial reefs.

Oil Spill Response Resources

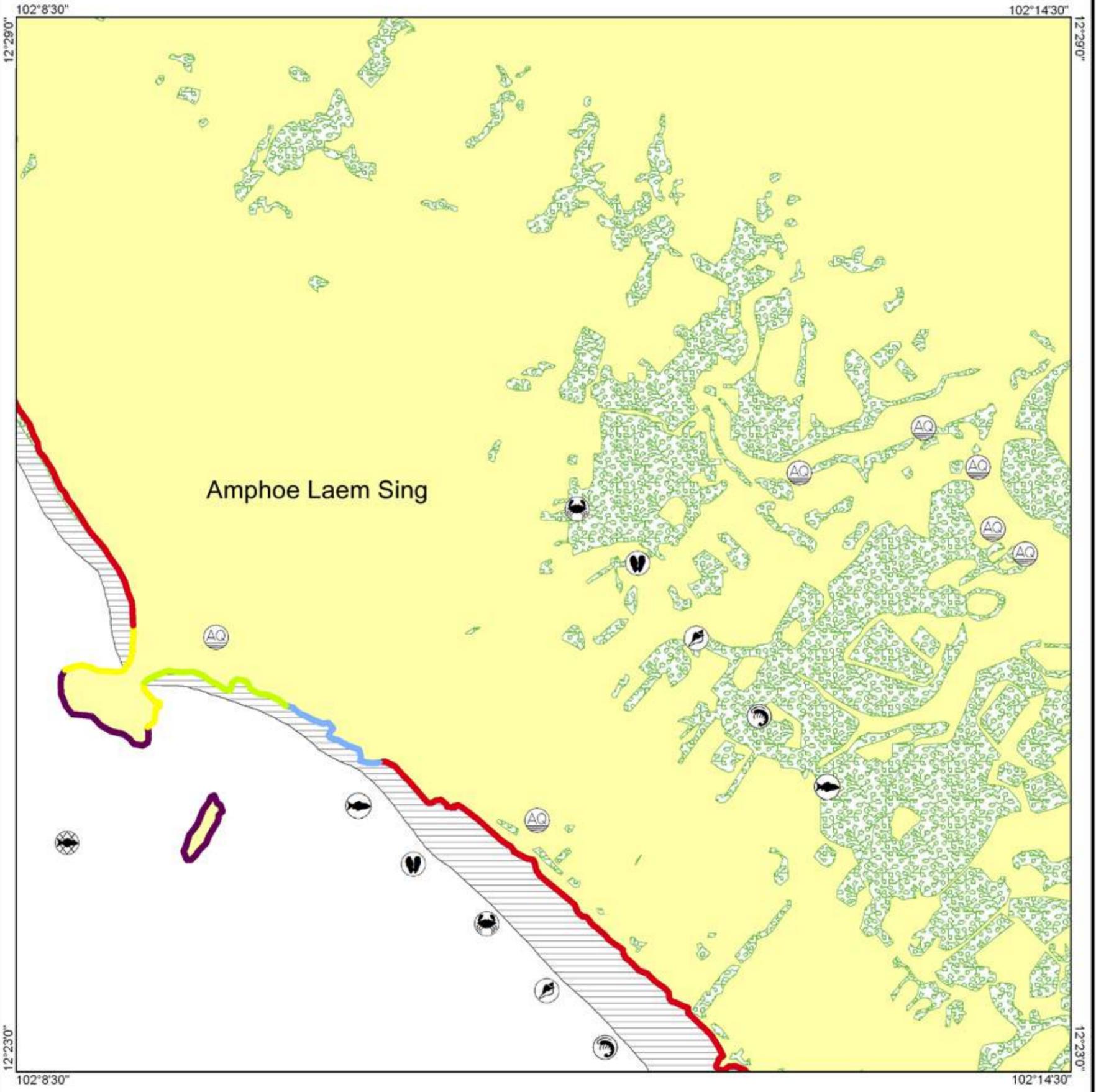
There is no oil spill response resource in the area.

Special Issue

The area forms part of Khao Laem Sing Forest Park established on 25 October 1983. The park covers 15.2 km² of mainland area, including the mangrove forests along Khlong Phliu.

Chanthaburi Province

Thailand - 143



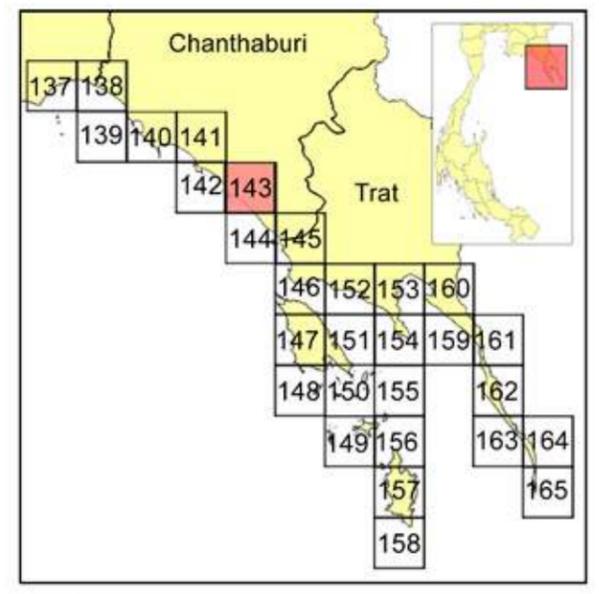
- Shoreline Classification**
- ESI 1
 - ESI 4
 - ESI 6B
 - ESI 8
 - ESI 10B

- Biological Resources**
- Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Shrimp

- Human-Use/ Oil Spill Response Resources**
- Aquaculture
 - Subsistence Fishing

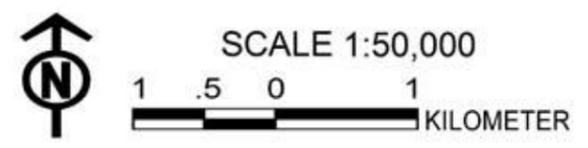
- Biological/Human-Use Areas**
- Mangroves
 - Tidal Flats

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
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Not for Navigation



General Information

This area is located in Laem Sing District. The area also includes Welu River, another important river in Chanthaburi Province, and the island of Ko Kwang with an area of 0.124 km².

Shoreline

Along the coasts in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); coarse-grained sand beaches (ESI 4); ripraps (ESI 6B); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

Fringing mangrove forests are present along the exposed shoreline, while riverine mangrove forests are located along Welu River and its tributaries. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods and bivalves.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Most areas along the coast, Welu River and canals are occupied with aquaculture sites, such as shrimp and fish ponds. Subsistence fishing is also done on coastal waters in the area.

Oil Spill Response Resources

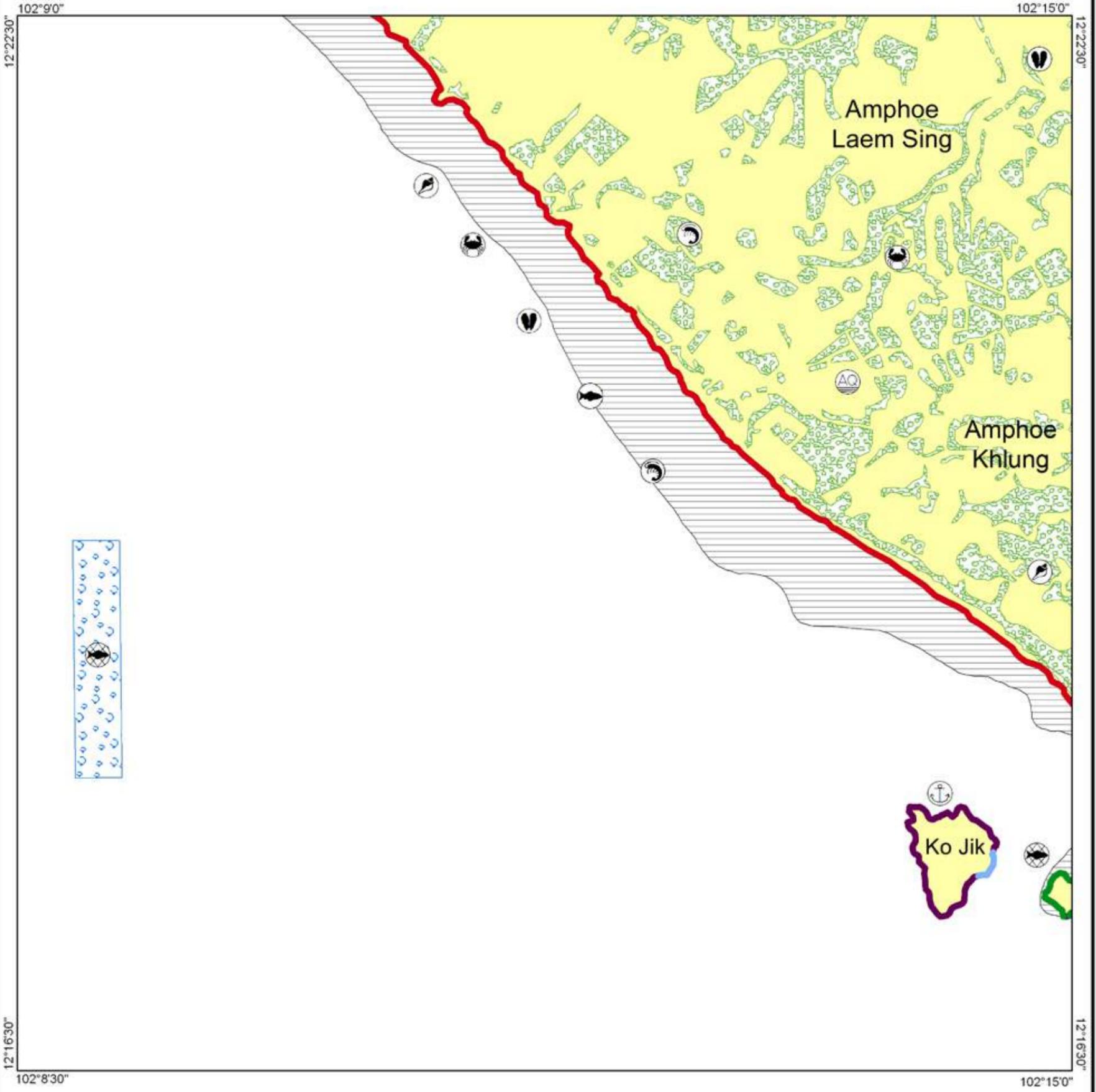
There is no oil spill response resource in the area.

Special Issue

This is no special issue in the area.

Chanthaburi Province

Thailand - 144



Shoreline Classification

- ESI 1
- ESI 4
- ESI 6A
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Tidal Flats

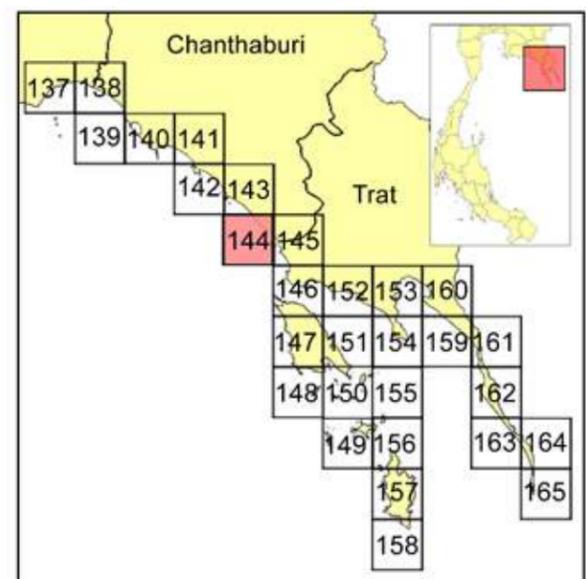
Biological Resources

- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

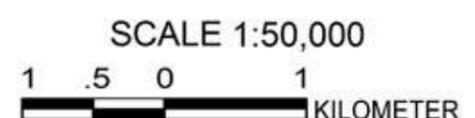
- Aquaculture
- Marina
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Laem Sing District. The area also includes Welu River, another important river in Chanthaburi Province, and the island of Ko Jik with an area of 0.663 km².

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs along Ko Jik (ESI 1), coarse-grained sand beaches (ESI 4), gravel beaches (ESI 6A) and mangroves (ESI 10B).

Biological Resources

Fringing mangrove forests are present along the exposed shoreline, while riverine mangrove forests are located along Welu River and its tributaries. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods and bivalves.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

There are no tourist beaches in the area, but ecotourism is currently being promoted. Homestays and other tourist facilities are generally available along Welu River and on Ko Jik.

Most areas along the coast, Welu River and canals are occupied with aquaculture sites, such as shrimp and fish ponds. Subsistence fishing is also done on coastal waters and artificial reefs in the area.

A marina is situated on the northern coast of Ko Jik.

Oil Spill Response Resources

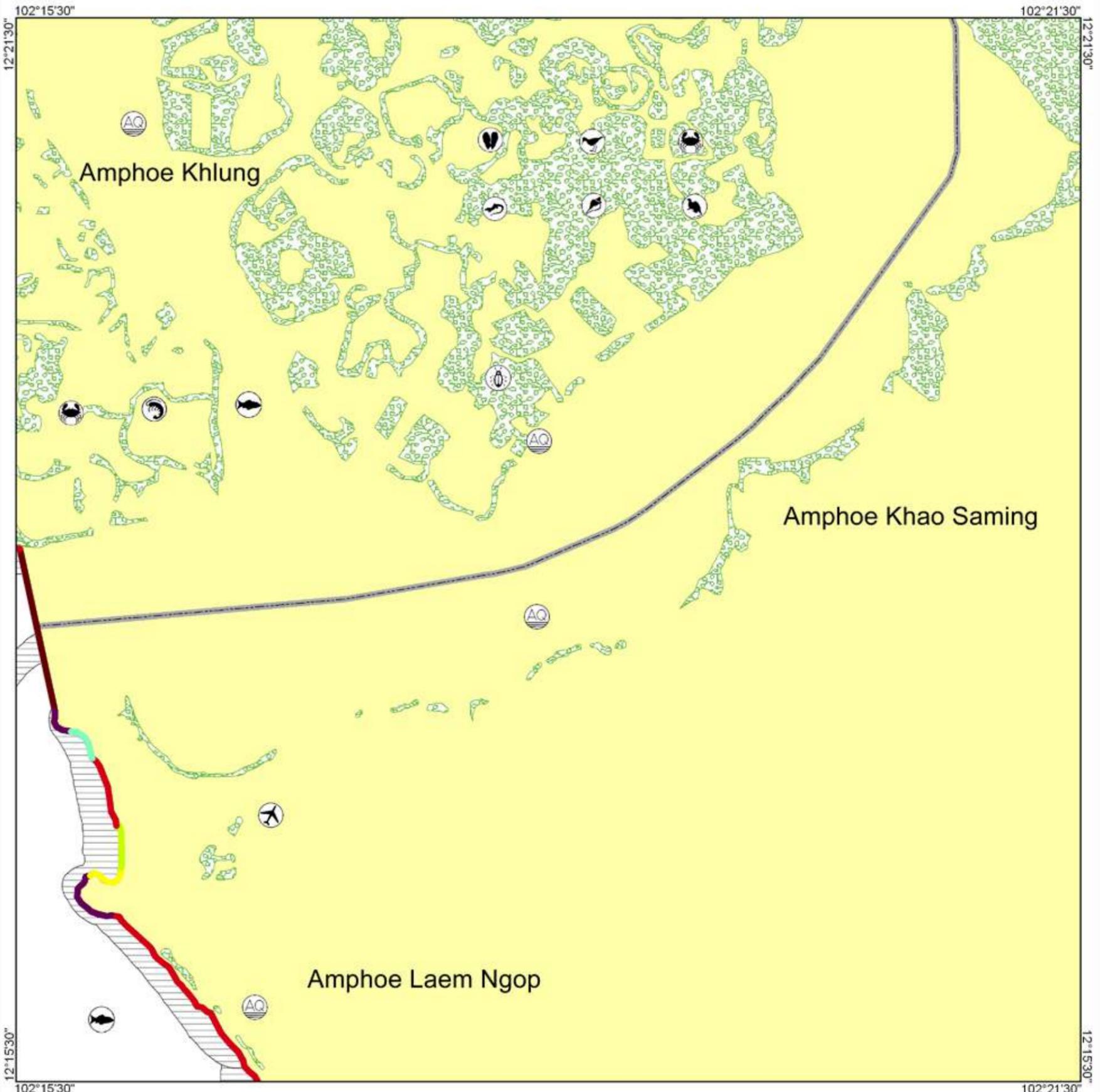
There is no oil spill response resource in the area.

Special Issue

This is no special issue in the area.

Chanthaburi - Trat Province

Thailand - 145



Shoreline Classification

- ESI 1
- ESI 5
- ESI 6B
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flat

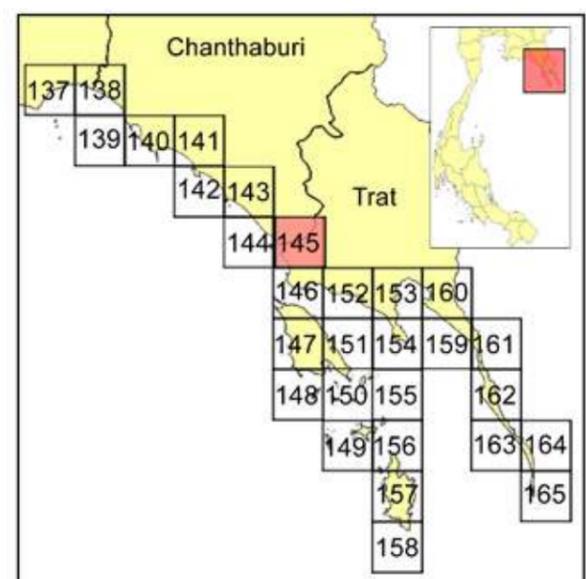
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

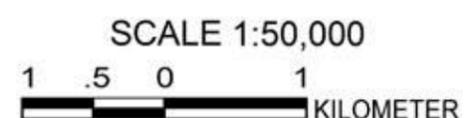
- Airport
- Aquaculture
- Subsistence Fishing

Location of Map



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General Information

This area covers the coastline shared by Khlung District of Chanthaburi Province and Khao Saming District and Laem Ngop District of Trat Province.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); mixed sand and gravel beaches (ESI 5); ripraps (ESI 6B); exposed tidal flats (ESI 7); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

Riverine mangrove forests along Welu River and fringing mangrove forests along the shoreline, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, insects, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal waters.

Human Use Features

Local communities along river and coastal areas are involved in subsistence fishing and aquaculture, especially shrimp farming.

A private airport managed by Bangkok Airways in Laem Ngop District provides as an alternative route for tourists visiting nearby Ko Chang.

Oil Spill Response Resources

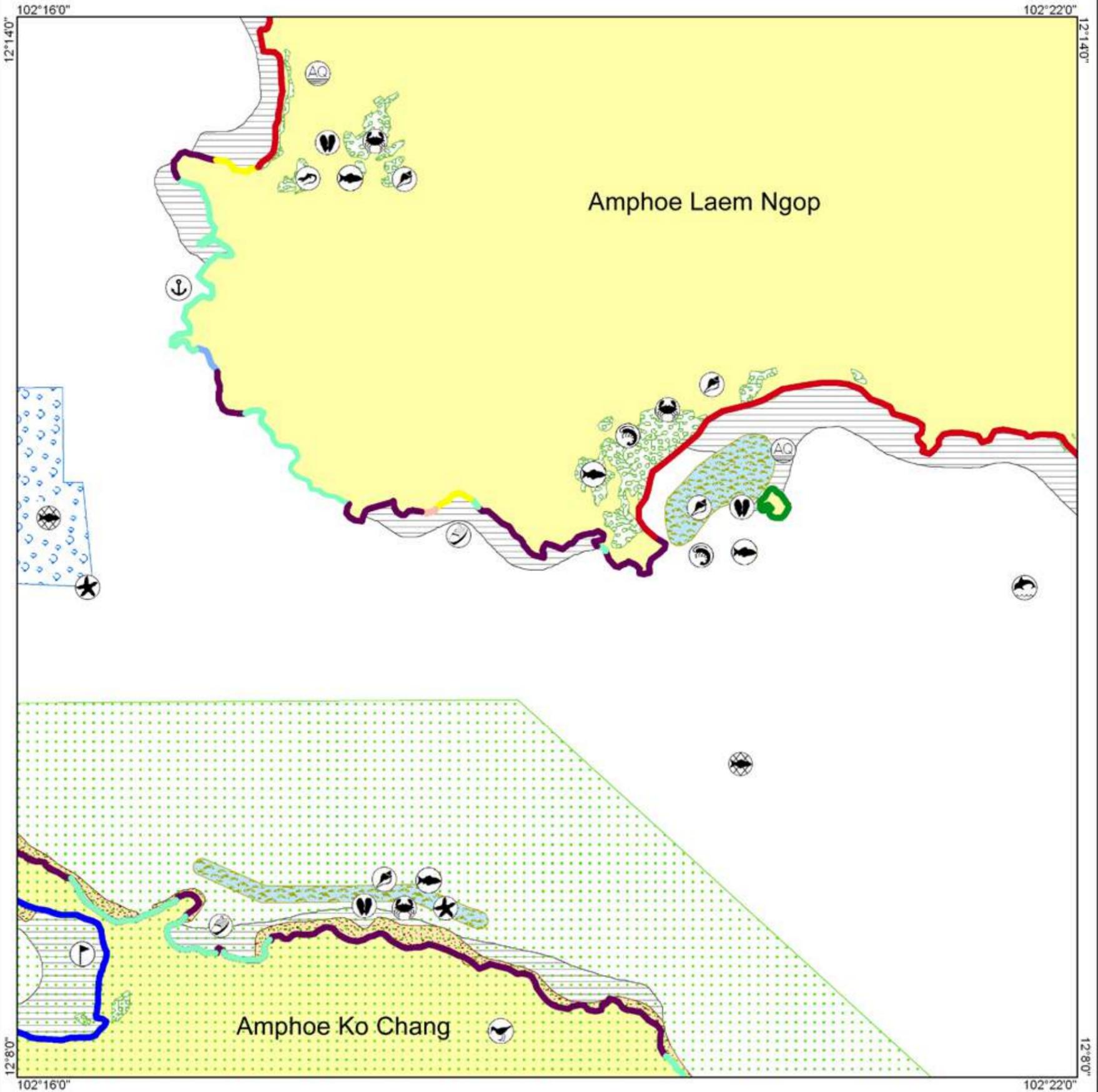
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 146



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 5
- ESI 6A
- ESI 8
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- National Park
- Seagrass Beds
- Tidal Flats

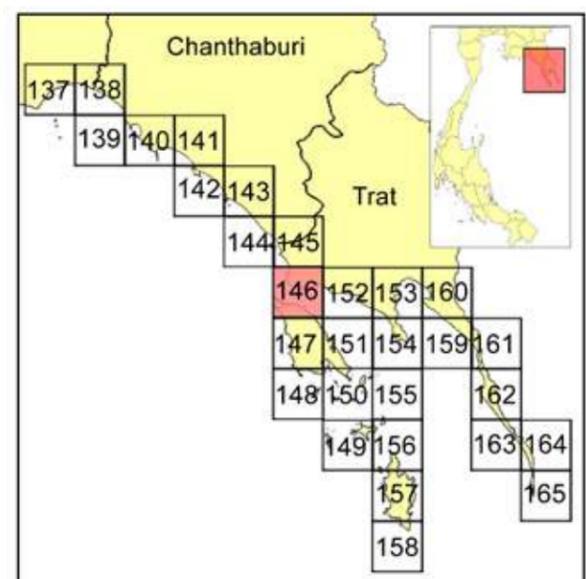
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Ferry
- Fishing Port
- Subsistence Fishing

Location of Map



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SCALE 1:50,000
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 KILOMETER

General Information

This area covers the southern coast of Laem Ngop District and the northern coast of Ko Chang in Ko Chang District. Ko Chang, with an area of 212.404 km², is the largest island in the Mu Ko Chang archipelago in southern Trat Province. The island is composed mostly of granite with many mountain ridges and several summits, such as Khao Lan, Khao Chom Prasat, Khao Khlong Mayom, Khao Salak Phet and Khao Yai, which is the highest peak reaching 743 m above sea level. Ko Chang has many rivers which are fed by the great amount of rainfall. These rivers are very clean and supply water all year round.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5), gravel beaches (ESI 6A), sheltered solid man-made structures (ESI 8), sheltered tidal flats (ESI 9A) and mangroves (ESI 10B). Mangroves mostly dominate Ao Lang Khao and Ao Thammachat in Laem Ngop District. Exposed rocky shores and rocky cliffs alternate with sand beaches on the northern coast of Ko Chang.

Biological Resources

Dense fringing and riverine mangrove forests are present along Ao Thammachat, while patches of mangroves are also present along Ao Lang Khao. Small riverine mangrove forests also grow along Khlong Son on the northern coast of Ko Chang. Seagrass beds along Ao Thammachat and Ao Sabparod on the northern coast of Ko Chang are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing coral reefs are present on most of the islands in Mu Ko Chang and coral communities are also located on off-shore pinnacles. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated by *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Abundant mangroves and seagrass beds in the area provide important resources for fisheries and aquaculture. Aquaculture is prominently practiced in large areas inland next to fringing and riverine mangroves. Large areas of mangroves have been cleared to accommodate shrimp farming and other purposes. Subsistence fishing is also done on coastal waters and artificial reefs.

Fishing ports and ferry ports are also available to support transportation and tourism development in the area.

Oil Spill Response Resources

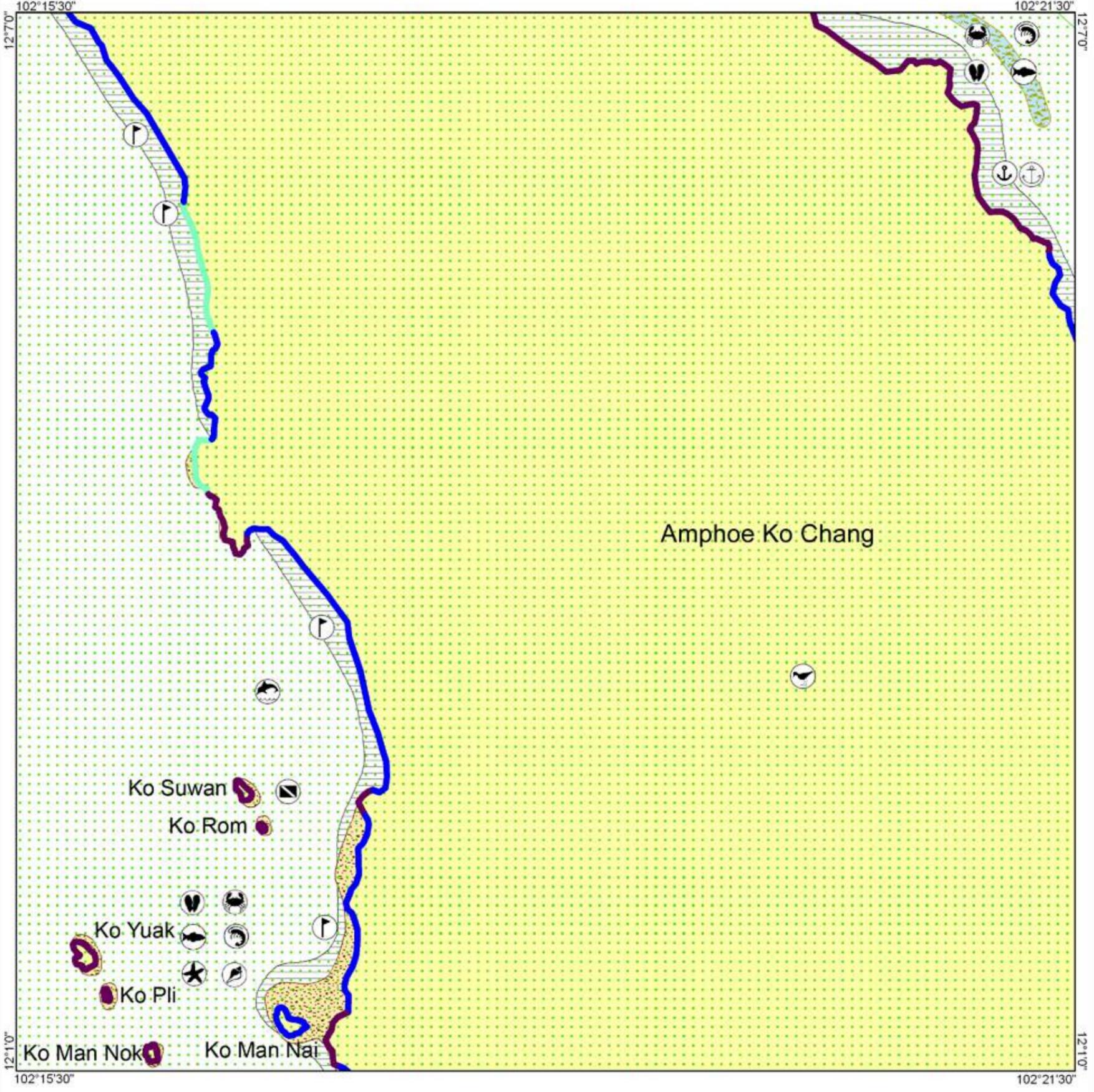
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 147



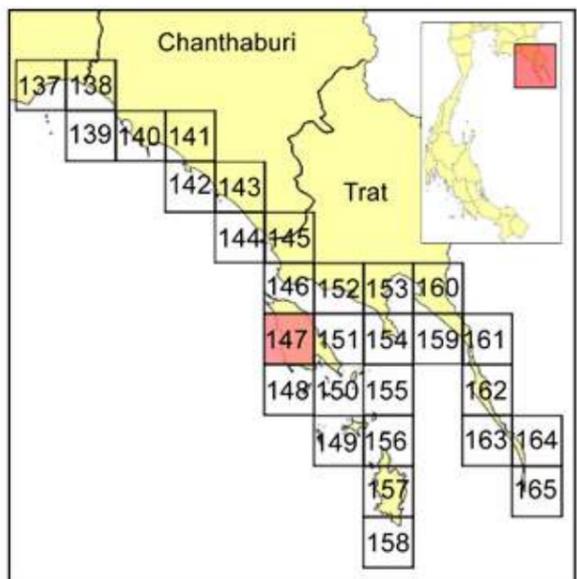
- Shoreline Classification**
- ESI 1 (Purple line)
 - ESI 3 (Blue line)
 - ESI 5 (Green line)

- Biological/Human-Use Areas**
- Coral Reef (Yellow stippled pattern)
 - National Park (Green dotted pattern)
 - Seagrass Beds (Blue wavy pattern)
 - Tidal Flats (White wavy pattern)

- Biological Resources**
- Bird (Bird icon)
 - Bivalve (Bivalve icon)
 - Crab (Crab icon)
 - Echinoderm (Star icon)
 - Fish/Nursery Area (Fish icon)
 - Gastropod (Gastropod icon)
 - Marine Mammal (Whale icon)
 - Shrimp (Shrimp icon)

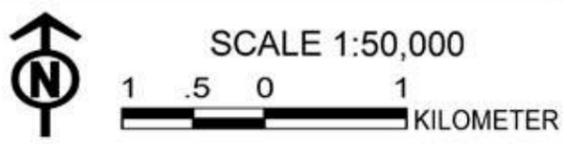
- Human-Use/ Oil Spill Response Resources**
- Beach (Flag icon)
 - Diving (Diver icon)
 - Fishing Port (Anchor icon)
 - Marina (Anchor icon)

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the middle section of Ko Chang, the largest island in the Mu Ko Chang archipelago in southern Trat Province. The island is composed mostly of granite with many mountain ridges and several summits, such as Khao Lan, Khao Chom Prasat, Khao Khlong Mayom, Khao Salak Phet and Khao Yai, which is the highest peak reaching 743 m above sea level. Ko Chang has many rivers which are fed by the great amount of rainfall. These rivers are very clean and supply water for all year round. The area also includes nearby islands, namely: Ko Suwan, Ko Rom, Ko Yuak, Ko Pli, Ko Man Nok and Ko Man Nai, with areas of 0.016 km², 0.008 km², 0.06 km², 0.011 km², 0.023 km² and 0.065 km², respectively.

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Seagrass beds along the coast of Ao Sabparod are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing coral reefs are present along the coasts of the islands. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated by *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Both seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Sai Khaw and Hat Kai Bae are well known for their long stretches of white sand beaches. Tourist facilities, such as accommodations, restaurants, a tourist information center and other infrastructures, are available in the area.

Various tourism-related businesses are growing, such as diving tours, spas and boat rentals. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Ports are available in the area to support transportation and tourism development in Mu Ko Chang.

Oil Spill Response Resources

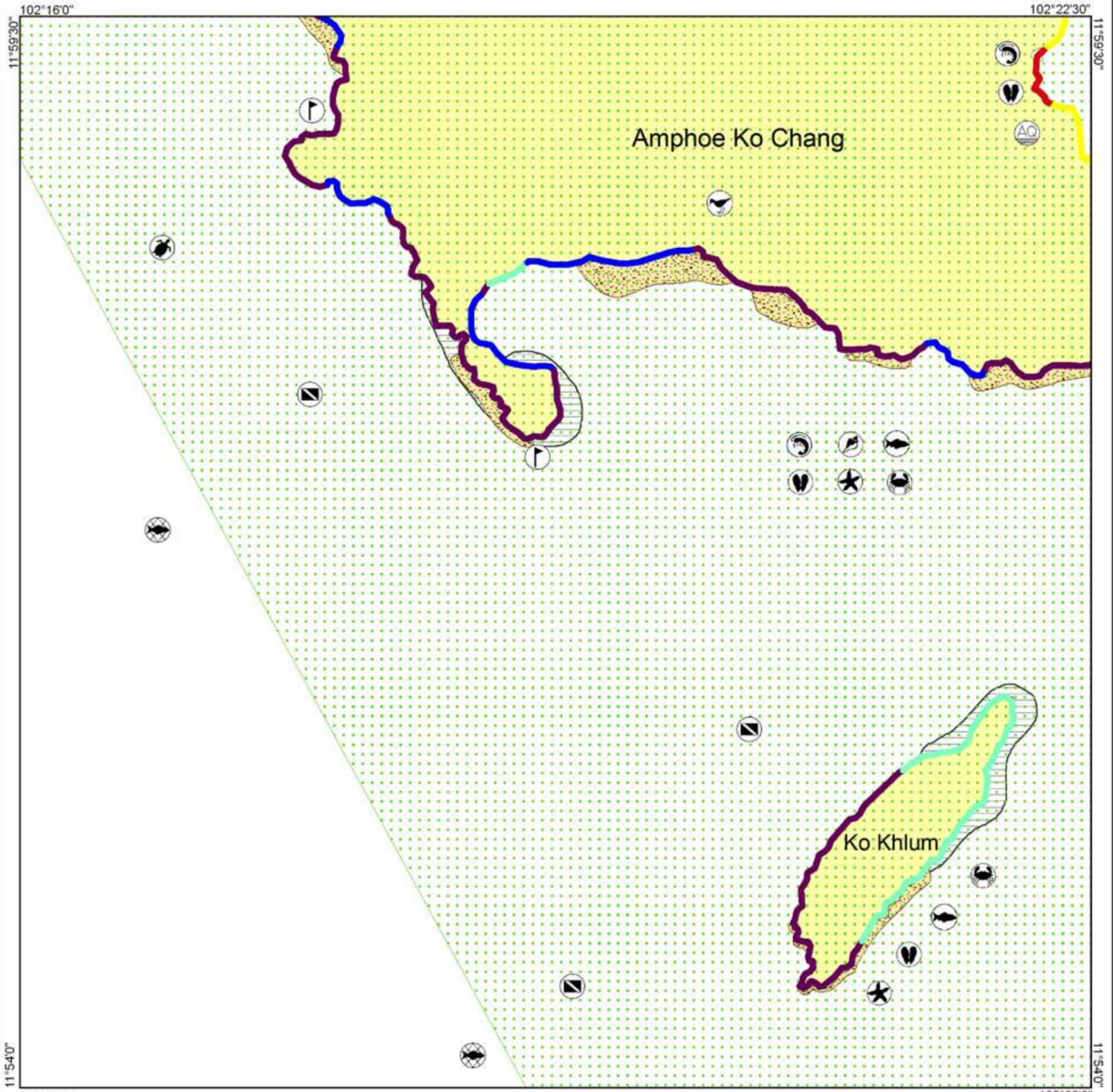
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 148



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- National Park
- Tidal Flats

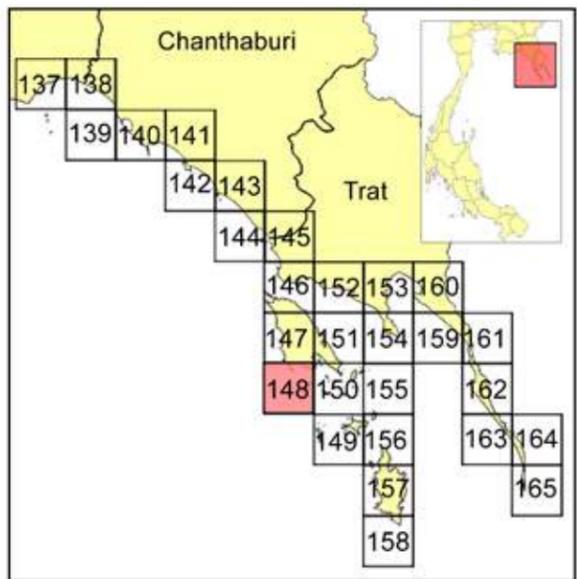
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Turtle

Human-Use/Oil Spill Response Resources

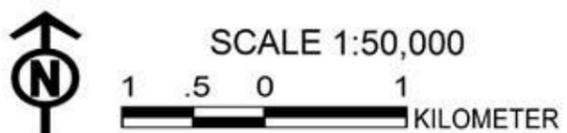
- Beach
- Diving
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the southern coast of Ko Chang, the largest island in the Mu Ko Chang archipelago in southern Trat Province. The island is composed mostly of granite with many mountain ridges and several summits, such as Khao Lan, Khao Chom Prasat, Khao Khlong Mayom, Khao Salak Phet and Khao Yai, which is the highest peak reaching 743 m above sea level. Ko Chang has many rivers which are fed by the great amount of rainfall. These rivers are very clean and supply water for all year round. Ko Khlum is a nearby island with an area of 2.789 km².

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), mixed sand and gravel beaches (ESI 5), sheltered man-made structures (ESI 8) and mangroves (ESI 10B) along Ao Salak Phet.

Biological Resources

Mangroves grow on mudflats along the coast of Ao Salak Phet. Fringing reefs are present along the southern coasts of Ko Chang and Ko Khlum. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated by *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Both mangroves and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Sea turtles can also be found in the area.

Human Use Features

Ao Bang Bao is a popular destination on the southern coast of Ko Chang, where a local fishing village showcases traditional livelihood practices. Hat Ao Bang Bao, a 450-m-long white sand beach with clear seawater and fine sand, is suitable for swimming and diving. Accommodations, restaurants, a tourist information center and other infrastructures are also available in the area.

Various tourism-related businesses are growing, such as diving tours, spas and boat rentals. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Ports are available in the area to support transportation and tourism development in Mu Ko Chang.

Oil Spill Response Resources

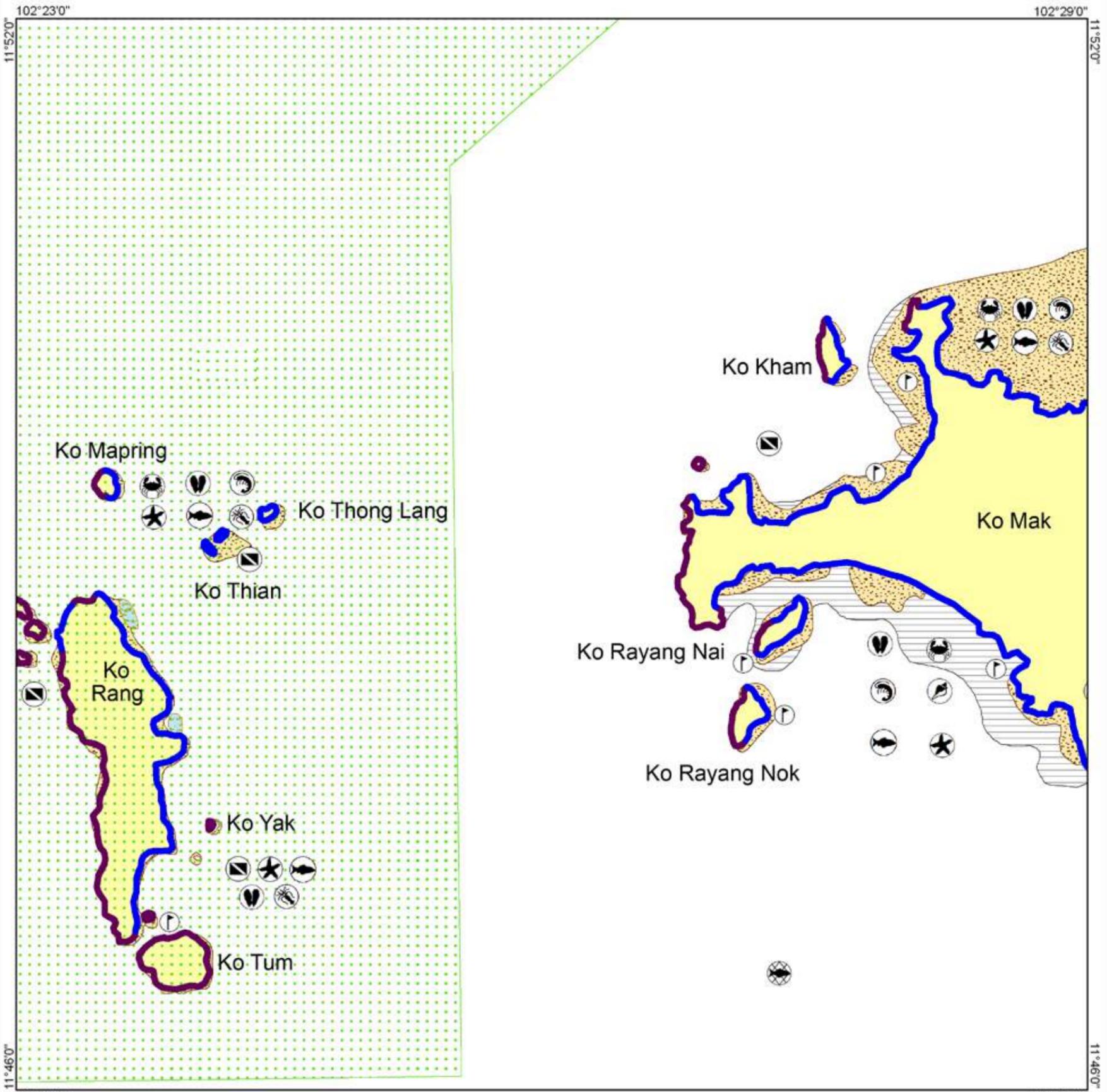
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 149



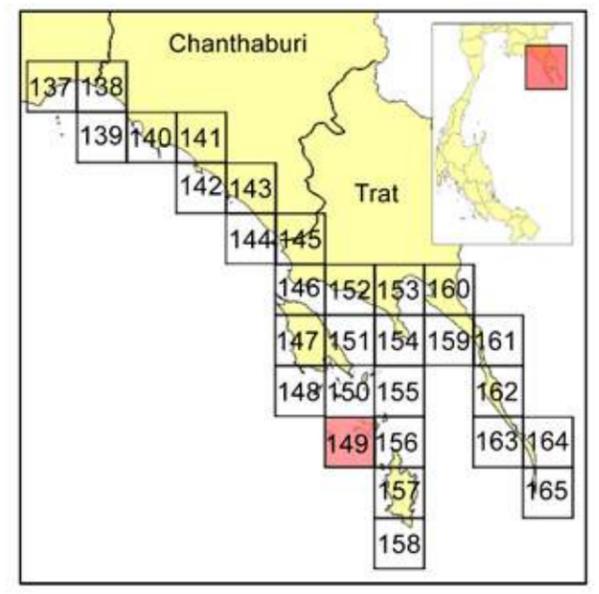
Shoreline Classification
 ESI 1 (Red line)
 ESI 3 (Blue line)

Biological/Human-Use Areas
 Coral Reef (Yellow stippled)
 National Park (Green dotted)
 Seagrass Beds (Green wavy)
 Tidal Flats (White with horizontal lines)

Biological Resources
 Bivalve (Heart symbol)
 Crab (Crab symbol)
 Echinoderm (Star symbol)
 Fish/Nursery Area (Fish symbol)
 Gastropod (Shell symbol)
 Shrimp (Shrimp symbol)
 Squid/Octopus (Squid symbol)

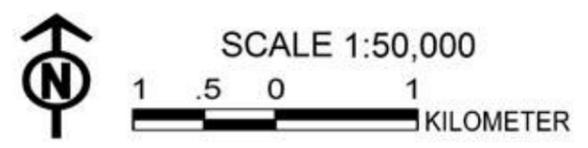
Human-Use/ Oil Spill Response Resources
 Beach (Flag symbol)
 Diving (Diver symbol)
 Subsistence Fishing (Fishing boat symbol)

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the islands of Ko Mapring, Ko Rang, Ko Thong Lang, Ko Thian, Ko Tum, Ko Mak, Ko Kham, Ko Rayong Nai and Ko Rayong Nok, with areas of 0.046 km², 2.599 km², 0.013 km², 0.026 km², 0.346 km², 12.398 km², 0.112 km², 0.133 km² and 0.142 km², respectively.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Seagrass beds along the eastern coast of Ko Rang are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing reefs are present along the coasts of all the islands in the area. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated by *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Both seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Several tourist beaches are located along the coasts of Ko Mak and Ko Rang. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Subsistence fishing is also done on coastal waters in the area.

Oil Spill Response Resources

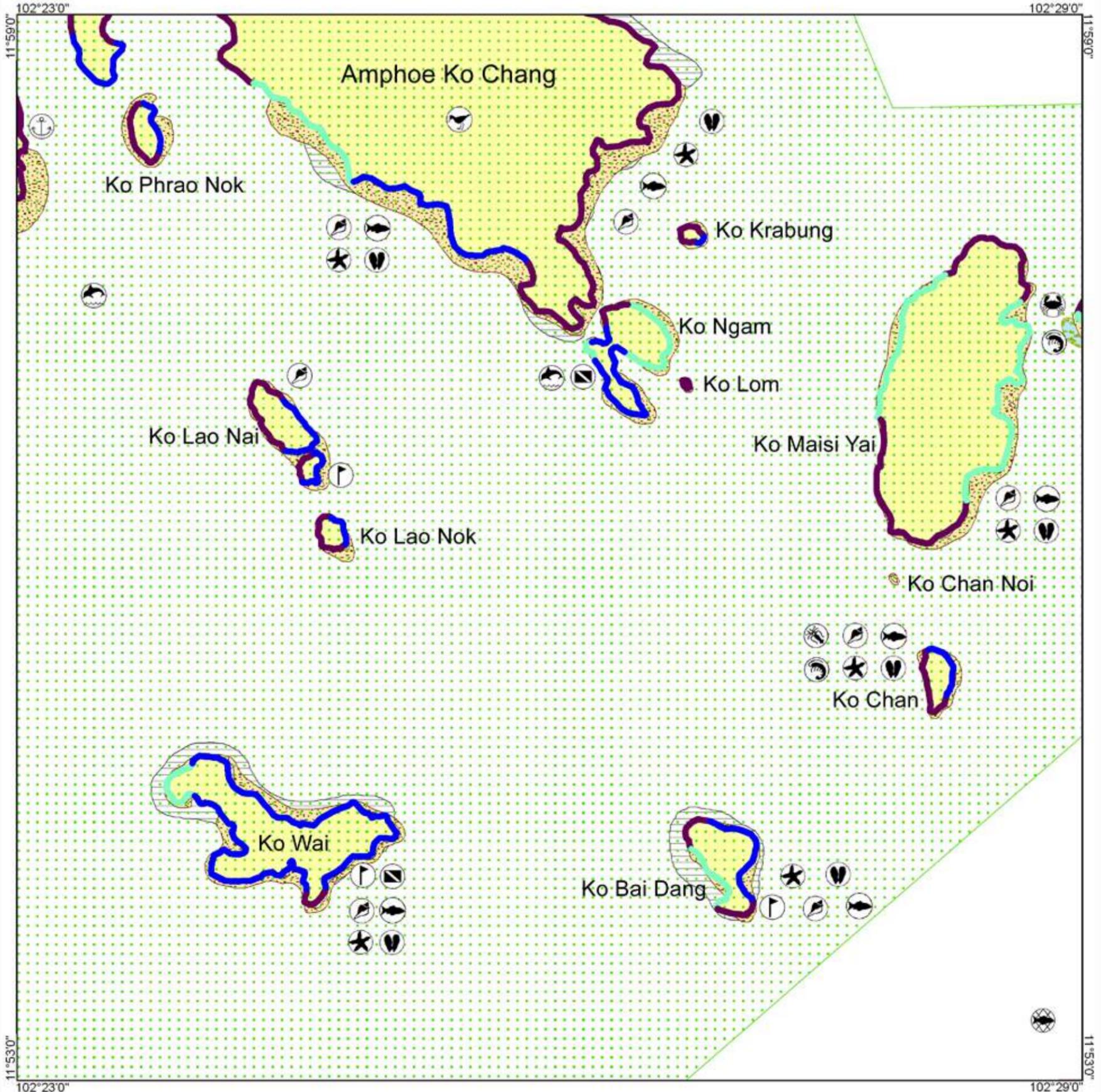
There is no oil spill response resource in the area.

Special Issue

Some of the islands belong to Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 150



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5

Biological/Human-Use Areas

- Coral Reef
- National Park
- Seagrass Beds
- Tidal Flats

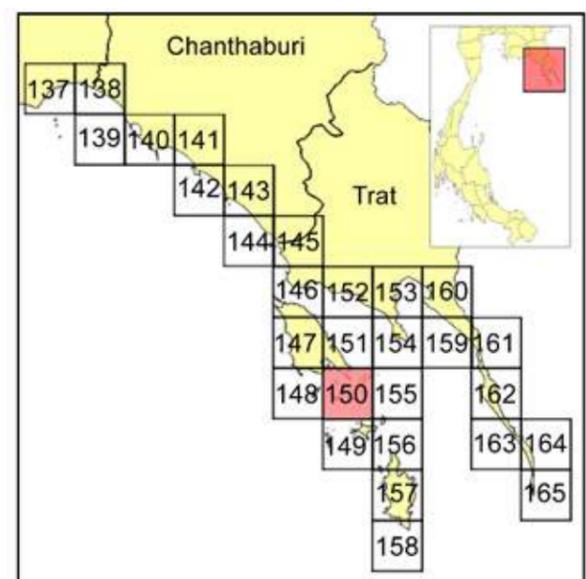
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Diving
- Marina
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area covers the southeastern coast of Ko Chang and several nearby islands, namely: Ko Phrao Nai, Ko Phrao Nok, Ko Lao Nai, Ko Lao Nok, Ko Wai, Ko Bai Dang, Ko Ngam, Ko Lom, Ko Chan, Ko Chan Noi, Ko Maisi Yai and Ko Krabung, with areas of 0.412 km², 0.168 km², 0.314 km², 0.095 km², 1.654 km², 0.427 km², 0.510 km², 0.005 km², 0.17 km², 0.03 km², 3.746 km² and 0.034 km², respectively.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1) alternating with fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Seagrass beds along the eastern coast of Ko Maisi Yai are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing reefs are present along the coasts of all the islands in the area. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated by *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Both seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Sai Yao is a white sand beach located at the southern coast of Ko Chang near Ao Salak Phet.

Various tourism-related businesses are growing, such as diving tours, spas and boat rentals. Similar to other islands with coral reefs, skin diving and scuba diving are important tourist activities in the islands, attracting many visitors to the area.

Ports and other tourist facilities, such as homestays and restaurants, are available in the area to support transportation and tourism development in Mu Ko Chang.

Subsistence fishing is also done on coastal waters in the area.

Oil Spill Response Resources

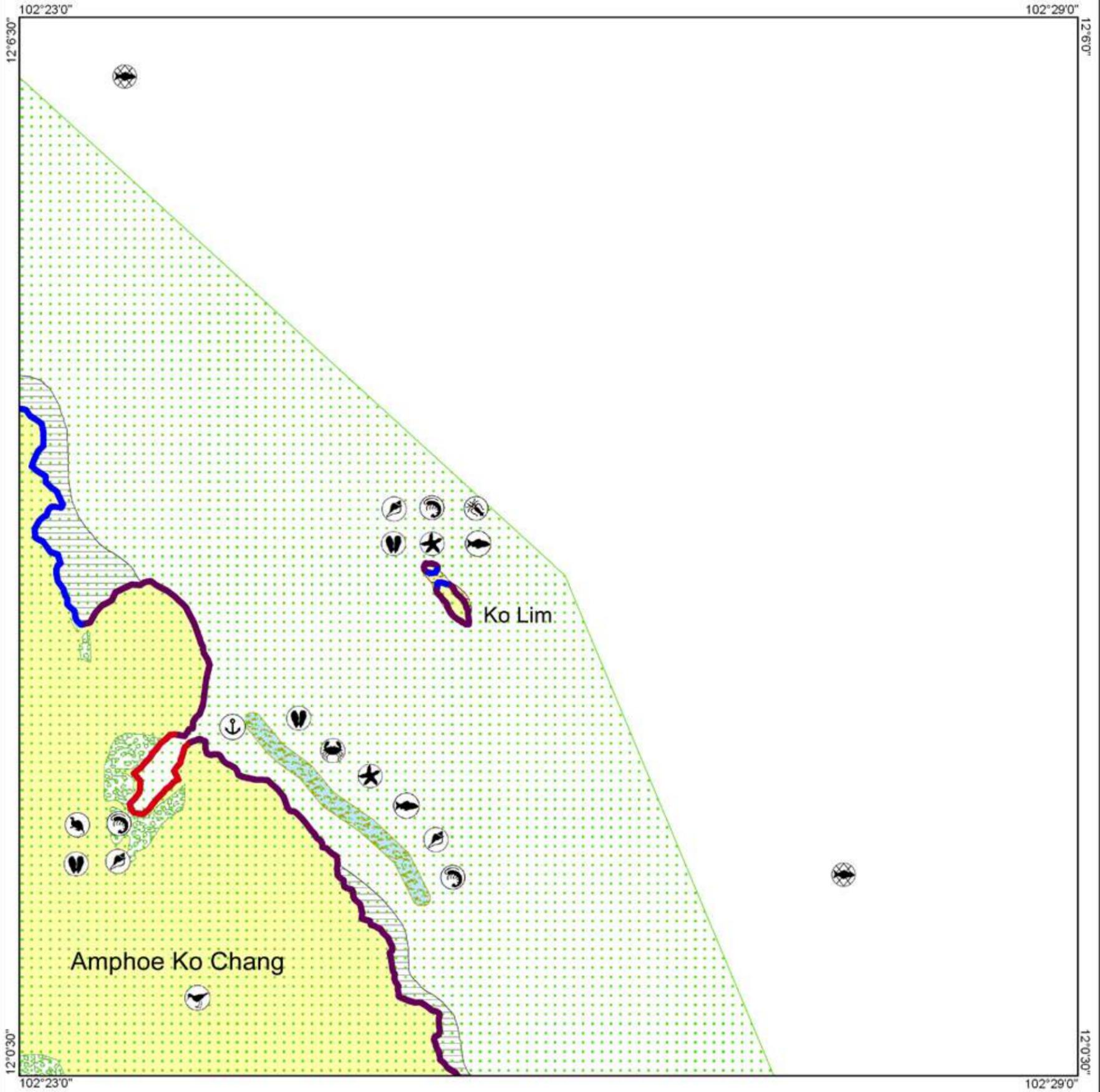
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 151



Shoreline Classification

- ESI 1
- ESI 3
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- National Park
- Seagrass Beds
- Tidal Flats

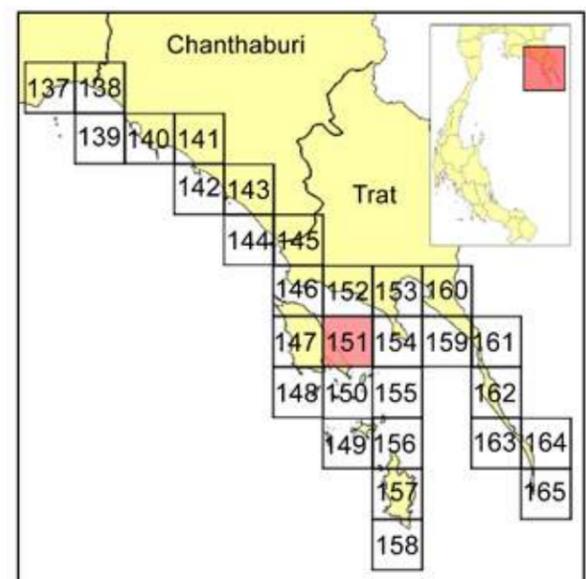
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Fishing Port
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000
 1 .5 0 1
 KILOMETER

General Information

This area covers the eastern coast of Ko Chang and the nearby island of Ko Lim with an area of 0.081 km².

Shoreline

Along the coasts in the area are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3) and mangroves (ESI 10B) along the shoreline of Ao Salak Khok.

Biological Resources

Mangrove forests are situated along Ao Salak Khok. Seagrass beds along the exposed shoreline in Ko Chang are dominated with *Halodule uninervis* and *Enhalus acorides*. Similar to other islands in Mu Ko Chang, fringing reefs along the coast of Ko Lim are dominated with *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves, echinoderms, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Abundant coastal resources enhance subsistence fishing in the area. A port is available not only for local fisherfolks but also for tourists who come to visit other islands in Mu Ko Chang. Some of the local people are involved in tourism-related businesses such as homestays, restaurants and guided tours.

Oil Spill Response Resources

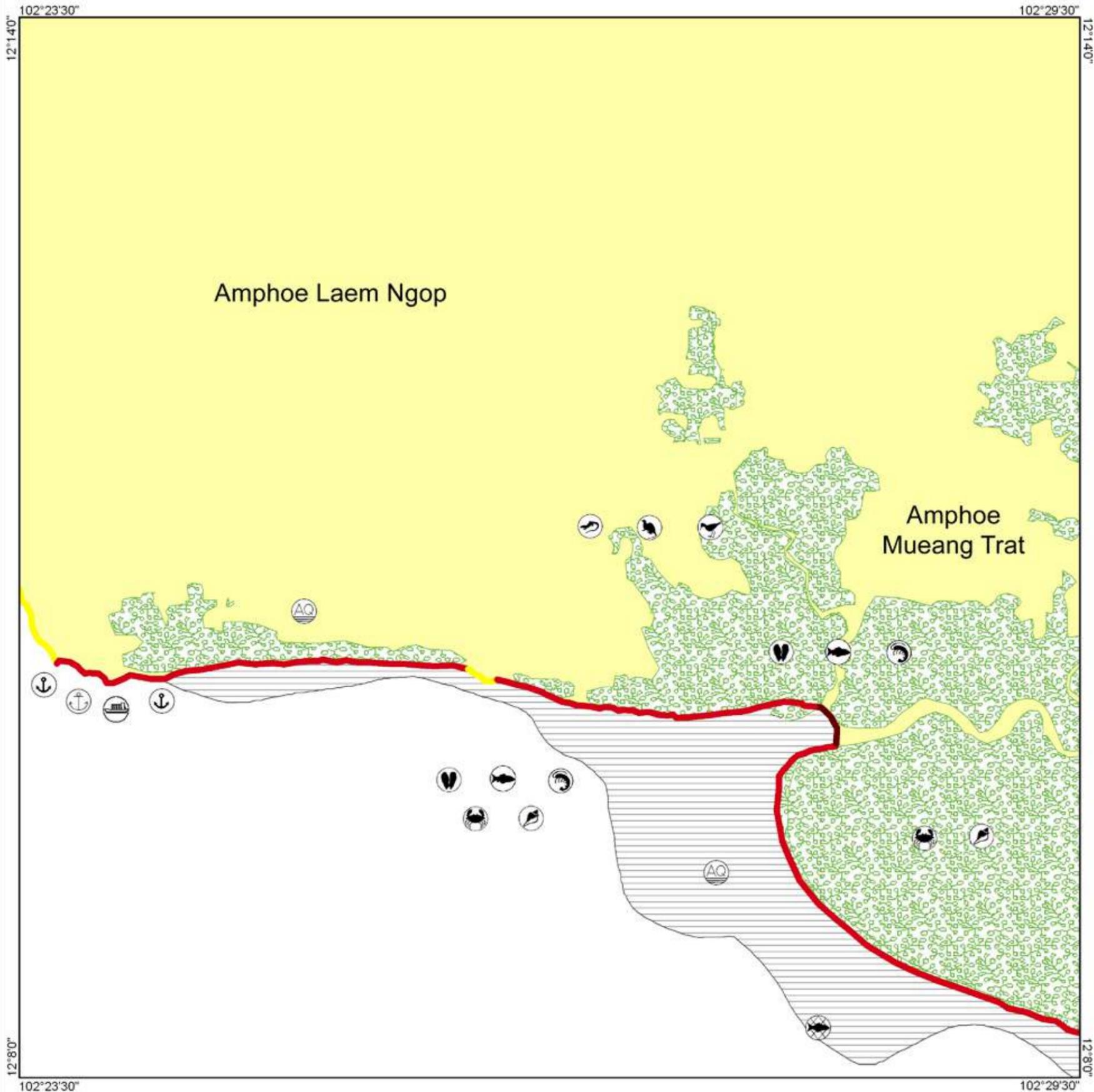
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 152



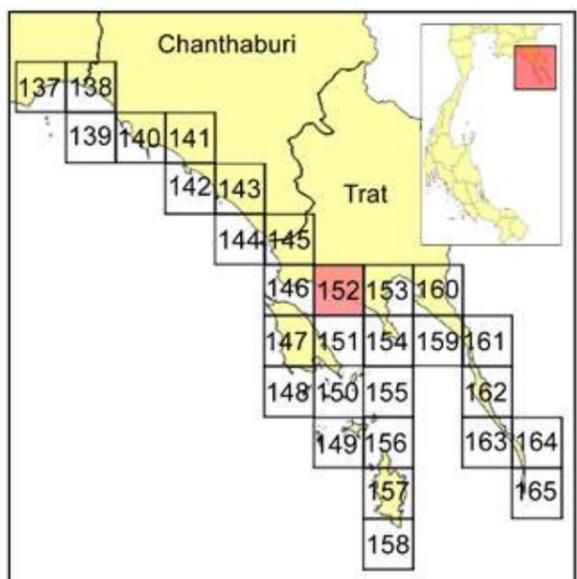
Shoreline Classification
 ESI 7
 ESI 8
 ESI 10B

Biological/Human-Use Areas
 Mangroves
 Tidal Flats

Biological Resources
 Bird
 Bivalve
 Crab
 Fish/Nursery Area
 Gastropod
 Reptile and Amphibian
 Shrimp
 Terrestrial Mammal

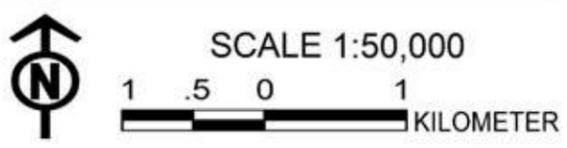
**Human-Use/
 Oil Spill Response Resources**
 Aquaculture
 Fishing Port
 Harbor
 Marina
 Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the coastline shared by Laem Ngop District and Mueang Trat District. Khlong Nam Chiao is a large canal located in the area.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7), sheltered solid man-made structures (ESI 8) near Ao Kruat and mangroves (ESI 10B).

Biological Resources

Large areas of both riverine and fringing mangrove forests along Ao Kruat and canals, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found on muddy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Subsistence fishing is done on coastal waters in the area, while inland and coastal aquacultures are practiced extensively, especially shrimp farming.

Dense commercial communities are situated on the western part of Ao Kruat, where fishing ports, marinas and harbors are available for transporting people and goods to Ko Chang and nearby areas.

Oil Spill Response Resources

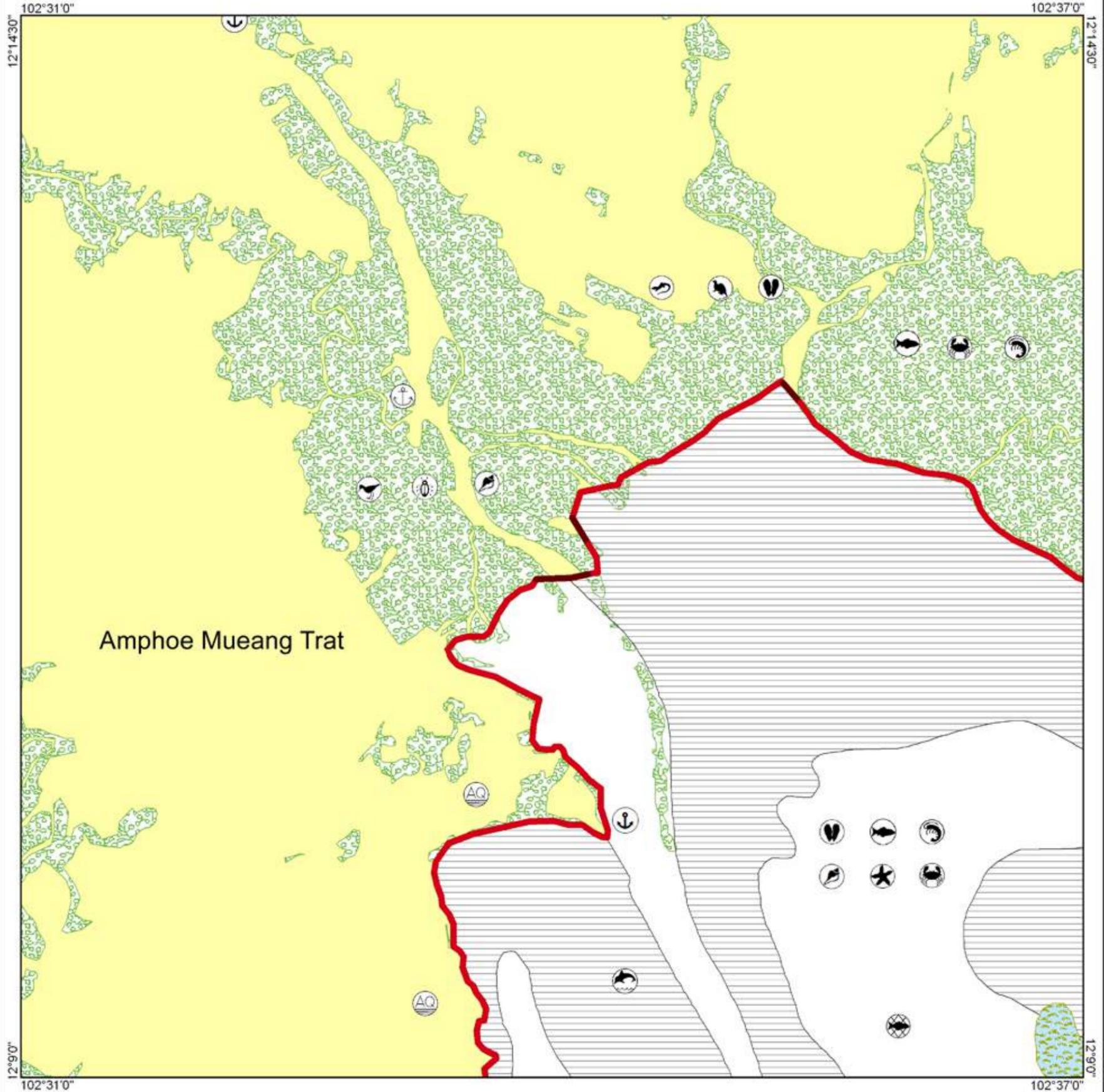
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 153



Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Seagrass Beds
- Tidal Flats

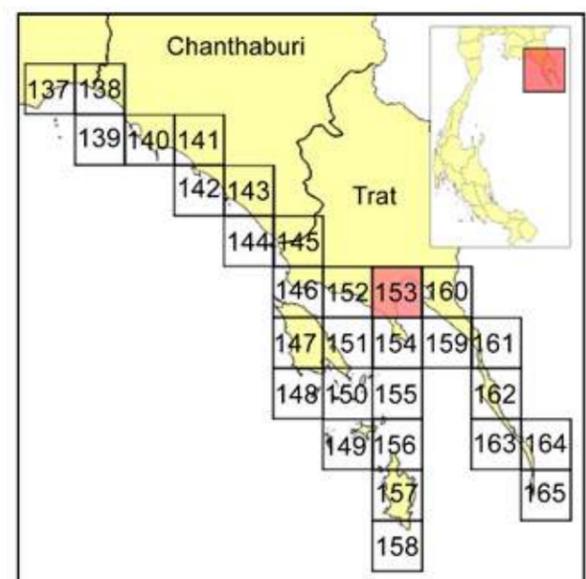
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Insect
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

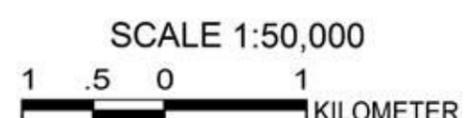
- Aquaculture
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



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 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Mueang Trat District. Its neighboring districts include Laem Ngop, Khao Saming and Bo Rai. Trat River, with a length of 150 km, flowing through the city of Trat and ending at Ao Mueang Trat. It serves as an important channel of transportation for Trat Province.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) near the mouth of Trat River and mangroves (ESI 10B).

Biological Resources

A large muddy plain was formed from the sediment accumulation from Trat River and its tributaries, providing a suitable area for riverine and fringing mangrove forests to grow. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals.

Some marine organisms, especially benthic organisms, can be found on muddy substrates, while fish communities can be found in coastal and pelagic waters.

Marine mammals can also be found in the area.

Human Use Features

Subsistence fishing is done on coastal waters in the area, while inland and coastal aquacultures are practiced extensively, especially shrimp farming.

Dense commercial communities are situated along Trat River, while fishing ports, marinas and harbors are available in the area for commercial and industrial activities.

Oil Spill Response Resources

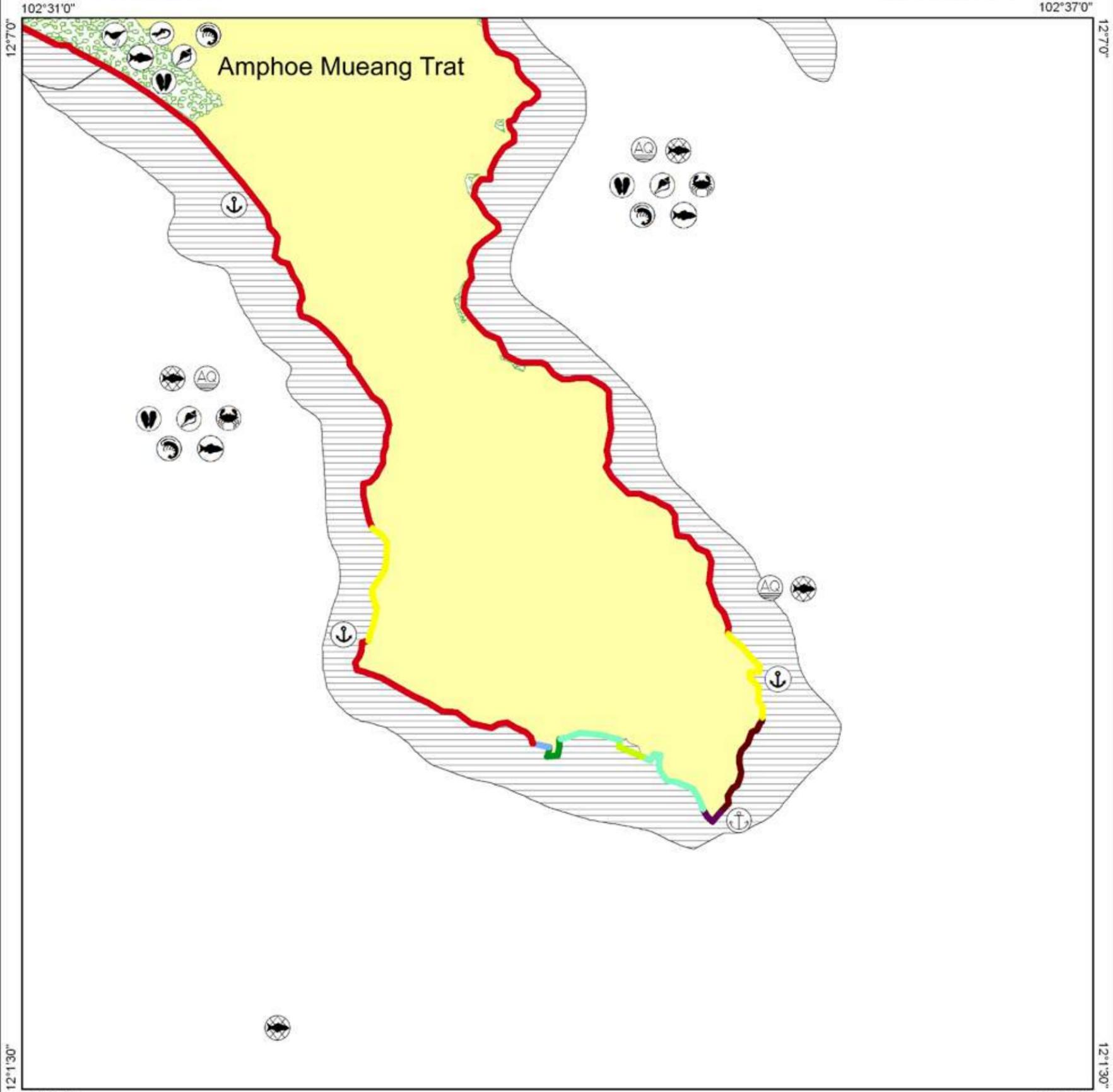
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 154



Shoreline Classification

- ESI 1
- ESI 4
- ESI 5
- ESI 6A
- ESI 6B
- ESI 7
- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

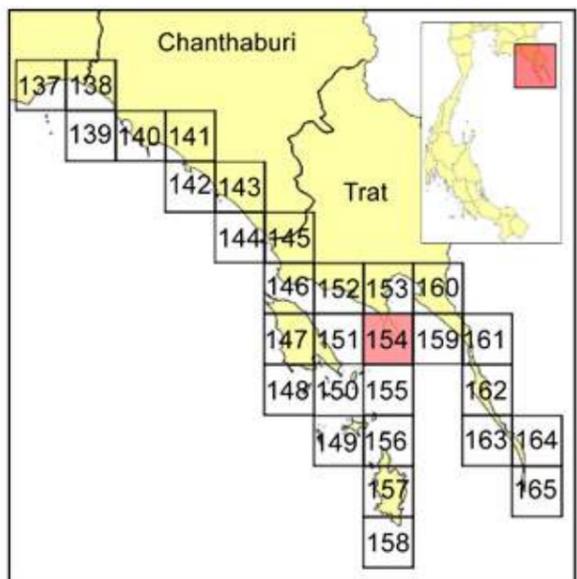
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

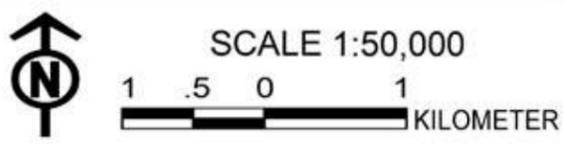
- Aquaculture
- Fishing Port
- Marina
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Leam Sok cape in Mueang Trat District situated between Ao Kruat and Ao Mueang Trat.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); coarse-grained sand beaches (ESI 4); mixed sand and gravel beaches (ESI 5); gravel beaches (ESI 6A); ripraps (ESI 6B); exposed tidal flats (ESI 7); sheltered solid man-made structures (ESI 8); and mangroves (ESI 10B).

Biological Resources

The muddy substrate in Leam Sok cape was formed from the sediment accumulation from Trat River and Khlong Nam Chiao. Small patches of fringing mangroves are present along the coast, while dense mangrove forests are located in the northern part of the area. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, reptiles, amphibians, gastropods, bivalves and shorebirds.

Some marine organisms, especially benthic organisms, can be found on muddy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Subsistence fishing is done on coastal waters in the area, while aquaculture of mussels, blood cockles and oysters is practiced extensively.

Dense commercial communities are situated along Trat River, while fishing ports, marinas and harbors are available in the area for commercial and industrial activities.

Oil Spill Response Resources

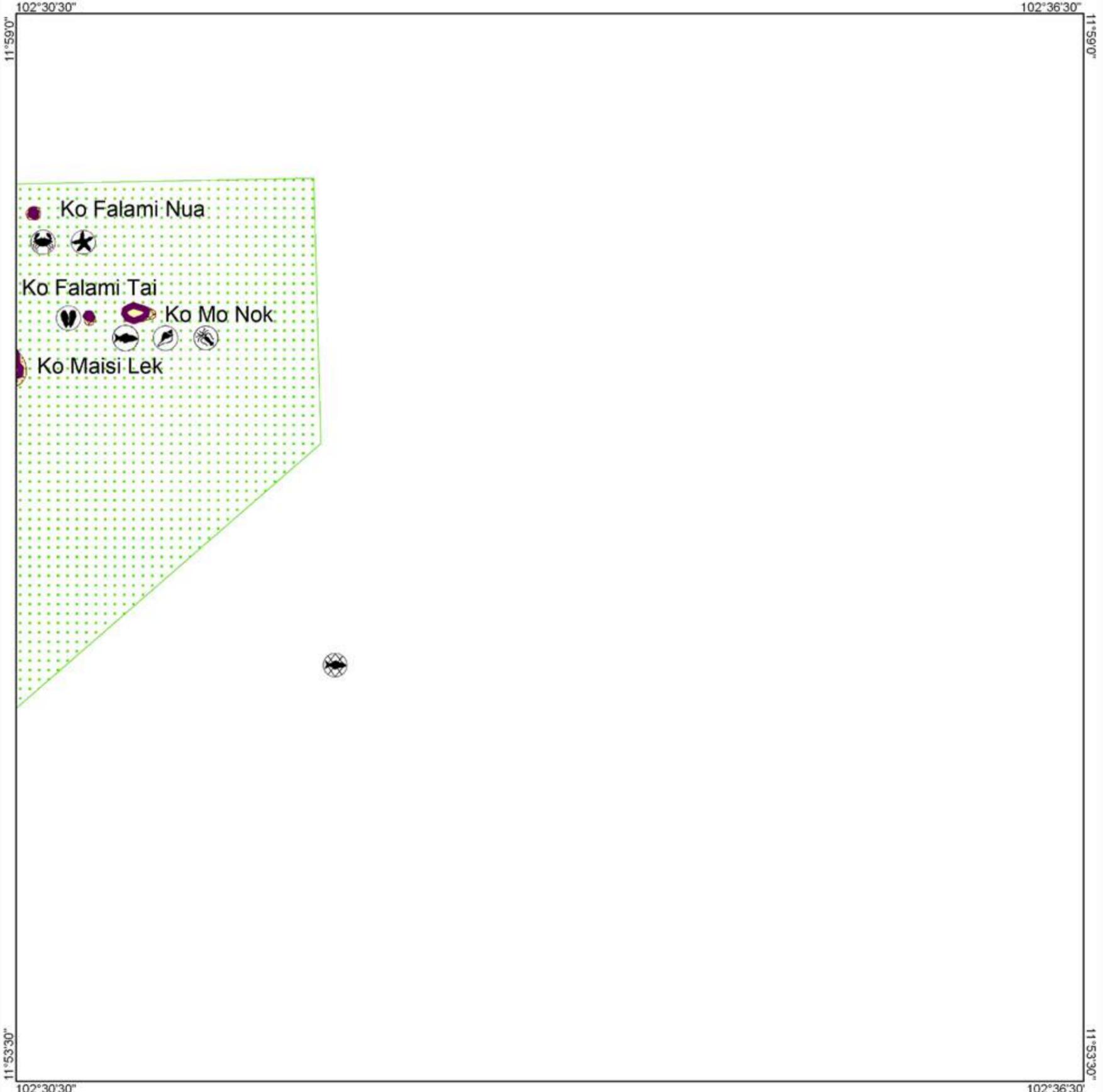
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 155



Shoreline Classification

ESI 1

Biological/Human-Use Areas

- Coral Reef
- National Park

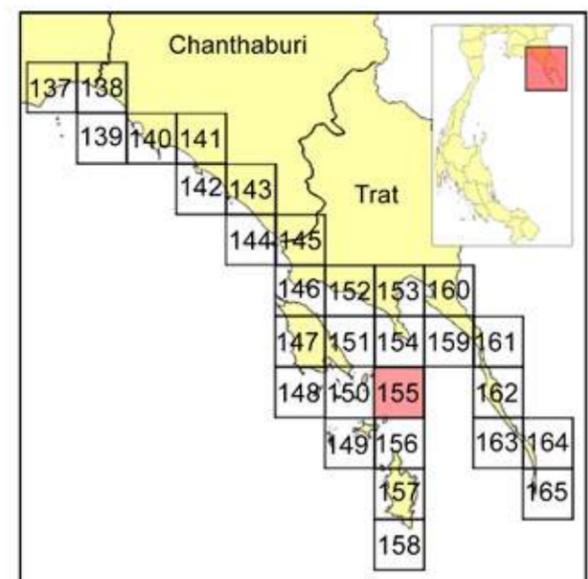
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

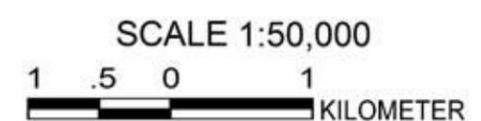
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
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Not for Navigation



General Information

This area covers the group of small islands located southeast of Ko Chang, namely: Ko Maisi Lek, Ko Mo Nok, Ko Falami Tai and Ko Falami Nua, with areas of 0.70 km², 0.046 km², 0.004 km² and 0.007 km², respectively.

Shoreline

Along the coasts of the islands are exposed rocky shores and rocky cliffs (ESI 1).

Biological Resources

Fringing reefs surround the coasts of the islands. The total coral reef area of Mu Ko Chang is approximately 16 km² with more than 130 coral species dominated with *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia*, *Fungia* and *Astreopora* species. Coral reefs are important habitats providing food sources, shelter and nesting and breeding grounds to various marine organisms, such as fish, crabs, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Subsistence fishing is done off the coasts of the islands beyond the national park boundary. Diving activities are sometimes done along the coral reefs.

Oil Spill Response Resources

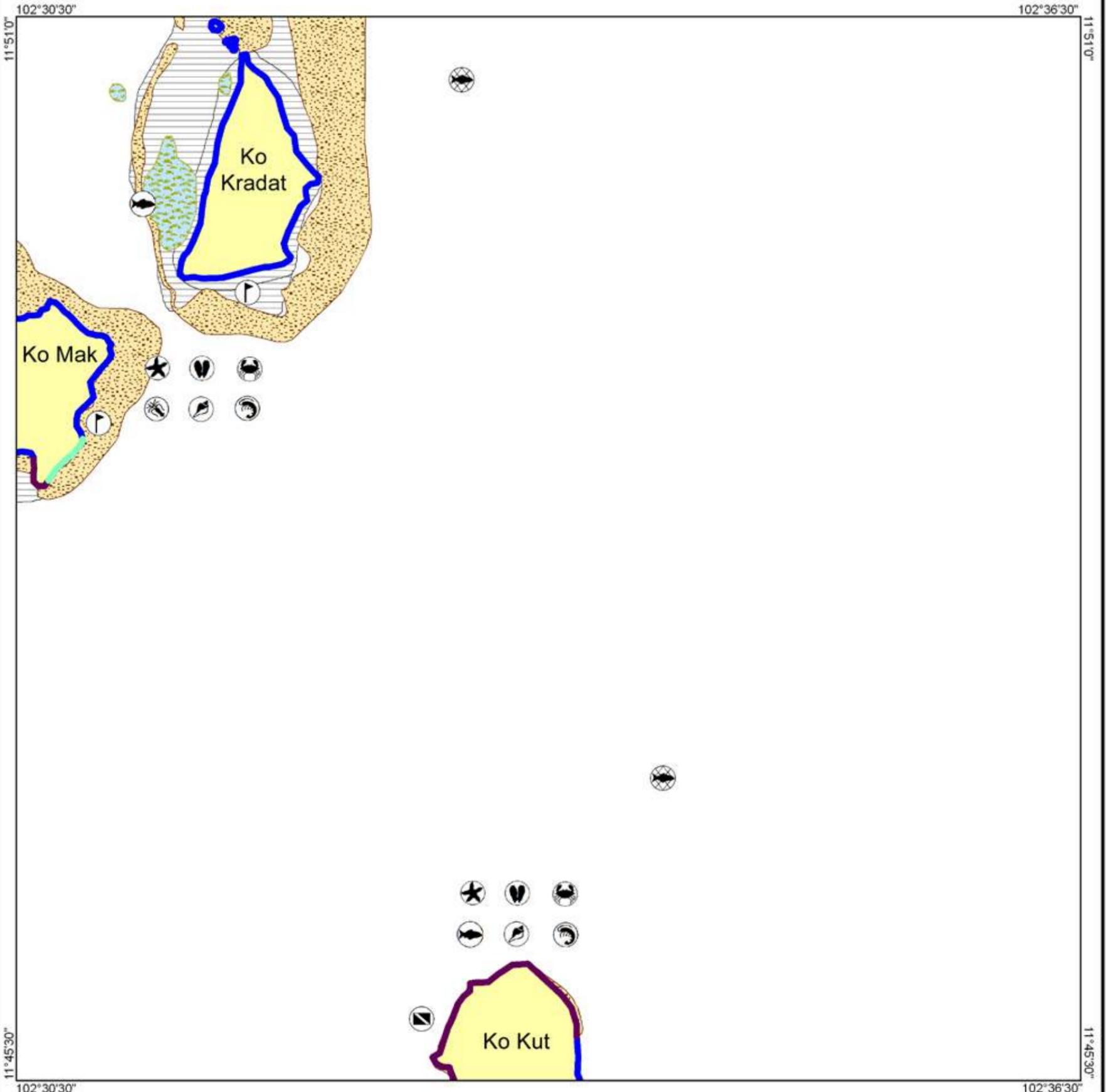
There is no oil spill response resource in the area.

Special Issue

The area forms part of Mu Ko Chang National Park established on 31 December 1982 covering 624 km² of terrestrial and marine environments. On Ko Chang, large areas are covered by dense tropical evergreen forests with various terrestrial wildlife. Beneath the sea, marine and coastal resources like coral reefs and seagrass beds are abundant. Mu Ko Chang National Park draws both Thai and foreign tourists for its beautiful natural surroundings and diverse coral reef organisms.

Trat Province

Thailand - 156



Shoreline Classification

- ESI 1
- ESI 3
- ESI 5

Biological/Human-Use Areas

- Coral Reef
- Seagrass Beds
- Tidal Flats

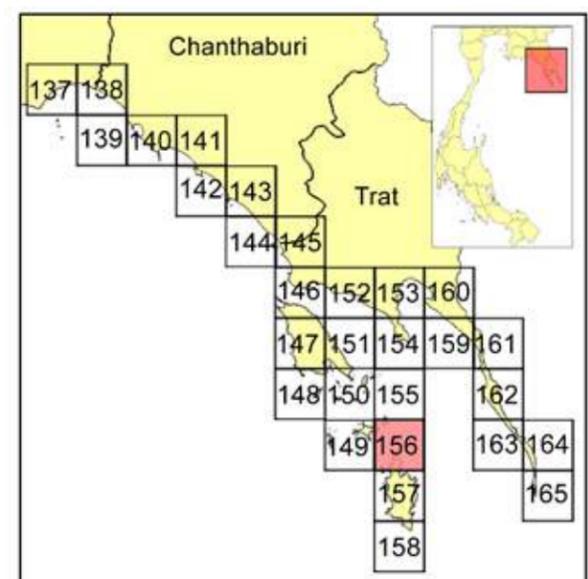
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

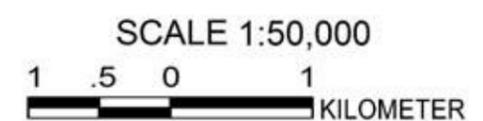
- Beach
- Diving
- Subsistence Fishing

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Ko Kradat, the eastern coast of Ko Mak and the northern coast of Ko Kut, with areas of 1.937 km², 12.398 km² and 111.894 km², respectively. These islands are located south of Ko Chang.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3) and mixed sand and gravel beaches (ESI 5).

Biological Resources

Seagrass beds along the western coast of Ko Kradat are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing reefs along the coasts of Ko Mak and Ko Kradat are dominated with *Porites*, *Pavona*, *Echinopora*, *Goniopora*, *Pavona*, *Symphyllia* and *Fungia* species. Seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on sandy and rocky substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Mak, Ko Kradat and Ko Kut, attracting many visitors to the area. Several tourist beaches are also located along the coasts of the islands.

Subsistence fishing is also done on coastal waters in the area.

Oil Spill Response Resources

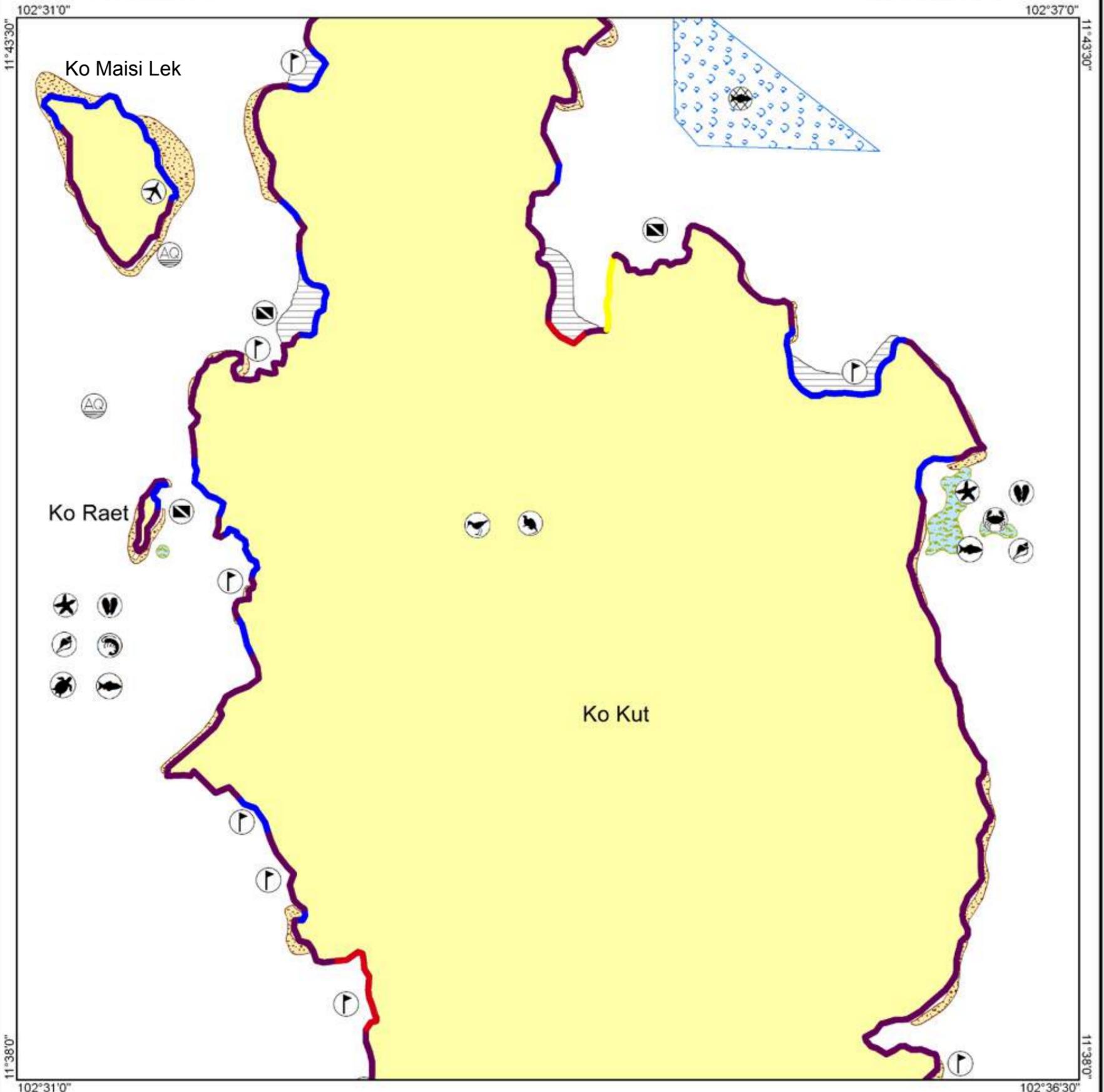
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 157



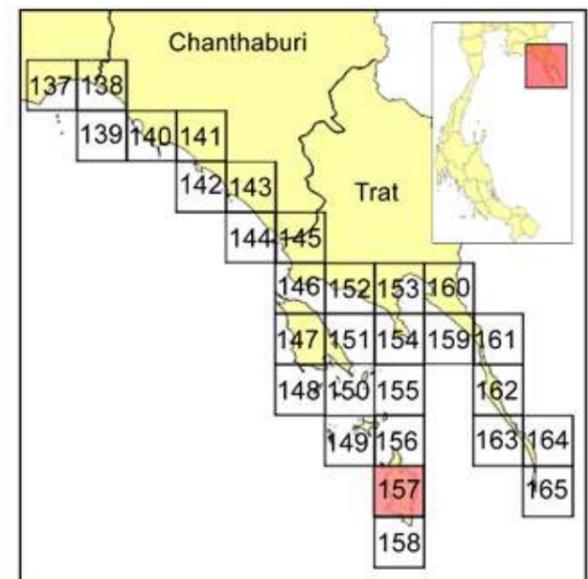
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 8
 - ESI 10B

- Biological/Human-Use Areas**
- Artificial Reef
 - Coral Reef
 - Seagrass Beds
 - Tidal Flats

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Shrimp
 - Terrestrial Mammal
 - Turtle

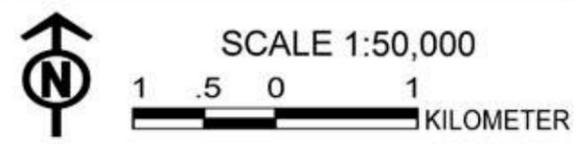
- Human-Use/ Oil Spill Response Resources**
- Airport
 - Aquaculture
 - Beach
 - Diving
 - Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers Ko Kut, Ko Maisi Lek and Ko Raet, with areas of 111.894 km², 1.602 km² and 0.121 km², respectively. These islands are located southeast of Ko Chang and Ko Mak. Ko Kut, the fourth largest island in Thailand, has both flat areas and mountains. Its highest peak is at 315 m above sea level.

Shoreline

Along the coasts in the islands are exposed rocky shores and rocky cliffs (ESI 1), fine- to medium-grained sand beaches (ESI 3), sheltered man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Small fringing mangrove forests are situated along Ao Salut and Ao Khlong Chao, where the canals discharge freshwater into the sea. A small patch of seagrass beds along Ao Kluai on the eastern coast of Ko Maisi are dominated with *Halodule uninervis* and *Enhalus acorides*. Fringing reefs along the coasts of the islands are dominated with *Porites*, *Favites* and *Acropora* species. Mangroves, seagrass beds and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms such as fish, crabs, shrimp, gastropods, bivalves, echinoderms and shorebirds.

Some marine organisms, especially benthic organisms, can be found on sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Terrestrial mammals are present on evergreen forests in Ko Kut. Sea turtles can also be found in the area.

Human Use Features

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Kut, Ko Maisi Lek and Ko Raet, attracting many visitors to the area. Several tourist beaches are also located along the coasts of the islands.

Subsistence fishing and aquaculture are practiced on coastal waters in the islands.

A small airport on Ko Maisi Lek is managed by the Department of Civil Aviation to enhance transportation and tourism in the area.

Oil Spill Response Resources

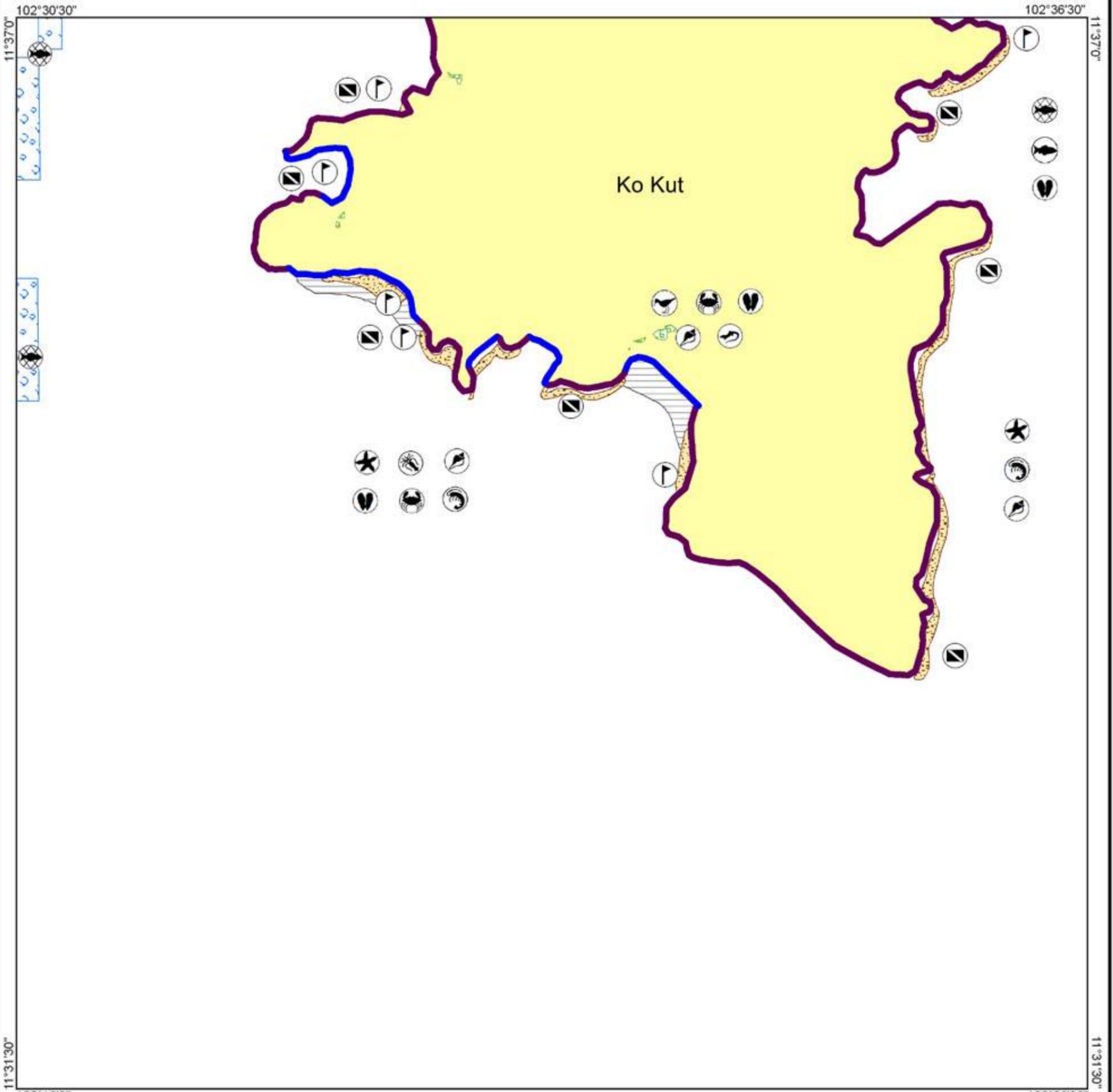
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 158



Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

- Artificial Reef
- Coral Reef
- Mangroves
- Tidal Flats

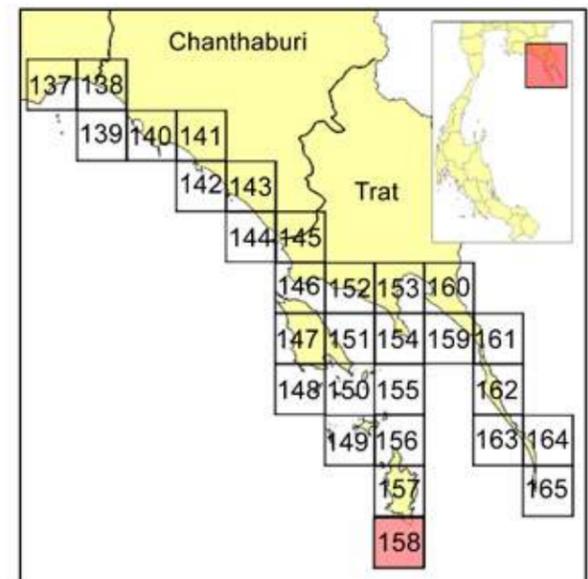
Biological Resources

- Bird
- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

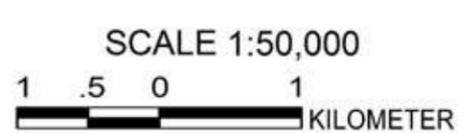
- Beach
- Diving
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the southern coast of Ko Kut, the fourth largest island in Thailand. The island has both flat areas and mountains. Its highest peak is at 315 m above sea level.

Shoreline

Along the coast in the area are exposed rocky shores and rocky cliffs (ESI 1) and fine- to medium-grained sand beaches (ESI 3).

Biological Resources

Small patches of riverine mangrove forests are situated in the areas of Ao Khlong Chao and Ao Phrao. Fringing reefs along the coast of Ko Kut are dominated with *Porites*, *Favites* and *Acropora* species. Mangroves and coral reefs, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, octopuses, reptiles, amphibians, gastropods, bivalves, echinoderms and shorebirds. Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Similar to other islands with coral reefs, snorkeling and scuba diving are important tourist activities in Ko Kut, attracting many visitors to the area. Several tourist beaches are also located along the coast of the island. Subsistence fishing is done on coastal waters and in nearby artificial reefs, which were developed to increase the number of fish stocks and other marine species, as well as to create more areas for coral development.

Oil Spill Response Resources

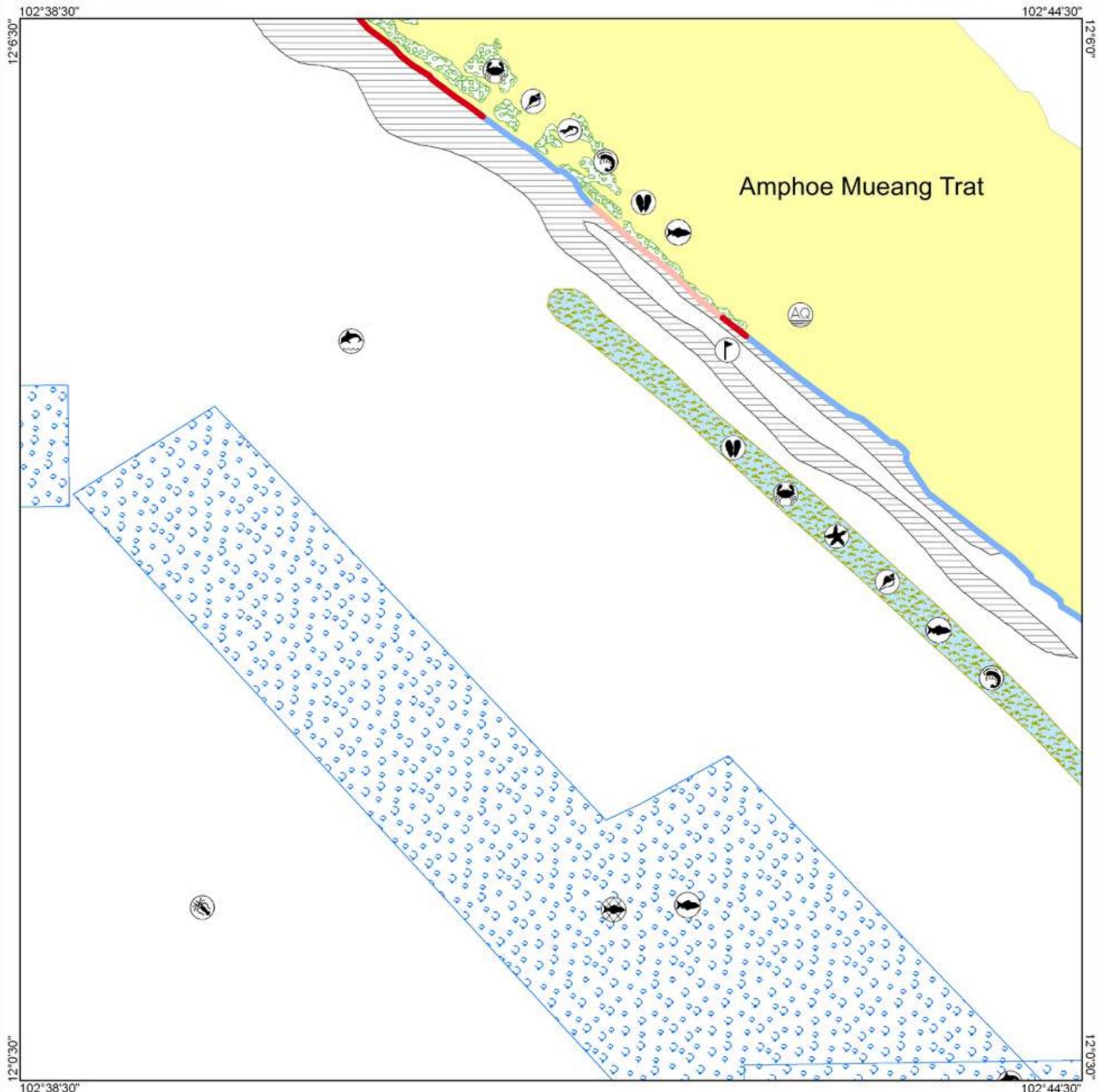
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 159



Shoreline Classification

- ESI 4
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Artificial Reef
- Mangroves
- Seagrass Beds
- Tidal Flats

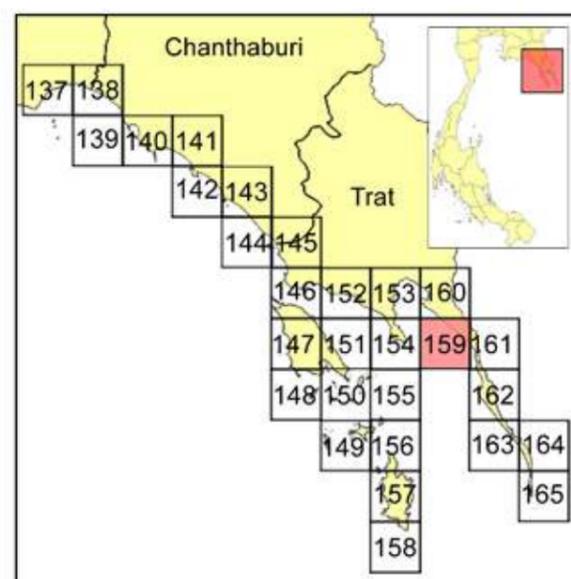
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Marine Mammal
- Reptile and Amphibian
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
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 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



SCALE 1:50,000
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 KILOMETER

General Information

This area is located in Mueang Trat District. Its neighboring districts include Laem Ngop, Khao Saming and Bo Rai.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), sheltered tidal flats (ESI 9A) and mangroves (ESI 10B).

Biological Resources

Fringing and riverine mangrove forests are situated along Khlong Son and Khlong Saphan Hin canals, while patches of mangroves are also present along the exposed shoreline. Seagrass beds along the coast of Laem Klud Subdistrict are dominated with *Halodule uninervis* and *Enhalus acorides*. Both mangroves and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various marine organisms, such as fish, crabs, shrimp, squid, octopuses, reptiles, amphibians, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Sai Ngam and Hat Sai Keaw in Leam Klud Subdistrict are white sand beaches lined with pine trees and have abundant beach forests. Tourist facilities are available in the area.

Abundant mangroves and seagrass beds provide important resources for subsistence fishing and aquaculture. Large areas of mangrove forests have been cleared for shrimp farming and other purposes. Artificial reefs in the area were developed to increase the number of fish stocks and other marine species, as well as to mitigate coastal erosion.

Oil Spill Response Resources

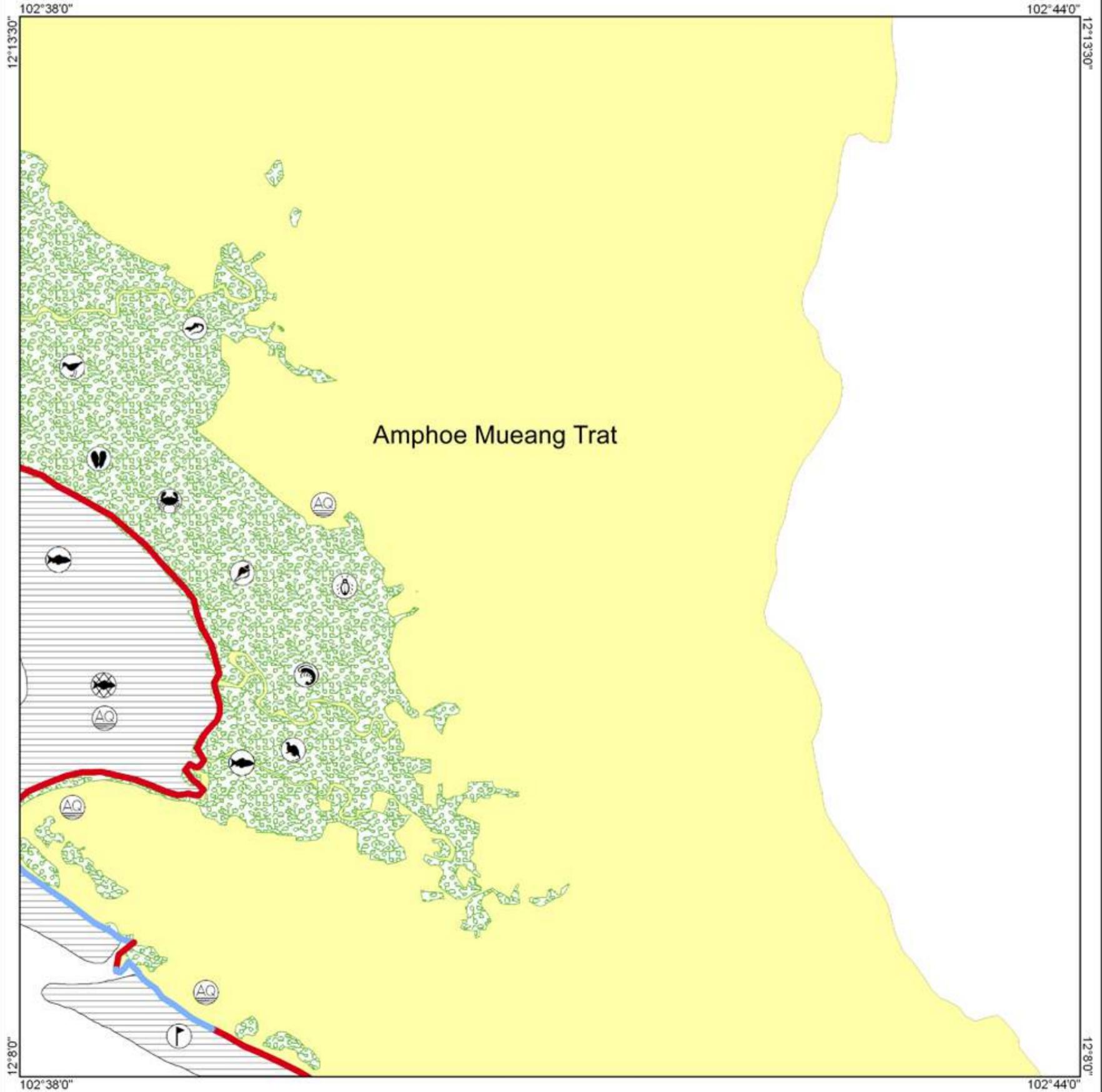
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 160



Shoreline Classification

- ESI 4
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

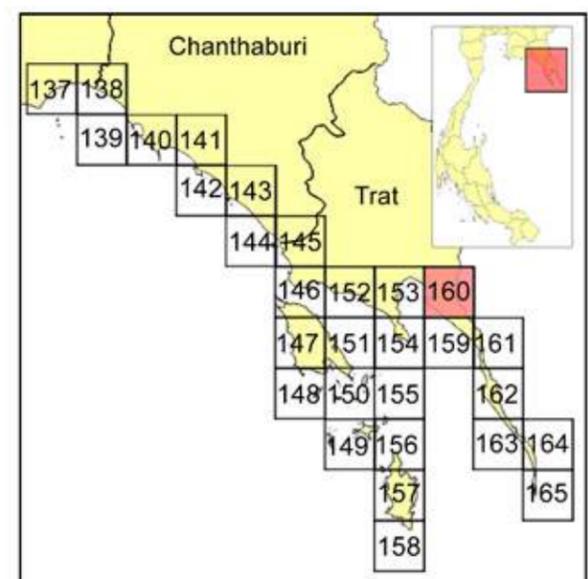
Biological Resources

- Bird
- Bivalve
- Crab
- Fish/Nursery Area
- Gastropod
- Insect
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

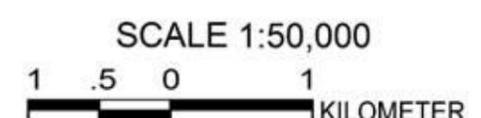
- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area covers the western coast of Ao Mueang Trat in Mueang Trat District. Trat River, with a length of 150 km, flows through the city of Trat and ends at Ao Mueang Trat. It serves as an important channel of transportation for Trat Province.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4) and mangroves (ESI 10B) along the shoreline of Ao Mueang Trat.

Biological Resources

A large muddy plain was formed from the sediment accumulation from Trat River and its tributaries, providing a suitable area for large riverine and fringing mangrove forests to grow along Ao Mueang Trat and Khlong Nong Pladuk, Khlong Ban Taeng, Khlong Prathum, Khlong Cham Rak, Khlong Tha Luean and Khlong Saphan Hin canals. Mangroves, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, insects, reptiles, amphibians, gastropods, bivalves, shorebirds and terrestrial mammals. Some marine organisms, especially benthic organisms, can be found on muddy substrates, while fish communities can be found in coastal waters.

Human Use Features

Hat Lan Sai is a tourist beach in Leam Klud Subdistrict with clear seawater suitable for swimming. Bungalows and restaurants are available for tourists.

Subsistence fishing is done in coastal waters. Inland and coastal aquacultures, especially shrimp farming, are extensively practiced.

Oil Spill Response Resources

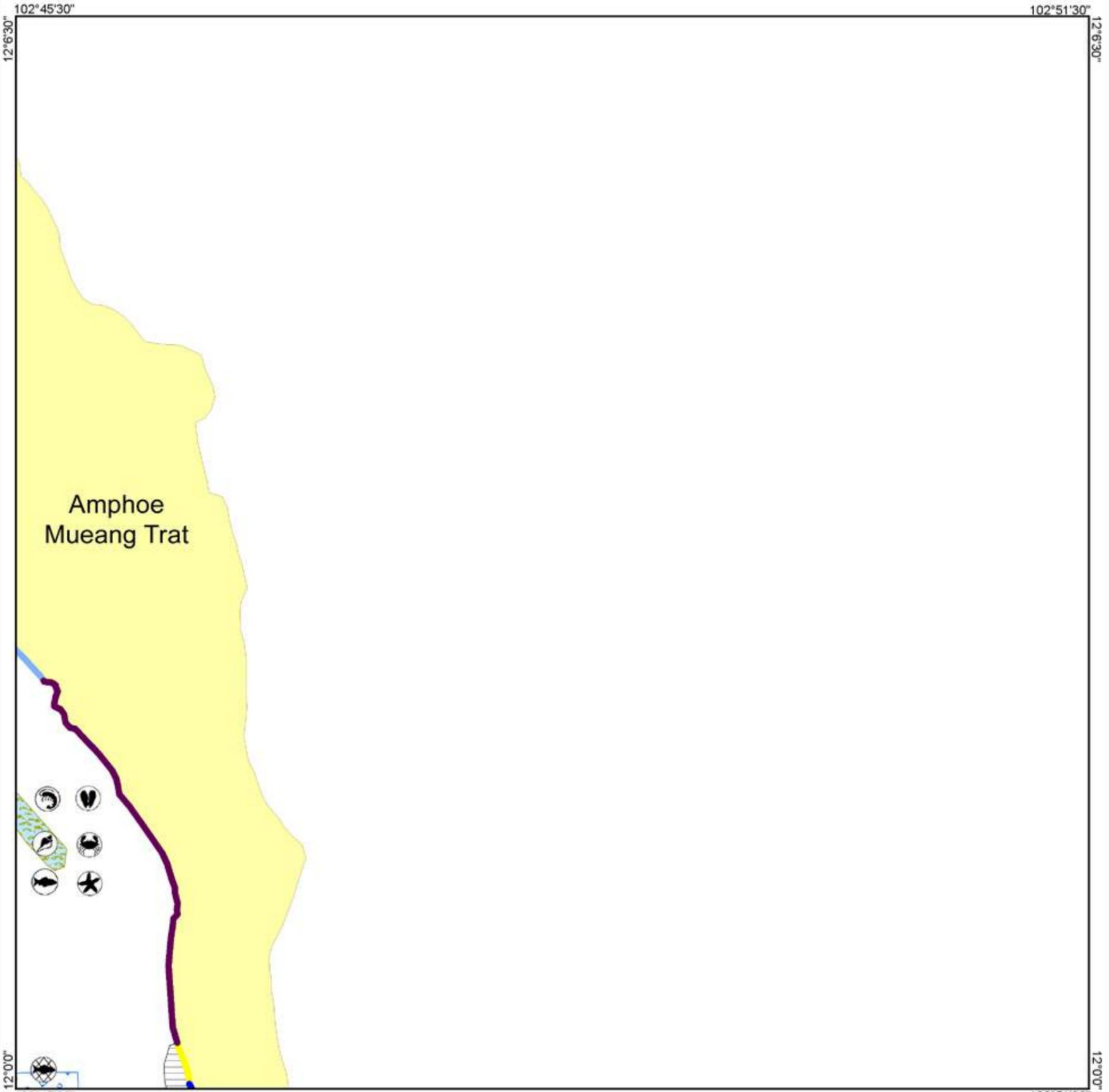
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 161



Shoreline Classification

- ESI 1
- ESI 3
- ESI 4
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Seagrass Beds
- Tidal Flats

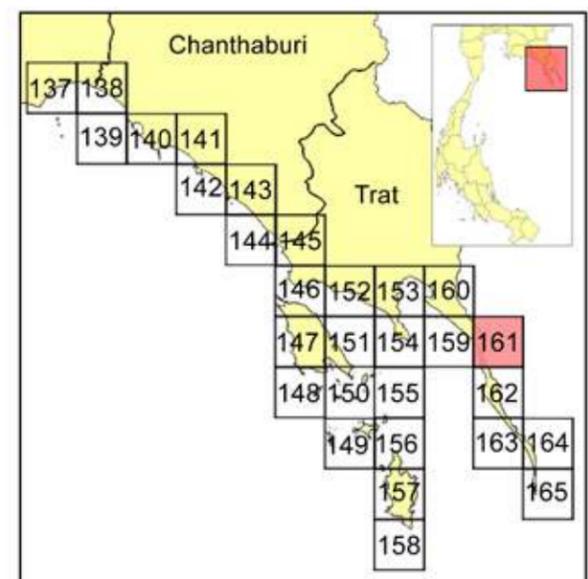
Biological Resources

- Bivalve
- Crab
- Echinoderm
- Fish/Nursery Area
- Gastropod
- Shrimp

Human-Use/ Oil Spill Response Resources

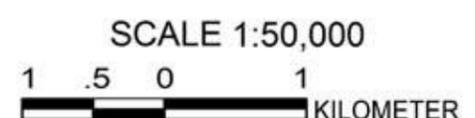
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located in Mueang Trat District. Its neighboring districts include Laem Ngop, Khao Saming and Bo Rai.

Shoreline

Along the coast in the area are exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1) near Hat Sai Keaw; fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); and sheltered solid man-made structures (ESI 8).

Biological Resources

Seagrass beds along the coast of Laem Klud Subdistrict are dominated with *Halodule uninervis* and *Enhalus acorides*. Seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Extending into the area is Hat Sai Keaw, a white sand beach lined with pine trees and has abundant beach forests. Tourist facilities are available in the area.

Abundant mangroves and seagrass beds provide important resources for subsistence fishing. Artificial reefs in the area were developed to increase the number of fish stocks and other marine species, as well as to mitigate coastal erosion.

Oil Spill Response Resources

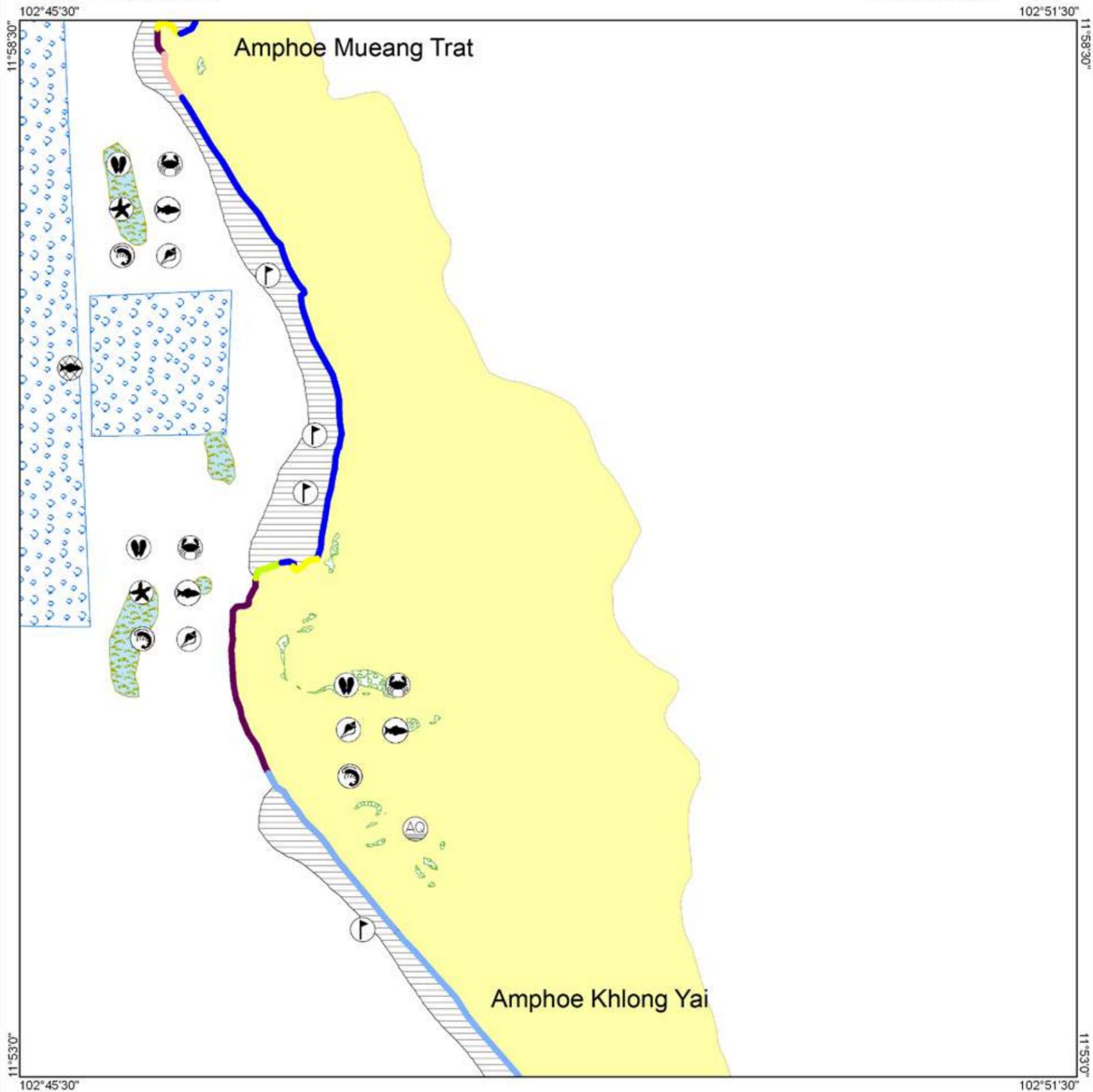
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 162



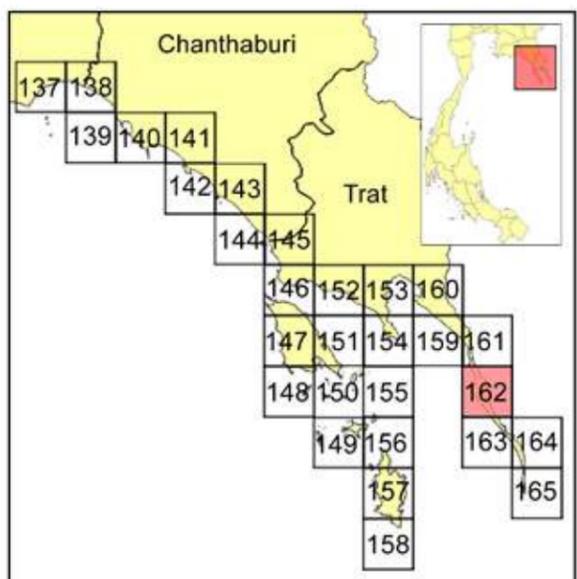
- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 4
 - ESI 6B
 - ESI 8
 - ESI 9A

- Biological Resources**
- Bivalve
 - Crab
 - Echinoderm
 - Fish/Nursery Area
 - Gastropod
 - Shrimp

- Human-Use/ Oil Spill Response Resources**
- Aquaculture
 - Beach
 - Subsistence Fishing

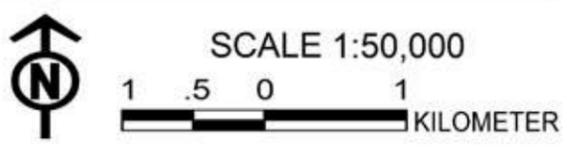
- Biological/Human-Use Areas**
- Artificial Reef
 - Mangroves
 - Seagrass Beds
 - Tidal Flats

Location of Map



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 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Mueang Trat District. Its neighboring districts include Laem Ngop, Khao Saming and Bo Rai.

Shoreline

Along the coast in the area exposed rocky shores, rocky cliffs and solid man-made structures (ESI 1); fine- to medium-grained sand beaches (ESI 3); coarse-grained sand beaches (ESI 4); ripraps (ESI 6B); sheltered solid man-made structures (ESI 8); and sheltered tidal flats (ESI 9A).

Biological Resources

Riverine mangrove forests are situated along Khlong Maro canal. Seagrass beds along the coast of Hat Ratchakarun are dominated with *Halodule uninervis* and *Enhalus acorides*. Both mangroves and seagrass beds, as well as tidal flats in the area, are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, gastropods, bivalves and echinoderms.

Some marine organisms, especially benthic organisms, can be found on muddy, sandy and rocky substrates, while fish communities can be found in pelagic waters and in artificial reefs.

Marine mammals, such as dugongs, dolphins and whales, can also be found in the area.

Human Use Features

Hat Ratchakarun, also called Hat Muang, is a curved white sand beach in Ban Khlong Muang. Next to Hat Ratchakarun is Hat Ban Chuen, previously called Hat Maro, another white sand beach with clear seawater suitable for swimming. Tourist facilities are available in the area.

Abundant mangroves and seagrass beds provide important resources for subsistence fishing and aquaculture. Large areas of mangrove forests have been cleared for shrimp farming and other purposes.

Artificial reefs in the area were developed to increase the number of fish stocks and other marine species, as well as to mitigate coastal erosion.

Oil Spill Response Resources

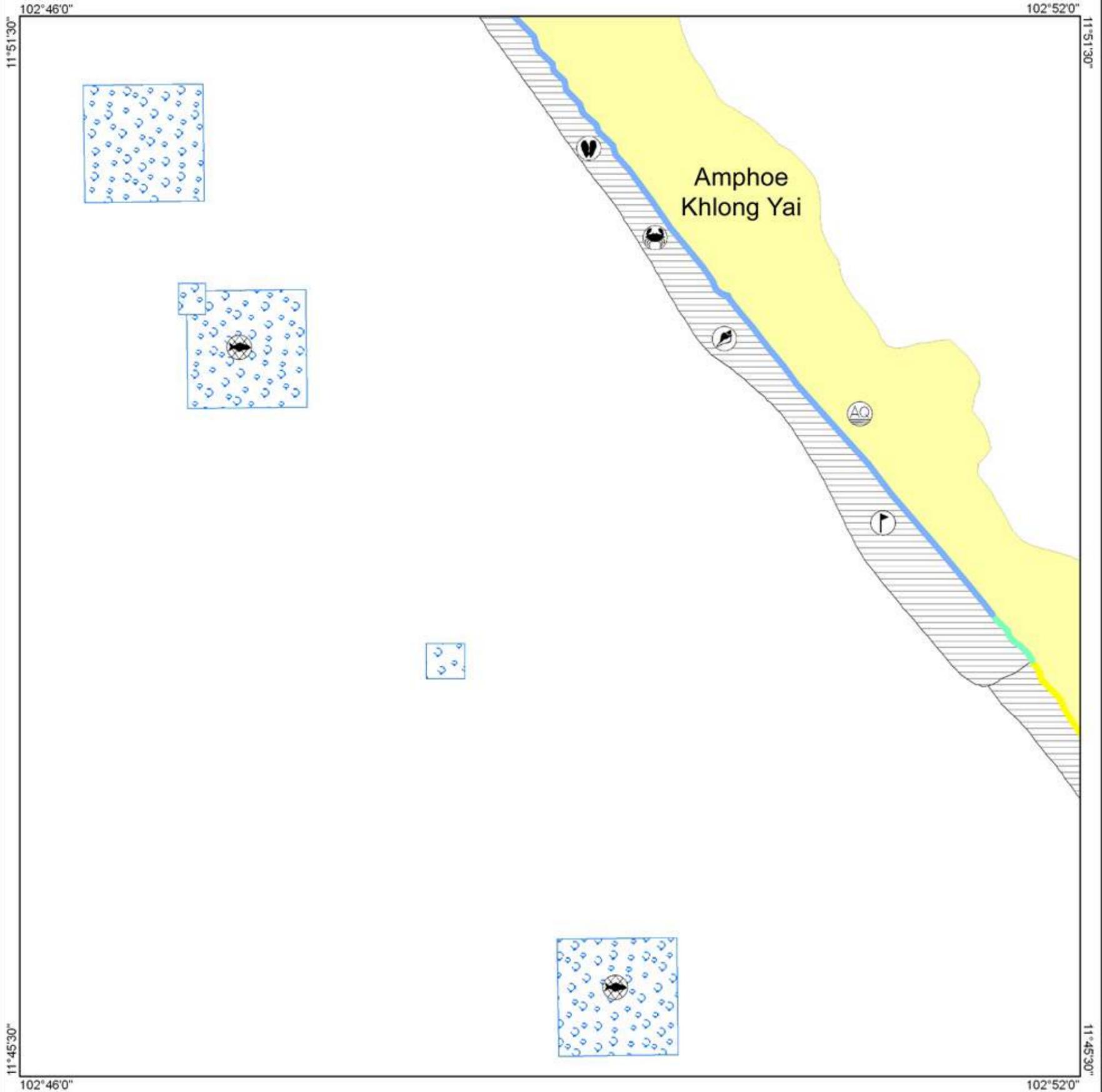
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 163



Shoreline Classification

- ESI 4
- ESI 5
- ESI 8

Biological/Human-Use Areas

- Artificial Reef
- Tidal Flats

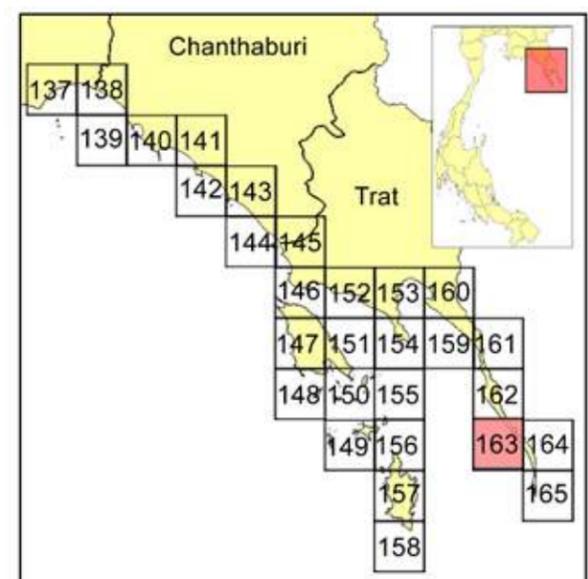
Biological Resources

- Bivalve
- Crab
- Gastropod

Human-Use/ Oil Spill Response Resources

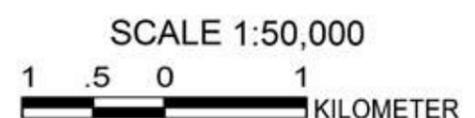
- Aquaculture
- Beach
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Khlong Yai District near the border of Cambodia.

Shoreline

Along the coast in the area are coarse-grained sand beaches (ESI 4), mixed sand and gravel beaches (ESI 5) and sheltered solid man-made structures (ESI 8).

Biological Resources

Some marine organisms, especially benthic organisms like crabs, bivalves and gastropods, can be found on muddy, sandy and rocky substrates, as well as in solid man-made structures, while fish communities can be found in pelagic waters and in artificial reefs.

Human Use Features

Hat Mai Rood in Mai Rood Subdistrict is a beach with alternating white sand and gravel. Local communities along the beach are involved in subsistence fishing and aquaculture, such as shrimp farming.

Artificial reefs in the area were developed to increase the number of fish stocks and other marine species, as well as to mitigate coastal erosion.

Oil Spill Response Resources

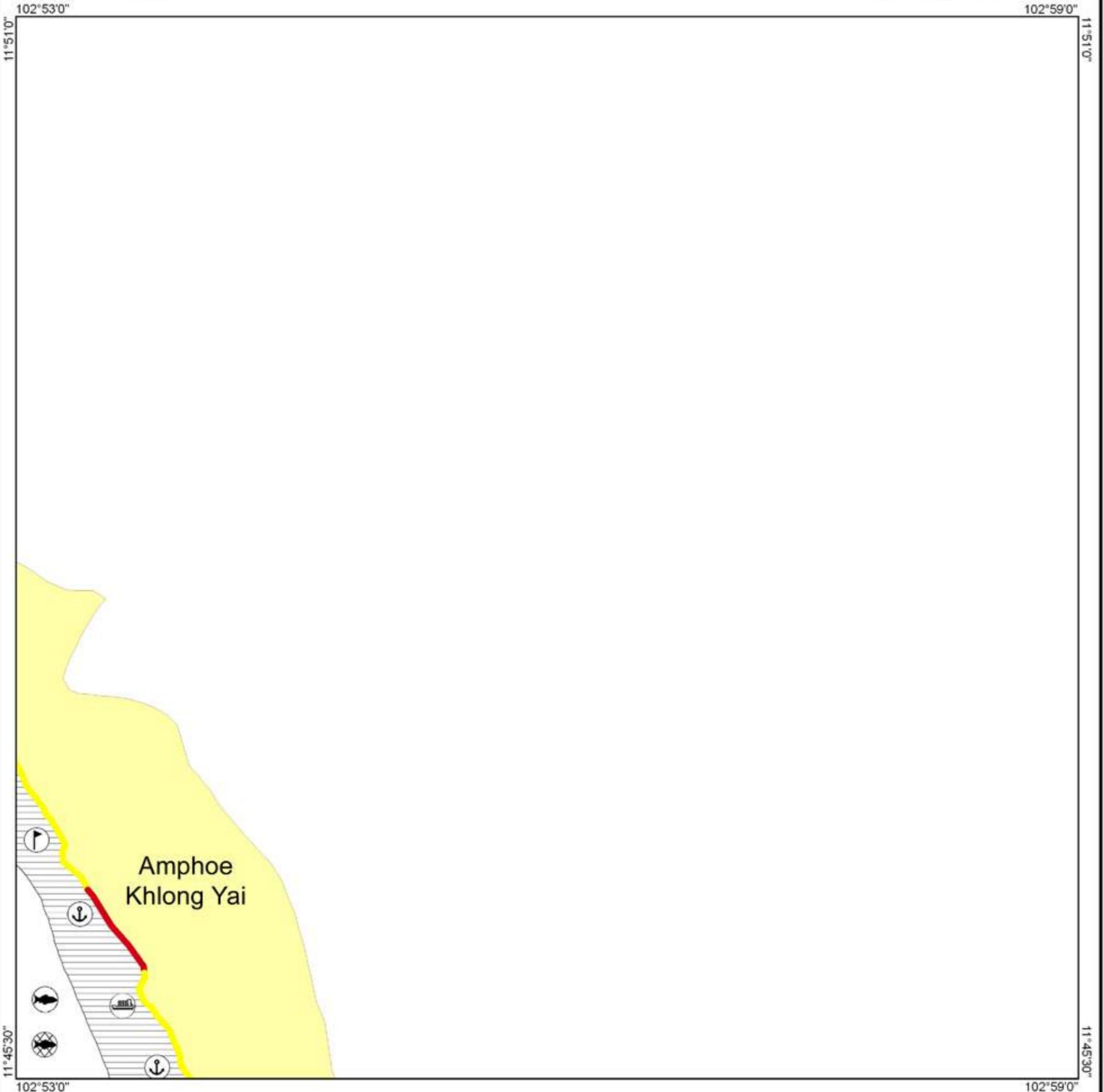
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 164



Shoreline Classification

- ESI 8
- ESI 10B

Biological/Human-Use Areas

- Tidal Flats

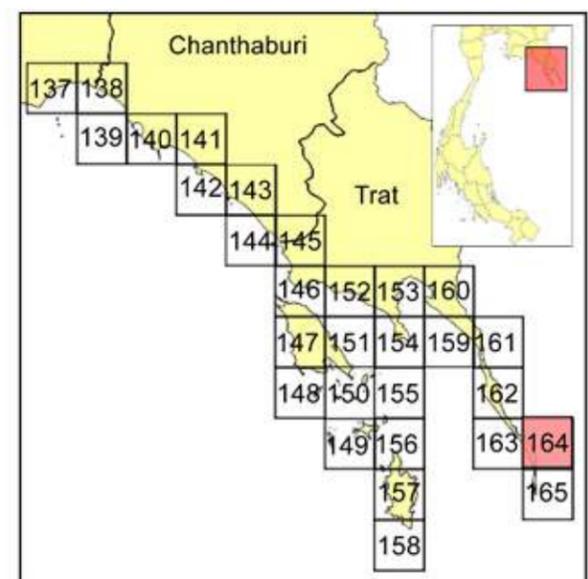
Biological Resources

- Fish/Nursery Area

Human-Use/ Oil Spill Response Resources

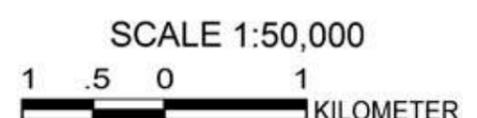
- Beach
- Fishing Port
- Harbor
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Khlong Yai District near the border of Cambodia.

Shoreline

Along the coast in the area are sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Fringing mangroves are situated along the shoreline with muddy substrates.

Some marine organisms, especially benthic organisms, can be found on muddy substrates, as well as in solid man-made structures, while fish communities can be found in coastal waters.

Human Use Features

Many man-made structures have been built on most of the shoreline, including coastal communities, marinas and fishing ports, as well as structures built for protection against coastal erosion.

Local communities are involved in subsistence fishing.

Oil Spill Response Resources

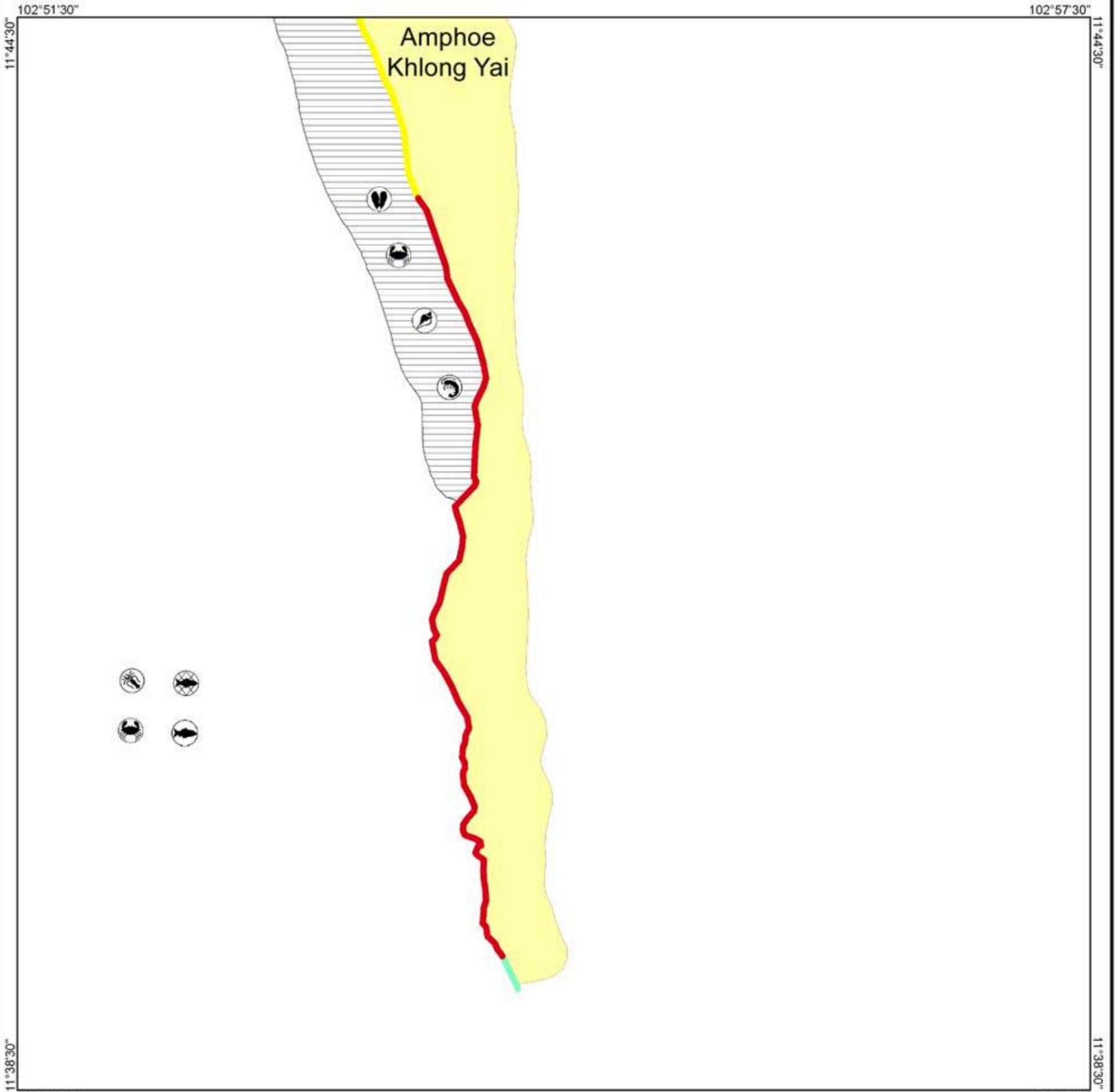
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Trat Province

Thailand - 165



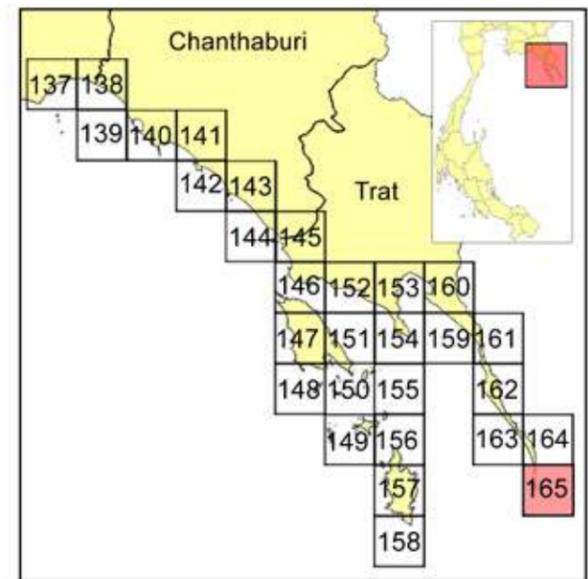
- Shoreline Classification**
- ESI 5
 - ESI 8
 - ESI 10B

- Biological/Human-Use Areas**
- Tidal Flats

- Biological Resources**
- Bivalve
 - Crab
 - Fish/Nursery Area
 - Gastropod
 - Shrimp
 - Squid/Octopus

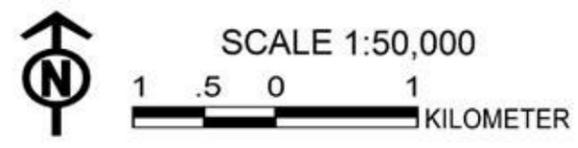
- Human-Use/ Oil Spill Response Resources**
- Subsistence Fishing

Location of Map



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 Marine Department, Ministry of Transport
 1278 Yotha Road, Taladnoi, Samphantawong
 Bangkok 10100 Thailand
 Tel/Fax: (+66) 2 2343832

Not for Navigation



General Information

This area is located in Khlong Yai District near the border of Cambodia.

Shoreline

Along the coast in the area are mixed sand and gravel beaches (ESI 5), sheltered solid man-made structures (ESI 8) and mangroves (ESI 10B).

Biological Resources

Small shrubs of fringing mangroves along the shoreline with muddy substrates are important habitats providing food sources, shelter and nesting and breeding grounds to various coastal and marine organisms, such as fish, crabs, shrimp, squid, gastropods and bivalves.

Some marine organisms, especially benthic organisms, can be found on sandy and muddy substrates, while fish communities can be found in coastal and pelagic waters.

Human Use Features

Local communities are involved in subsistence fishing, while commercial activities can be mostly found at the border of Thailand and Cambodia.

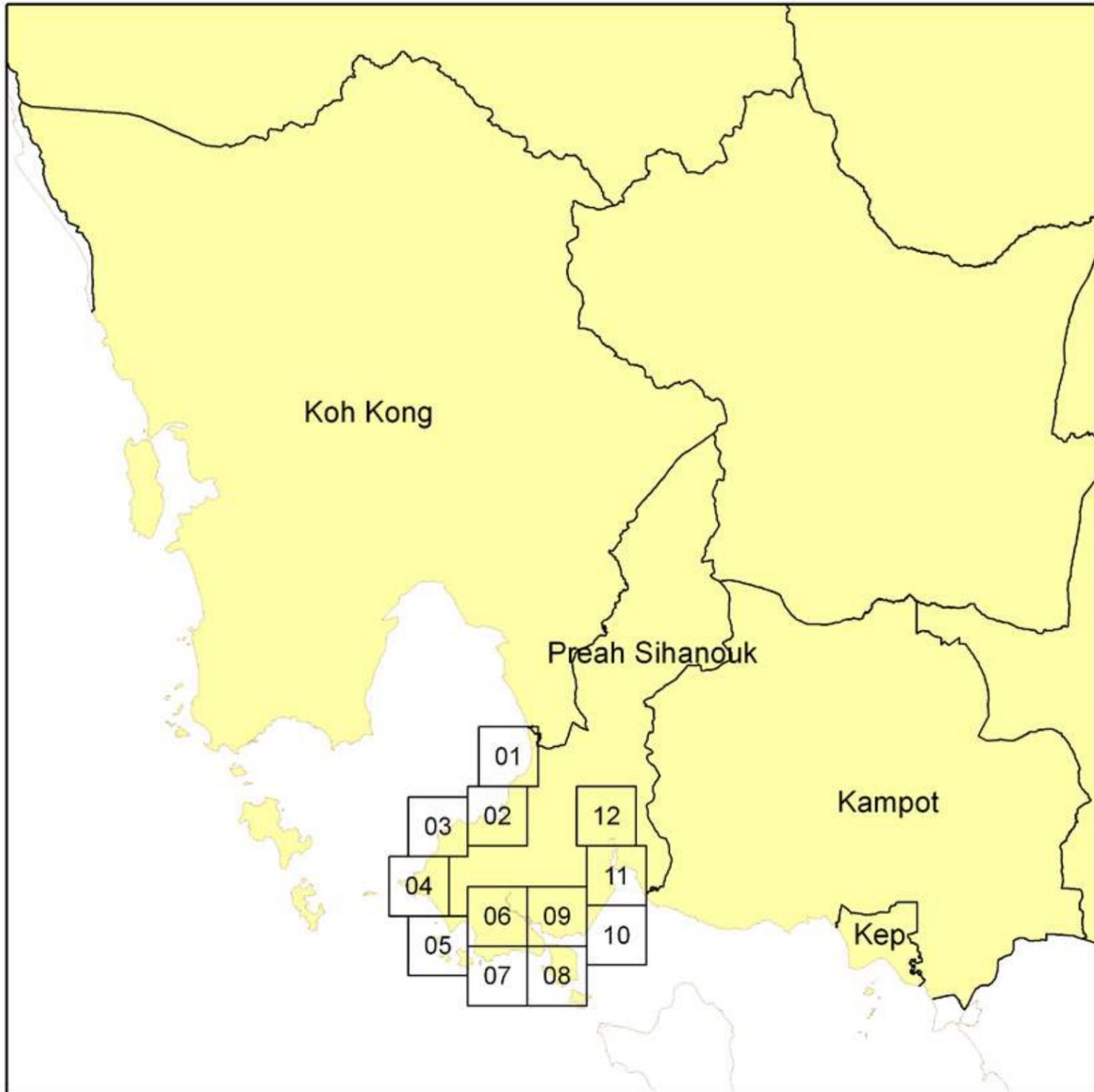
Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

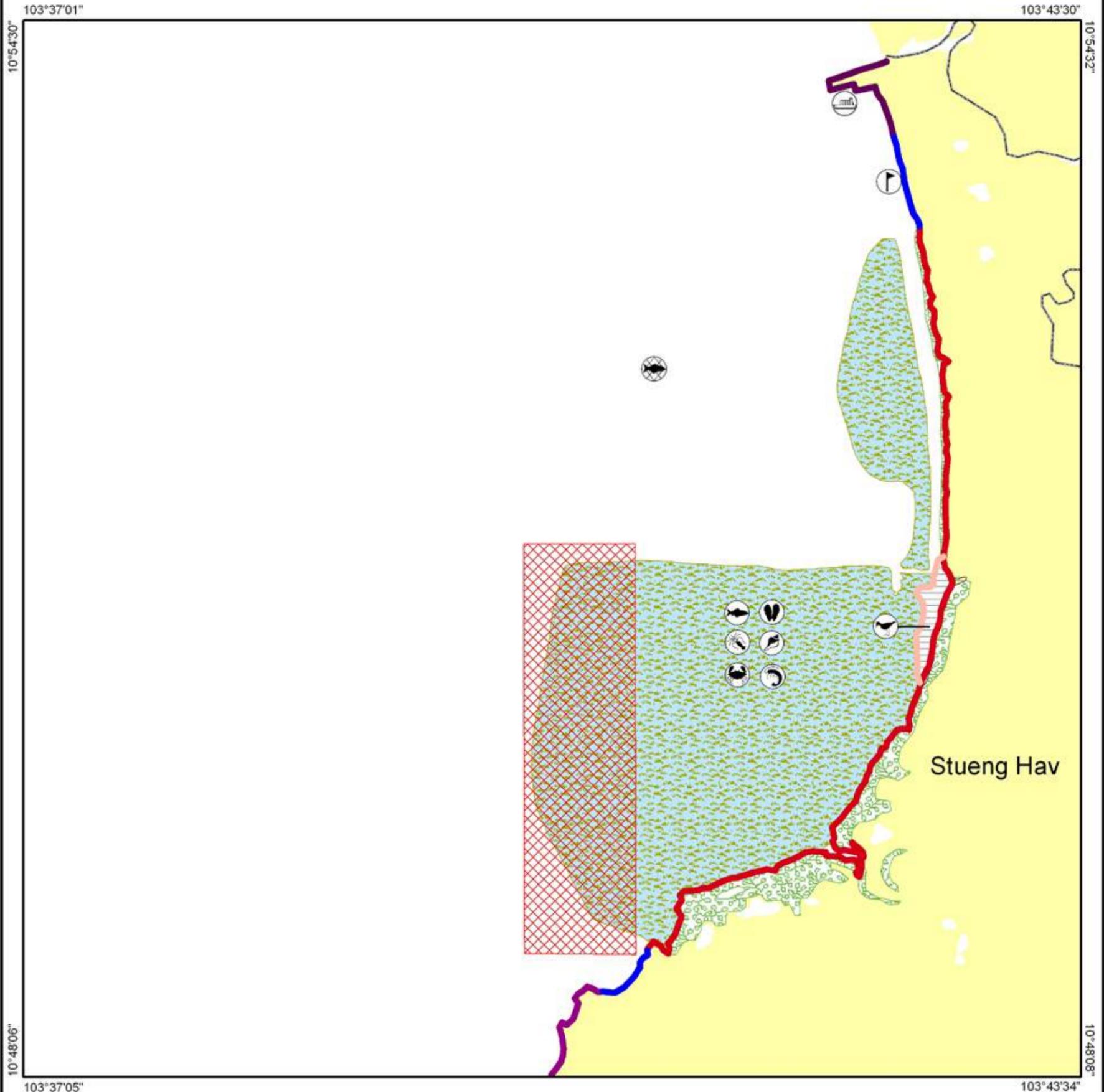
There is no special issue in the area.

Index Map of Cambodia



Preah Sihanouk Province

Cambodia - 01



103°37'05"

103°43'34"

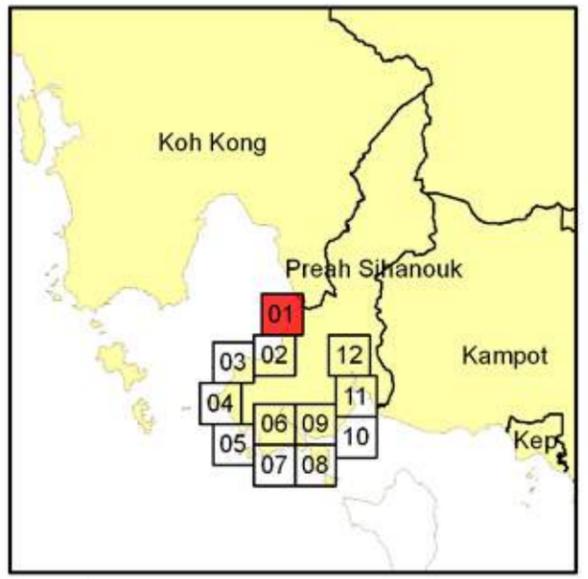
- Shoreline Classification**
- ESI 1
 - ESI 2
 - ESI 3
 - ESI 9A
 - ESI 10B

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish
 - Gastropod
 - Shrimp
 - Squid / Octopus

- Human-Use/ Oil Spill Response Resources**
- Beach
 - Harbor
 - Subsistence Fishing

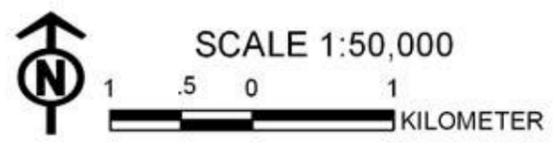
- Biological/Human-Use Areas**
- Mangroves
 - Seagrass Beds
 - Tidal Flats
 - Fish/Shellfish Preserve

Location of Map



Map Production Date: Dec. 6, 2013
 Coastal Coordination Unit, Ministry of Environment
 # 48, St. Preah Sihanouk, Tonle Bassac
 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation



General Information

This area covers Keo Phos region on the northern part of Preah Sihanouk Province's coastline, close to the border of Koh Kong Province, and extends about 11 km from Oknha Mong Rithy Port to the south.

Shoreline

The concrete wall at Oknha Mong Rithy Port is constructed to protect the shore from erosion caused by waves and boat wakes, which makes it exposed to relatively high-energy processes. These construction walls are impermeable substrates and exposed to waves; oil remains on the surface, thus allowing natural forces to remove the oil. This shoreline type is classified as exposed solid man-made structures (ESI 1).

There are two areas of sand beaches located on both sides of the mangrove forest, which are well compacted sediments with grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

The mangrove forest covers a long distance and is located in between two sites of sand beach. Despite its large coverage, the area is not dense and the width is just around 20 to 500 m from the land to the sea. Mangroves usually grow between the low tide and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

The tidal flat at the estuary of Stung Anlong Sar is composed primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish, are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

The bedrock or boulder talus base is found in the southward region. It is the platform composed of hard rock with numerous holes from root cavities. Algae and organisms may be present. Cleanups are made easy because of the exposure to high wave energy and the impermeable substrate. This shoreline type is classified as exposed wave-cut platforms in bedrock, mud or clay (ESI 2).

Biological Resources

There is no specific biological resource recorded in this region. Nevertheless, based on the interviews with community fisheries, it is noted that shellfish and marine fish are present everywhere in seawater, especially in mangroves and seagrass habitats. Furthermore, mangroves, seagrass and tidal flat habitats are found in this region. Tidal flats are usually present with rich biological resources, especially shorebirds.

Human Use Features

There are some human activities in this region, i.e., a private seaport, swimming beach and subsistence fishing in coastal waters. In addition, a seagrass preservation area is designed for fisheries conservation, which is managed by the Fishery Administration of the Ministry of Agriculture, Forestry and Fishery (MAFF).

Oil Spill Response Resources

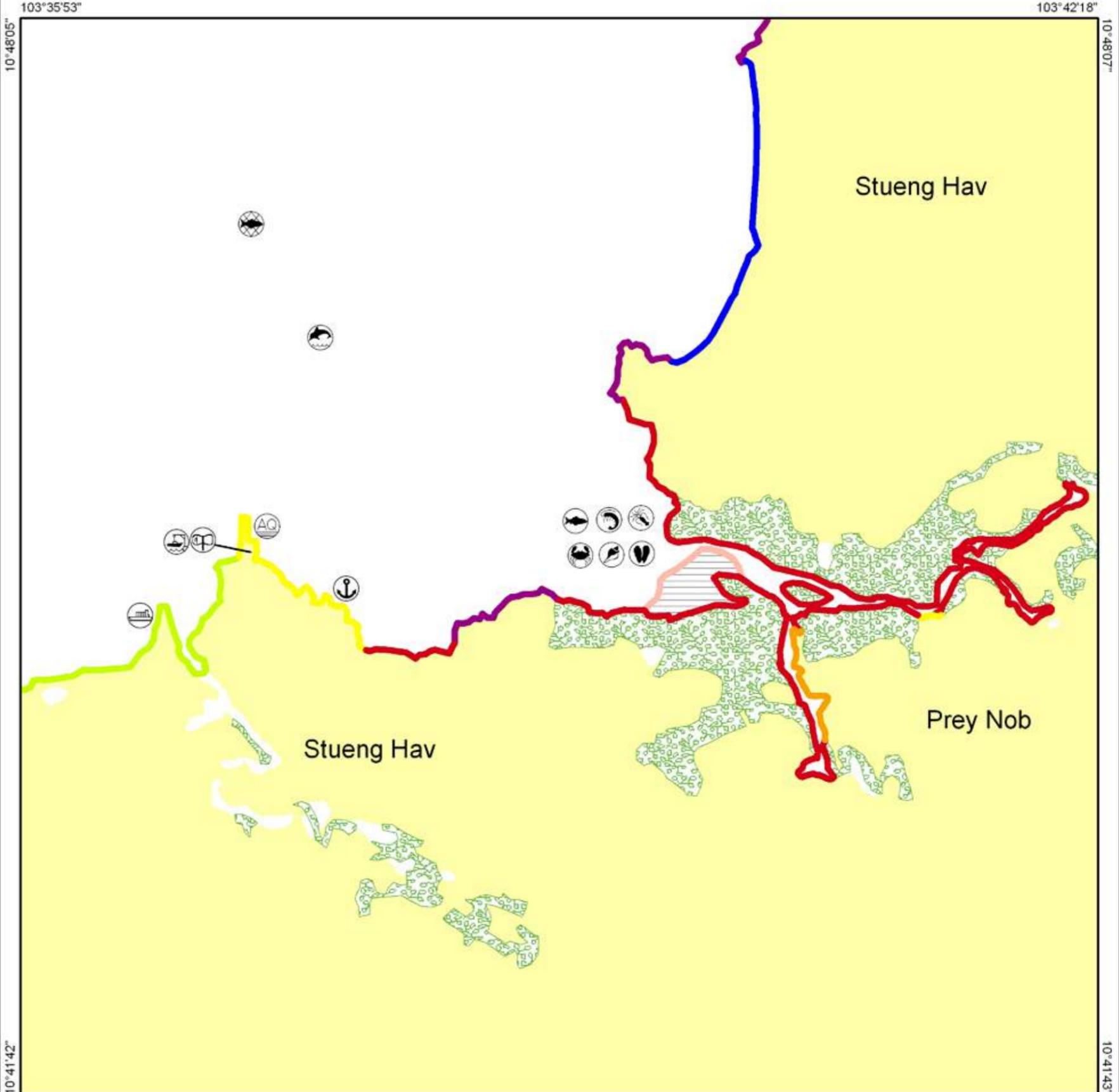
There is no oil spill response equipment located in the area. The nearest available is 6 km away at Stung Hav Port and has limited capacity to respond to oil spills in the area.

Special Issue

There is no special issue in the area.

Preah Sihanouk Province

Cambodia - 02



Shoreline Classification

- ESI 2
- ESI 3
- ESI 6B
- ESI 8
- ESI 9A
- ESI 9B
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

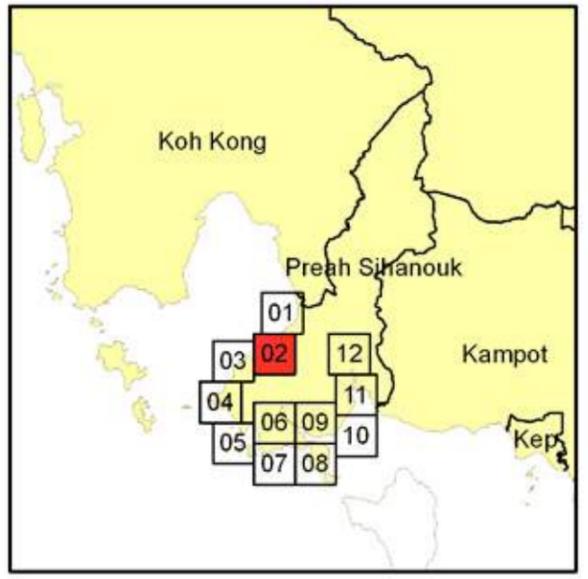
Biological Resources

- Bivalve
- Crab
- Fish
- Gastropod
- Marine Mammal
- Shrimp
- Squid / Octopus

Human-Use/ Oil Spill Response Resources

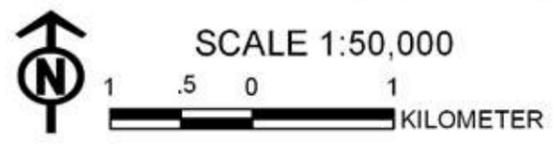
- Aquaculture
- Fishing Port
- Harbor
- Oil Storage Tank
- Oil Spill Response Equipment
- Subsistence Fishing

Location of Map



Map Production Date: Dec. 6, 2013
 Coastal Coordination Unit, Ministry of Environment
 # 48, St. Preah Sihanouk, Tonle Bassac
 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation



General Information

This area covers Stueng Hav region, including Thmar Rung estuary in the middle of the coastline. This region is located on the northern part of Preah Sihanouk Province's coastline, covering the Thmar Rung estuary, Stung Hav village and fishing port and the Special Industrial and Economic Zone.

Shoreline

The bedrock or boulder talus base is found in three places in this region: one in the north of the region while the other two are between the mangrove forest and sand beach. It is the platform composed of hard rock with numerous holes from root cavities. Algae and organisms may be present. Cleanup is made easy because of the exposure to high wave energy and the impermeable substrate. This shoreline type is classified as exposed wave-cut platforms in bedrock, mud or clay (ESI 2).

The sand beach is found in the north of this region, extending to about 3 km in length. The sand is well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

Mangroves mostly cover the Thmar Rung estuary and stream. The mangroves in this region are denser than the mangroves on the previous map. The mangroves usually grow between the low tide and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Soil dikes protecting field crops are commonly constructed between the mangrove area and field crops. Some of the crop land is located in lowlands, which were converted from mangrove forests. The dikes are not strongly constructed and are occasionally flooded during high tides. Vegetation and soil fertility are impacted by oil. This shoreline type is classified as vegetated low banks (ESI 9B).

Tidal flats at the estuary of Thmar Rung Stream are composed primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish, are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

The floating houses are built on water. The houses' materials are constructed from concrete and wood. Oil is sheltered under these houses and adheres to the houses' wood by wave and tidal forces. This shoreline type is classified as sheltered solid man-made structures (ESI 8).

A newly developed land of seaport, coal industry and special industrial and economic zone, including residential areas, were constructed using soil mixed with cobble- to boulder-sized blocks of rock or concrete to prevent erosion caused by strong waves and tides. The oil can deeply penetrate into the holes of blocks. Cleanup is hard, unless it is removed or replaced. This shoreline type is classified as riprap (ESI 6B).

Biological Resources

There is no specific biological resource recorded in the area. However, one dolphin was seen during a field visit tracking ESI shoreline classification. Marine fish and some shellfish were located on the map based on interviews with fisherfolks. In addition, mangroves and tidal flat habitats are found in this region.

Human Use Features

There are some human activities in this region, i.e., farming cages, community fishing port, oil port and oil storage tanks of LHR Company. A new private port is under construction at the special industrial and economic zones and there is subsistence fishing along the coast.

Oil Spill Response Resources

There are available oil spill response equipments in the area. Most oil companies report that each oil storage place consists of oil spill response equipment (booms, absorbents, chemical dispersants, etc.) and an oil skimmer, but these equipment are only able to prevent accidents inside the storage place and have limited capacity to prevent accidents at sea.

Special Issue

There is no special issue in the area.

Preah Sihanouk Province

Cambodia - 03

103°29'24"

103°35'53"

10°46'56"

10°46'57"

10°40'31"

10°40'33"



103°29'24"

103°35'53"

Shoreline Classification

- ESI 2
- ESI 3
- ESI 6B

Biological/Human-Use Areas

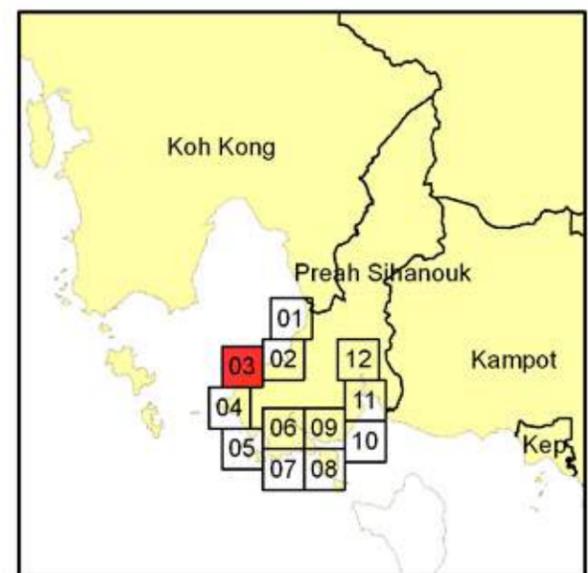
Biological Resources



Human-Use/Oil Spill Response Resources

- Beach
- Harbor
- Oil Storage Tank
- Oil Spill Response Equipment

Location of Map



Map Production Date: Dec. 6, 2013
 Coastal Coordination Unit, Ministry of Environment
 # 48, St. Preah Sihanouk, Tonle Bassac
 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation



SCALE 1:50,000



General Information

This area extends from Kampenh commune to the south, which almost reaches the International Seaport of Preah Sihanouk Province, and covers the areas of Kampenh commune, Ou Treh commune and Sangkat Lekh Muoy of Preah Sihanouk City.

Shoreline

A newly developed land of seaport and residential areas were constructed using soil mixed with cobble- to boulder-sized blocks of rock or concrete to protect erosion caused by strong waves and tides. The oil can deeply penetrate into the holes of blocks. Cleanup is hard, unless it is removed or replaced. This shoreline type is classified as riprap (ESI 6B).

Sand beaches are found in four places with short distances. The sand is well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

The bedrock or boulder talus base is found in three places in this region. It is the platform composed of hard rock with numerous holes from root cavities. The slope is less than 30°. Cleanup is made easy because of the exposure to high wave energy and the impermeable substrate. This shoreline type is classified as exposed wave-cut platforms in bedrock, mud or clay (ESI 2).

Biological Resources

There is no specific biological resource recorded in this region. Nevertheless, based on interviews with fisherfolks, it is noted that marine fish and shellfish can be present everywhere in seawater.

Human Use Features

There are some human activities in this region, such as a swimming beach, a newly developed harbor and oil storage tanks of Caltex, Tela and Sokimex.

Oil Spill Response Resources

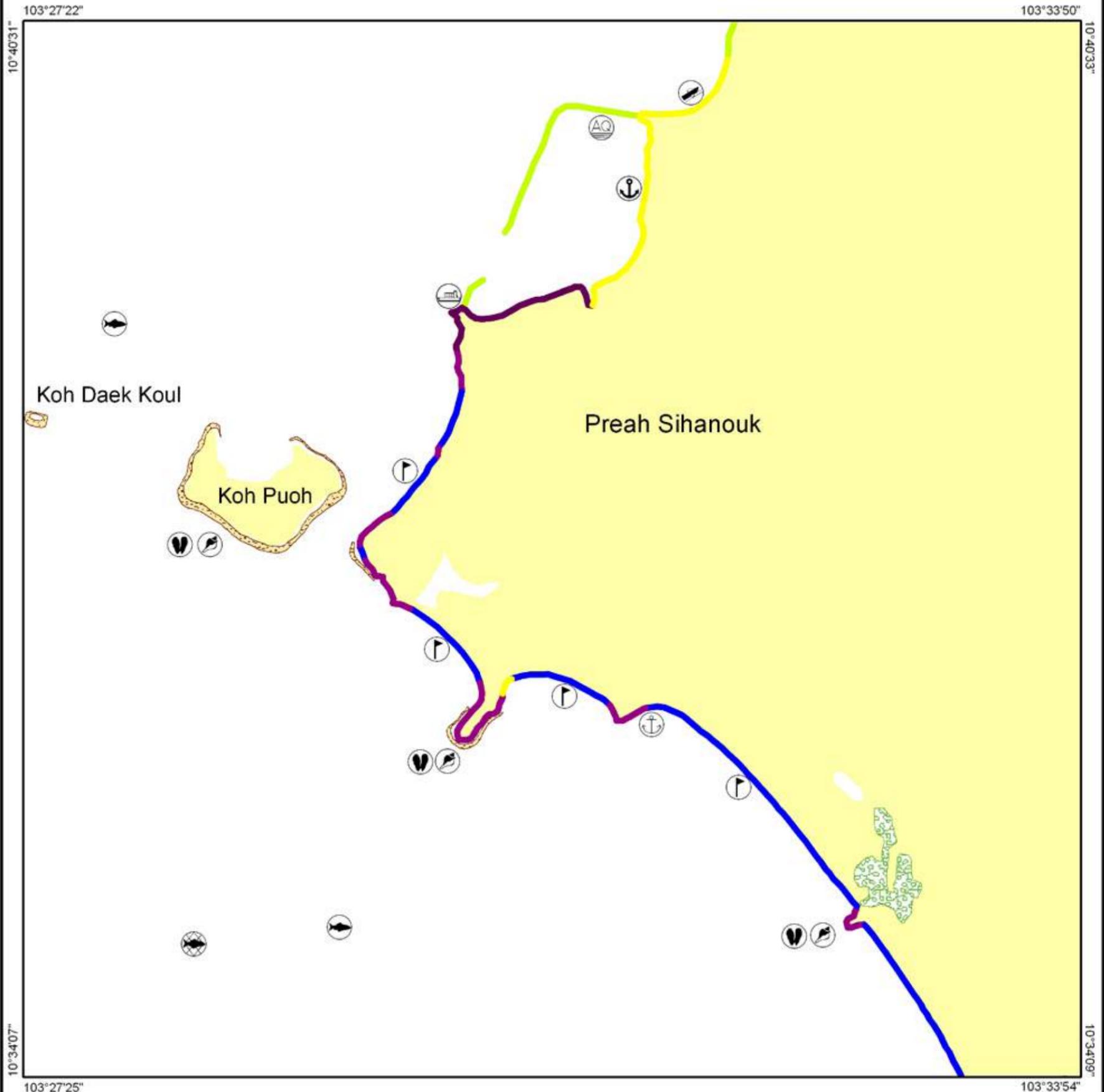
There are available oil spill response equipments in the area. Most oil companies report that each oil storage place consists of oil spill response equipment (booms, absorbents, chemical dispersants, etc.) and an oil skimmer, but these equipment are only able to prevent accidents inside the storage place and have limited capacity to prevent accidents on the sea.

Special Issue

There is no special issue in the area.

Preah Sihanouk Province

Cambodia - 04



103°27'25"

- Shoreline Classification**
- ESI 1
 - ESI 2
 - ESI 3
 - ESI 6B
 - ESI 8

Biological Resources

- Bivalve
- Fish
- Gastropod

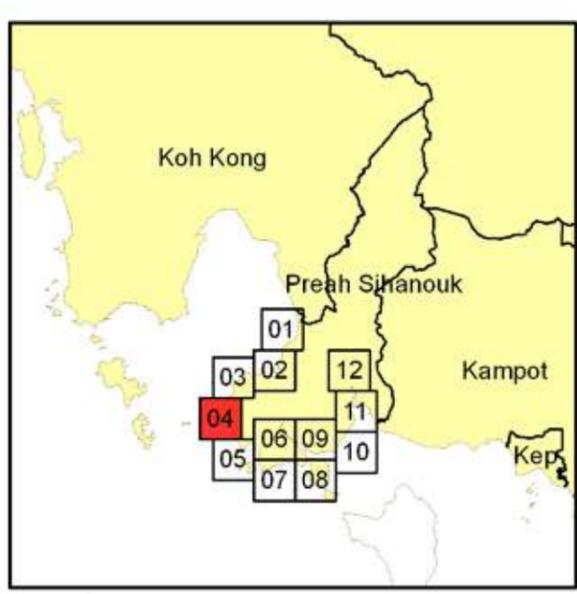
Human-Use/ Oil Spill Response Resources

- Beach
- Boat Ramp
- Aquaculture
- Fishing Port
- Harbor
- Marina
- Subsistence Fishing

Biological/Human-Use Areas

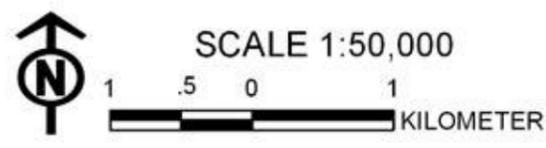
- Coral Reef
- Mangroves

Location of Map



Map Production Date: Dec. 6, 2013
 Coastal Coordination Unit, Ministry of Environment
 # 48, St. Preah Sihanouk, Tonle Bassac
 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation



General Information

This area covers almost the entire Preah Sihanouk city's coastline (known as Sihanoukville). This region extends from the International Seaport to the Ou Treh swimming beach in the northern part of the city. It covers important places in Sihanoukville, such as Tumnob Rolok Port, International Seaport, Koh Pous Beach, Victoria Beach, Sokha Beach, Ochheuteal Beach and Ou Treh Beach.

Shoreline

The bedrock or boulder talus base is found in several places, mostly at the capes of the coastline. It is a platform composed of boulders and hard rocks. Algae and organisms may be present. Cleanup is made easy because of the exposure to high wave energy and the impermeable substrate. This shoreline type is classified as exposed wave-cut platforms in bedrock, mud or clay (ESI 2).

A number of floating houses built on water are found inside and outside the harbor in Tumnob Rolok and near Sokha Beach. The houses' materials are constructed from concrete and wood. Oil will be sheltered under the houses and adheres to the houses' wood by wave and tidal forces. This shoreline type is classified as sheltered, solid man-made structures (ESI 8).

The concrete wall at the International Seaport is constructed to protect the shore from erosion caused by waves and boat wakes, which makes it exposed to relatively high-energy processes. These construction walls are impermeable substrates and exposed to waves; oil remains on the surface, thus allowing natural forces to remove the oil. This shoreline type is classified as exposed solid man-made structures (ESI 1).

Cobble- to boulder-sized blocks of rock and concrete are used to construct the shores to protect seaports and residential areas from erosion brought by tides and strong waves. The oil can deeply penetrate into the holes of blocks. Cleanup is hard, unless it is removed or replaced. This shoreline type is classified as riprap (ESI 6B).

Sand beaches are found in many places with short to long distances. The width of sand beaches from the land to the sea is about 5 to 30 m. Concrete walls were constructed behind the sand beaches on land; it is mostly found in Preah Sihanouk Province. The sand is well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified in as fine- to medium-grained sand beaches (ESI 3).

Biological Resources

There is no specific biological resource recorded in this region. However, shellfish and marine fish are present everywhere in seawater, based on interviews with fisherfolks. Marine mammals are present in offshore water near Rung Island and between Rung Samleng and Tang islands, which are not located so far from this region. Furthermore, coral reef habitats are found around Koh Puos Island and Koh Daek Koul Island and around Poy Kampenh connected to the bedrock of the shoreline, which are the mostly significant habitats for fish and shellfish. Additionally, a small area of mangrove is found along a small stream between Ochheuteal and Ou Treh.

Human Use Features

There are some human activities in this region, such as an international seaport, a boat ramp on a boat workshop, a tourist port or marina at Ochheuteal Beach, a farming cage and a fishing port on the harbor and five beautiful swimming beaches, namely: Koh Pous Beach, Victoria Beach, Sokha Beach, Ochheuteal Beach and Ou Treh Beach. There is subsistence fishing on coastal waters.

Oil Spill Response Resources

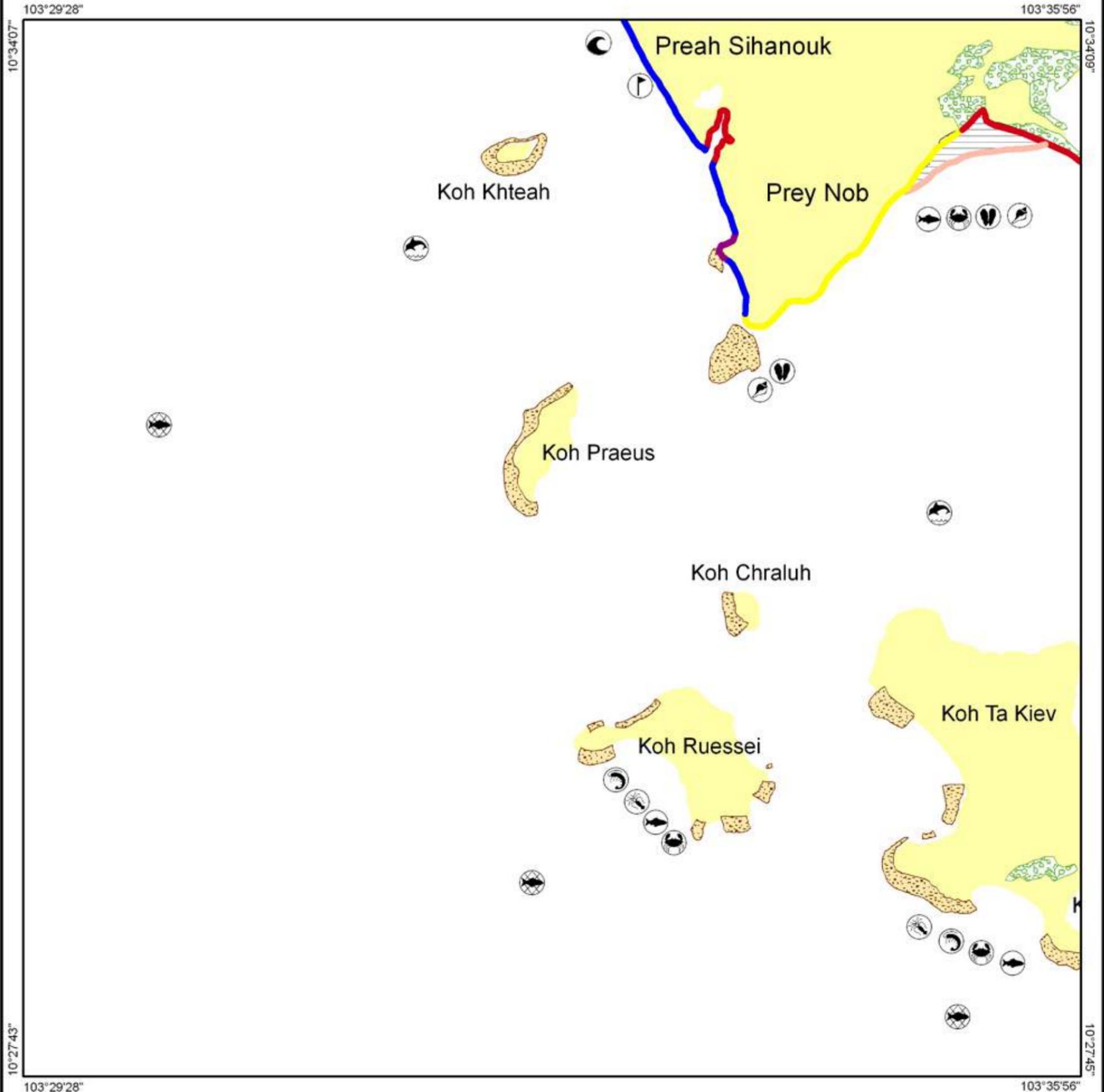
Most oil companies report that each oil storage place consists of oil spill response equipment (booms, absorbents, chemical dispersant, etc.) and an oil skimmer, but these equipment are only able to prevent accidents inside the storage place and have limited capacity to prevent accidents on the sea.

Special Issue

This region covers popular beaches in Sihanoukville, namely: Koh Pous, Victoria, Sokha, Ochheuteal and Ou Treh, which are visited daily by local and foreign tourists. These places can be highly affected by oil spills.

Preah Sihanouk Province

Cambodia - 05



Shoreline Classification

- ESI 2
- ESI 3
- ESI 8
- ESI 9A
- ESI 10B

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Tidal Flats

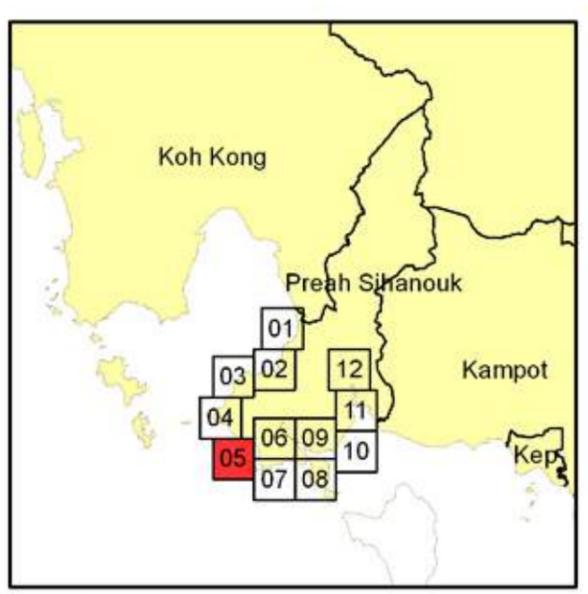
Biological Resources

- Bivalve
- Crab
- Fish
- Gastropod
- Marine Mammal
- Shrimp
- Squid / Octopus

Human-Use/ Oil Spill Response Resources

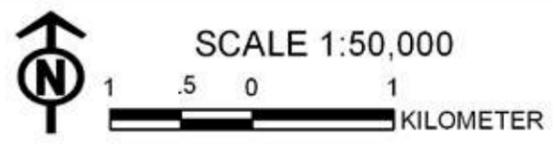
- Beach
- Subsistence Fishing
- Surfing

Location of Map



Map Production Date: Dec. 6, 2013
 Coastal Coordination Unit, Ministry of Environment
 # 48, St. Preah Sihanouk, Tonle Bassac
 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation



General Information

This area covers half of Ou Treh Beach and half of Ream Bay and includes several islands. This region extends from the middle of Ou Treh Beach up to the coconut palm field at Ream Beach. There are several islands surrounded by natural habitats, and coral reefs are also located in this region.

Shoreline

The beautiful sand beaches that attract tourists cover a long distance extending from Ochheuteal Beach to Ou Treh Beach. The sand is well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

Mangroves cover the surrounding streams and a big lagoon named Boeng Thum Angkeb. The mangrove areas are located between low tide and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

The bedrock or boulder talus base is found at one of the capes on the coastline end of Ou Treh Beach. It is the platform composed of boulders and hard rocks. Algae and organisms may be present. Cleanup is made easy because of the exposure to high wave energy and the impermeable substrate. This shoreline type is classified as exposed wave-cut platforms in bedrock, mud or clay (ESI 2).

Rocky rubble shore is found in the western part of Ream Bay. It is mixed sand and boulders of bedrock or rocky rubbles with vegetation. The shoreline is sheltered from waves and tidal forces. High algae and organism are present because it is attached with vegetation. This shoreline type is classified as sheltered rocky rubble shores (ESI 8).

Tidal flat covers the estuary of the small stream, which is composed primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish, are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

Biological Resources

This region consists of rich biological resources and natural habitats. Coral reef is found along the coastline and around the islands. Dolphins are present in coastal waters of the region. Shellfish and marine fish are highly present near Koh Ruessei and Koh Ta Kiev. Mangroves and tidal flats are located in Ream Bay and around Boeng Thum Angkeb.

Human Use Features

There are some human activities in this region, i.e., surfing and a beautiful swimming beach named Ou Treh Beach, which attracts local and foreign tourists. Many subsistence fishing activities are found in coastal and pelagic waters.

Oil Spill Response Resources

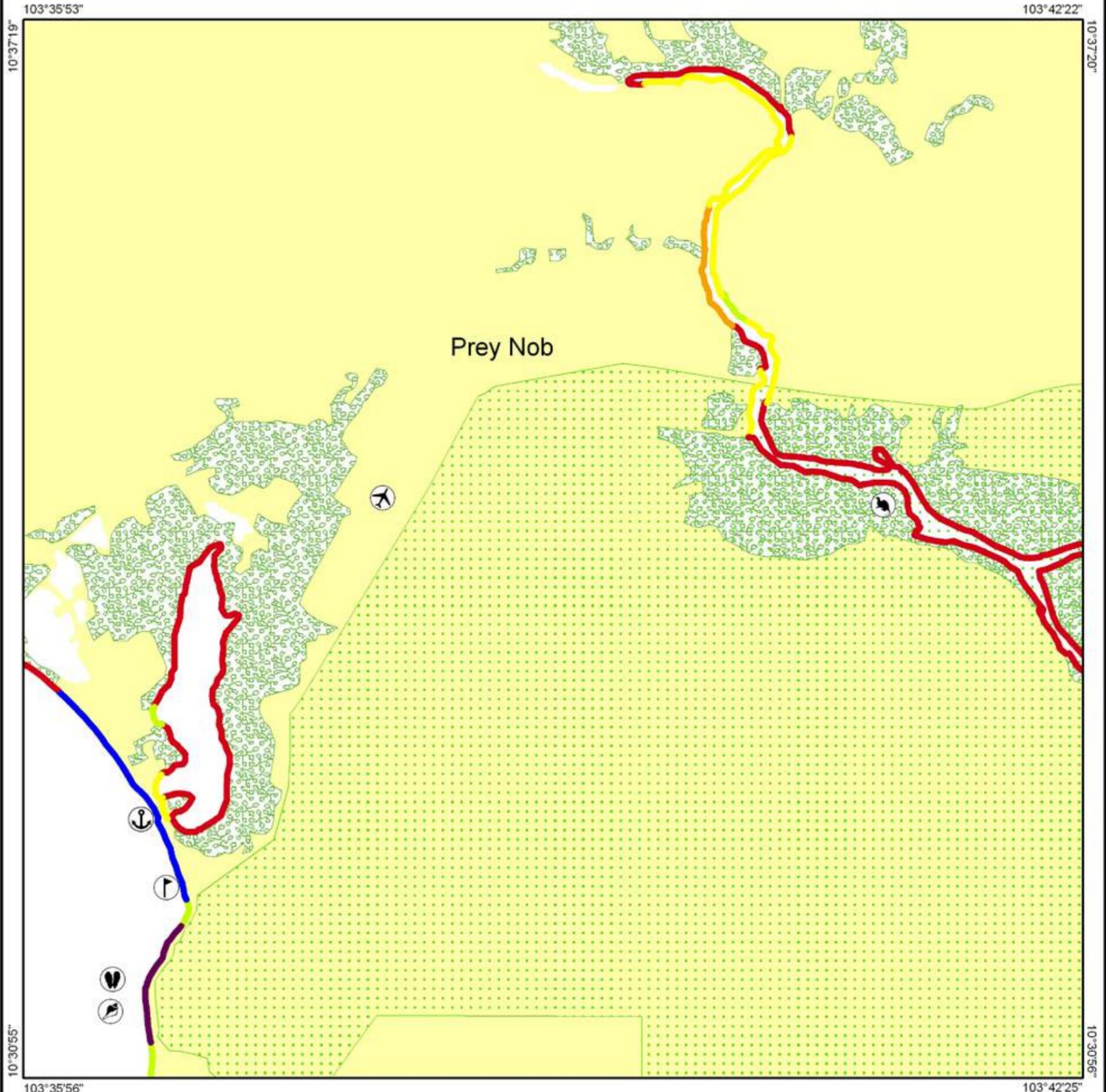
There is no oil spill response equipment located in the area. The nearest equipment available is 5 km away at Ream National Park, but it has limited capacity to respond to oil spills in the area.

Special Issue

This region is highly prone to oil spills, which may affect subsistence fishing and natural habitats.

Preah Sihanouk Province

Cambodia - 06



103°35'56"

- Shoreline Classification**
- ESI 1
 - ESI 3
 - ESI 6B
 - ESI 8
 - ESI 9B
 - ESI 10B

Biological Resources

- Bivalve
- Gastropod
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Airport
- Beach
- Fishing Port

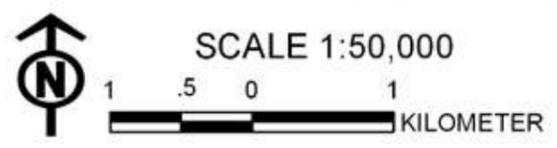
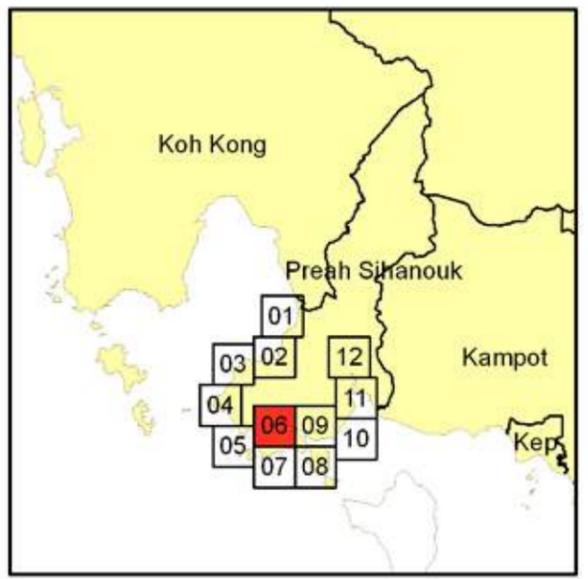
Biological/Human-Use Areas

- Mangroves
- National Park

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 Chamkarmorn, Phnom Penh, Cambodia
 Tel/Fax: (+855) 23 216510

Not for Navigation

Location of Map



General Information

This area covers the half part of Ream Beach extending from the coconut palm field up to the navy port and the upstream of Prek Tuek Sap. There is a big lagoon in this region named Boeng Thum Angkeb, and a domestic airport is adjacent to this lagoon.

Shoreline

Mangroves are located along the upstream of Prek Tuek Sap and surrounded by a big lagoon. The mangrove areas are located between low tide and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

The sand beach is found at Ream Beach, which is a place for tourists. Most of the beaches in Preah Sihanouk Province are well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration is less than 10 cm. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

Rocky cliffs have a slope greater than 30° with boulder talus base. Algae and organisms may be present in the boulder talus base. The shoreline is exposed to wave and tidal energy, with no potential for subsurface oil penetration. This shoreline type is classified as exposed rocky cliffs with boulder talus base (ESI 1).

Cobble- to boulder-sized blocks of rock are used to construct the shores' mixed concrete walls to protect residential areas and the navy property from erosion caused by strong waves and tides. The oil can deeply penetrate into the holes of blocks. Cleanup is hard, unless it is removed or replaced. This shoreline type is classified as riprap (ESI 6B).

The floating houses are built on water in the lagoon. The houses' materials are constructed with concrete and wood. Oil is sheltered under the houses and adheres to the wood by wave and tidal forces. This shoreline type is classified as sheltered solid man-made structures (ESI 8).

Crop land and plantation are commonly located in higher lands than paddy fields. Soil dikes are not flooded by seawater. However, vegetation, grass or mangroves are usually grown along dikes. Oil is sheltered and adheres to the dikes. This shoreline type is classified as sheltered solid man-made structures (ESI 8).

Soil dikes protecting paddy fields are constructed in low elevation in this region. These are occasionally flooded during high tides. Rice paddies and habitats are impacted by oil during high tide. It is classified as vegetated low banks (ESI 9B).

Biological Resources

This region consists of natural habitats, especially mangroves, surrounding the lagoon and along the upstream of Prek Tuek Sap. Marine fish and shellfish are usually present in mangrove habitats. Shellfish are also found near the rocky cliff's base and terrestrial mammals are found in the estuaries in Prek Tuek Sap.

Human Use Features

There are some human activities in this region, i.e., swimming beach at Ream Beach, fishing port near the coconut palm field and a domestic airport that is located near the lagoon.

Oil Spill Response Resources

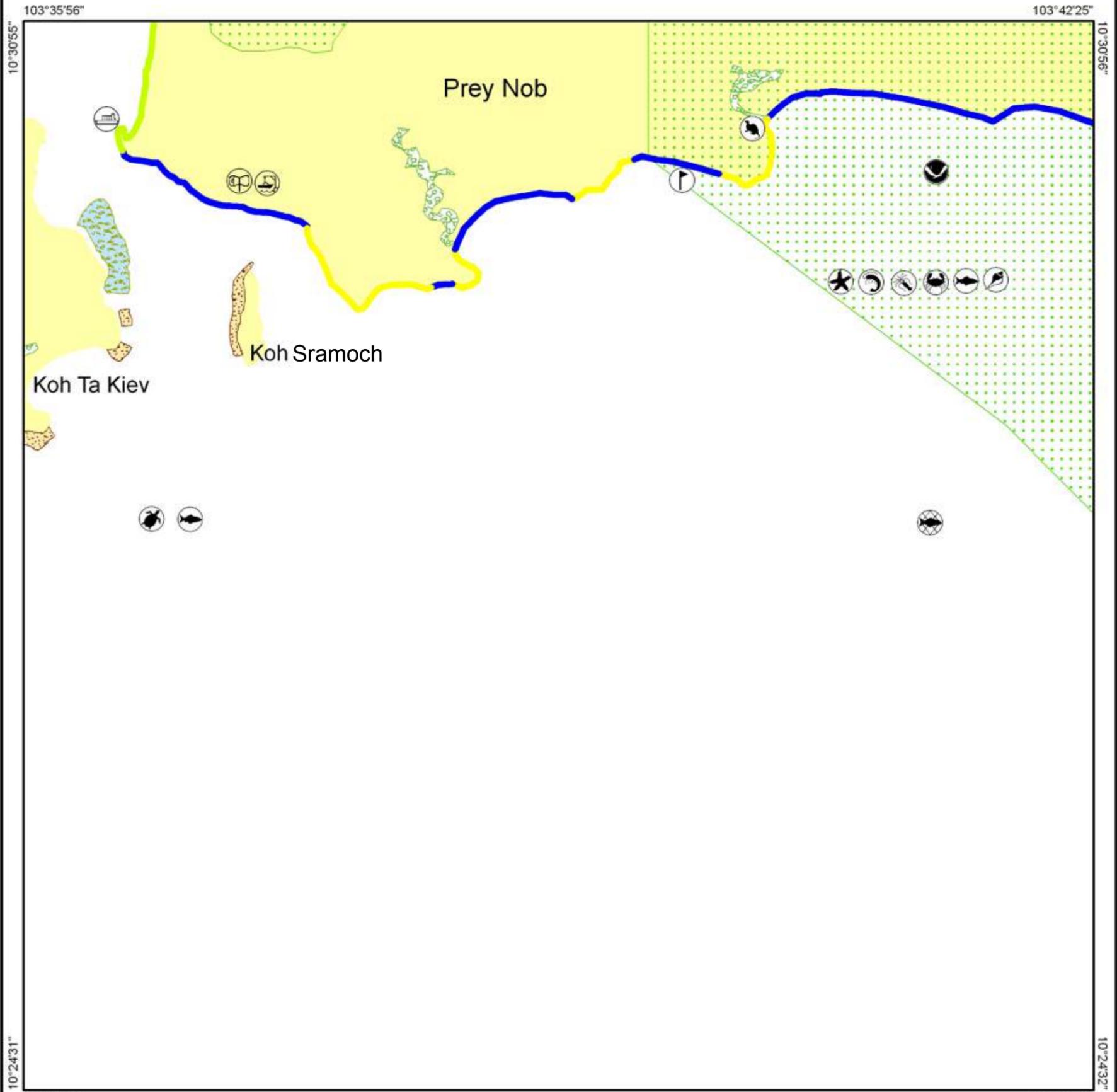
There is no oil spill response equipment located in the area. The nearest equipment is 3 km away at Ream National Park, but it has limited capacity to respond to oil spills in the area.

Special Issue

This region is highly prone to oil spills as it is close to the airport.

Preah Sihanouk Province

Cambodia - 07



Shoreline Classification

- ESI 3
- ESI 6B
- ESI 8

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Seagrass Beds
- National Park

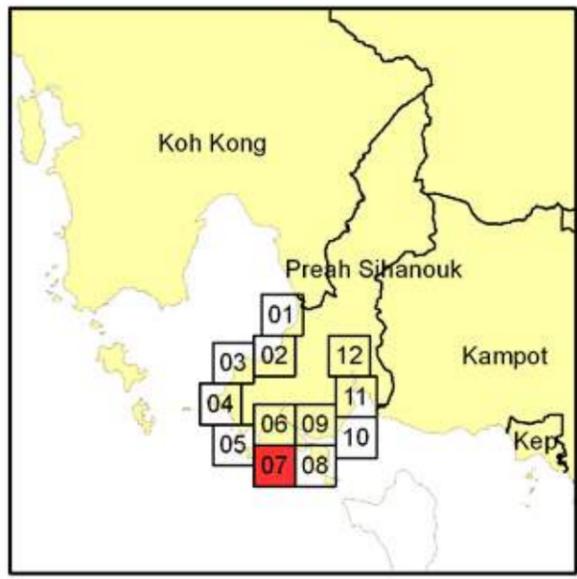
Biological Resources

- Crab
- Echinoderm
- Fish
- Gastropod
- Shrimp
- Squid / Octopus
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

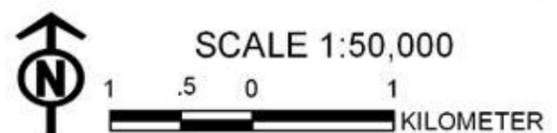
- Beach
- Harbor
- Marine Sanctuary
- Oil Storage Tank
- Oil Spill Response Equipment
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area is located on the eastern part of Ream Bay, extending from the navy zone to the east, covering about 10 km. This region covers some parts of Koh Ta Kiev, Koh Sramoch and Ream National Park.

Shoreline

Boulders and a concrete wall are constructed to protect residential areas and the navy property from erosion caused by strong waves and tides. Cobble- to boulder-sized blocks of rock are used to construct these concrete walls. The oil can deeply penetrate into the holes of blocks. Cleanup is hard, unless it is removed or replaced. This shoreline type is classified as riprap (ESI 6B).

The sand beach is found near the navy property. The sand is well compacted sediments with the grain size smaller than 1 mm. The sand beach close to the navy zone is too narrow, which is estimated to be just around 2 to 5 m from the sea to the land, mixed with bedrock and connected with vegetation. It is similar to ESI 9B. However, it has limited oil penetration and vegetation does not flood during high tides. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

Rocky rubble shores are mixed with sand and boulders of bedrock or rocky rubbles with vegetation. The shoreline is sheltered from the wave and tidal forces. High algae and organism are present because it has vegetation. This shoreline type is classified as sheltered rocky rubble shores (ESI 8).

Biological Resources

Dolphins are present in coastal waters in Ream Bay, but these can swim around Koh Ta Kiev, which is located in this region. Marine fish and shellfish are present everywhere in seawater. The turtles and crabs have been fished offshore the seawater and nearby islands, especially near Koh Ruessei and Koh Ta Kiev. In addition, coral reefs exist around the islands while seagrass are found near Koh Ta Kiev. Terrestrial mammals are usually present in the estuary of the streams.

Human Use Features

There are some human activities in this region, i.e., oil storage tanks, a navy property and navy port that are close to Ream National Park and a swimming beach under Chinese management. There is also a subsistence fishing area around the islands, offshore seawater and inside the national park. The Ream National Park has been designed for biological and natural resources management, conservation and protection, as well as a marine sanctuary, which is under the management of the Ministry of Environment.

Oil Spill Response Resources

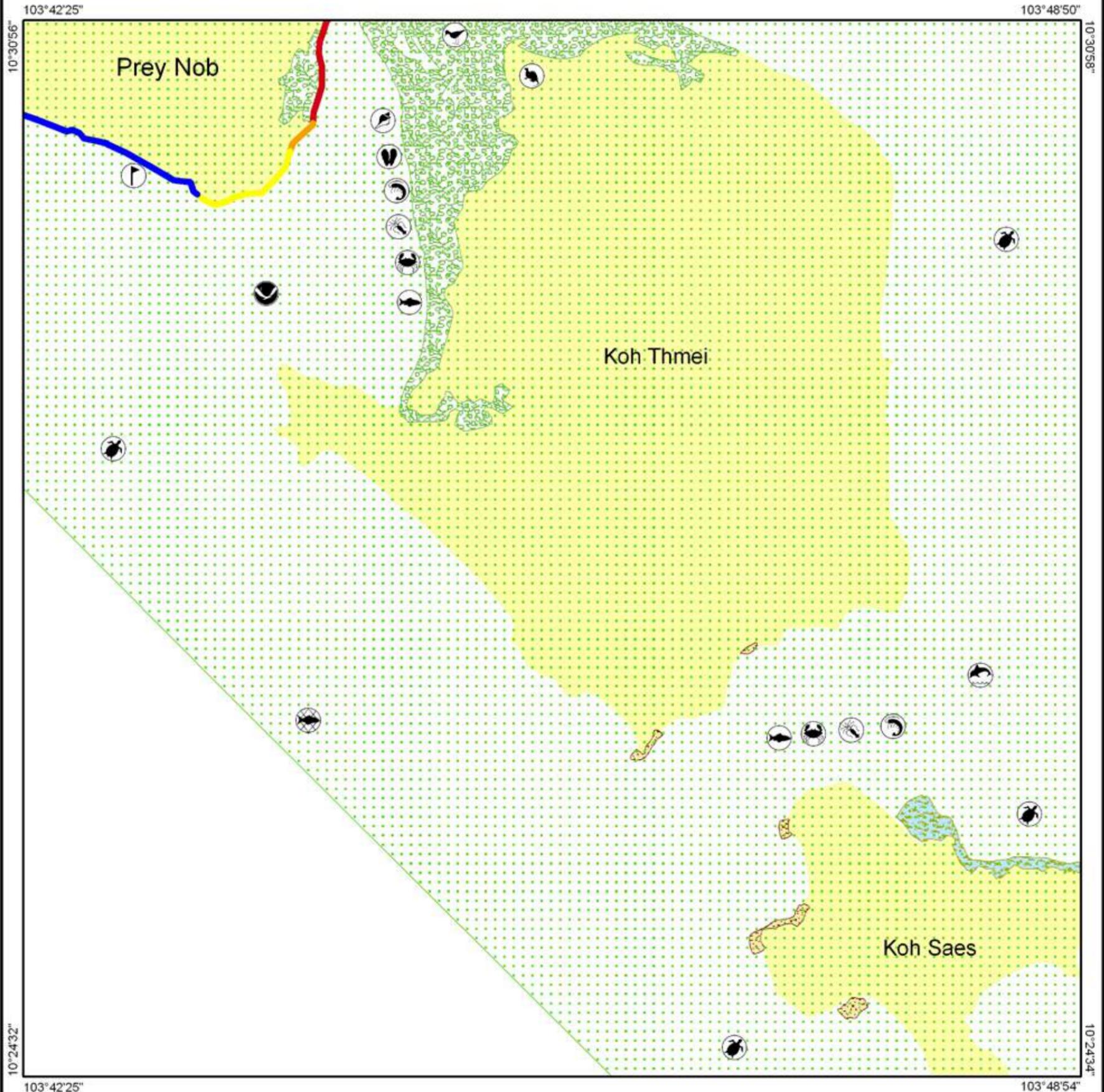
There are available oil spill response equipment in this region. Most oil companies report that each of the oil storage places consists of oil spill response equipment (booms, absorbents, chemical dispersant, etc.) and an oil skimmer, but these equipment are only able to prevent accidents inside the storage place and have limited capacity to prevent accidents on the sea.

Special Issue

This region is highly prone to oil spills, which may affect subsistence fishing and natural habitats.

Preah Sihanouk Province

Cambodia - 08



Shoreline Classification

- ESI 3
- ESI 8
- ESI 9B
- ESI 10B

Biological/Human-Use Areas

- Coral Reef
- Mangroves
- Seagrass Beds
- National Park

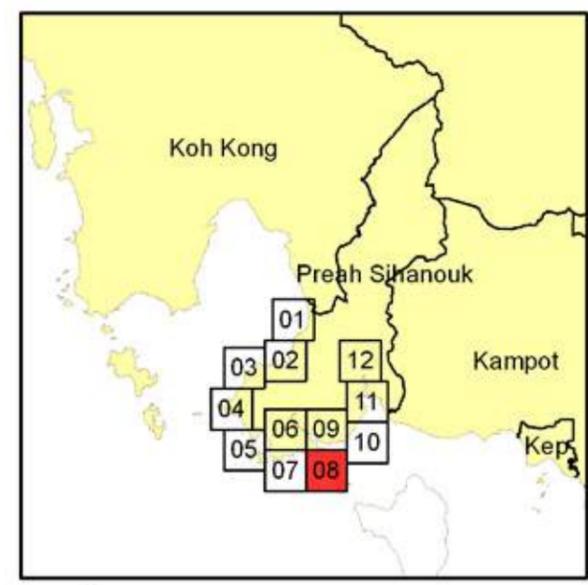
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Gastropod
- Marine Mammal
- Shrimp
- Squid / Octopus
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

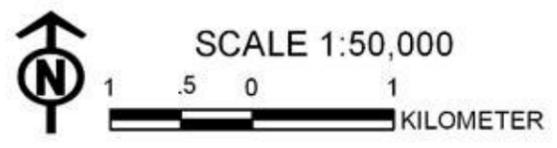
- Beach
- Marine Sanctuary
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This region is highly prone to oil spills, which may affect subsistence fishing and natural habitats.

Shoreline

Sand beaches are well compacted sediments with the grain size smaller than 1 mm. Its limited oil penetration and vegetation do not flood during high tides. This shoreline type is classified as fine- to medium-grained sand beaches (ESI 3).

Rocky rubble shores are mixed with sand and boulders of bedrock or rocky rubbles with vegetation. The shoreline is sheltered from the wave and tidal forces. High algae and organisms are present because it is with vegetation. This shoreline type is classified as sheltered rocky rubble shores (ESI 8).

Vegetation and habitats are grown along the coastline on the low banks. These are flooded occasionally by high-tide water. Vegetation and habitats will be impacted by oil during high tides. This shoreline type is classified as vegetated low banks (ESI 9B).

Mangroves exist on Thmey Island and along the coastline. The mangrove areas are located in between low and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Biological Resources

Marine fish and shellfish are present everywhere in seawater and inside mangrove habitats. Birds are found in the wetlands and mangrove habitats in Ream National Park and Koh Thmey. Terrestrial mammals such as bats are present on Koh Thmey. Reptiles are also found around Koh Thmey. Seagrass, mangrove habitats and coral reefs cover near and around Koh Thmey, Koh Ses and along the coastline.

Human Use Features

The human use features consist of a swimming beach located on the national park and subsistence fishing in the estuary within the national park and around Koh Thmey and Koh Saes. The Ream National Park has been designed for biological and natural resources management, conservation and protection, as well as a marine sanctuary, which is managed by the Ministry of Environment.

Oil Spill Response Resources

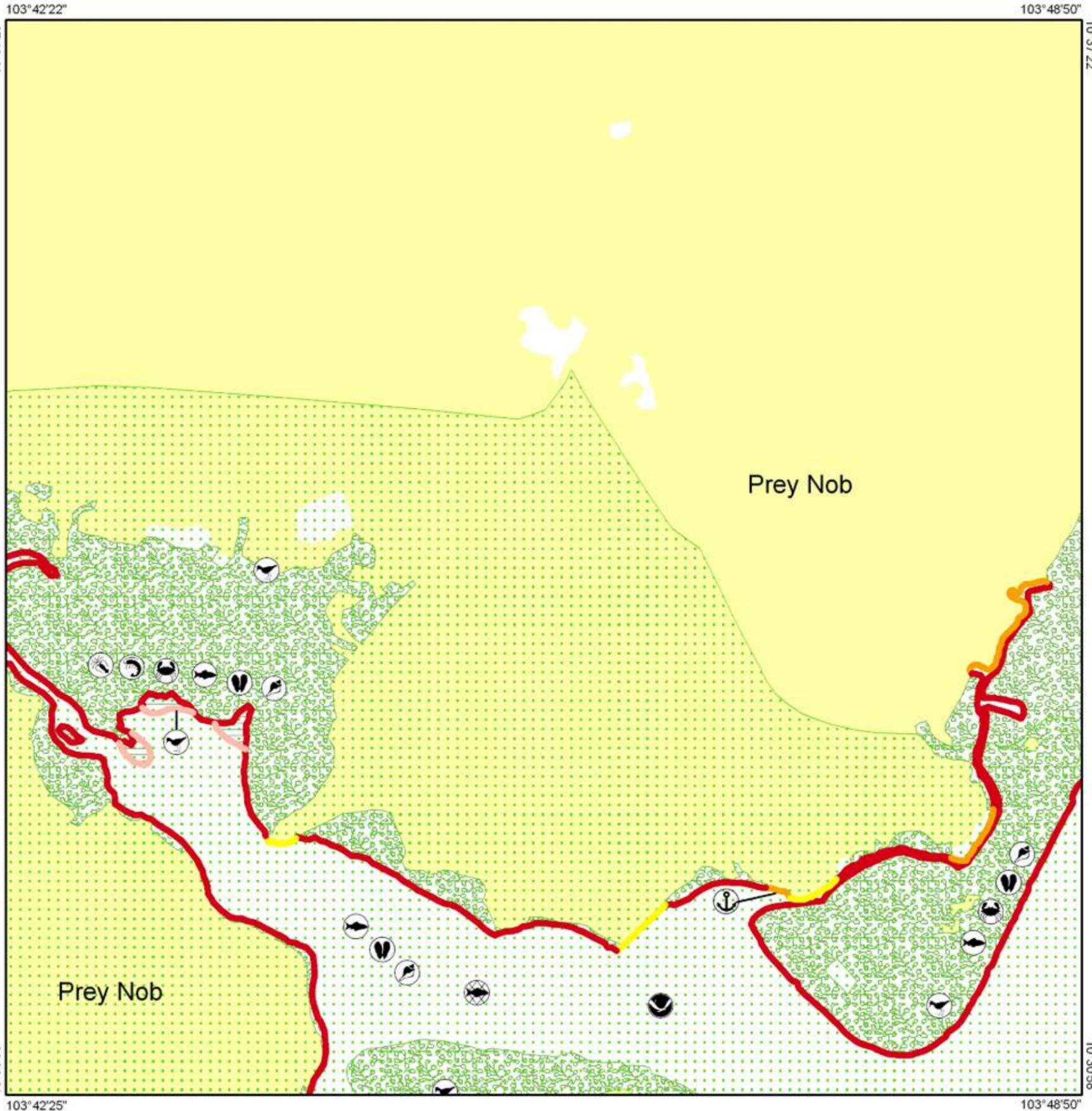
There is no oil spill response equipment located in this region. The nearest equipment available is 10 km away at Ream National Park, but it has limited capacity to respond to oil spills in the area.

Special Issue

This region is highly prone to oil spills, which may affect subsistence fishing and the conservation areas of the marine ecosystem.

Preah Sihanouk Province

Cambodia - 09



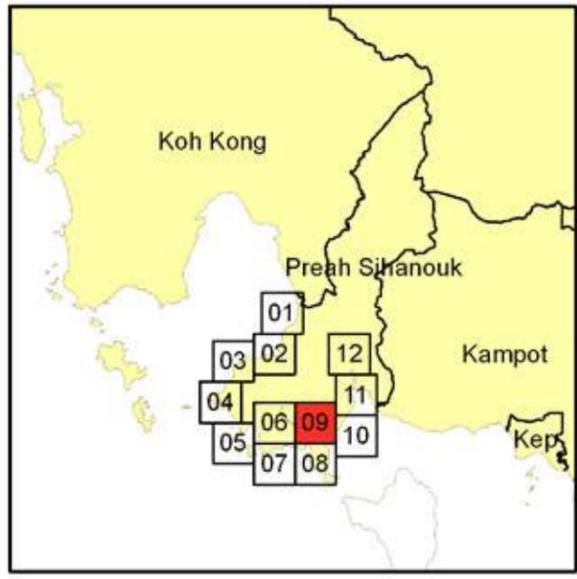
- Shoreline Classification**
- ESI 8
 - ESI 9A
 - ESI 9B
 - ESI 10B

- Biological/Human-Use Areas**
- Mangroves
 - Tidal Flats
 - National Park

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish
 - Gastropod
 - Shrimp
 - Squid / Octopus

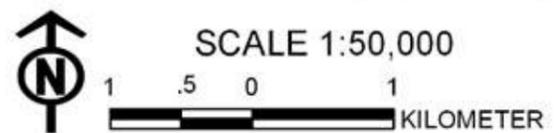
- Human-Use/ Oil Spill Response Resources**
- Fishing Port
 - Marine Sanctuary
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the Ream National Park at the estuary of Prek Tuek Sap, around Koh Khyong village and the coastline of Prey Nob district in northern part of the park.

Shoreline

Mangroves are found along the coastline extending from Prek Tuek Sap up to the coastline of the French Polders in Prey Nob District. The soil dikes were constructed behind some parts of the mangroves to protect rice paddies from seawater. Its distance from the sea to the soil dikes behind the mangrove is about 700 to 1,500 m. It is known that mangrove is grown in between low and high tides of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Tidal flat covers the estuary, which is composed primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

Soil dikes to protect paddy fields are constructed on low elevation. These are occasionally flooded during high tides. Habitats and rice paddies are impacted by oil during high tides. This shoreline type is classified as vegetated low banks (ESI 9B).

Plantations and croplands are commonly located on higher land than paddy fields. Soil dikes are not flooded by seawater. However, vegetation, grass and mangroves usually grow along dikes. Oil is sheltered and adheres to the dikes. Floating houses are built on water in Koh Khyong village, along with a fishing port. The houses' structures are made of concrete and wood. Oil is sheltered under houses and adhere the house's wood during high tides. This shoreline type is classified as sheltered solid man-made structures (ESI 8).

Biological Resources

Marine fish and shellfish are present everywhere in seawater and inside mangrove habitats. Birds are found on wetlands, tidal flats and mangrove habitats. Mangrove habitats cover the estuary of Prek Tuek Sap, on Koh Thmey and along the coastline of Prey Nob. Tidal flat is found in the estuary of Prek Tuek Sap.

Human Use Features

The human use features include subsistence fishing, which is done in the estuary inside the national park and along the coastline of Prey Nob. A fishing port is found at Koh Khyong village. The Ream National Park is designed for biological and natural resources management, conservation and protection, as well as a marine sanctuary, which is managed by the Ministry of Environment.

Oil Spill Response Resources

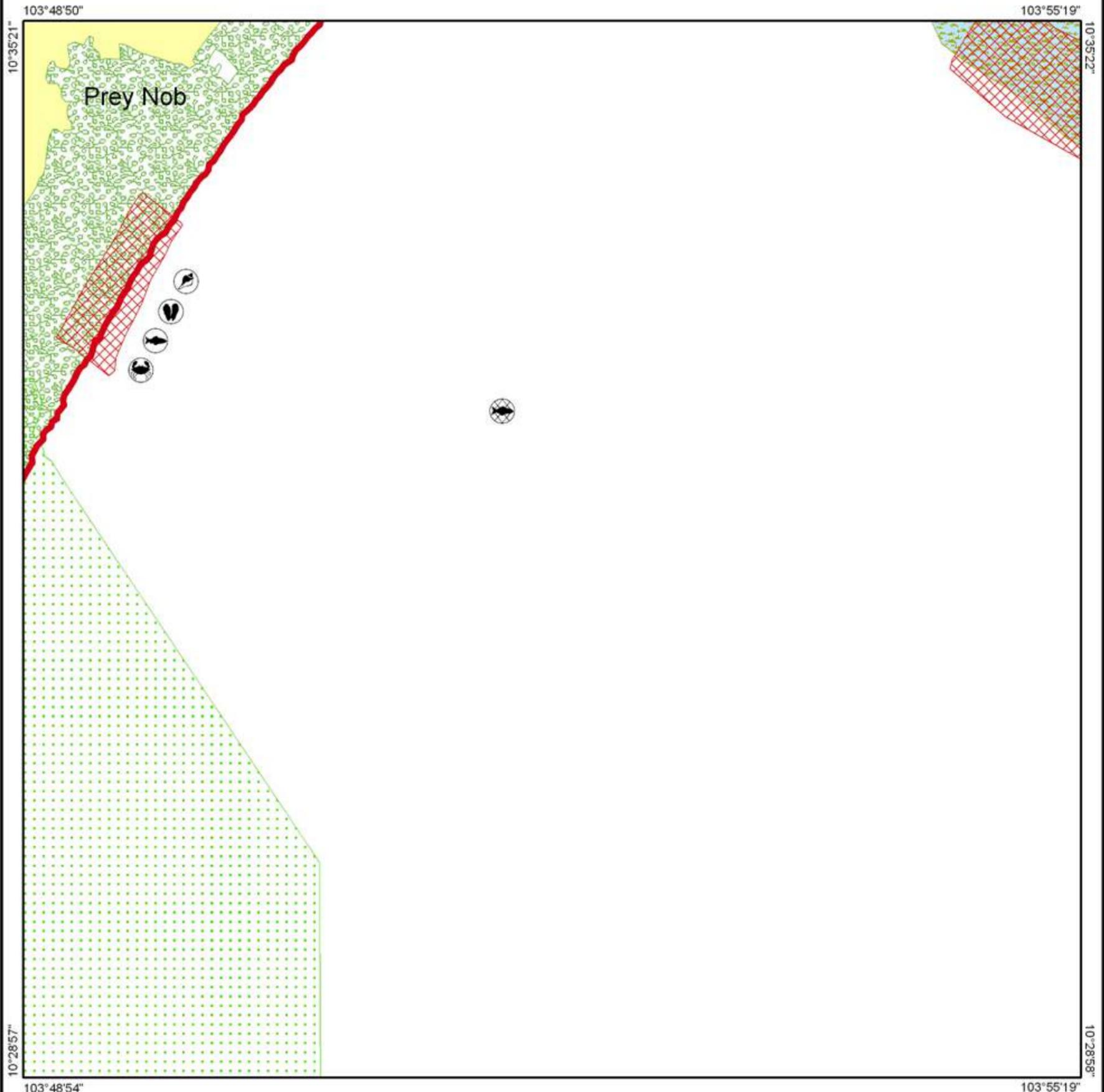
There is no oil spill response equipment available in the area.

Special Issue

This region is highly prone to oil spills, which may affect subsistence fishing and the conservation areas of the marine ecosystem.

Preah Sihanouk Province

Cambodia - 10



Shoreline Classification

— ESI 10B

Biological/Human-Use Areas

- Mangroves
- Seagrass Beds
- Fish/Shellfish Preserve
- National Park

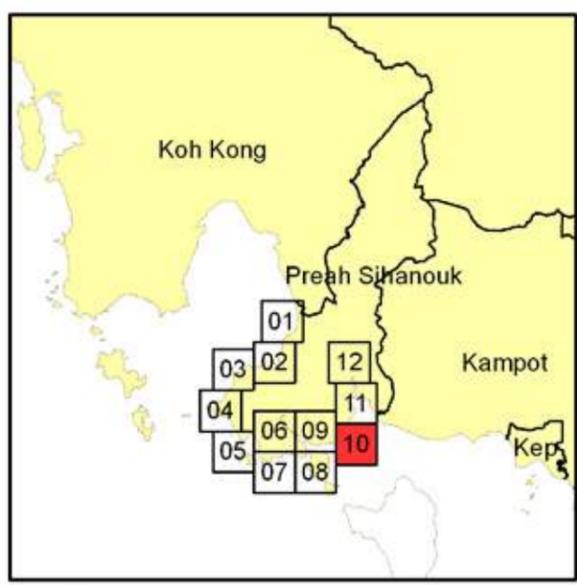
Biological Resources

- Bivalve
- Crab
- Fish
- Gastropod

Human-Use/ Oil Spill Response Resources

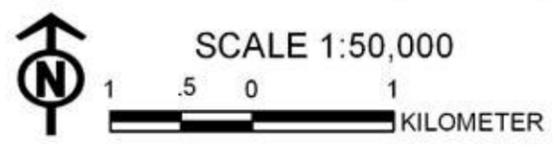
- Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers the Prey Nob coastline along the French Polder.

Shoreline

Mangroves are found along the coastline, covering a long distance and extending from Koh Khyong village and along the French Polder of Prey Nob up to Trapang Ropov village. Soil dikes are constructed behind the mangroves to protect rice paddies from seawater. The distance from the sea to the soil dikes behind the mangroves is about 700 to 1,500 m. It is known that mangroves grow in between low and high tides of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Biological Resources

Marine fish and shellfish are present everywhere in seawater and on mangrove habitats. Birds are found in wetland and mangrove habitats. Reptiles are present near coastal waters. Mangrove habitats cover the coastline and seagrass next to Trapang Ropov village.

Human Use Features

Human use features include subsistence fishing along the coastline of Prey Nob. There are two safe sanctuary areas designated by the Fishery Administration of the MAFF: one to preserve crab and the other to preserve seagrass.

Oil Spill Response Resources

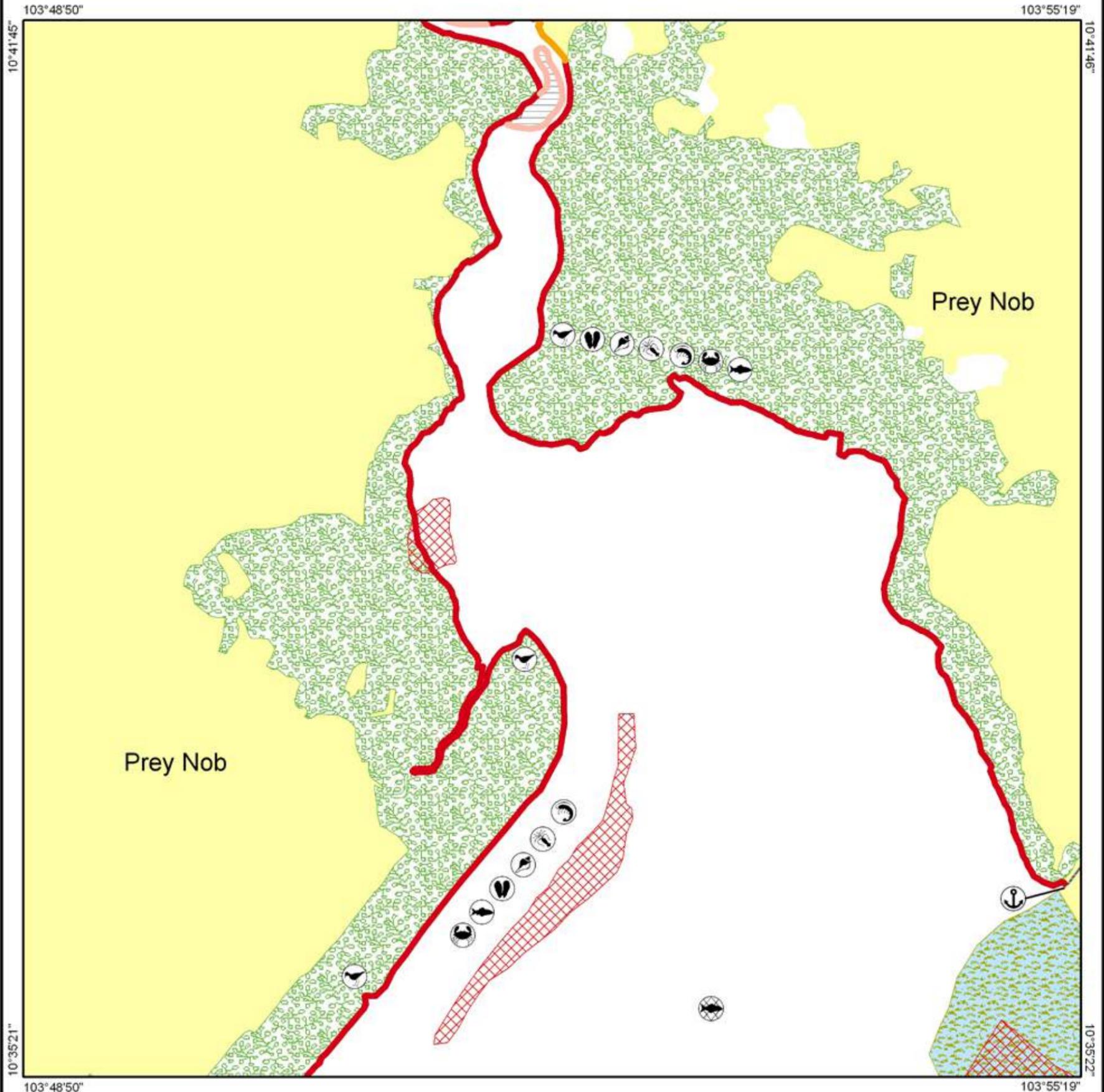
There is no oil spill response equipment available in the area.

Special Issue

This region is highly prone to oil spills, which may affect the conservation areas and natural habitats.

Preah Sihanouk Province

Cambodia - 11



103°48'50" 103°55'19"

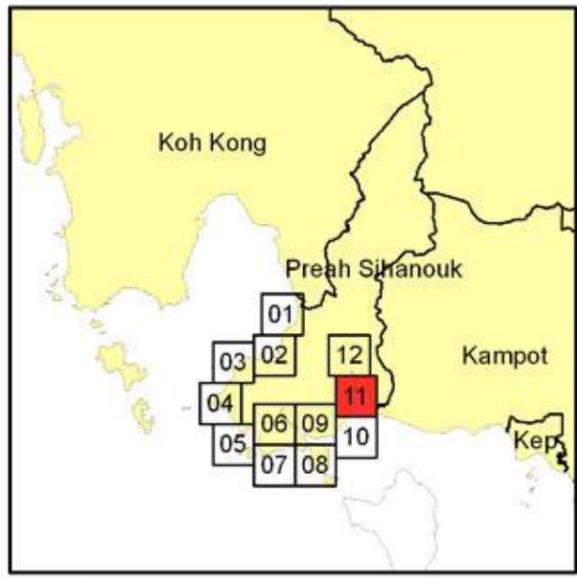
- Shoreline Classification**
- ESI 9A
 - ESI 9B
 - ESI 10B

- Biological/Human-Use Areas**
- Mangroves
 - Seagrass Beds
 - Tidal Flats
 - Fish/Shellfish Preserve

- Biological Resources**
- Bird
 - Bivalve
 - Crab
 - Fish
 - Gastropod
 - Shrimp
 - Squid / Octopus

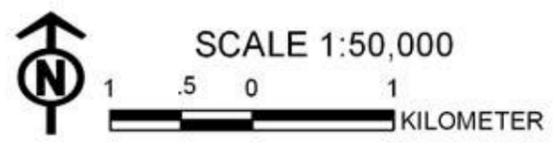
- Human-Use/ Oil Spill Response Resources**
- Fishing Port
 - Subsistence Fishing

Location of Map



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Not for Navigation



General Information

This area covers Kampong Smach Estuary to the end at Trapang Ropov village, which is the boundary between Preah Sihanouk Province and Kampot Province.

Shoreline

Shoreline habitats consist of mangrove habitats, tidal flats and paddy field dikes along the coastline. Rice is planted on tidal flats during the rainy season because inland water comes up during this season, but the brackish water comes during the dry season from December to February during high tide.

Mangroves are found along the coastline around the estuary of Kampong Smach and along the river. The soil dikes are constructed behind the mangroves to protect rice paddies from the seawater. The mangroves grow between the low and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Tidal flats are located on the estuary, composed primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish, are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

Soil dikes protecting paddy fields are constructed in low elevation. These are occasionally flooded during high tides. Rice paddies and habitats are impacted by oil during high tide. This shoreline type is classified as vegetated low banks (ESI 9B).

Biological Resources

Marine fish and shellfish are present everywhere in seawater and inside the mangrove habitats. Birds are found on wetland, tidal flats and mangrove habitats. Mangrove habitats cover the coastline, around the estuary of Prek Kampong Smach and along the river. Tidal flat covers the estuary.

Human Use Features

The human use features include subsistence fishing on the estuary and river. There are two safe sanctuary areas to preserve crab, which are managed by the Fishery Administration of the MAFF. A fishing port is found at Trapang Ropov village.

Oil Spill Response Resources

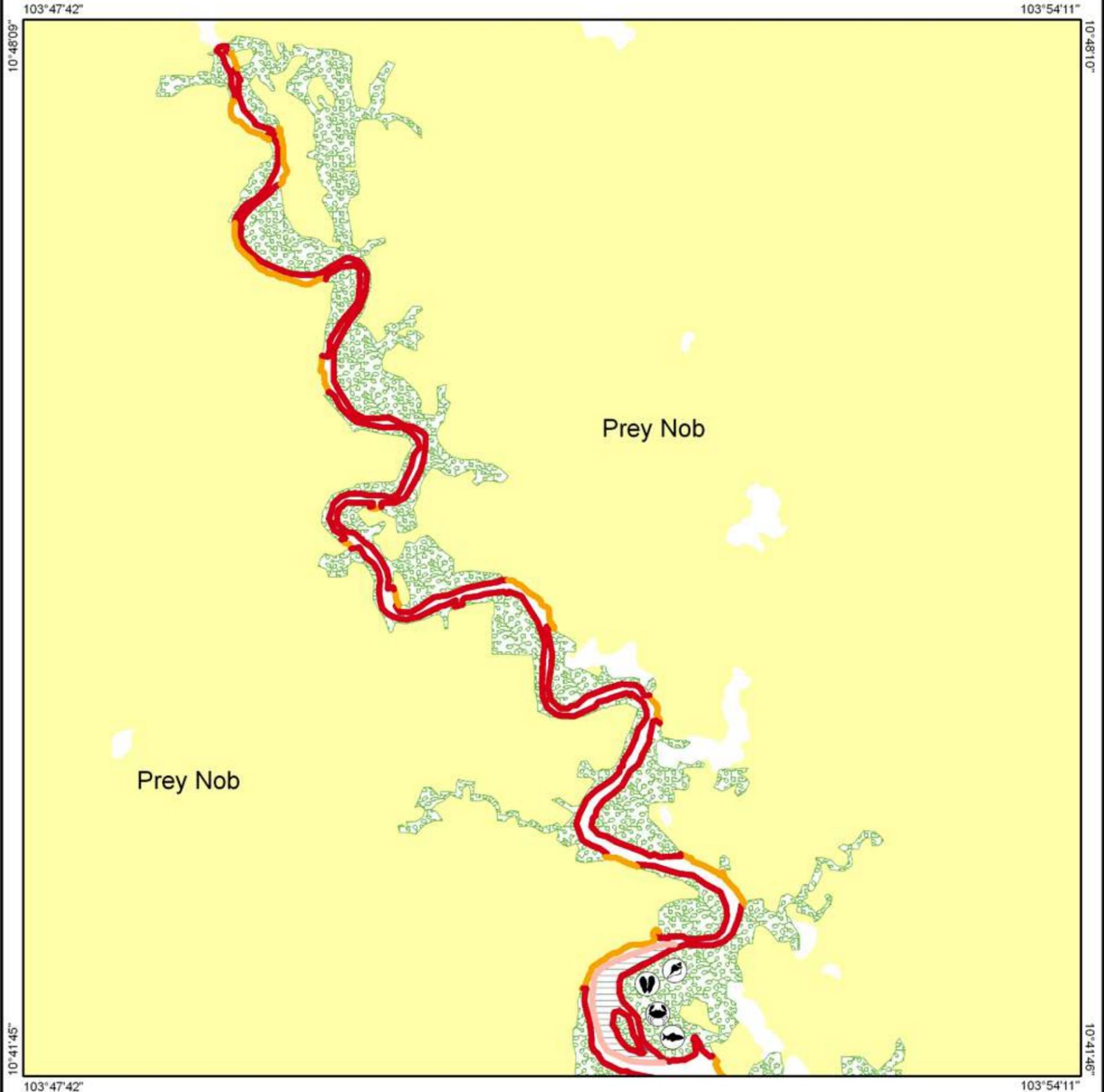
There is no oil spill response equipment available in the area.

Special Issue

This region is highly prone to oil spills, which may affect the conservation areas and natural habitats.

Preah Sihanouk Province

Cambodia - 12

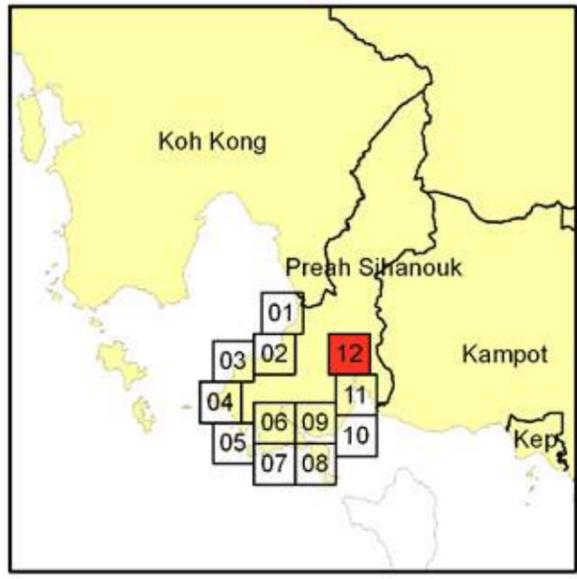


- Shoreline Classification**
- ESI 9A
 - ESI 9B
 - ESI 10B
- Biological/Human-Use Areas**
- Mangroves
 - Tidal Flats

- Biological Resources**
- Bivalve
 - Crab
 - Fish
 - Gastropod

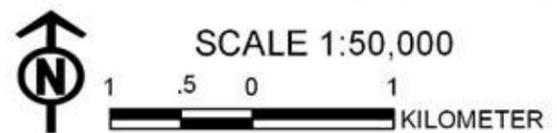
**Human-Use/
Oil Spill Response Resources**

Location of Map



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Not for Navigation



General Information

This area covers Kampong Smach River, continuing from the estuary up to the oil palm area.

Shoreline

Shoreline habitats consist of mangrove habitats, tidal flats and paddy field dikes along the riverbank. This area can be impacted by oil spills only during the dry season. The brackish water comes up only in dry season, especially from December to February during high tide.

Mangroves are found along the river of Kampong Smach. The soil dikes are constructed behind the mangroves to protect the rice paddies from seawater. The mangroves are grown in between low and high tide of seawater with abundant resident flora and fauna. This shoreline type is classified as scrub-shrub wetland mangrove (ESI 10B).

Tidal flats are located at the estuary, composing primarily of mud with minor amounts of sand. Rich biological resources, such as birds, animals and fish, are commonly present. This shoreline type is classified as sheltered tidal flats (ESI 9A).

Soil dikes protecting the paddy fields are constructed on low elevation. These are occasionally flooded during high tide. Rice paddies and habitats are impacted by oil during high tide. This shoreline type is classified as vegetated low banks (ESI 9B).

Biological Resources

There is no specific biological resource recorded in this region. However, marine fish and shellfish are present everywhere on seawater and mangrove habitats. Birds are found on the wetland and mangrove habitats. Mangrove habitats and tidal flats are found along the river of Kampong Smach.

Human Use Features

There is no record of human use features, but subsistence fishing can be done on the river.

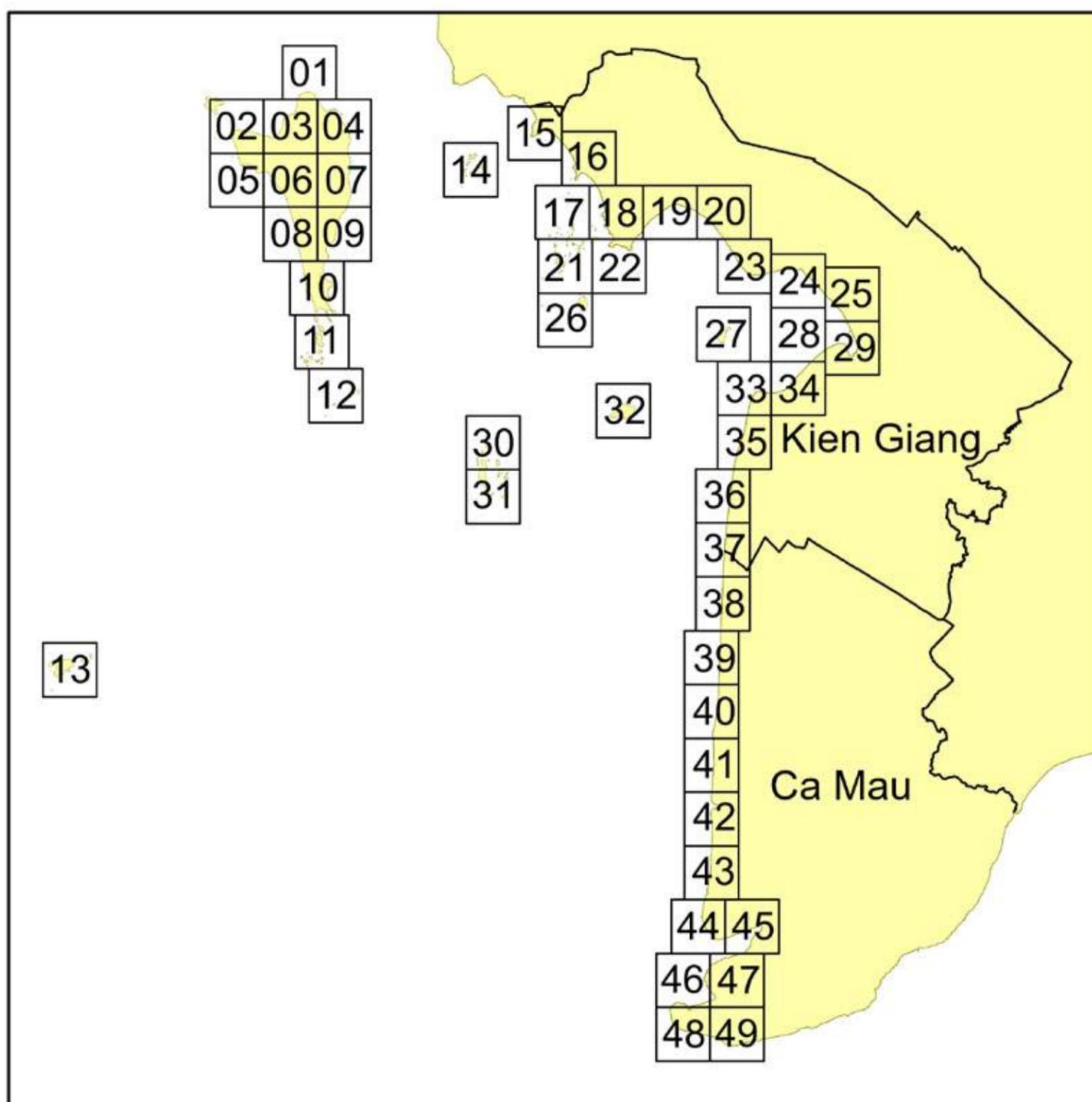
Oil Spill Response Resources

There is no oil spill response equipment available in this region.

Special Issue

There is no special issue in the area.

Index Map of Vietnam



Kien Giang Province

Vietnam - 01

103°55'58"

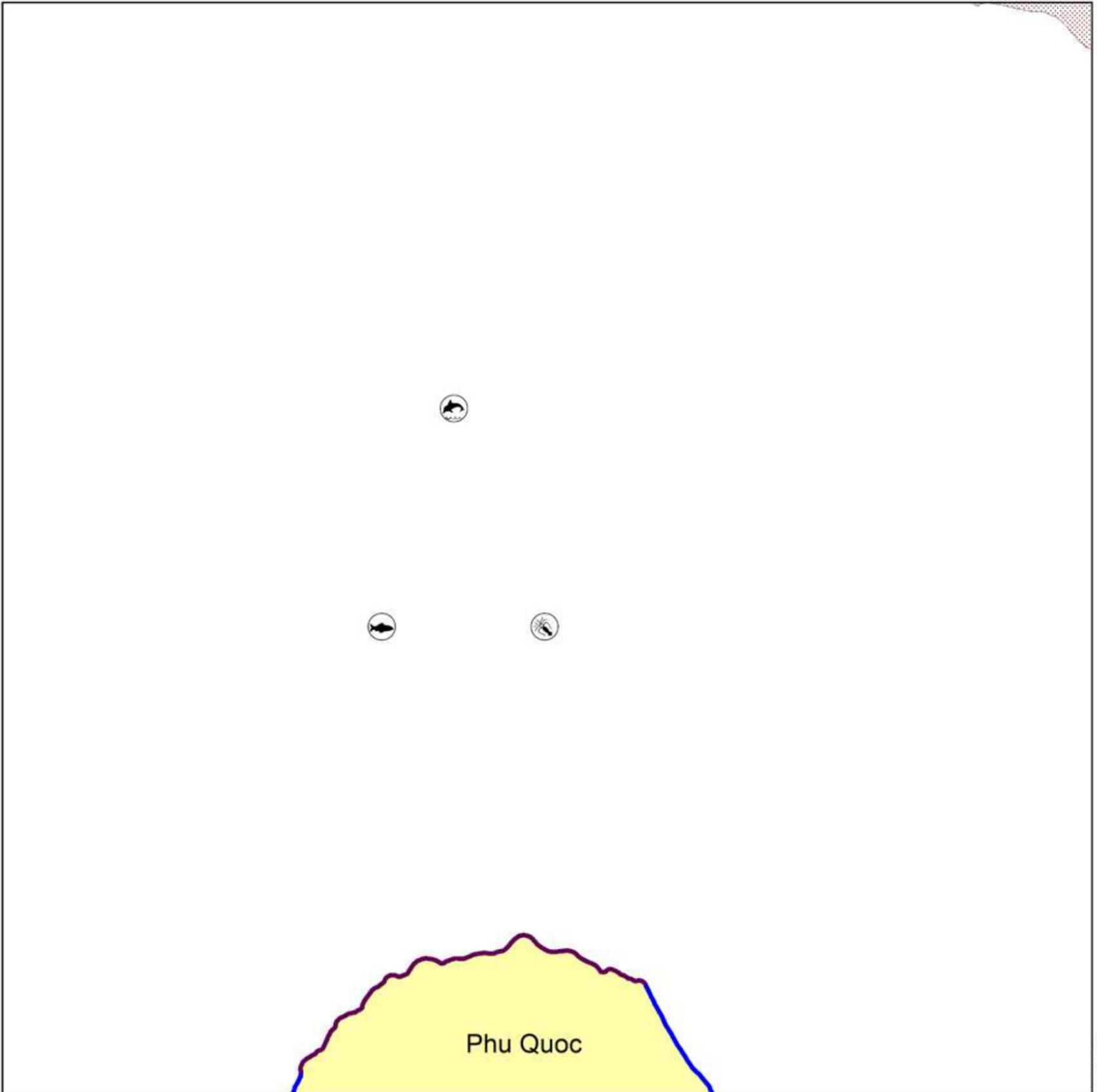
104°02'32"

10°32'55"

10°32'55"

10°26'27"

10°26'27"



103°55'58"

104°02'32"

Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

None

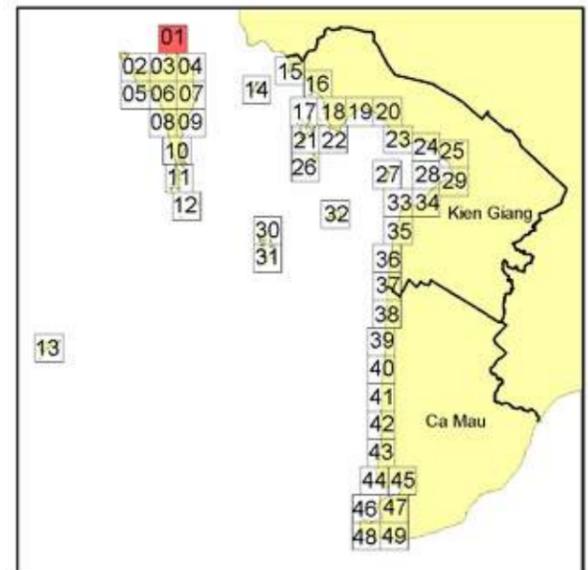
Biological Resources

- Fish
- Marine Mammal
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

None

Location of Map



Map Production Date: Dec. 6, 2013
 Research Institute for the Management of Seas and Islands
 Vietnam Administration of Seas and Islands
 125 Trung Kinh, Hanoi, Vietnam
 Tel/Fax: (+84) 4 3259 5428/ (+84) 4 3259 5429

Not For Navigation



SCALE 1:50,000



General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in Bai Thom village in Trau Nam cape.

Biological Resources

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Therapon theraps*, *Saurida tumbil*, *Saurida undosquamis*, *Pomadasys hasta*, *Nibea sp.* and *Sphyræna jello*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Sepioteuthis lessoniana*, *Sepia pharaonis*, *Sepia lycidas* and *Sepia brevimana*.

Dugongs are also found in the area.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 02

103°47'06"

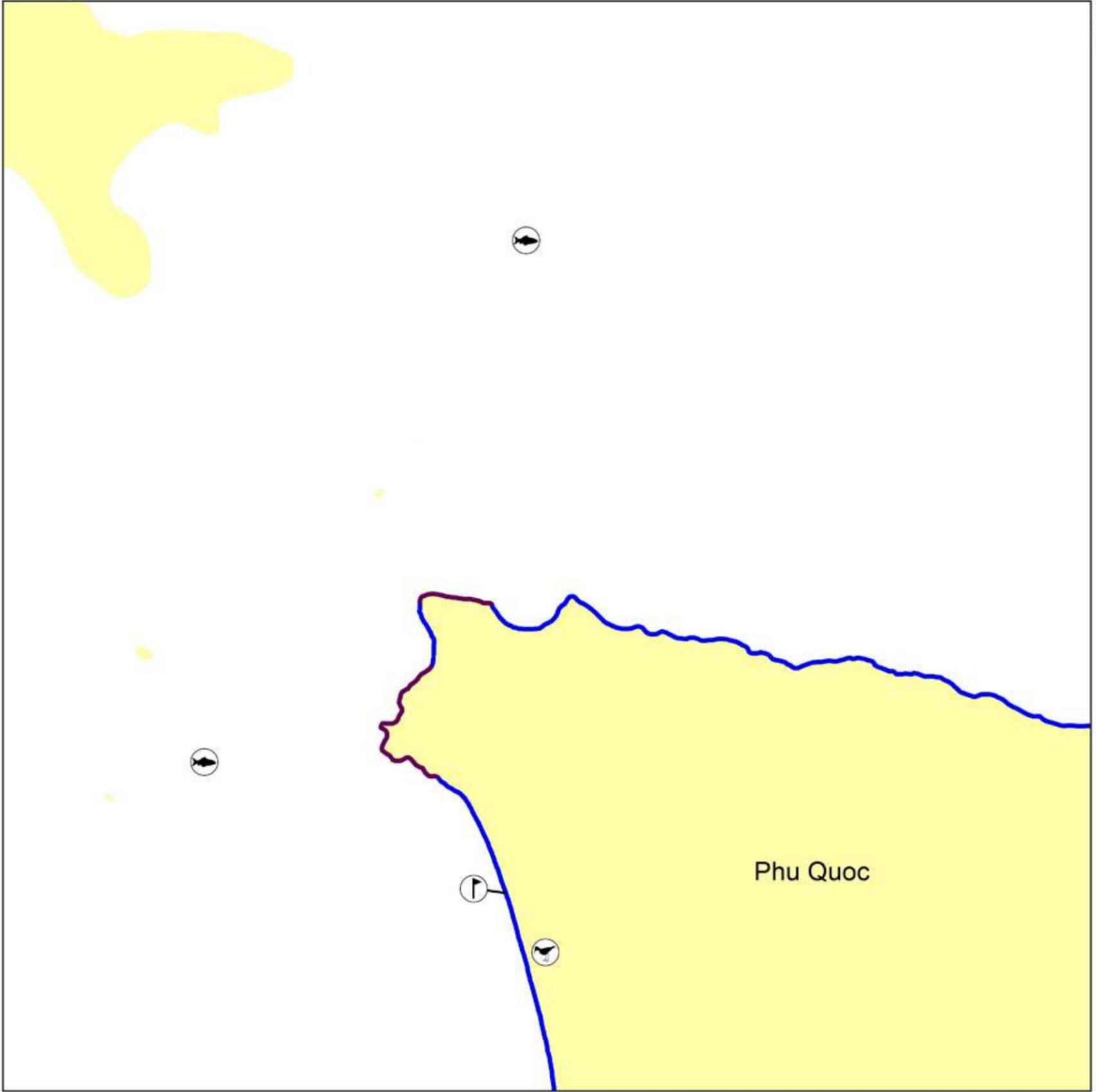
103°53'40"

10°26'27"

10°26'27"

10°19'58"

10°19'58"



103°47'06"

103°53'40"

Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas
None

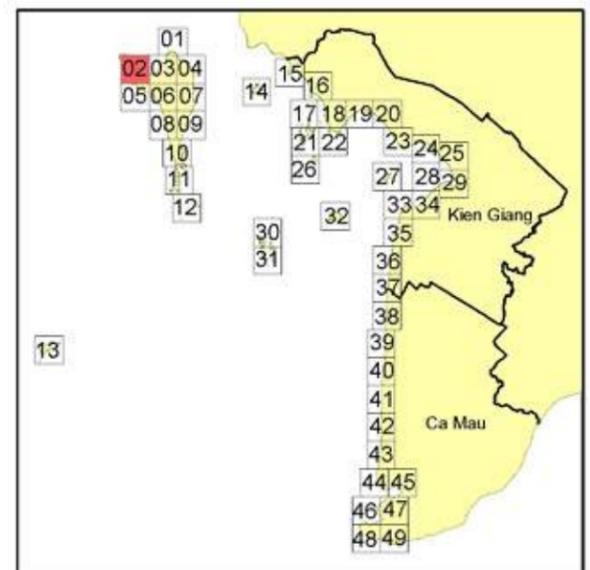
Biological Resources

- Bird
- Fish

Human-Use/ Oil Spill Response Resources

- Beach

Location of Map



Map Production Date: Dec. 6, 2013
 Research Institute for the Management of Seas and Islands
 Vietnam Administration of Seas and Islands
 125 Trung Kinh, Hanoi, Vietnam
 Tel/Fax: (+84) 4 3259 5428/ (+84) 4 3259 5429

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SCALE 1:50,000



General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in Ganh Dau village in Ganh Dau and Dan Xay cape.

Biological Resources

Birds living in coastal areas include *Larus brunnicephalus*, *Hirundo rustica*, *Chlidonias hybridus*, *Casmerodius albus*, *Butorides striatus*, *Egretta garzetta* and *E. eulophotes*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Therapon theraps*, *Pomadasys hasta* and *Nibea sp.*

Human Use Resources

The human use resources are found in the Ganh Dau Beach area. Ganh Dau Beach is very fresh, clean, sandy and connects to the green forest. Visitors of Ganh Dau Beach can enjoy the beautiful view and fresh seafood. There are very few fisherfolks from Ganh Dau, but other fishers use this place to rest after their fishing trip, making Cape Ganh Dau overcrowded at times.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

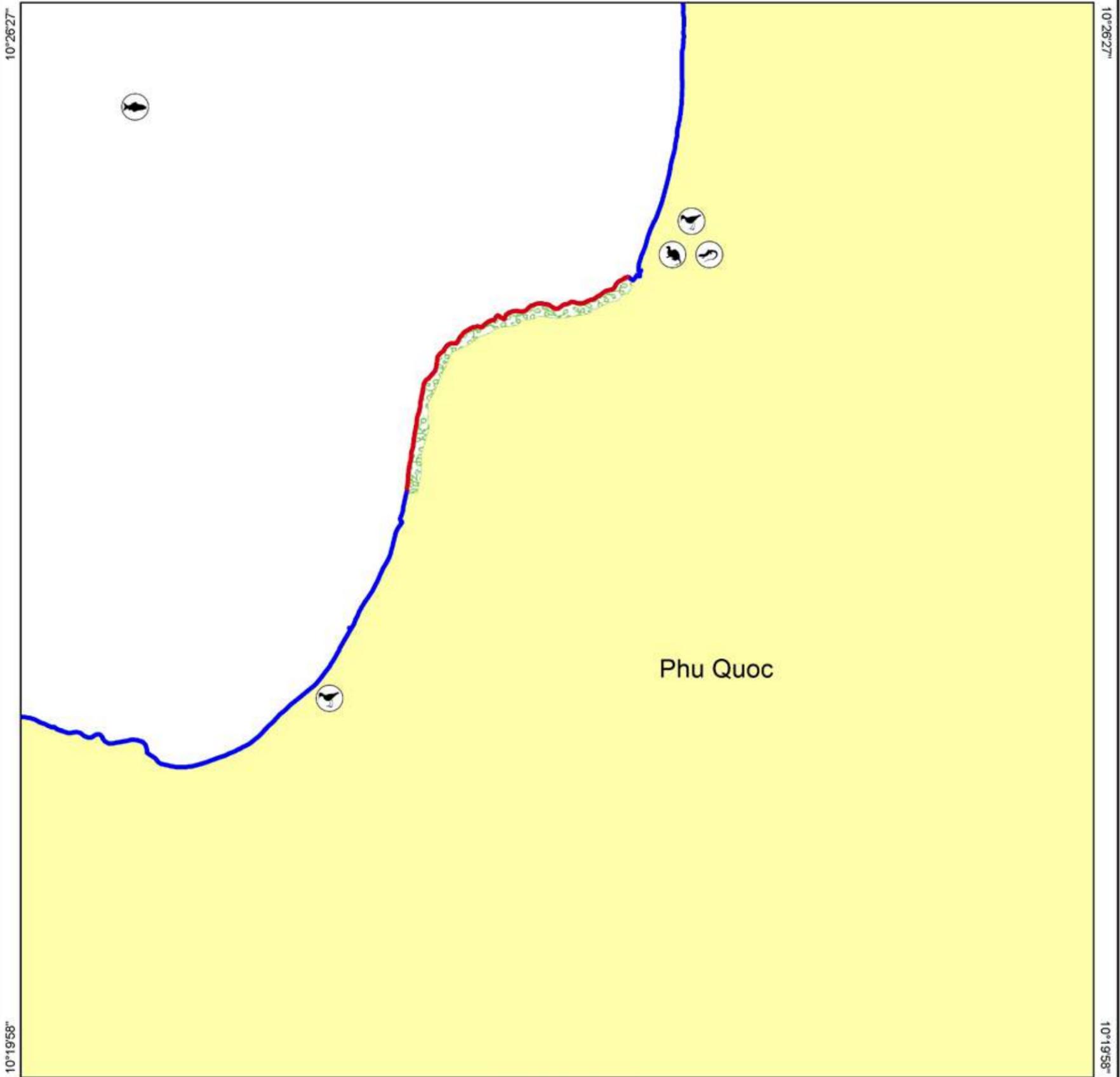
There is no special issue in the area.

Kien Giang Province

Vietnam - 03

103°53'40"

104°00'14"



103°53'40"

104°00'14"

Shoreline Classification

- ESI 3
- ESI 10B

Biological/Human-Use Areas

- Mangroves

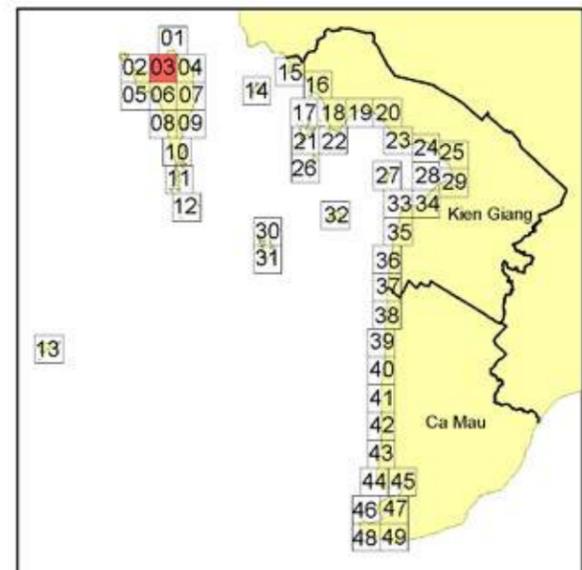
Biological Resources

- Bird
- Fish
- Reptile and Amphibian
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) and scrub-shrub wetlands and mangroves (ESI 10B) in the villages of Ganh Dau and Bai Thom.

Biological Resources

Birds living in coastal areas include *Gerygone sulphurea*, *Chrysocolaptes lucidus*, *Copsychus saularis*, *Zosterops palpebrosus*, *Eudynamys scolopacea*, *Caprimulgus macrurus*, *Corvus macrorhynchos*, *Zosterops palpebrosus* and *Megalurus palustris*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Leiognathus insidiator*, *Upeneus sulphureus*, *Saurida tumbil*, *Priacanthus tayenus*, *Nibea sp.* and *Dussumieria haseltii*.

Terrestrial mammals in this area are *Galeopterus variegates*, *Nomascus leucogenys*, *Trachypithecus delacouri*, *Trachypithecus phayrei* and *Helarctos Malayanus*.

Reptile species in this area include *Crocodylus siamensis*.

Mangrove and tidal flat habitats are found in this region.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

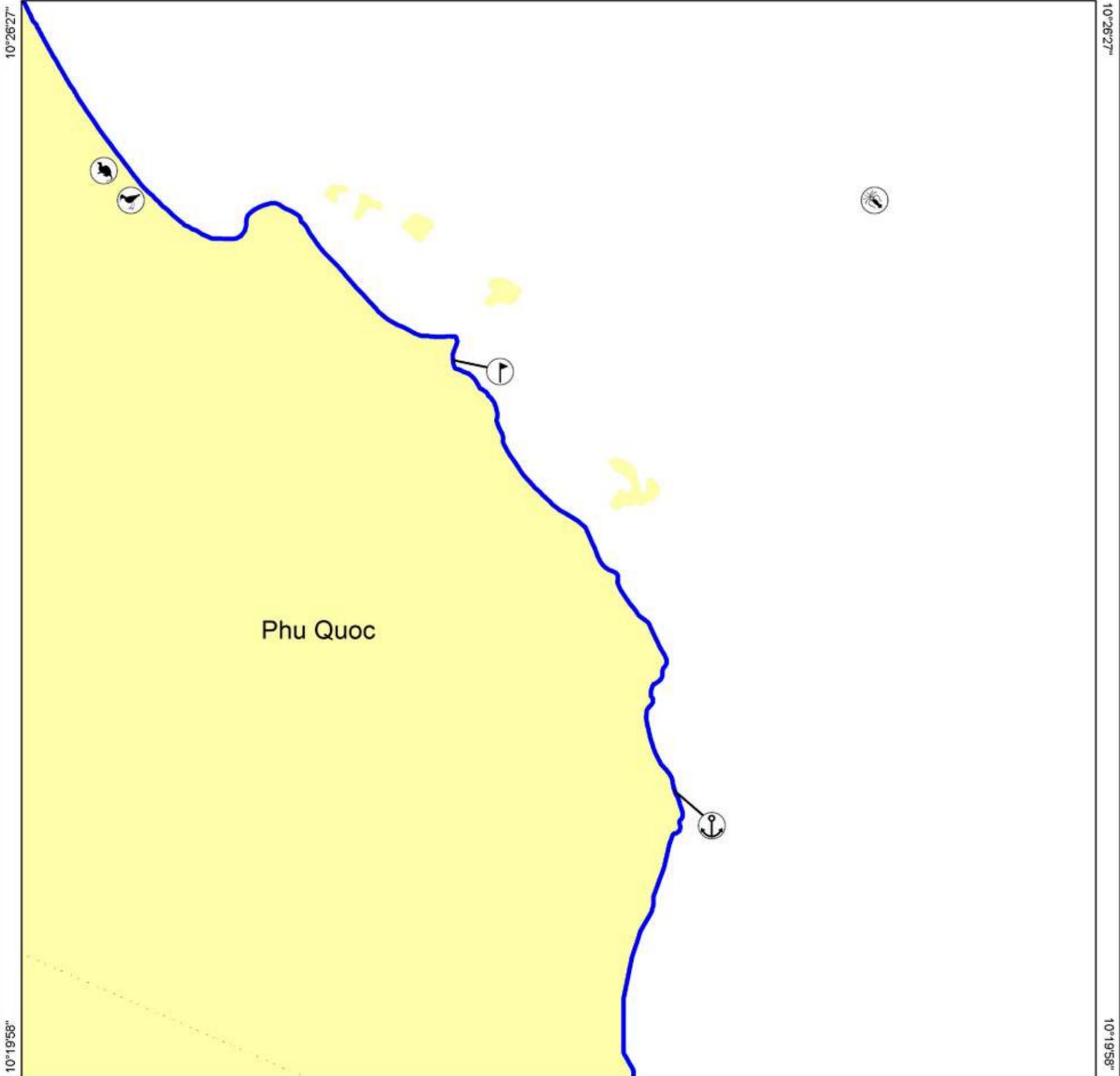
There is no special issue in the area.

Kien Giang Province

Vietnam - 04

104°00'14"

104°06'47"



104°00'14"

104°06'47"

Shoreline Classification

ESI 3

Biological/Human-Use Areas

None

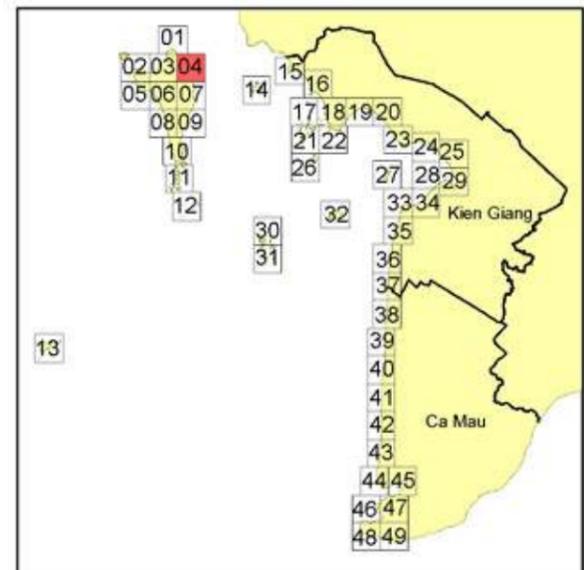
Biological Resources

- Bird
- Squid/Octopus
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

- Beach
- Fishing Port

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) in Bai Thom village.

Biological Resources

Birds living in coastal areas include *Haliaeetus leucogaster*, *Larus brunnicephalus*, *Circus aeruginosus*, *Mycteria leucocephala*, *Corvus macrorhynchos*, *Coracina polioptera* and *Butorides striatus*.

Terrestrial mammals in this area are *Galeopterus variegates*, *Nomascus leucogenys*, *Trachypithecus delacouri* and *Helarctos Malayanus*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Sepioteuthis lessoniana*, *Sepia pharaonis*, *Sepia brevimana* and *Sepia latimanus*.

Human Use Resources

The human use resources in this area are Bai Thom Beach and a fishing port in Da Chong.

Bai Thom has a luxury eco-resort with beach sports entertainment, a golf course, a sea-themed park and villages. Its scale is 3.75 km², and the golf course covers an area of 1 km².

Da Chong fishing port is located in Bai Thom in Phu Quoc District, Kien Giang Province.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

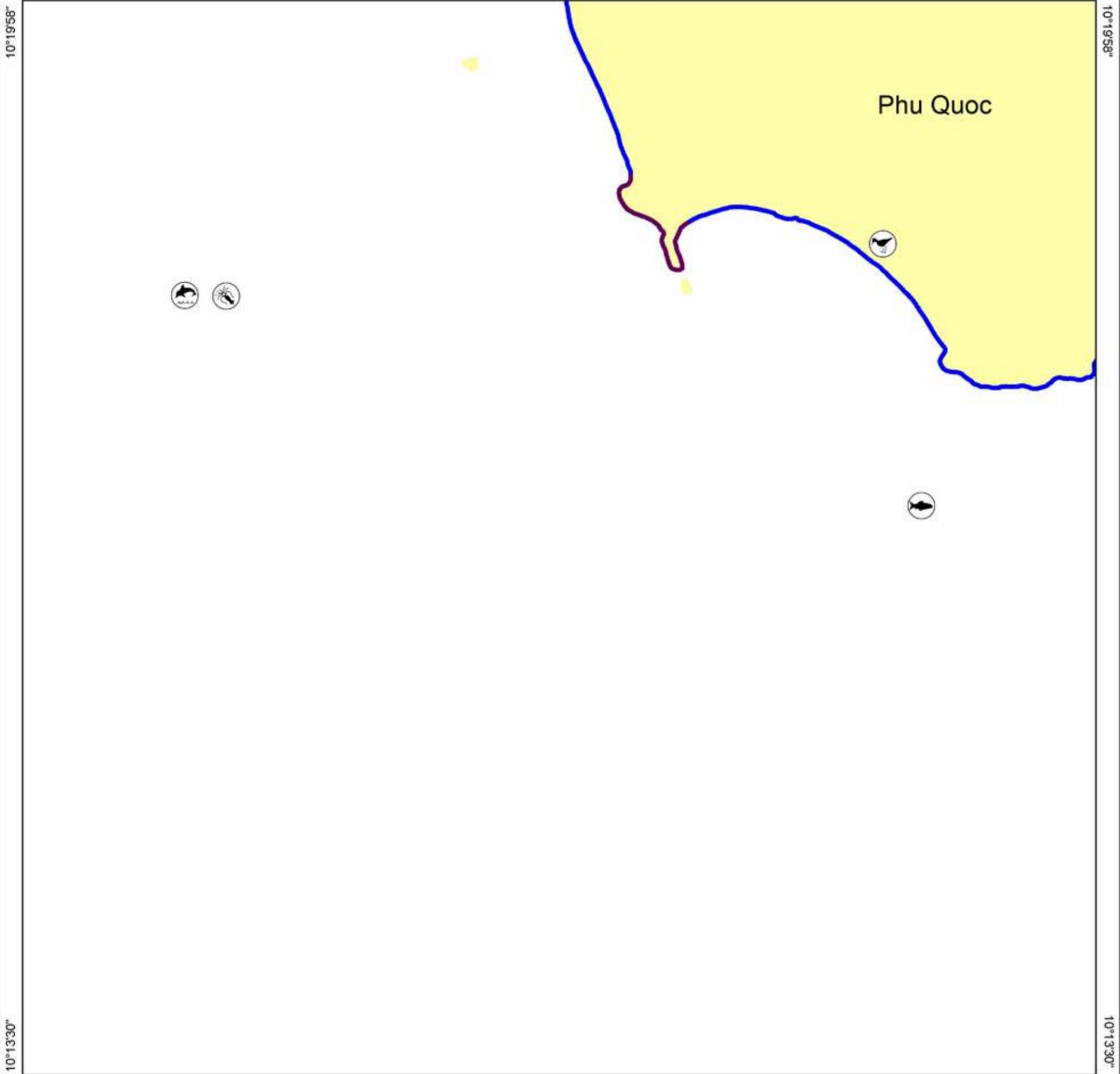
There is no special issue in the area.

Kien Giang Province

Vietnam - 05

103°47'06"

103°53'40"



103°47'06"

103°53'40"

Shoreline Classification

- ESI 1
- ESI 3

Biological/Human-Use Areas

None

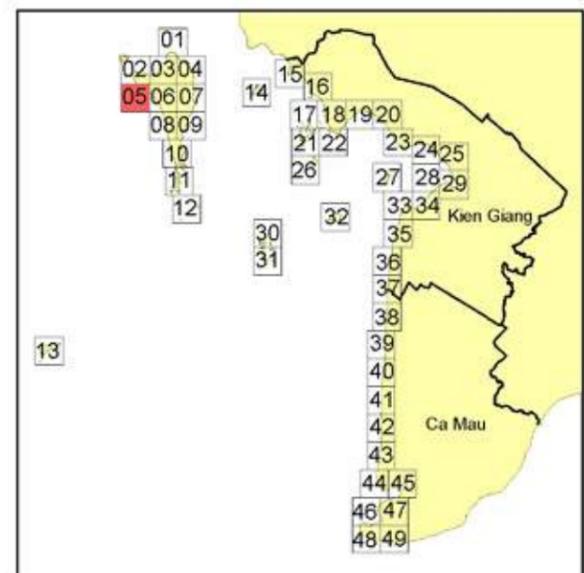
Biological Resources

- Bird
- Fish
- Squid/Octopus
- Marine Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in Cua Can village in Mong Tay.

Biological Resources

Birds living in coastal areas include *Gerygone sulphurea*, *Chrysocolaptes lucidus*, *Copsychus saularis*, *Zosterops palpebrosus*, *Eudynamys scolopacea*, *Caprimulgus macrurus*, *Pycnonotus goiavier*, *Zosterops palpebrosus* and *Megalurus palustris*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Saurida tumbil*, *Saurida undosquamis*, *Selaroides leptolepis*, *Psettodes erumei*, *Scolopsis taeniopterus* and *Priacanthus macracanthus*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Symplectoteuthis oualaniensis*, *Sepioteuthis lessoniana*, *Sepia pharaonis*, *Sepia lycidas* and *Sepia brevimana*.

Dugongs are also found in this area.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

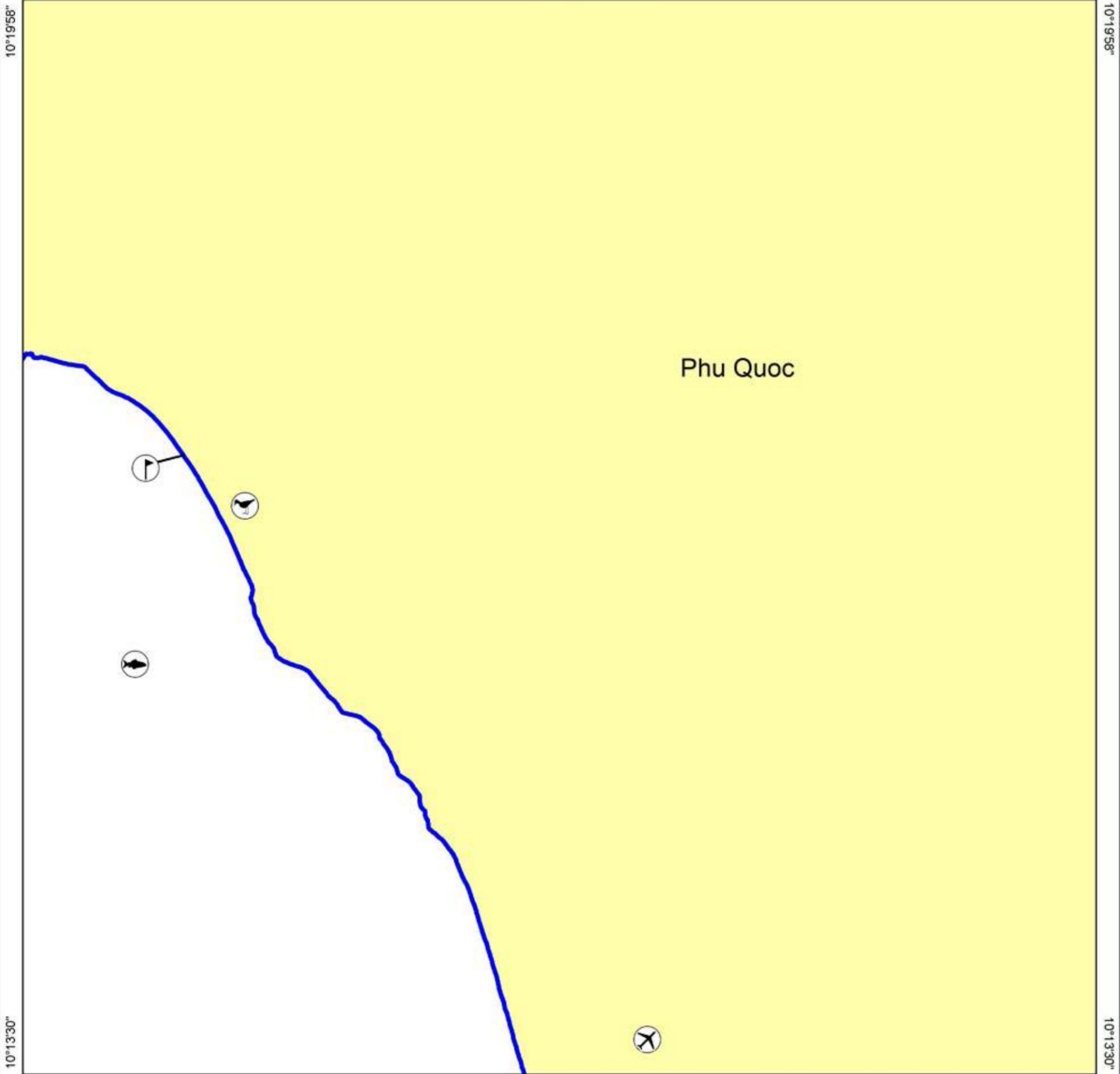
There is no special issue in the area.

Kien Giang Province

Vietnam - 06

103°53'40"

104°00'14"



103°53'40"

104°00'14"

Shoreline Classification

ESI 3

Biological/Human-Use Areas

None

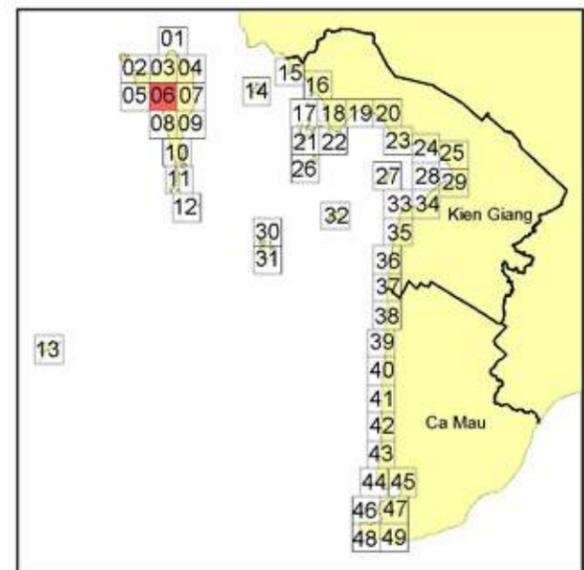
Biological Resources

- Bird
- Fish

Human-Use/ Oil Spill Response Resources

- Airport
- Beach

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) in Cua Duong village and Duong Dong town.

Biological Resources

Birds living in the coastal areas include *Pelecanus philippensis*, *Porphyrio porphyrio*, *Phalacrocorax niger*, *Ardea cinerea*, *Centropus sinensis*, *Chrysocolaptes lucidus*, *Mycteria leucocephala*, *Casmerodius albus* and *Butorides striatus*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Leiognathus insidiator*, *Therapon theraps*, *Selaroides leptolepis*, *Priacanthus tayenus*, *Dussumieria haseltii* and *Nemipterus virgatus*.

Human Use Resources

The human use resources in this area include the beach and an airport. The beach is found vertical following the coastline in Cua Duong and Cua Can. The airport is found in the town of Duong Dong.

Bai Dai Beach is located in the northwest of the island of Phu Quoc in Kien Giang Province. Its coastline covers 15 km, starting from Cape Ganh Dau to Cua Can. It is a clean, beautiful and very pristine beach, almost like paradise, with ample sunshine and blue waters.

Phu Quoc International Airport is located in the south of Phu Quoc Island. It is about about 10 km from the center of Duong Dong. The airport is constructed to meet the grade-4E standards of the International Civil Aviation Organization (ICAO). It has runways of 3,000 m x 45 m and parallel taxiway of 23 m x 3,000 m. The roll-off road system operates to meet the necessary requirements, with an air traffic control tower, aircraft parking for eight A320-A321 (at peak) with an area of 39,400 m², a passenger platform with an area of 24,325 m² and serves 2.65 million passengers/year, as well as operating flight control equipment.

Under the 2030 Plan, the Phu Quoc International Airport should be able to accommodate 20 aircrafts during peak hours, 27,600 t/year of cargo through the port and 7 million passengers/year.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 07

104°00'14"

104°06'47"

10°19'58"

10°19'58"

10°13'30"

10°13'30"

Phu Quoc



104°00'14"

104°06'47"

Shoreline Classification

ESI 3

Biological/Human-Use Areas

None

Biological Resources

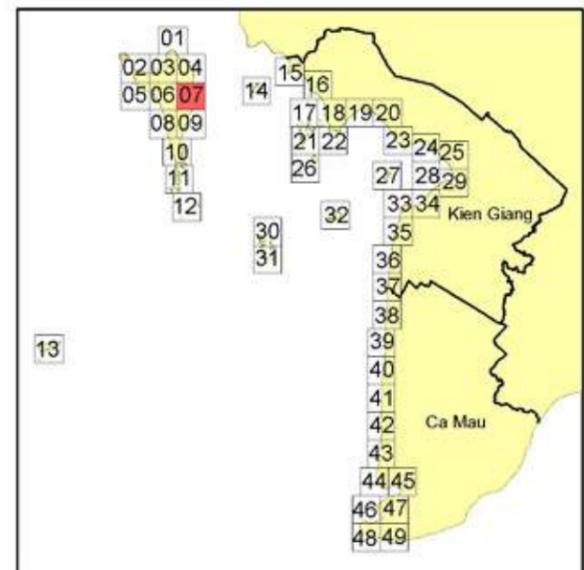
- Bird
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Squid/Octopus
- Terrestrial Mammal

Human-Use/

Oil Spill Response Resources

None

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3) in Ham Ninh village.

Biological Resources

Birds living in the coastal areas include *Coracias benghalensis*, *Francolinus pintadeanus*, *S. hirundo*, *Haliastur indus*, *Cacomantis merulinus*, *Ardeola speciosa*, *Mycteria leucocephala* and *Ixobrychus sinensis*.

Marine fish species located on the map are *Trichiurus haumella*, *Megalaspis cordyla*, *Saurida tumbil*, *Saurida undosquamis*, *Selaroides leptolepis* and *Nemipterus virgatus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus monodon*, *Metapenaeus brevicornis* and *Metapenaeus ensis*.

Crabs in this area include *Scylla paramamosain*.

Squid/octopus species in this area are *Loligo duvauceli*, *Loligo edulis*, *Sepia pharaonis*, *Sepia recurvirostra* and *Sepia aculeata*.

Terrestrial mammals in this region include *Galeopterus variegates* and *Trachypithecus delacouri*. Reptiles in this region include *Crocodylus siamensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

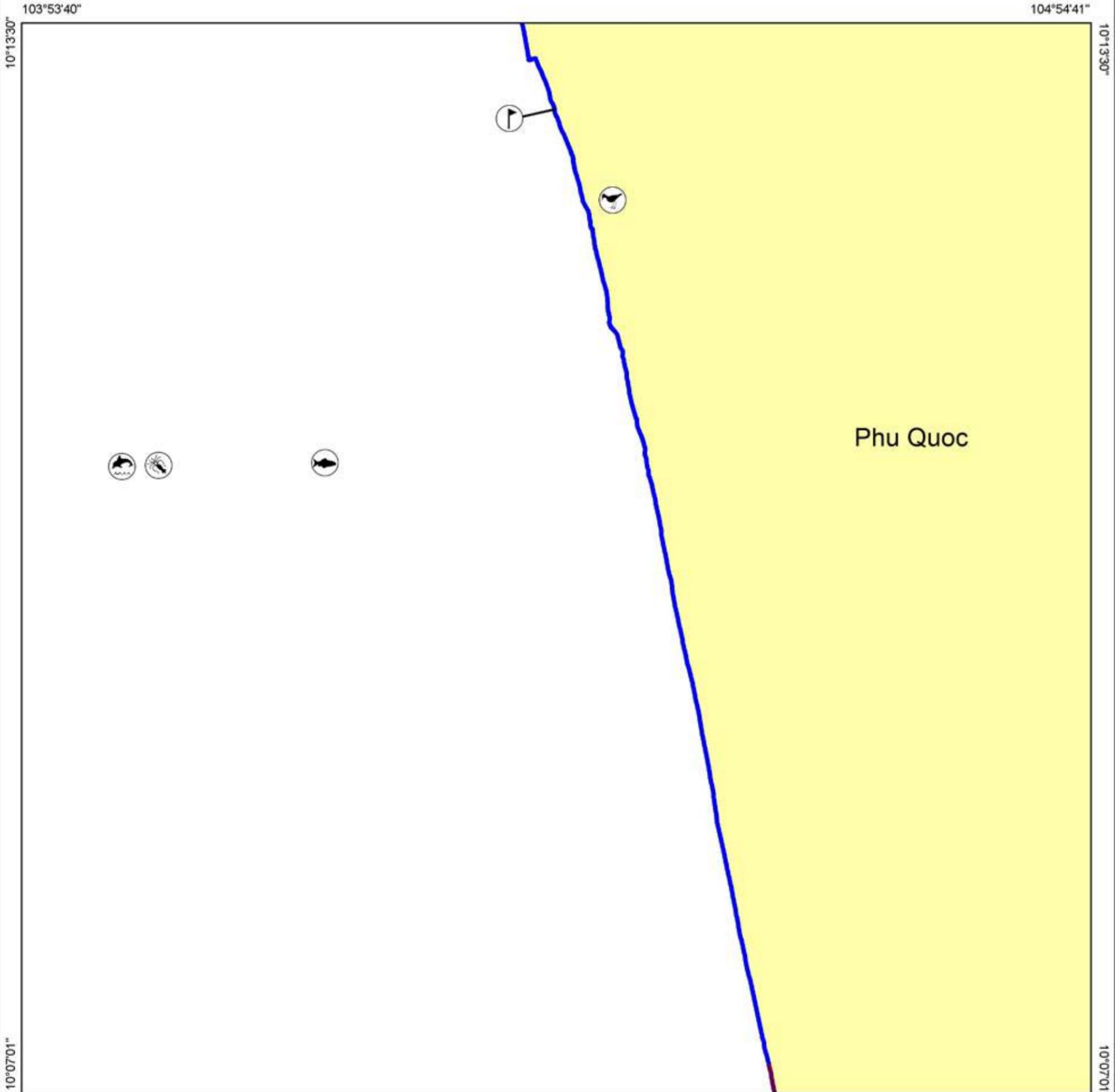
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 08



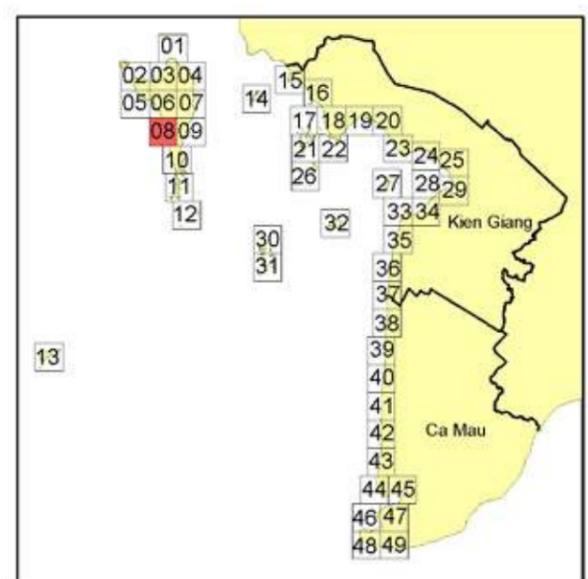
Shoreline Classification
 ESI 1 (purple line)
 ESI 3 (blue line)

Biological Resources
 Bird (bird icon)
 Fish (fish icon)
 Squid/Octopus (squid icon)
 Terrestrial Mammal (mammal icon)

**Human-Use/
 Oil Spill Response Resources**
 Beach (beach icon)

Biological/Human-Use Areas
 None

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in Duong To village.

Biological Resources

Birds living in the coastal areas include *Aegithina tiphia*, *Copsychus saularis*, *Zosterops palpebrosus*, *Eudynamys scolopacea*, *Streptopelia chinensis*, *Zosterops palpebrosus*, *Orthotomus sutorius* and *Megalurus palustris*.

Marine fish species located on the map are *Lagocephalus sceleratus*, *Leiognathus rivulata*, *Cynoglossus sp.*, *Therapon theraps*, *Selaroides leptolepis*, *Psettodes erumei* and *Dussumieria haseltii*.

Squid/octopus species in this area are *Symplectoteuthis oualaniensis*, *Sepia pharaonis*, *Sepiella inermis* and *Sepia latimanus*.

Dugongs are also found in this area.

Human Use Resources

The human use resource in this area is Bai Truong Beach, located in the southwest of Phu Quoc Island in Kien Giang Province. It is one of the beautiful beaches of Duong To village in Phu Quoc Island in Phu Quoc District.

Bai Truong Beach spans an arc of 20 km. It has hills, golden sand, blue sea and poplar forest system with natural coconut variety. Bai Truong Beach is composed of many smaller islands, connected by the cliffs and fishing villages. Its natural landscape is wild and peaceful. To go to Bai Truong Beach, visitors need a small boat to go around the island where they can learn about the coastal fishing village.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

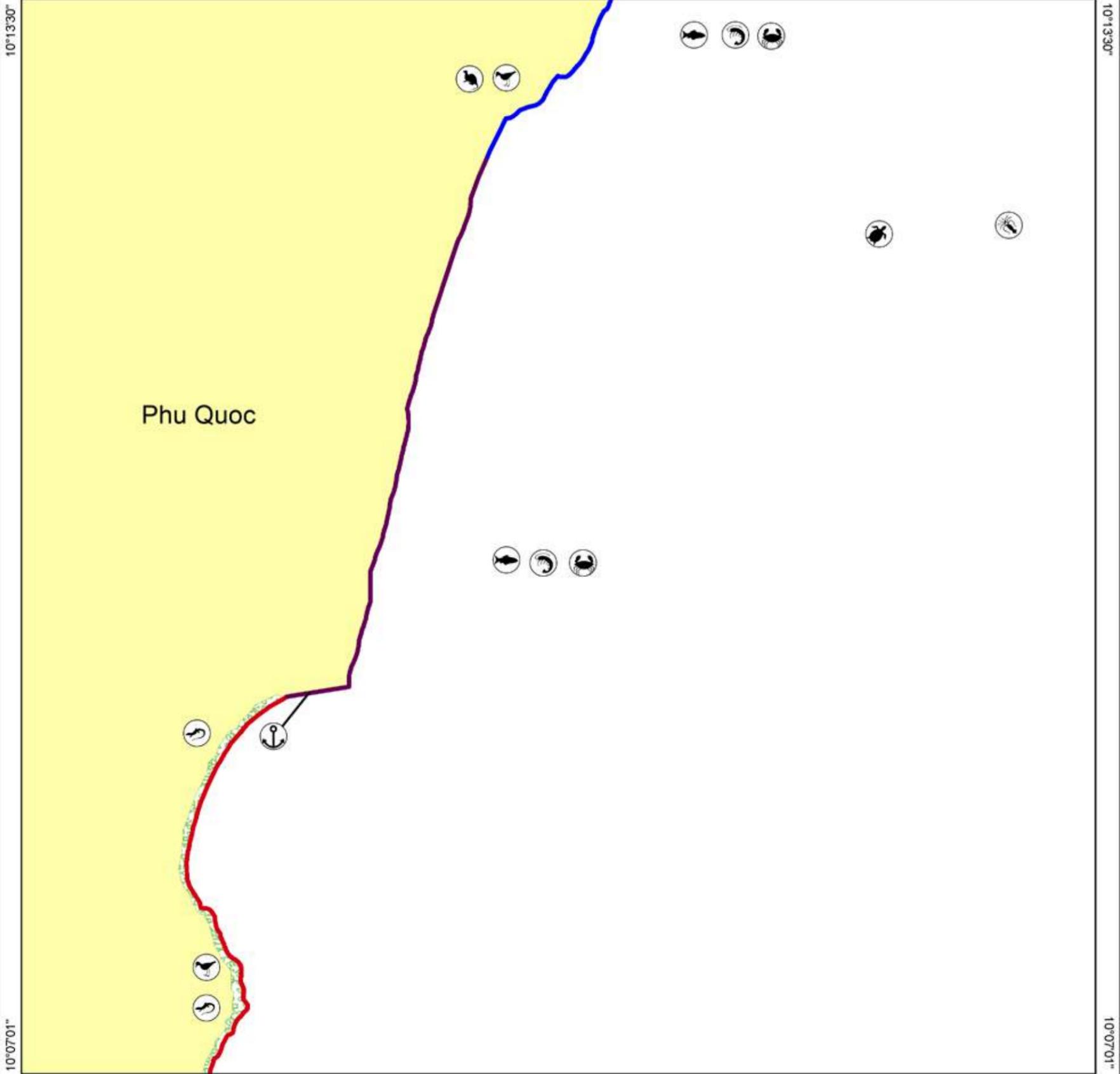
There is no special issue in the area.

Kien Giang Province

Vietnam - 09

104°00'14"

104°06'47"



104°00'14"

104°06'47"

Shoreline Classification

- ESI 1
- ESI 3
- ESI 10B

Biological/Human-Use Areas

- Mangroves

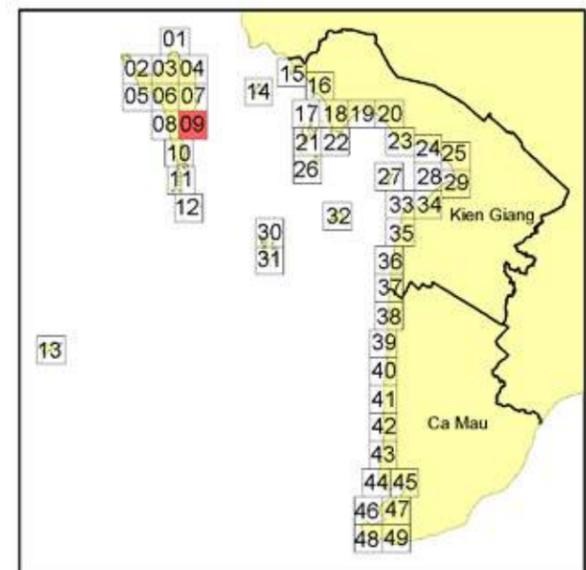
Biological Resources

- Bird
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Squid/Octopus
- Terrestrial Mammal
- Turtle

Human-Use/ Oil Spill Response Resources

- Fishing Port

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in Ham Ninh village, and scrub-shrub wetlands and mangroves (ESI 10B) in Duong To village.

Biological Resources

Birds living in the coastal areas include *Chrysocolaptes lucidus*, *Alcedo atthis*, *Crypsirina temia*, *Aegithina tiphia* and *Zosterops palpebrosus*.

Marine fish species located on the map are *Trichiurus haumella*, *Megalaspis cordyla*, *Leiognathus insidiator* and *Nemipterus virgatus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus indicus* and *Penaeus monodon*.

Crabs in this area are *Scylla paramamosain*.

Squid/octopus species in this area are *Loligo duvauceli*, *Loligo edulis*, *Sepia pharaonis*, *Sepia recurvirostra* and *Sepia aculeata*.

Turtles in this area are *Eretmochelys imbricata* and *Chelonia mydas*.

Terrestrial mammals in this region are *Galeopterus variegates* and *Trachypithecus delacouri* and the other reptiles in this region are *Galeopterus variegates*.

Mangroves and tidal flat habitats are found in this region.

Human Use Resources

The human use resource in this area is the fishing port in Ham Ninh village.

In Ham Ninh, one can visit the old village where fisherfolks earn their living through such professions as pearl diving and fishing sea cucumber using crab nets. Ham Ninh is also known for Bai Vong port and its beautiful beaches. The fishing village is a well-known tourist attraction.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

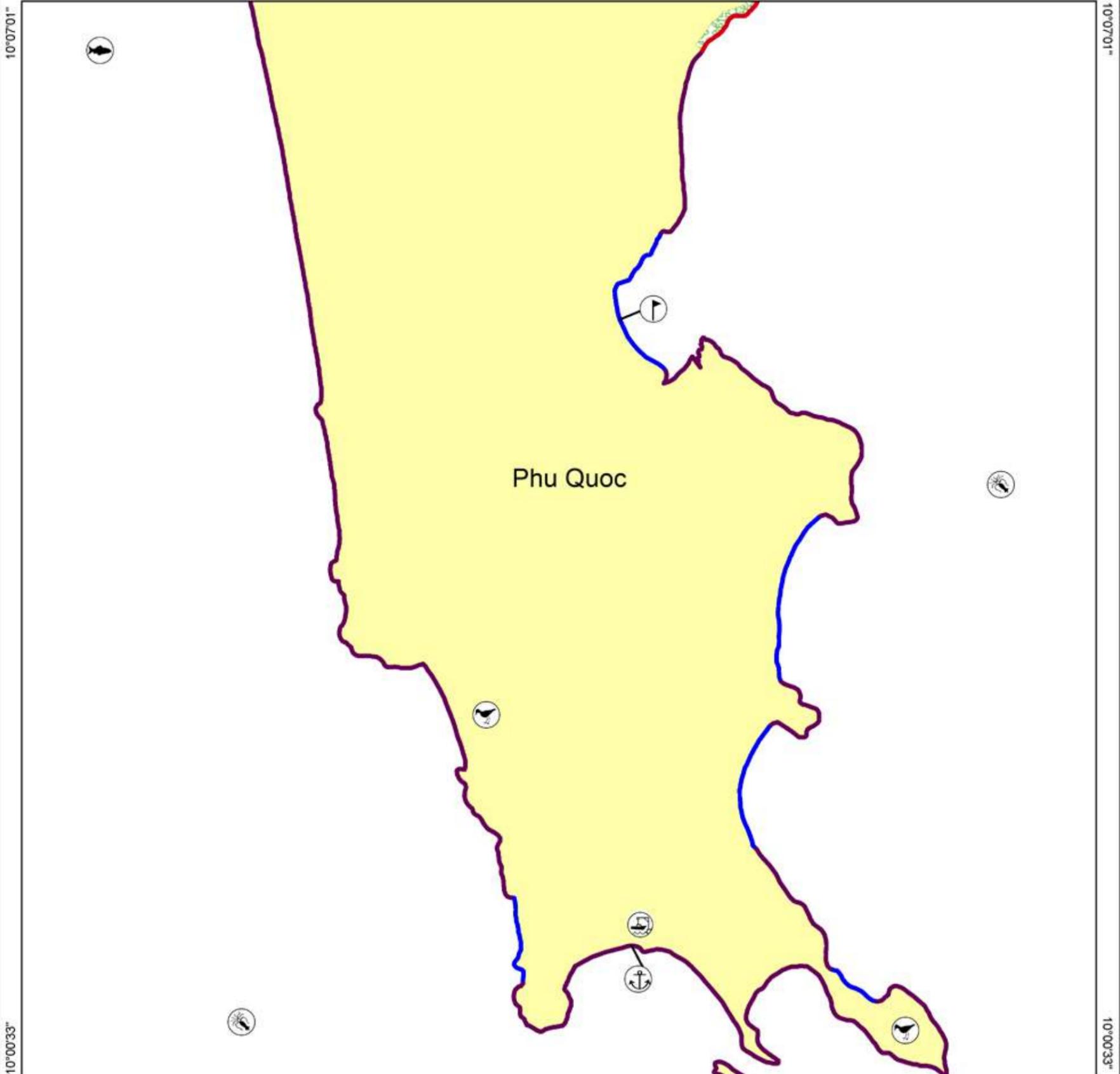
There is no special issue in the area.

Kien Giang Province

Vietnam - 10

103°56'53"

104°03'27"



103°56'53"

104°03'27"

Shoreline Classification

- ESI 1
- ESI 3
- ESI 10B

Biological/Human-Use Areas

- Mangroves

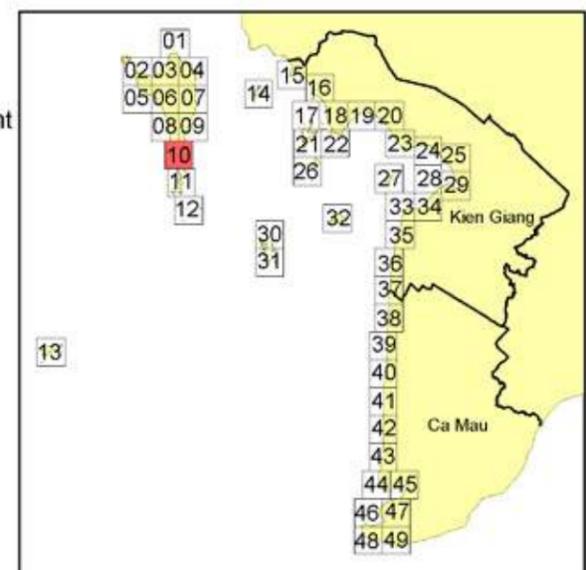
Biological Resources

- Bird
- Fish
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

- Beach
- Marina
- Oil Spill Response Equipment

Location of Map

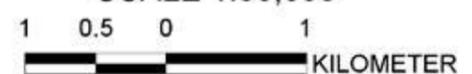


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General Information

This area covers the coastline situated in Phu Quoc District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) and fine- to medium-grained sand beaches (ESI 3) in An Thoi village, and scrub-shrub wetlands and mangroves (ESI 10B) in Duong To village.

Biological Resources

Birds living in the coastal areas include *Zosterops palpebrosus*, *Eudynamys scolopacea*, *Caprimulgus macrurus*, *Treron vernans*, *Lanius cristatus* and *Megalurus palustris*.

Marine fish species located on the map are *Trichiurus haumela*, *Megalaspis cordyla*, *Saurida tumbil*, *Saurida undosquamis*, *Selaroides leptolepis* and *Nemipterus virgatus*.

Squid/octopus species in this area are *Loligo chinensis*, *Loligo edulis*, *Sepioteuthis lessoniana*, *Sepia recurvirostra* and *Sepia aculeata*.

Mangroves and tidal flat habitats are found in this region.

Human Use Resources

The human use resources in this area are the beach and marina. The marina is in An Thoi port.

An Thoi port's construction started in April 2008 and was completed by October 2012. It is a port for commercial traffic with a capacity of 280,000 t of cargo and 440,000 passengers/year. The port consists of two functional areas: the head port, consisting of a 132-m-long and 8.5-m-wide access bridge and a 100-m-long and 15-m-wide main bridge; and the port that can simultaneously receive three ships — including one 3,000-t ship, one 2,000-t ship and one passenger ship with a capacity of 200 to 300. The terminal transfer (buoys) for this type of ship tonnage is 30,000 t and international passenger ships with 1,000 to 2,000 capacity.

Bai Khem Beach is located in the south of Phu Quoc Island. It is about 25 km from Duong Dong and about 5 km from An Thoi port. Bai Khem Beach's slope is a very low stretched coast, with a beautiful beach, famous white sand and smooth, blue water where one can see the bottom. In Bai Khem Beach, the sand is mixed with undulating cliffs. Bai Khem is arc-shaped with white sand edges standing out among the trees and blue sea. Visitors can swim, fish and enjoy the various specialties in this beach.

Oil Spill Response Resources

The oil spill response resources on the map are located at Ong Doc estuary. These consist of oil spill response equipments, such as boom, skimmer, portable tank, chemical dispersant and power Vac. These equipments are transported from other places, such as the National Southern Oil Spill Response Center (NASOS), Petrovietnam Drilling and Well Services Corporation (PV Drilling). However, the recovery capacity of these equipments is only ideal for oil spillage inside storage facilities and may have limitations in recovering oil spillage at sea.

Special Issue

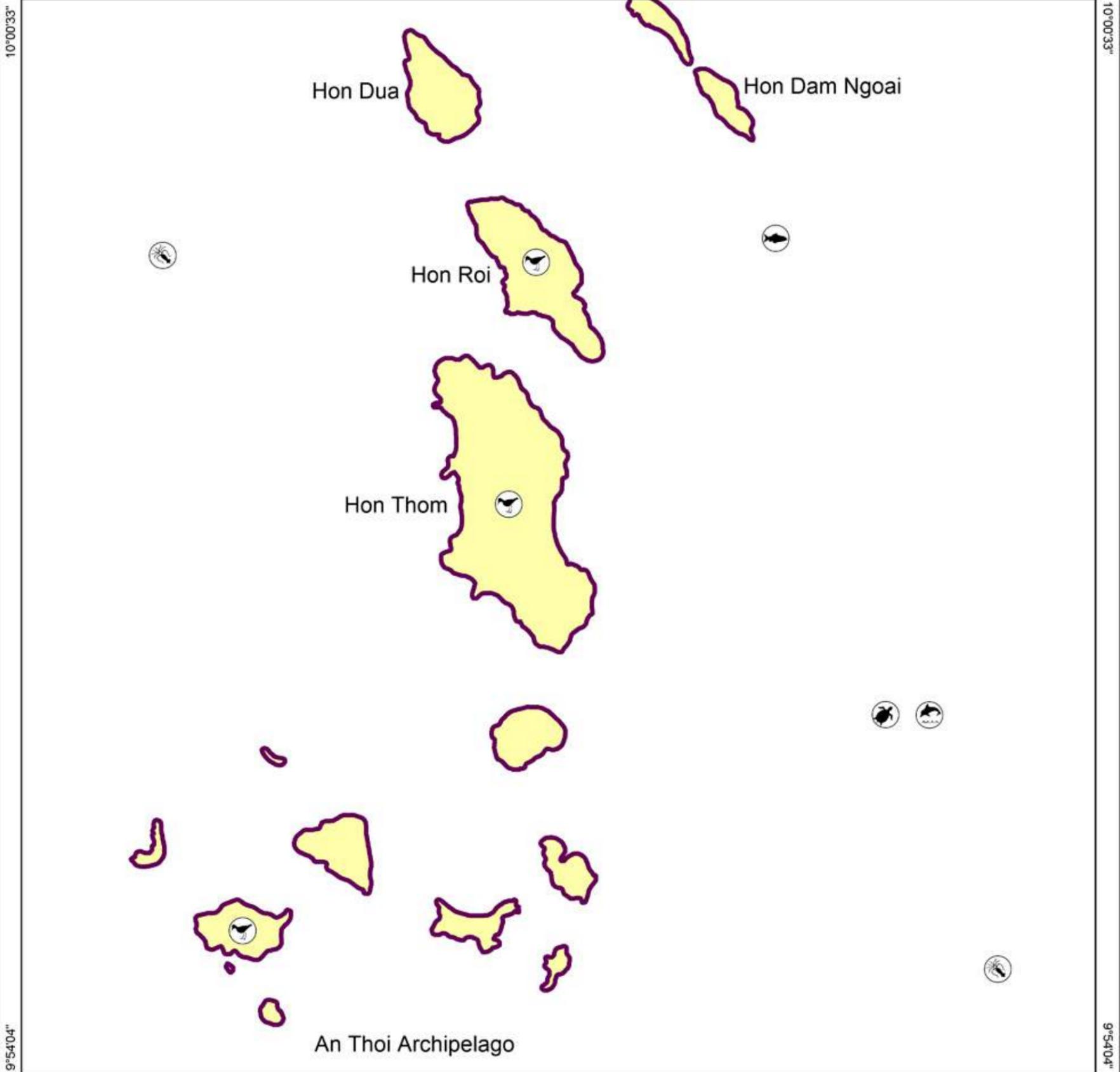
There is no special issue in the area.

Kien Giang Province

Vietnam - 11

103°57'28"

104°04'02"



103°57'28"

104°04'02"

Shoreline Classification

ESI 1

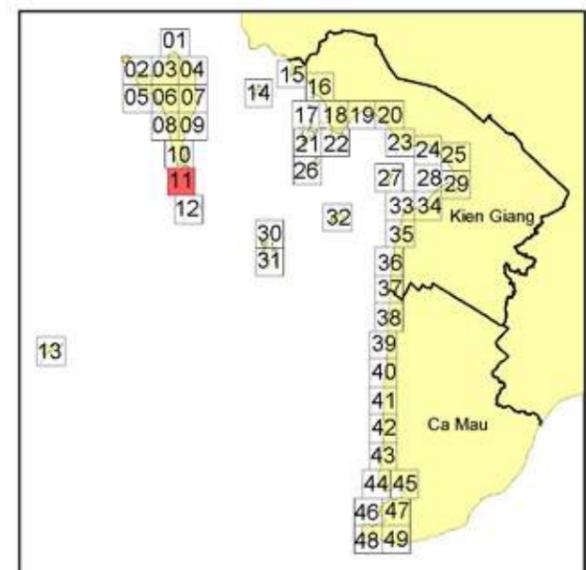
Biological/Human-Use Areas
None

Biological Resources

- Bird
- Fish
- Marine Mammal
- Squid/Octopus
- Turtle

Human-Use/
Oil Spill Response Resources
None

Location of Map

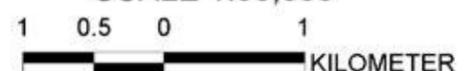


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SCALE 1:50,000



General Information

This area covers the coastline situated in Phu Quoc District.

Located south of Phu Quoc, approximately a 45-minute boat ride from the town of Duong Dong (Phu Quoc), An Thoi Archipelago is made up of some 15 islands/islets, including the largest island, Hon Thom (Pineapple Island), as well as Hon Roi (Lamp Island), Hon Dam Ngoai (Shadow Island), Hon Dua (Coconut Island), Hon Vang (Echo Island), Hon May Rut (Cold Cloud Island), Chan Qui (Yellow Tortoise Island) and Hong Mong Tay (Short Gun Island). The seawater is nearly 30 m deep.

An Thoi Islands are under the management of Hon Thom Commune, Phu Quoc District, Kien Giang Province. Hon Thom Commune covers an area of 5.71 km², with a population of 2,076 in 2003 and density of 364 people/km². Residents of the islands mainly rely on marine life.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) in Hon Thom village in An Thoi islands.

Biological Resources

Birds living in coastal areas include *Lanius cristatus*, *Crypsirina temia*, *Cisticola juncidis*, *Orthotomus sutorius*, *Megalurus palustris* and *Pellorneum ruficeps*.

Marine fish species located on the map are *Megalaspis cordyla*, *Leiognathus insidiator*, *Cynoglossus sp.*, *Priacanthus tayenus* and *Leiognathus equula*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Loligo edulis*, *Symplectoteuthis oualaniensis*, *Sepia recurvirostra*, *Sepioteuthis lessoniana* and *Sepia aculeata*.

Turtles in this area are *Eretmochelys imbricata* and *Chelonia mydas*.

Dugongs are also found in this area.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 12

103°59'12"

104°05'45"

9°54'04"

9°54'04"

9°47'36"

9°47'36"

103°59'12"

104°05'45"

Shoreline Classification

ESI 1

Biological Resources

Bird

Fish

Squid/Octopus

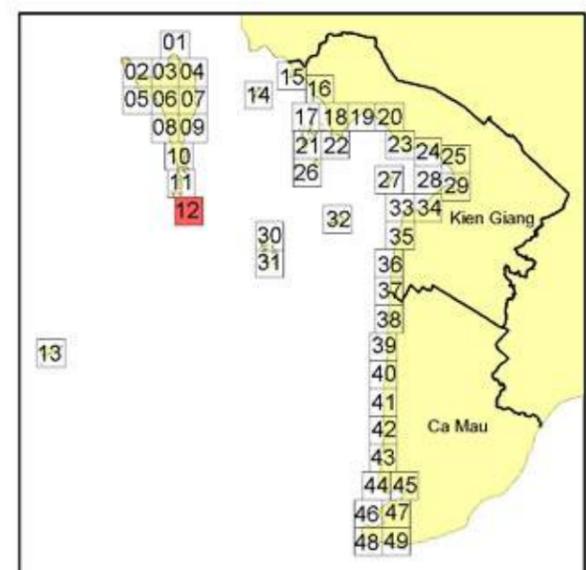
Human-Use/ Oil Spill Response Resources

None

Biological/Human-Use Areas

None

Location of Map



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General Information

This area covers the coastline situated in Phu Quoc District.

Located south of Phu Quoc, approximately a 45-minute boat ride from the town of Duong Dong town (Phu Quoc), An Thoi Archipelago is made up of some 15 islands/islets, including the largest island, Hon Thom (Pineapple Island), as well as Hon Roi (Lamp Island), Hon Dam Ngoai (Shadow Island), Hon Dua (Coconut Island), Hon Vang (Echo Island), Hon May Rut (Cold Cloud Island), Chan Qui (Yellow Tortoise Island) and Hong Mong Tay (Short Gun Island). The seawater is nearly 30 m deep.

An Thoi Islands are under the management of Hon Thom Commune, Phu Quoc District, Kien Giang Province. Hon Thom Commune covers an area of 5.71 km², with a population of 2,076 in 2003 and density of 364 people/km². Residents of the islands mainly rely on marine life.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) in Anh Tay and Anh Dong islands.

Biological Resources

Birds living in the coastal areas include *Rhipidura javanica*, *Crypsirina temia*, *Aegithina tiphia*, *Copsychus saularis*, *Scylla Tranquebarica* and *Lanius cristatus*.

Marine fish species located on the map are *Trichiurus haumela*, *Leiognathus insidiator*, *Priacanthus tayenus* and *Leiognathus equula*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Loligo edulis*, *Symplectoteuthis oualaniensis*, *Sepia recurvirostra*, *Sepioteuthis lessoniana* and *Sepia aculeata*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 13

103°26'43"

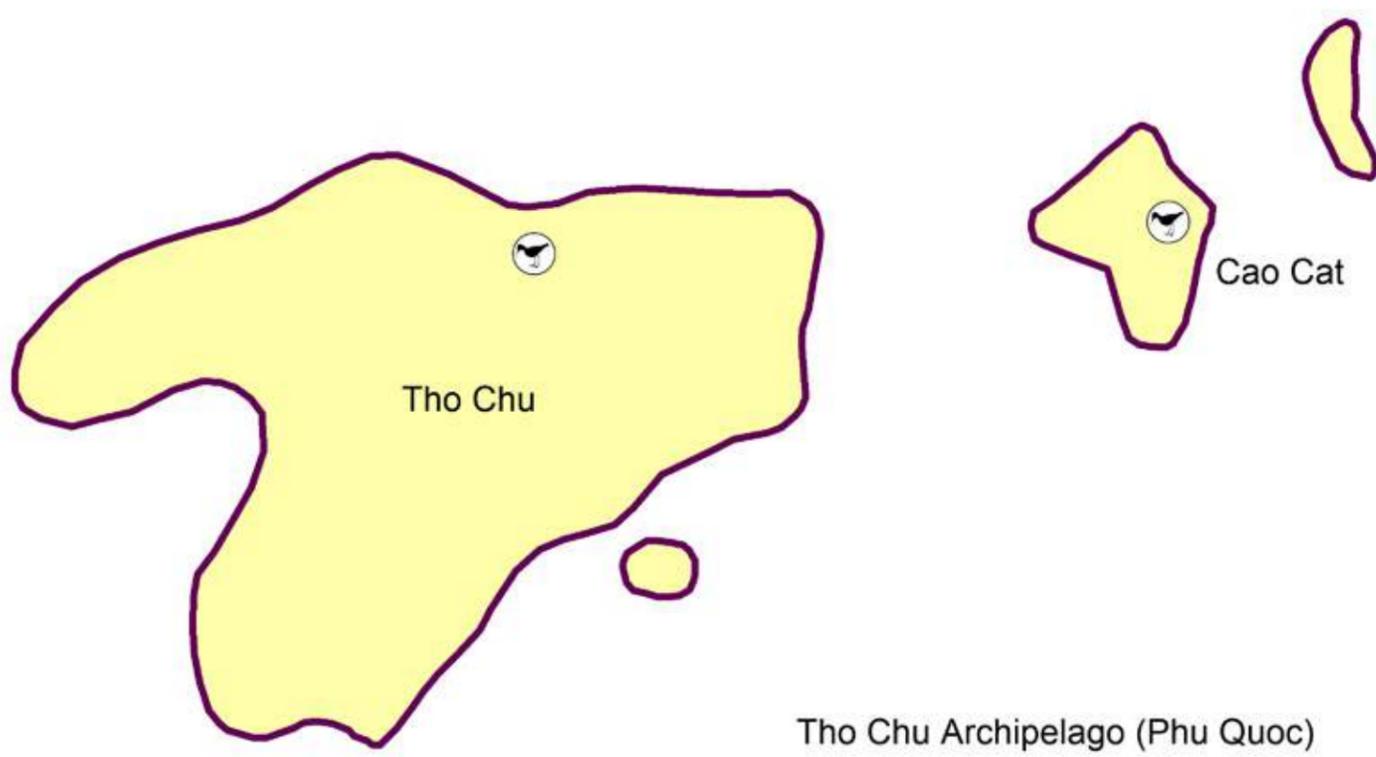
103°33'17"

9°21'03"

9°21'03"

9°14'35"

9°14'35"



103°26'43"

103°33'17"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

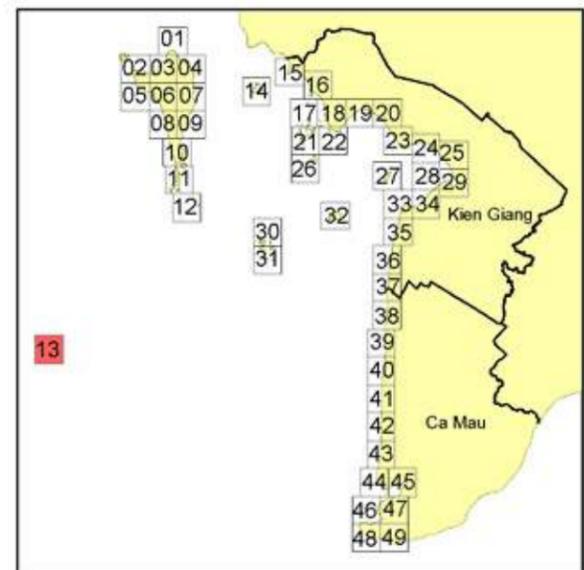
Biological Resources

- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Phu Quoc District.

The largest in Tho Chu Archipelago, Tho Chu Island is located in the southwest of Phu Quoc Island and northwest of Ca Mau Cape. Here lies the administrative center of Tho Chau Commune, Phu Quoc District. Tho Chau has about 500 households with nearly 2,000 inhabitants, most of whom are border guards and navy personnel who chose to settle on the islands; the rest are immigrants. Local residents' livelihood includes farming, fishing, animal husbandry, small craft production and providing service for fishing boats.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1) in Tho Chau village in Tho Chu and Cao Cat islands.

Biological Resources

Birds living in the coastal areas include *Copsychus saularis*, *Zosterops palpebrosus*, *Streptopelia chinensis*, *Cisticola juncidis*, *Orthotomus sutorius* and *Lanius cristatus*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Upeneus sulphureus*, *Therapon theraps* and *Saurida undosquamis*.

Shrimp species in this area are *Penaeus monodon*, *Penaeus japonicus*, *Metapenaeus tenuipes*, *Metapenaeus intermedius* and *Parapenaeopsis hungerfordi*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Loligo edulis*, *Symplectoteuthis oualaniensis*, *Sepia recurvirostra*, *Sepioteuthis lessoniana* and *Sepia aculeata*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 14

104°15'39"

104°22'13"

10°21'13"

10°21'13"

10°14'44"

10°14'44"

104°15'39"

104°22'13"

Shoreline Classification

ESI 1

Biological/Human-Use Areas
None

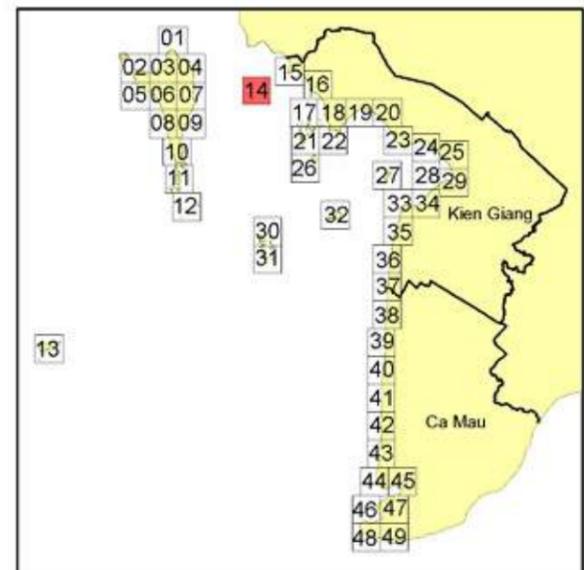
Biological Resources

Bird

Fish

Human-Use/
Oil Spill Response Resources
None

Location of Map

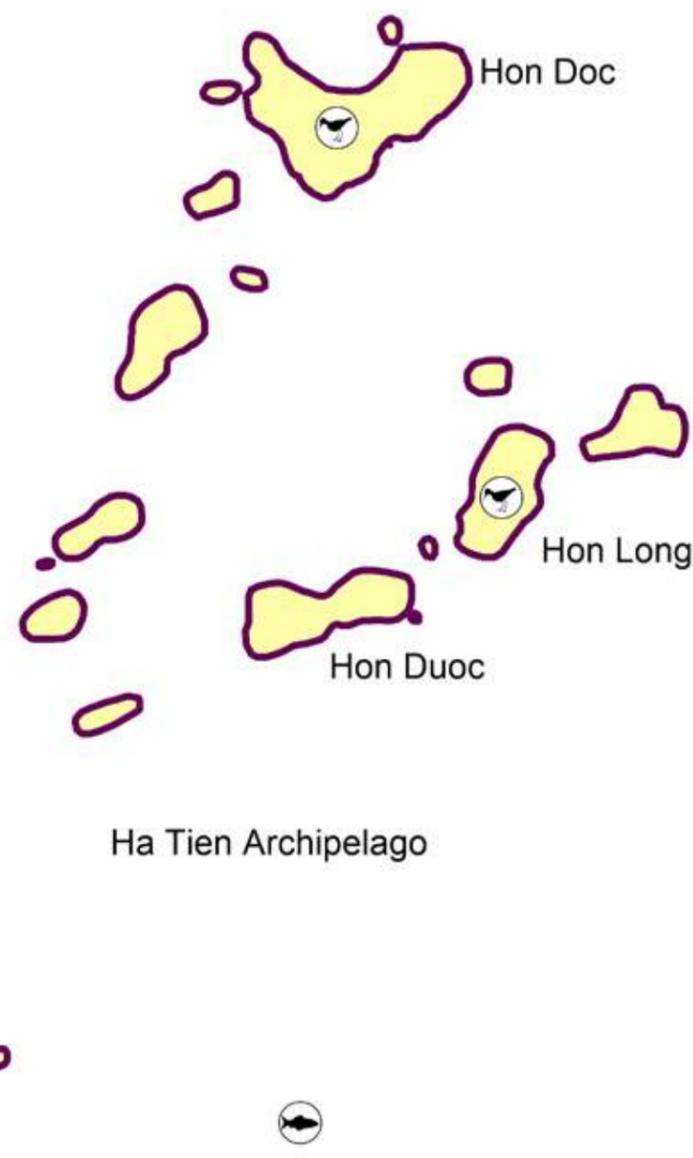


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General Information

This area covers the coastline situated in Ha Tien District.

Ha Tien Archipelago is located in the northwest of Ba Lua Archipelago. It is about 27.5 km from the coast of Ha Tien, about 18 km from the mainland and about 140 km from Phu Quoc Island. The total area of the islands is 11 km², with 16 islands located close to each other.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Francolinus pintadeanus*, *Coracias benghalensis*, *Halcyon smyrnensis*, *Merops orientalis*, *Cuculus sp.*, *Cypsiurus balasiensis*, *Pseudibis davisoni*, *Ciconia episcopus*, *Saxicola torquata*, *Saxicola caprata*, *Glareola maldivarum*, *Chlidonias leucopterus*, *Spilornis cheela*, *Spizaetus cirrhatus*, *Bubulcus ibis*, *Ardeola bacchus* and *Nycticorax nycticorax*.

Marine fishes and shellfish located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Therapon theraps*, *Pomadasys hasta*, *Selaroides leptolepis*, *Psettodes erumei* and *Nibeas sp.*

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

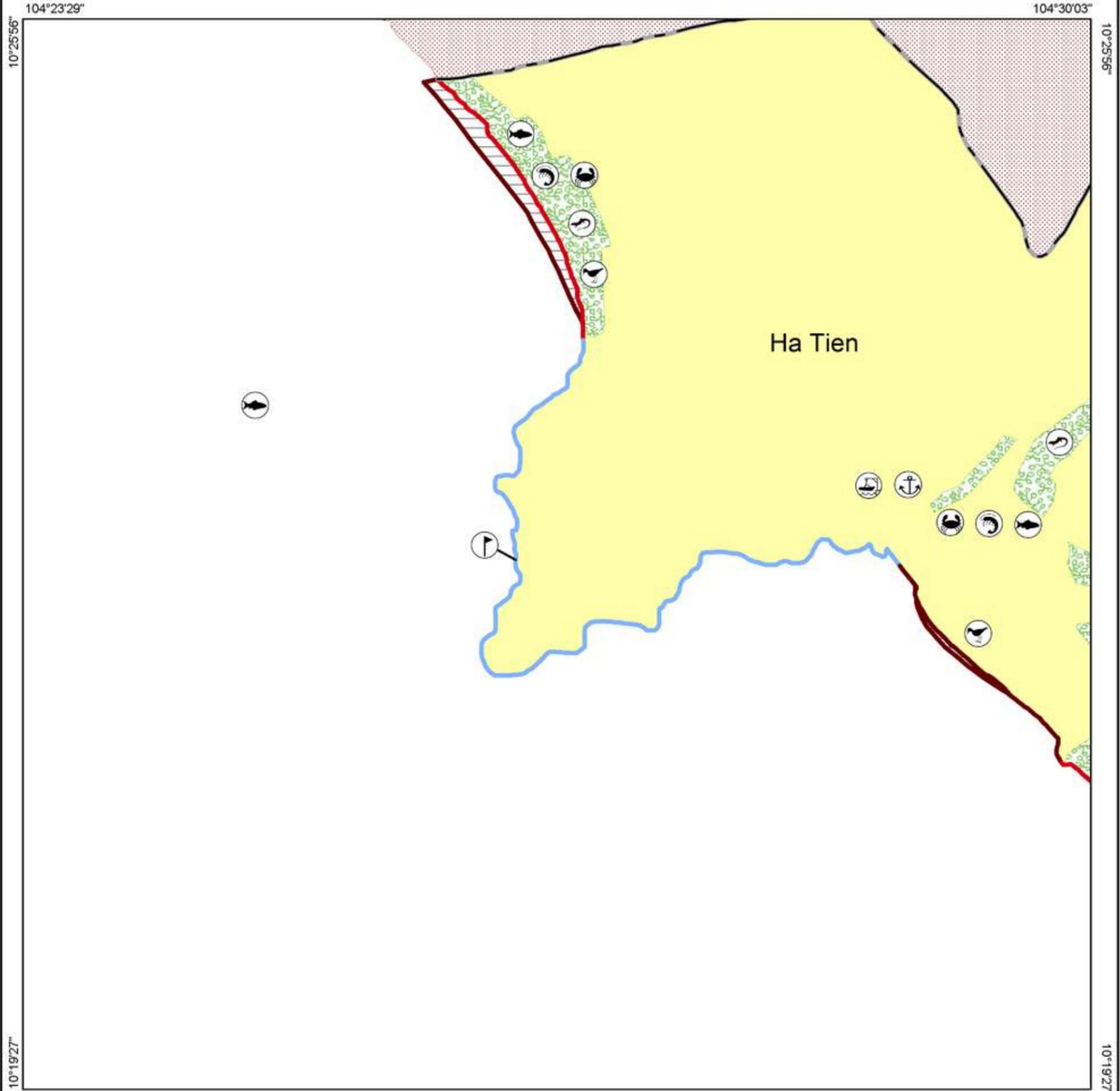
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 15



104°23'29"

104°30'03"

Shoreline Classification

- ESI 4
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

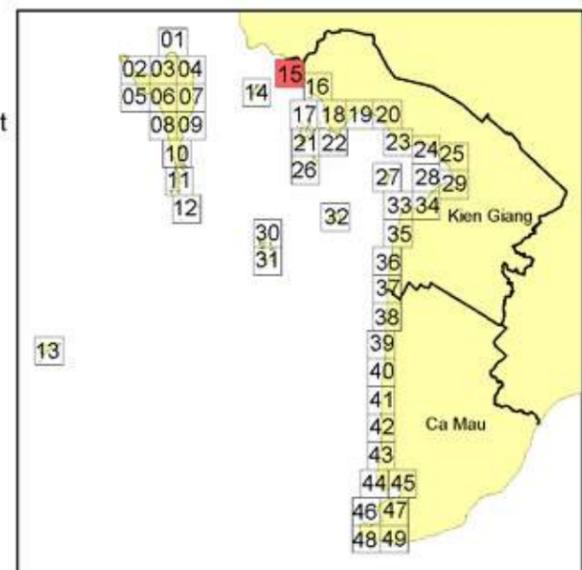
Biological Resources

- Bird
- Crab
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

- Beach
- Marina
- Oil Spill Response Equipment

Location of Map



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General Information

This area covers the coastline situated in Ha Tien District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Francolinus pintadeanus*, *Saxicola caprata*, *Glareola maldivarum*, *Chlidonias leucopterus*, *Spilornis cheela*, *Cisticola juncidis*, *Prinia flaviventris*, *Locustella lanceolata* and *Locustella certhiola*.

Marine fishes and shellfish located on the map are *Cynoglossus sp.*, *Upeneus sulphureus*, *Therapon theraps*, *Psettodes erumei*, *Scylla paramamosain* and *Scylla olivacea*.

Shrimps located on the map are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Reptiles in this area are *Naja naja* and *Python molurus*.

Human Use Resources

There are beaches and a marina in the area.

Oil Spill Response Resources

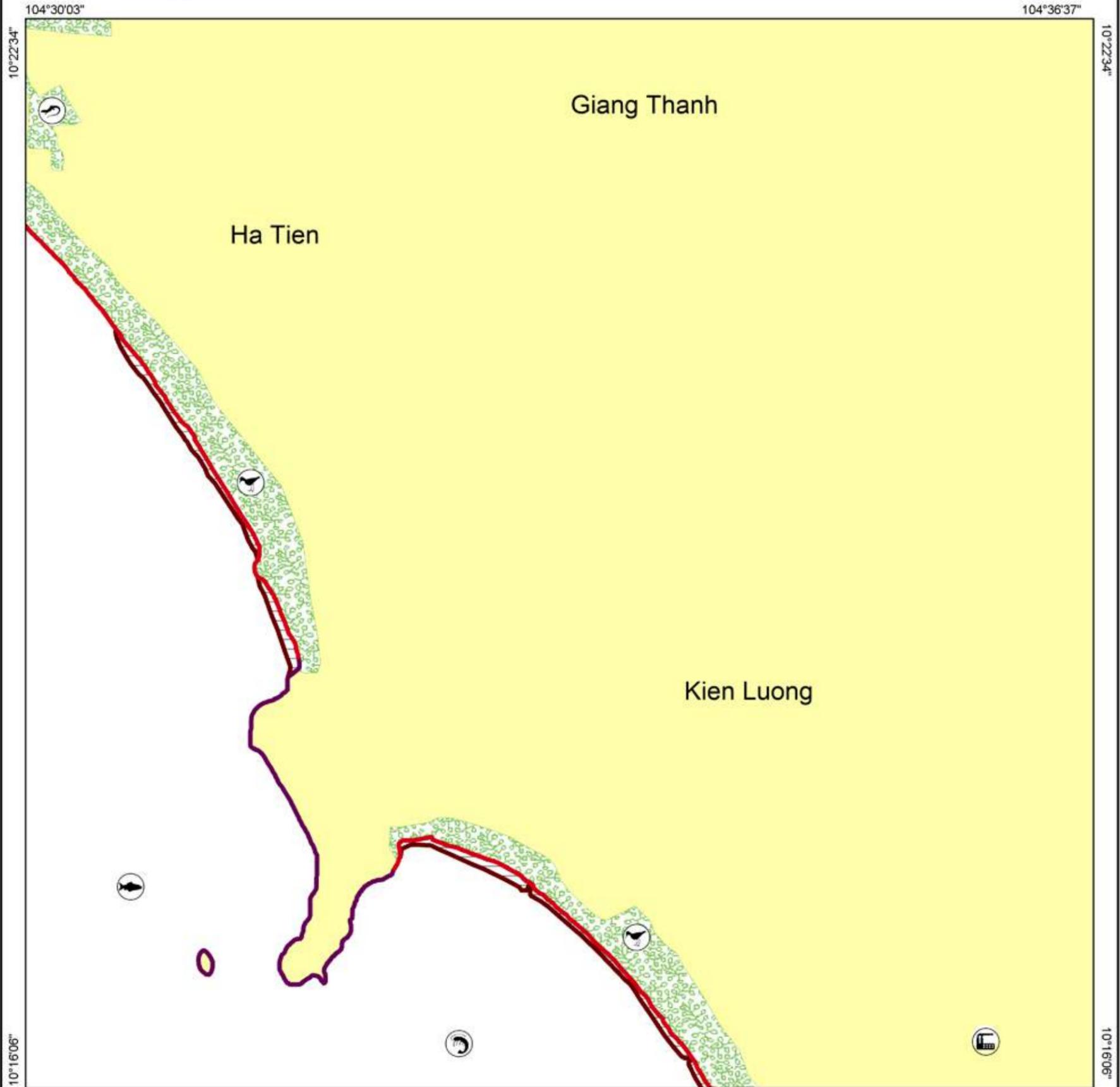
Oil spill response resources located on the map are at Ong Doc estuary. These consist of oil spill response equipments, such as boom, skimmer, portable tank, chemical dispersant and power Vac. These equipments are transported from other places, such as NASOS, Petrovietnam Drilling and Well Services Corporation (PV Drilling). However, the recovery capacity of these equipments is only ideal for oil spillage inside storage facilities and may have limitations in recovering oil spillage at sea.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 16



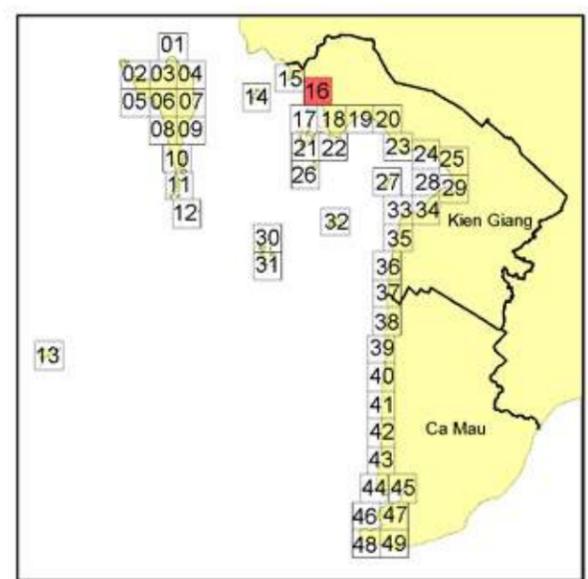
Shoreline Classification
 ESI 1
 ESI 7
 ESI 10B

Biological/Human-Use Areas
 Mangroves
 Tidal Flats

Biological Resources
 Bird
 Fish
 Shrimp
 Reptile and Amphibian

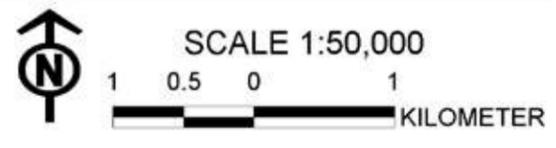
Human-Use/ Oil Spill Response Resources
 Factory

Location of Map



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General Information

This area covers the coastline shared by Ha Tien District and Kien Luong District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Francolinus pintadeanus*, *Coracias benghalensis*, *Halcyon smyrnensis*, *Ciconia episcopus*, *Saxicola torquata*, *Saxicola caprata*, *Glareola maldivarum*, *Chlidonias leucopterus*, *Ardeola bacchus* and *Nycticorax nycticorax*.

Marine fish and shellfish species located on the map are *Megalaspis cordyla*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Selaroides leptolepis*, *Psettodes erumei* and *Nibea sp.*

Shrimp species located on the map as *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Mangrove forests in Kien Giang usually create narrow vegetation belt, along the coasts with belt width usually increasing in sea direction; these form anti-wave and anti-storm barriers. Mangroves can live on both sides of an estuary near the sea.

In the north districts of Kien Luong and Ha Tien, where there is less impact from high tides, mangroves form dense bushes, approximately 2 to 3 m high and with high biodiversity index. The most popular species is milky mangroves (*E. agallocha*); other rare mangrove tree species (or those not found on other places in the provinces) are yamstick mangroves (*Scyphiphora hydrophylacea*), red-flowered black mangroves (*Lumnitzera littorea*) and white-flowered black mangroves (*L. racemosa*).

In the south of Kien Luong, mangrove strips are usually narrow, and forest parts of mangrove palm species (*Nypa fruticans*) are distributed behind the mangrove belt or in front of estuaries and along both sides.

Human Use Resources

There is a cement factory in Kien Luong. The headquarters of this cement factory is located in the town of Kien Luong in Kien Luong District, Kien Giang Province.

Currently, the cement factory produces 900,000 t/year and 1,000,000 t clinker/year. In addition, the implementation of the project in Ha Tien produces 1,260,000 t of clinker design/year and 600,000 t of cement/year.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 17

104°26'50"

104°33'24"

10°16'06"

10°16'06"

10°09'37"

10°09'37"

104°26'50"

104°33'24"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

Biological Resources

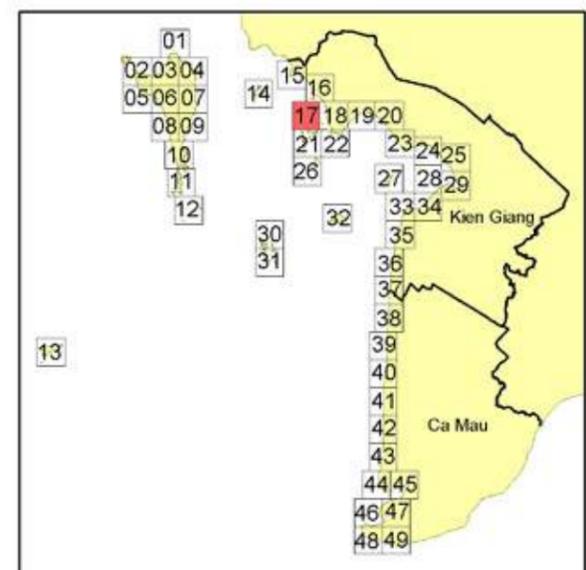
-  Bird
-  Fish
-  Shrimp
-  Squid/Octopus

Human-Use/ Oil Spill Response Resources

None

Ba Lua Archipelago

Location of Map



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General Information

This area covers the coastline situated in Ba Lua Archipelago.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Coracias benghalensis*, *Halcyon smyrnensis*, *Merops orientalis*, *Cuculus sp.*, *Saxicola torquata*, *Saxicola caprata*, *Glareola maldivarum*, *Chlidonias leucopterus*, *Spilornis cheela*, *Bubulcus ibis* and *Locustella certhiola*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Leiognathus rivulata*, *Trichiurus haumela*, *Megalaspis cordyla*, *Therapon theraps*, *Saurida tumbil*, *Saurida undosquamis* and *Psettodes erumei*.

Shrimp species located on the map are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Squids/Octopus species located on map are *Sepia pharaonis*, *Sepia brevimana*, *Loligo edulis* and *Loliolus sumatrensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

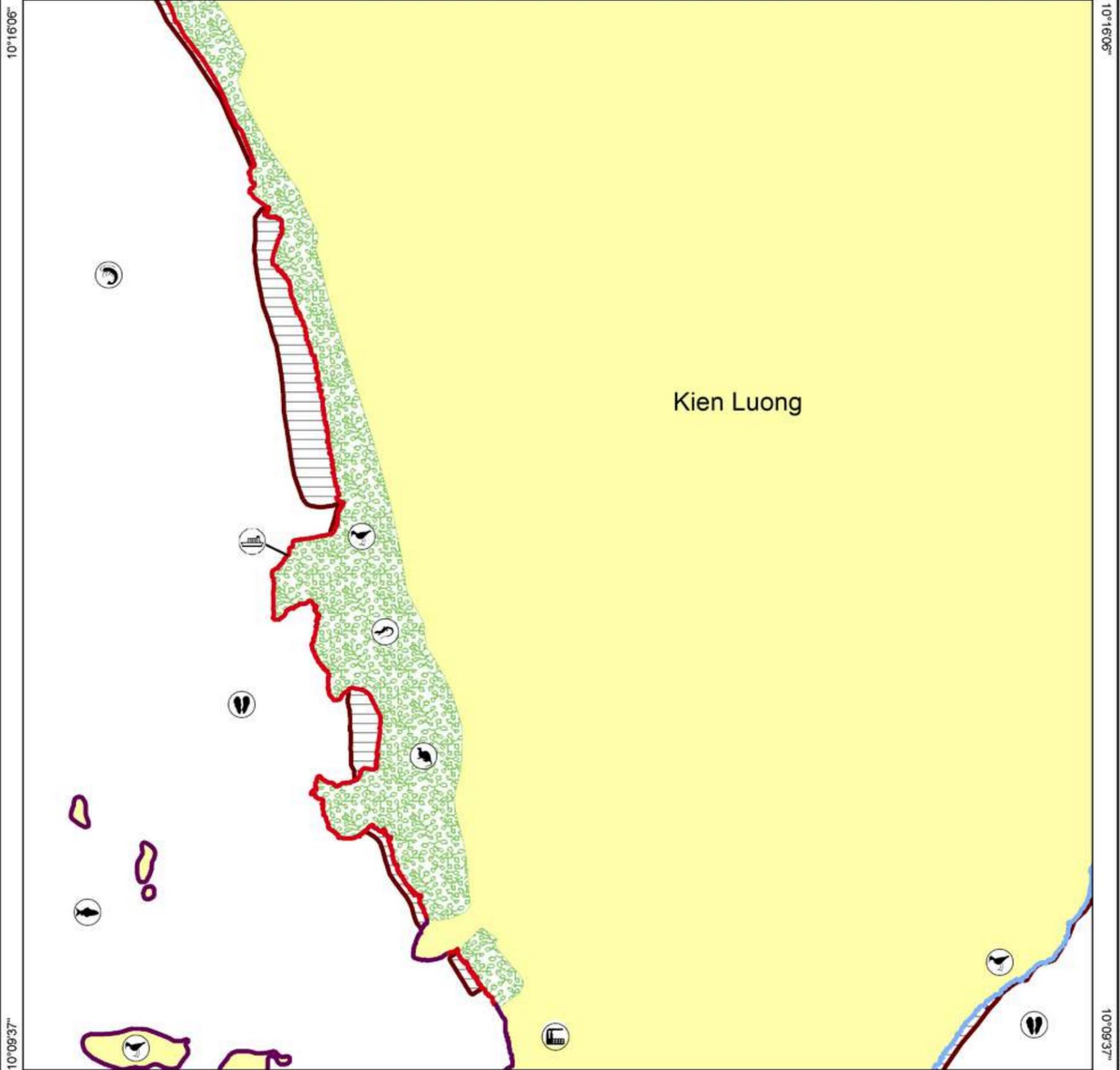
There is no special issue in the area.

Kien Giang Province

Vietnam - 18

104°33'24"

104°39'58"



104°33'24"

104°39'58"

Shoreline Classification

- ESI 1
- ESI 4
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

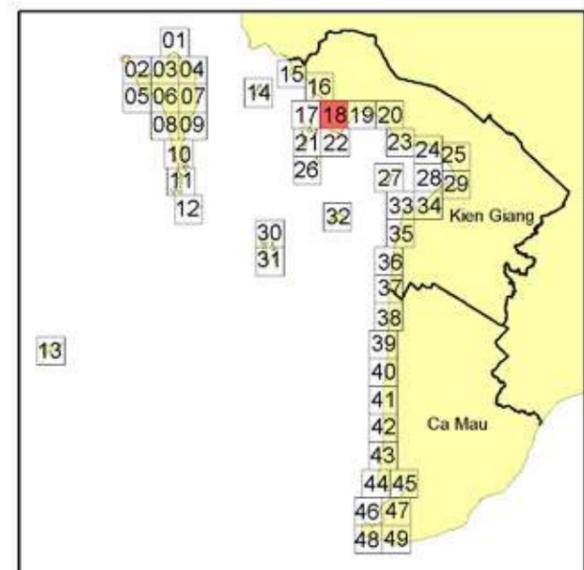
Biological Resources

- Bird
- Bivalve
- Fish
- Reptile and Amphibian
- Terrestrial Mammal
- Shrimp

Human-Use/ Oil Spill Response Resources

- Factory
- Harbor

Location of Map



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General Information

This area covers the coastline situated in Kien Luong District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1), coarse-grained sand beaches (ESI 4), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Grus antigone*, *Ciconia episcopus*, *Pseudibis davisoni*, *Pelecanus philippensis*, *Mycteria leucocephala*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Nettapus coromandelianus* and *Anas poecilorhyncha*.

Marine fish species located on the map are *Leiognathus bindus*, *Leiognathus rivulata*, *Trichiurus haumela*, *Therapon theraps*, *Saurida tumbil* and *Saurida undosquamis*.

Shrimp species located on the map are *Penaeus japonicas*, *Metapenaeus affinis*, *Metapenaeus ensis* and *Parapenaeopsis hardwickii*.

Bivalves located on the map are *Anadara nodifera*, *Brachyodontes emarginatus*, *Tellina jedoensis*, *Solen grandis* and *Teredo manni*.

Reptiles in this area are *Naja naja*, *Python molurus* and *Crocodylus siamensis*.

The terrestrial mammals in this area are *Manis javanicus* and *Viverra megaspila*.

In tidal areas, mangrove populations in mixture develop in areas only impacted by average to high tides with many plant species of secondary occurrence. These are forest types with highest abundance in biodiversity, dense spacing and stable populations with some plants of very huge sizes. Mangroves in mixture along the coast of Kien Giang are white mangrove species, corky stilt mangroves, orange mangroves (*Bruguiera spp.*), *Xylocarpus* mangroves (*Xylocarpus spp.*) and white-flowered apple mangroves (*Sonneratia alba*).

Mangrove belts in coastal areas are impacted partly by high tides with some species, such as Beach hibiscus (*Hibiscus tiliaceus*), Portia tree (*Thespesia populnea*) and some other plant species.

Human Use Resources

Binh Tri Harbor, located in Kien Luong District, Kien Giang Province, can receive 5,000–10,000-ton ships.

The cement factory of Holcim Vietnam, located in Kien Luong District, Kien Giang Province, has the capacity of 1.2 million t/year. The factory has ports that can receive ships of 8,000 t.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

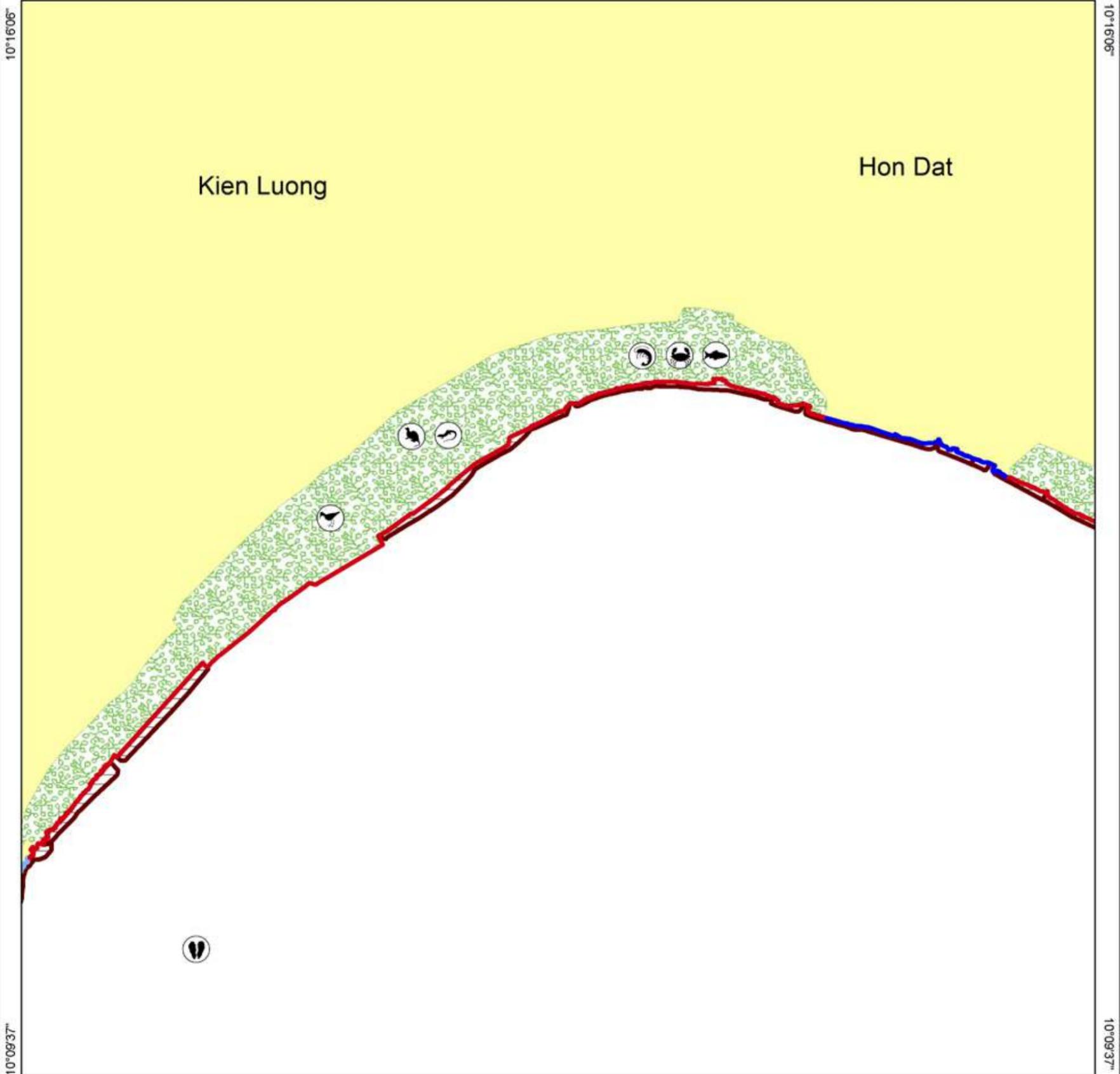
There is no special issue in the area.

Kien Giang Province

Vietnam - 19

104°39'58"

104°46'31"



104°39'58"

104°46'31"

Shoreline Classification

- ESI 3
- ESI 4
- ESI 7
- ESI 10B

Biological/Human-Use Areas

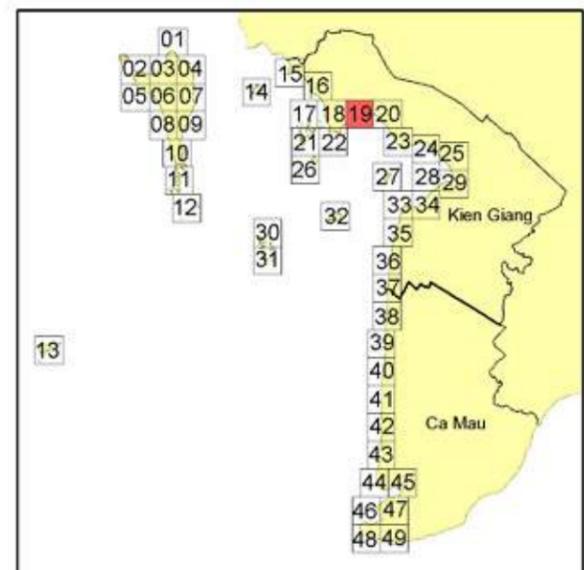
- Mangroves
- Tidal Flats

Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Terrestrial Mammal
- Shrimp

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline shared by Kien Luong District and Hon Dat District.

Shoreline

Along the coast in the area are fine- to medium-grained sand beaches (ESI 3), coarse-grained sand beaches (ESI 4), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Grus antigone*, *Ciconia episcopus*, *Pseudibis davisoni*, *Pelecanus philippensis*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis* and *Anas poecilorhyncha*.

Marine fish species located on the map are *Leiognathus rivulata*, *Trichiurus haumela*, *Megalaspis cordyla*, *Therapon theraps*, *Saurida tumbil* and *Saurida undosquamis*.

Shrimp species located on the map are *Penaeus japonicas*, *Metapenaeus affinis*, *Metapenaeus ensis* and *Parapenaeopsis hardwickii*.

Bivalves located on the map are *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis* and *Teredo manni*.

Crabs located on the map are *Scylla paramamosain* and *Scylla olivacea*.

Reptiles in this area are *Naja naja*, *Python molurus* and *Crocodylus siamensis*.

Terrestrial mammals in this area are *Manis javanicus* and *Viverra megaspila*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

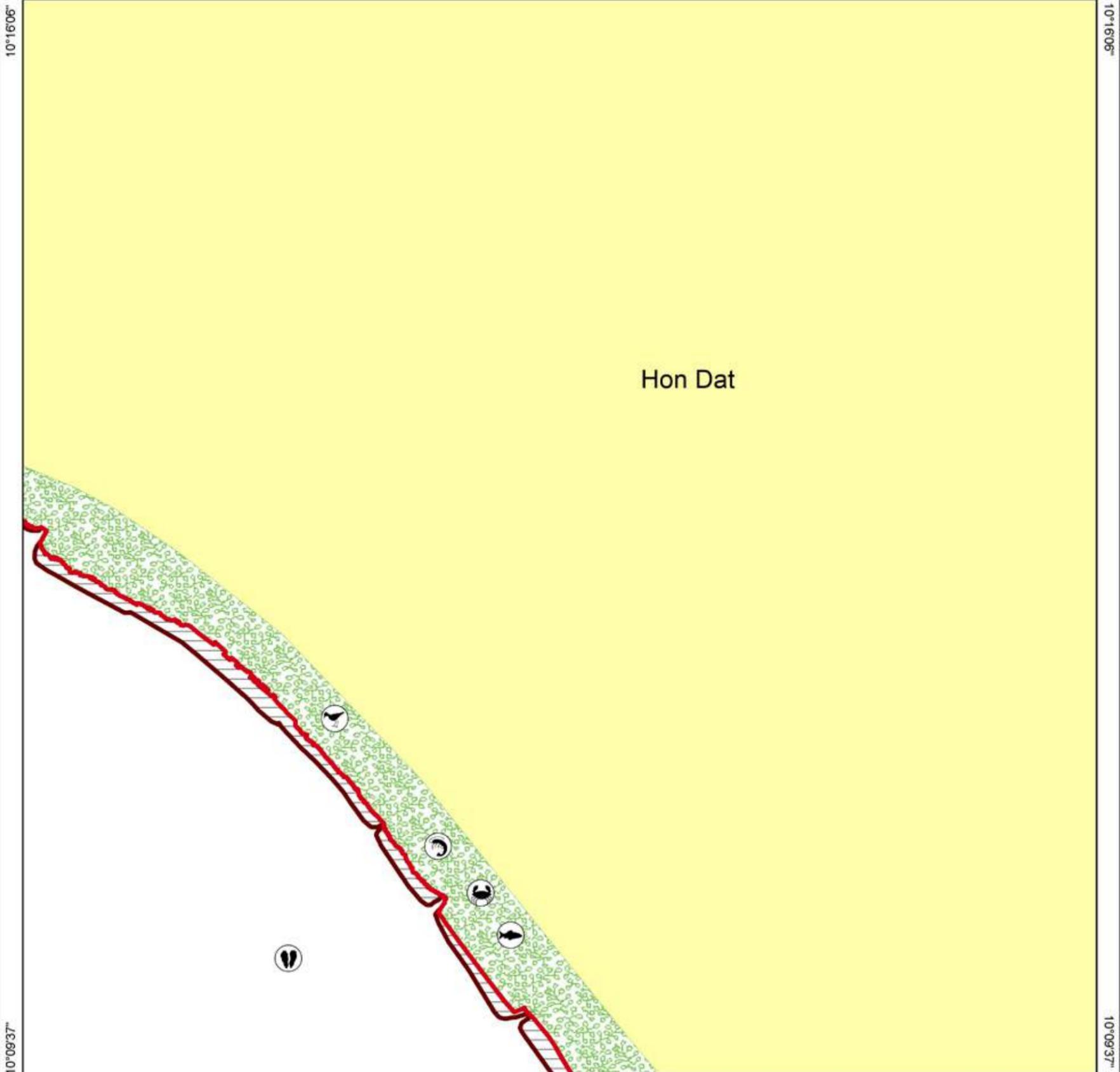
There is no special issue in the area.

Kien Giang Province

Vietnam - 20

104°46'31"

104°53'05"



104°46'31"

104°53'05"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

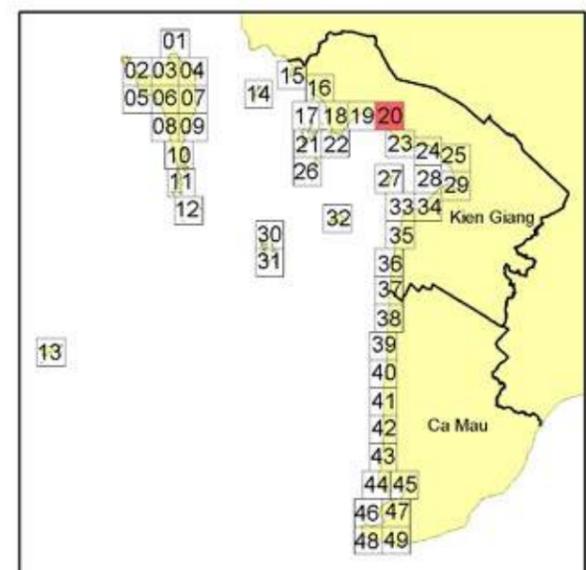
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Shrimp

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Hon Dat District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Pelecanus philippensis*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis* and *Anas poecilorhyncha*.

Marine fish speices located on the map are *Leiognathus rivulata*, *Trichiurus haumela*, *Megalaspis cordyla*, *Therapon theraps*, *Saurida tumbil*, *Psettodes erumei*, *Sphyraena jello* and *Saurida undosquamis*.

Shrimp species located on the map are *Penaeus japonicus*, *Metapenaeus affinis*, *Metapenaeus ensis* and *Parapenaeopsis hardwickii*.

Bivalves located on the map are *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis* and *Teredo manni*.

Crabs located on the map are *Scylla paramamosain* and *Scylla olivacea*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

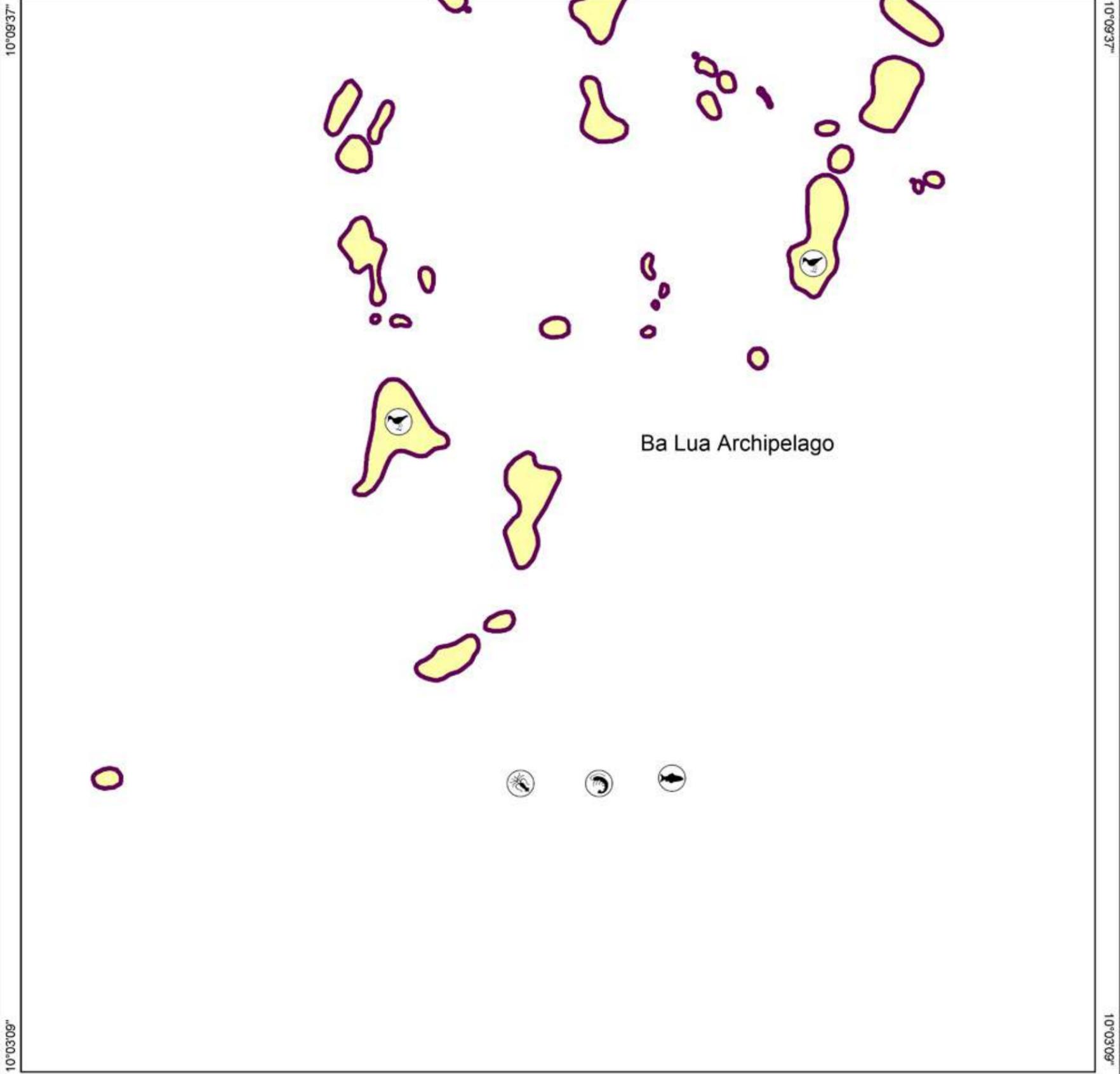
There is no special issue in the area.

Kien Giang Province

Vietnam - 21

104°27'10"

104°33'44"



104°27'10"

104°33'44"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

Biological Resources

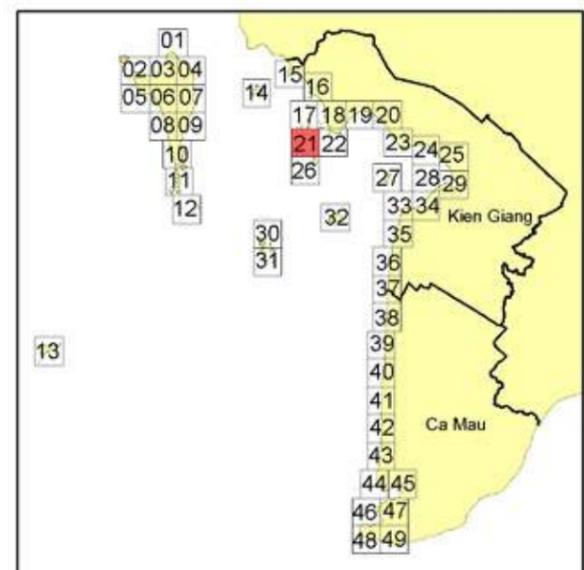
- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/

Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Ba Lua Archipelago.

Ba Lua Islands is an archipelago constituting Son Hai Commune of Kien Luong District, Kiên Giang Province. The archipelago is known as the “Small Ha Long of the South.”

Formed from lower-mid Paleozoic sedimentary rocks, the archipelago consists of about 45 islands spread out over a 70-km² water area, among which Hon Heo is the largest entity. Apart from Hon Heo, all the other islands' highest point do not exceed 100 m. The most populated islands are Hon Heo, Hon Ngang and Hon Nhum. The sea area around the archipelago is shallow, and in many places, people can even walk from island to island during low tide.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Cuculus sp.*, *Cypsiurus balasiensis*, *Pseudibis davisoni*, *Ciconia episcopus*, *Saxicola torquata*, *Saxicola Caprata* and *Nycticorax nycticorax*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Upeneus sulphureus*, *Therapon theraps*, *Pomadasys hasta*, *Psettodes erumei* and *Nibea sp.*

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Squid/octopus species in the area are *Sepia pharaonis*, *Sepia brevimana*, *Loligo edulis* and *Loliolus sumatrensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

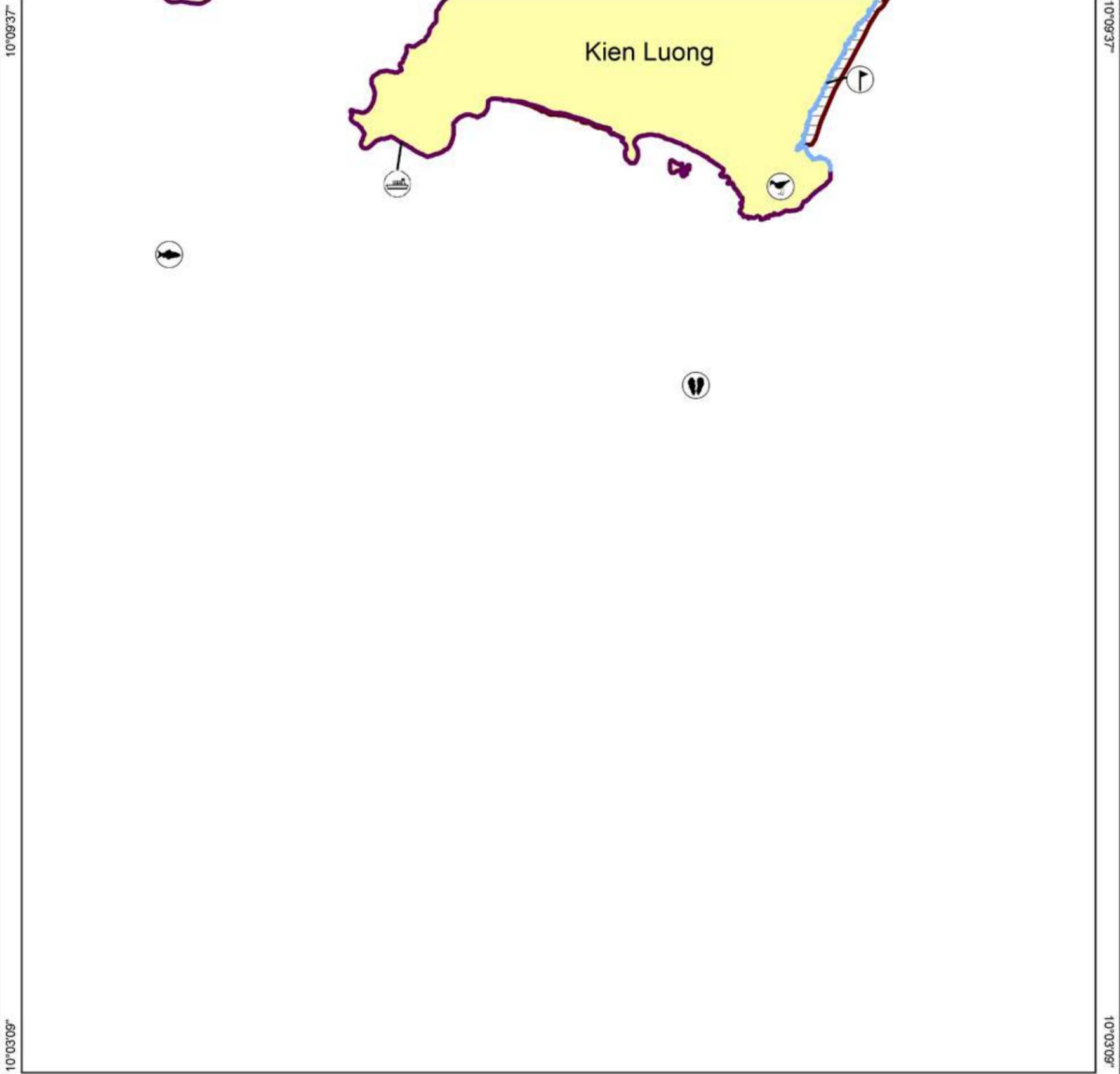
There is no special issue in the area.

Kien Giang Province

Vietnam - 22

104°33'44"

104°40'18"



104°33'44"

104°40'18"

Shoreline Classification

- ESI 1
- ESI 4
- ESI 7

Biological/Human-Use Areas

- Tidal Flats

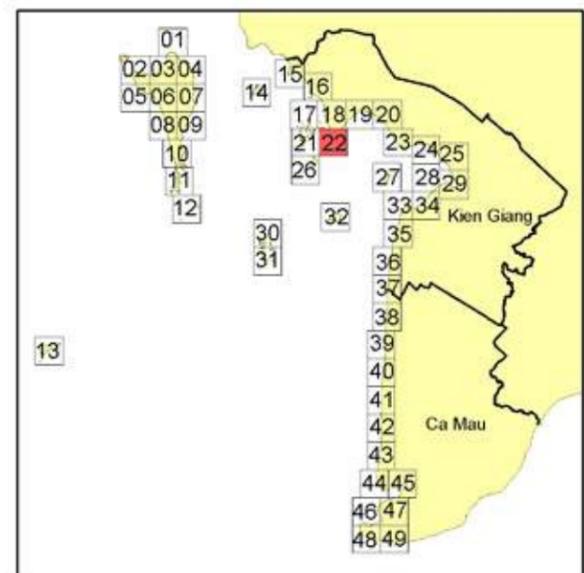
Biological Resources

- Bird
- Bivalve
- Fish

Human-Use/Oil Spill Response Resources

- Beach
- Harbor

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Kien Luong District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1), coarse-grained sand beaches (ESI 4) and exposed tidal flats (ESI 7).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Pelecanus philippensis*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis* and *Anas poecilorhyncha*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Upeneus sulphureus*, *Therapon theraps*, *Pomadasys hasta* and *Nibea sp.*

Tidal flats are home to bivalve species in this area, such as *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis*, *Teredo manni*, *Saccostrea glomerata*, *Saccostrea cucullata*, *Crassostrea rivularis*, *Dosinia nobilis*, *Cyclina sinensis*, *Meretrix meretrix* and *Meretrix lusoria*.

Human Use Resources

Hon Chong harbor, located in Kien Luong District, Kien Giang Province, is a deepwater port that can receive ships of 5,000 t. There is also a high-speed train line in Phu Quoc.

In 2012, investment projects on the construction of the Port of Hon Chong reached a total of 1,110 billion VND.

The Port of Hon Chong is for passenger loads of up to 3,200 DWT, with a cargo jetty loading capacity of 700–800 thousand t/year and capable of receiving 1,000–5,000 DWT docked vessels. It is responsible for serving the domestic and international ports transfer to Ha Tien, Nam Du, Tien Hai Tac Cau, Rach Gia, An Thoi, Duong Dong and ports in the southern key. The port serves the objectives of socioeconomic development, boosting industrialization and modernization of Kien Giang Province for the near future. Bai Duong Beach, located in Hon Chong tourist area in Kien Luong District, Kien Giang Province, is 2 km long. It is 30 km from Ha Tien, passing Rach Gia on the way. It has white sand, clean, blue water and no rocks.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

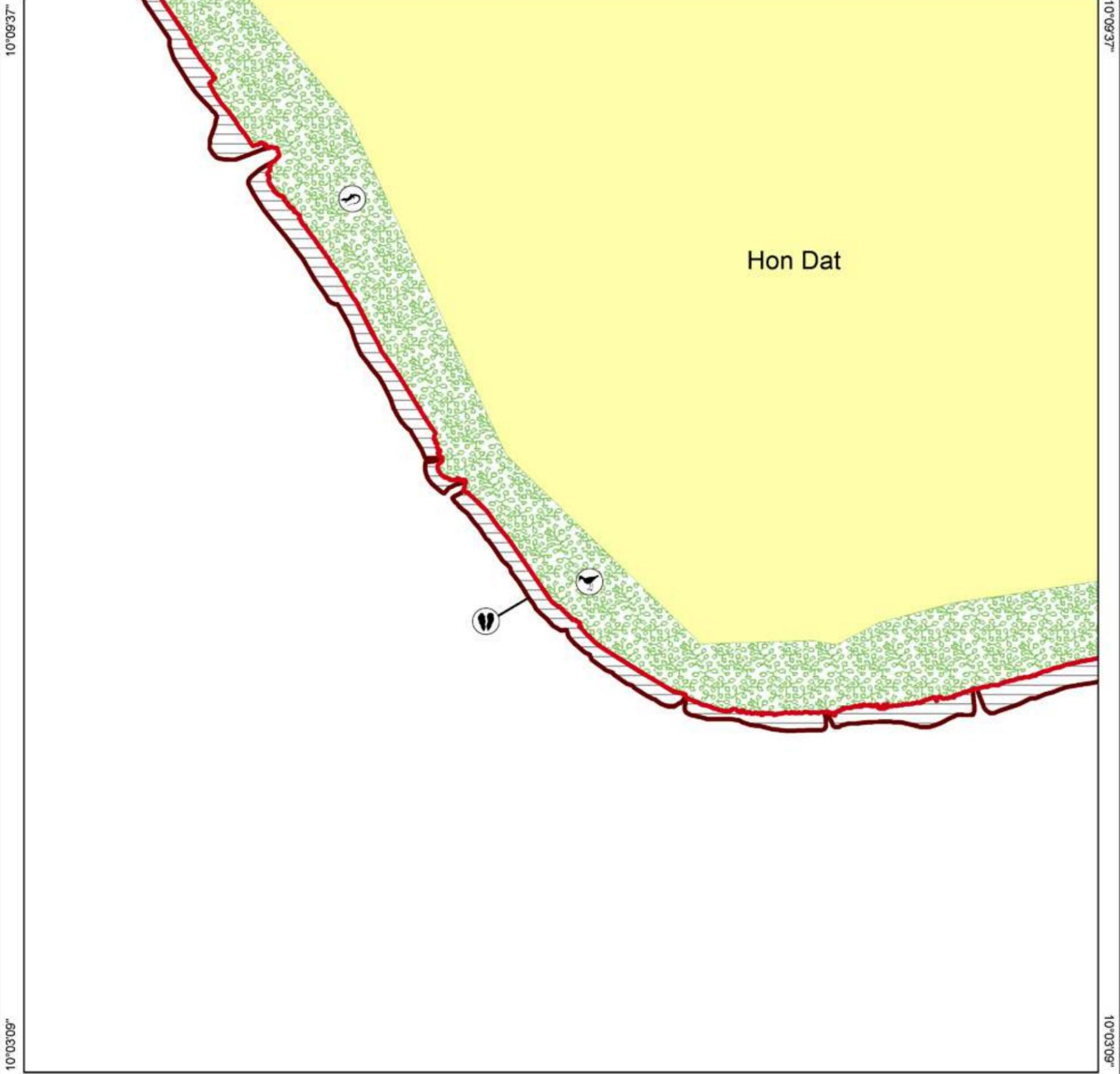
There is no special issue in the area.

Kien Giang Province

Vietnam - 23

104°49'03"

104°55'37"



104°49'03"

104°55'37"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

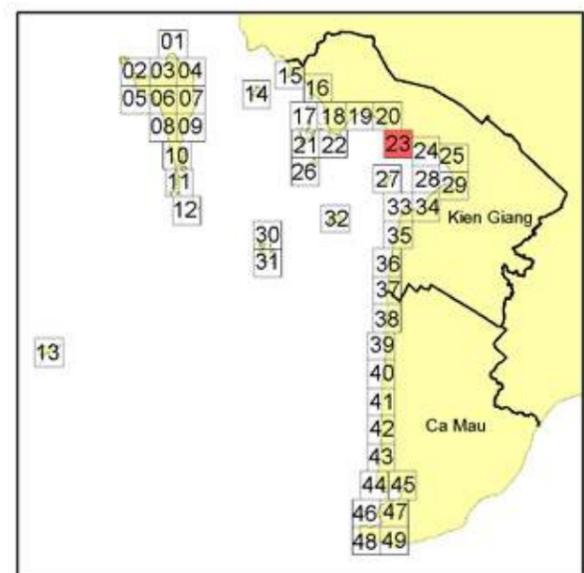
Biological Resources

- Bird
- Bivalve
- Reptile and Amphibian

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Hon Dat District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Anastomus oscitans*, *Fregata sp.*, *Lanius cristatus* and *Pericrocotus flammeus*.

Tidal flats are home to bivalve species, such as *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis* and *Teredo manni*.

Reptiles in this region are *Naja naja*, *Python molurus* and *Crocodylus siamensis*.

Mangrove and tidal flat habitats are found in this region.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

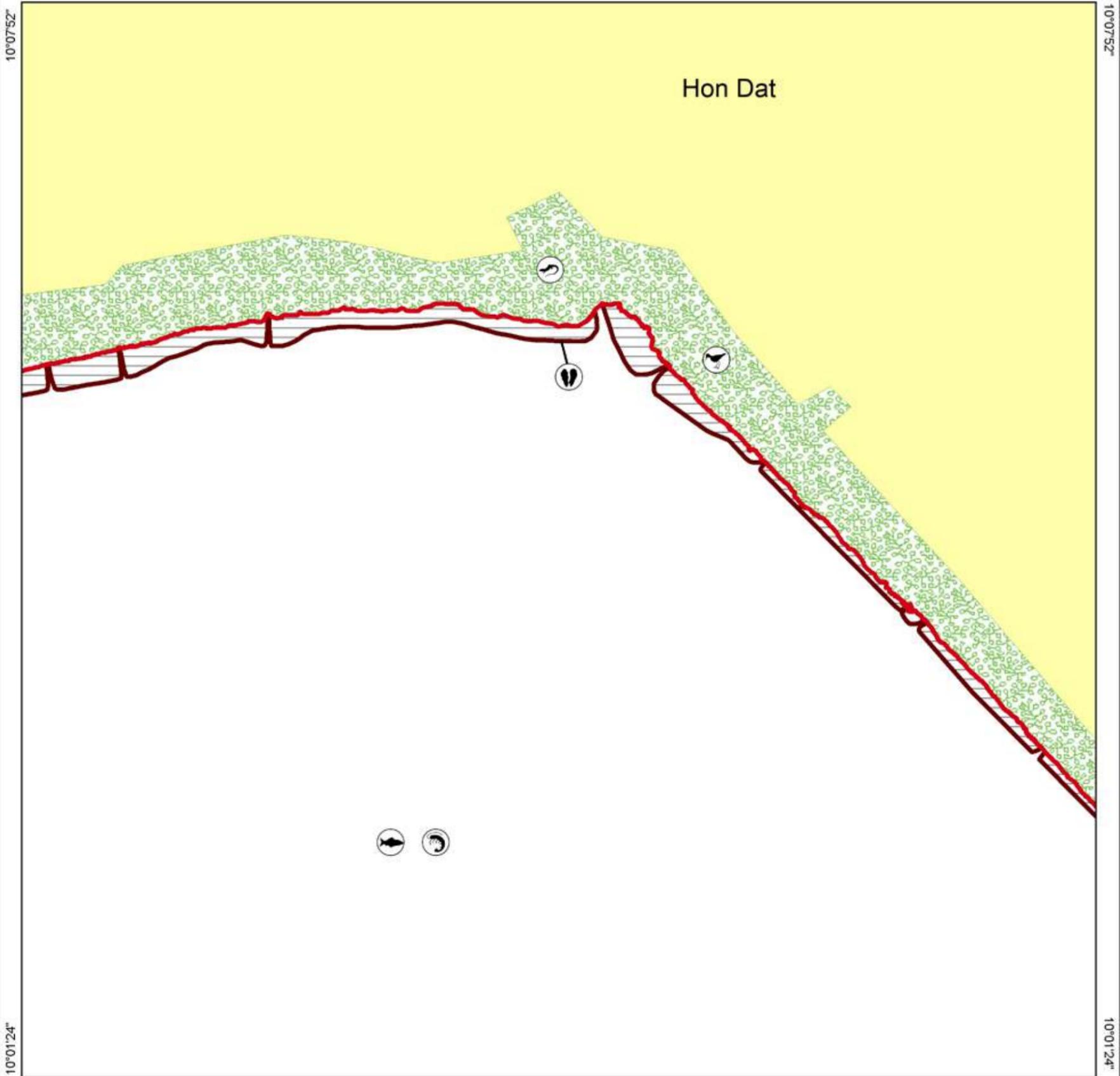
There is no special issue in the area.

Kien Giang Province

Vietnam - 24

104°55'37"

105°02'11"



104°55'37"

105°02'11"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

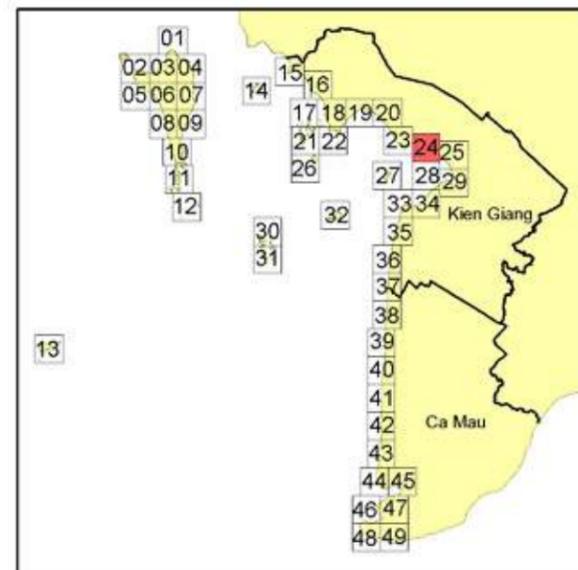
Biological Resources

- Bird
- Bivalve
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Hon Dat District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Anastomus oscitans*, *Leptoptilos javanicus*, *Fregata sp.*, *Lanius cristatus* and *Pericrocotus flammeus*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Therapon theraps*, *Pomadasys hasta* and *Psettodes erumei*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Tidal flats are home to bivalve species, such as *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis* and *Teredo manni*.

Reptiles in this region are *Crocodylus siamensis*, *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 25

105°02'11"

105°08'44"



105°02'11"

105°08'44"

Shoreline Classification

- █ ESI 6B
- █ ESI 7
- █ ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

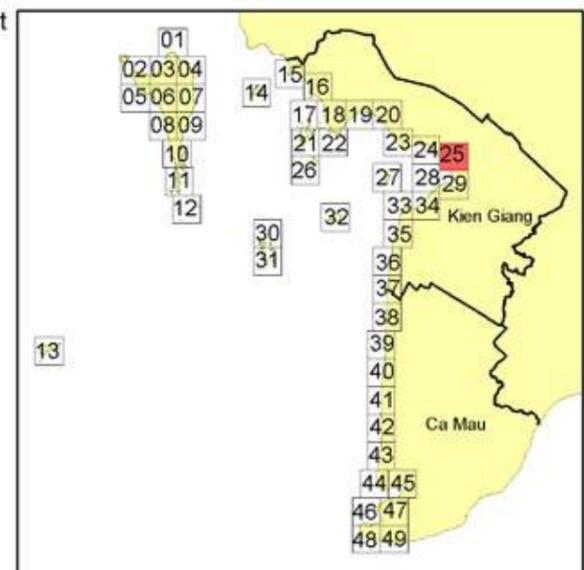
Biological Resources

- Bird
- Fish
- Shrimp

Human-Use/ Oil Spill Response Resources

- Oil Spill Response Equipment

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Chau Thanh District.

Shoreline

Along the coast in the area are ripraps (ESI 6B), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Anastomus oscitans*, *Fregata sp.* and *Pericrocotus flammeus*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Therapon theraps*, *Pomadasys hasta* and *Psettodes erumei*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

Oil spill response equipments available in the area include boom, skimmer, portable tank, equipment sparge dispersant and power Vac.

Special Issue

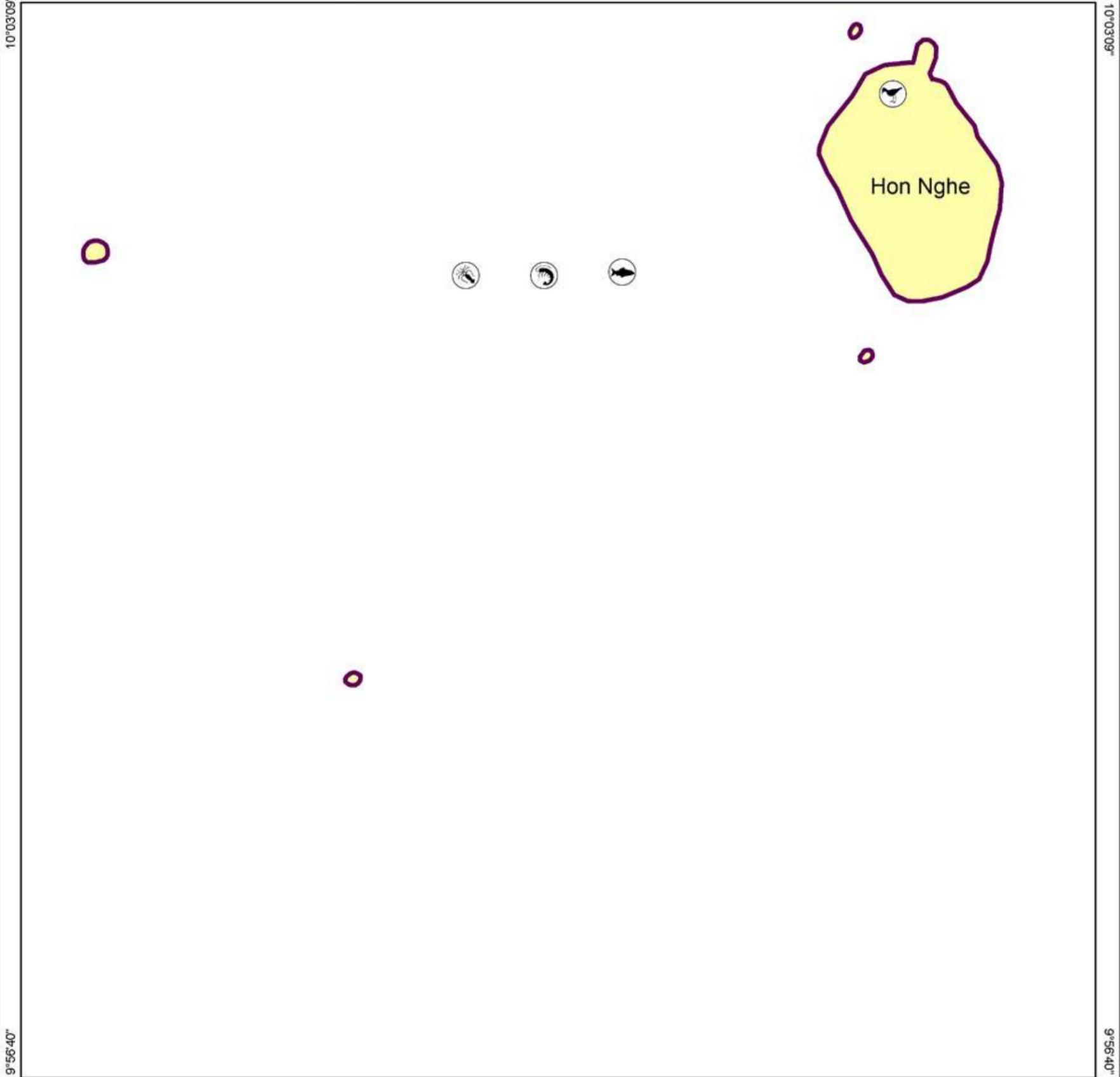
There is no special issue in the area.

Kien Giang Province

Vietnam - 26

104°27'10"

104°33'44"



104°27'10"

104°33'44"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

Biological Resources

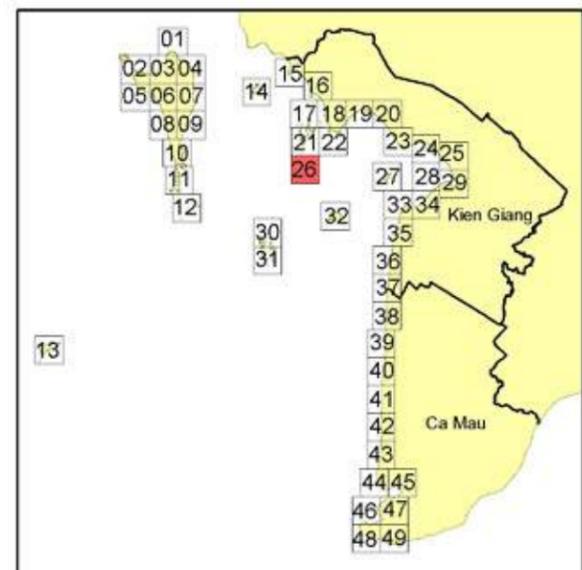
- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/

Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Hon Nghe Archipelago.

Hon Nghe is a small island on Ha Tien Bay, Kien Giang Province, with an area of 3.8 km² and a population of 2,114.

Hon Nghe Island is about 15 km from Hon Chong on the southwest and 8 km from Ba Lua Archipelago on the southeast. The island is shaped like an oval, measuring 2.5 km long, 1.6 km wide, with 7.5-km perimeter and total area of 3.8 km². The highest point in the island is 338 m. The island is made up of sandstone interspersed limestone karst. Population is concentrated on the main island of the coast, mainly relying on economic aquaculture and fishing.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Cuculus sp.*, *Cypsiurus balasiensis*, *Pseudibis davisoni*, *Ciconia episcopus*, *Saxicola torquata*, *Saxicola caprata* and *Nycticorax nycticorax*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Upeneus sulphureus*, *Therapon theraps*, *Pomadasys hasta*, *Tachybaptus ruficollis* and *Anas poecilorhyncha*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Squid/octopus species in this area are *Sepia pharaonis*, *Sepia brevimana*, *Loligo edulis* and *Loliolus sumatrensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 27

104°46'28"

104°53'02"

10°01'27"

10°01'27"

9°54'59"

9°54'59"



104°46'28"

104°53'02"

Shoreline Classification

ESI 1

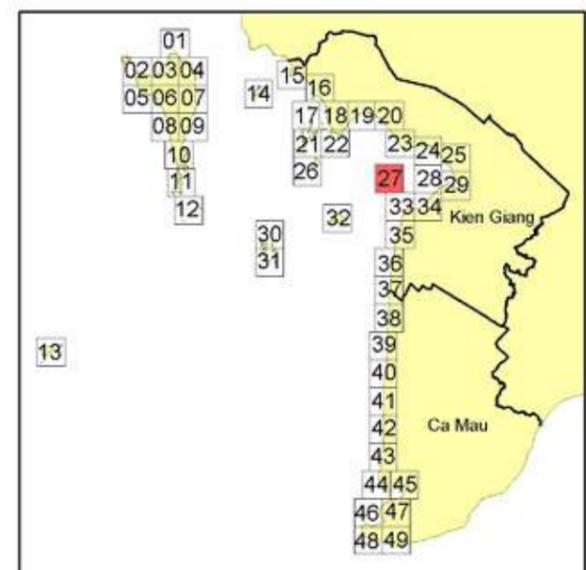
Biological/Human-Use Areas
None

Biological Resources

- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/
Oil Spill Response Resources
None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Hon Tre Archipelago.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Cuculus sp.*, *Cypsiurus balasiensis*, *Pseudibis davisoni*, *Ciconia episcopus*, *Saxicola torquata*, *Saxicola caprata* and *Nycticorax nycticorax*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Upeneus sulphureus*, *Therapon theraps*, *Pomadasys hasta*, *Tachybaptus ruficollis* and *Anas poecilorhyncha*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Squid/octopus species in this area are *Sepia pharaonis*, *Sepia brevimana*, *Loligo edulis* and *Loliolus sumatrensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

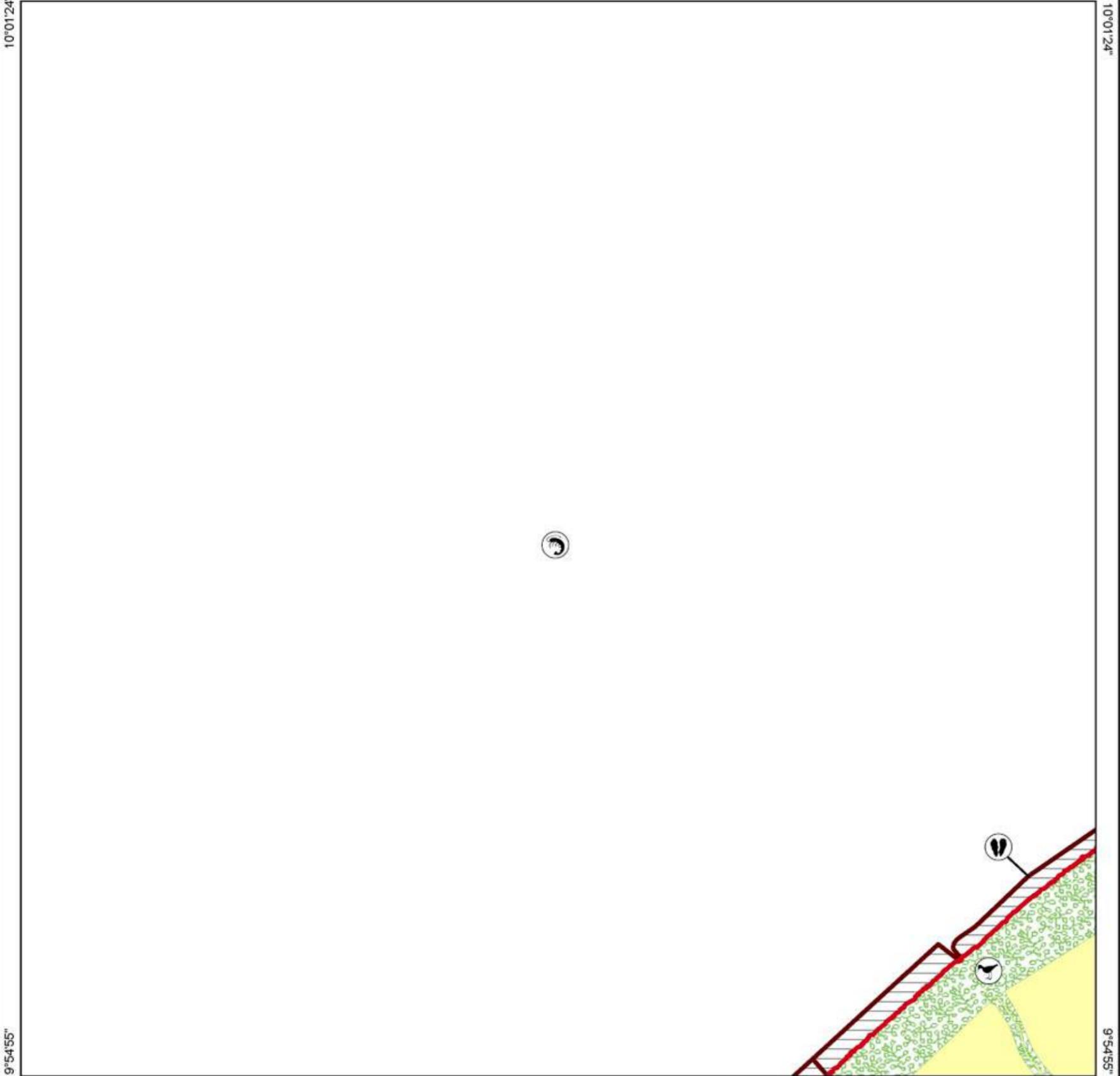
There is no special issue in the area.

Kien Giang Province

Vietnam - 28

104°55'37"

105°02'11"



104°55'37"

105°02'11"

Shoreline Classification

-  ESI 7
-  ESI 10B

Biological/Human-Use Areas

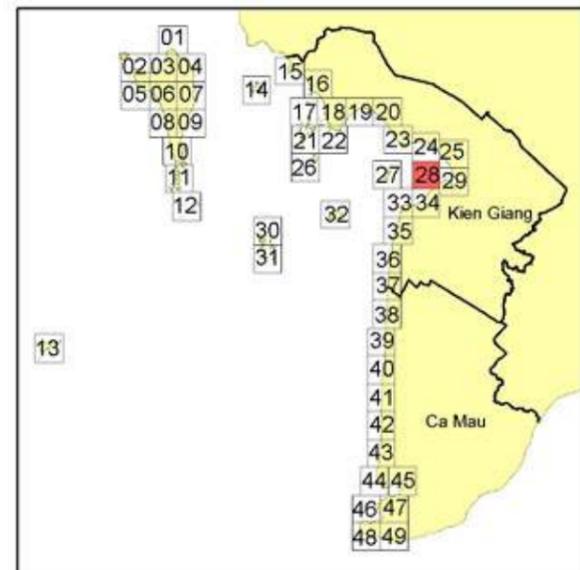
-  Mangroves
-  Tidal Flats

Biological Resources

-  Bird
-  Bivalve
-  Shrimp

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline situated in Hon Tre Archipelago.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Pseudibis davisoni*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Anastomus oscitans*, *Leptoptilos javanicus*, *Fregata sp.*, *Sporophila nigricollis*, *Sturnus burmannicus*, *Acridotheres tristis*, *Riparia riparia*, *Hirundo daurica*, *Pycnonotus goiavier* and *P. blanfordi*.

Marine fish species located on the map are *Anadara nodifera*, *Brachyodontes emarginatus*, *Solen grandis*, *Teredo manni*, *Saccostrea glomerata*, *Saccostrea cucullata*, *Crassostrea rivularis*, *Dosinia nobilis*, *Cyclina sinensis* and *Meretrix meretrix*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes*, *Parapenaeopsis hungerfordi*, *Metapenaeus brevicornis* and *Metapenaeus ensis*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

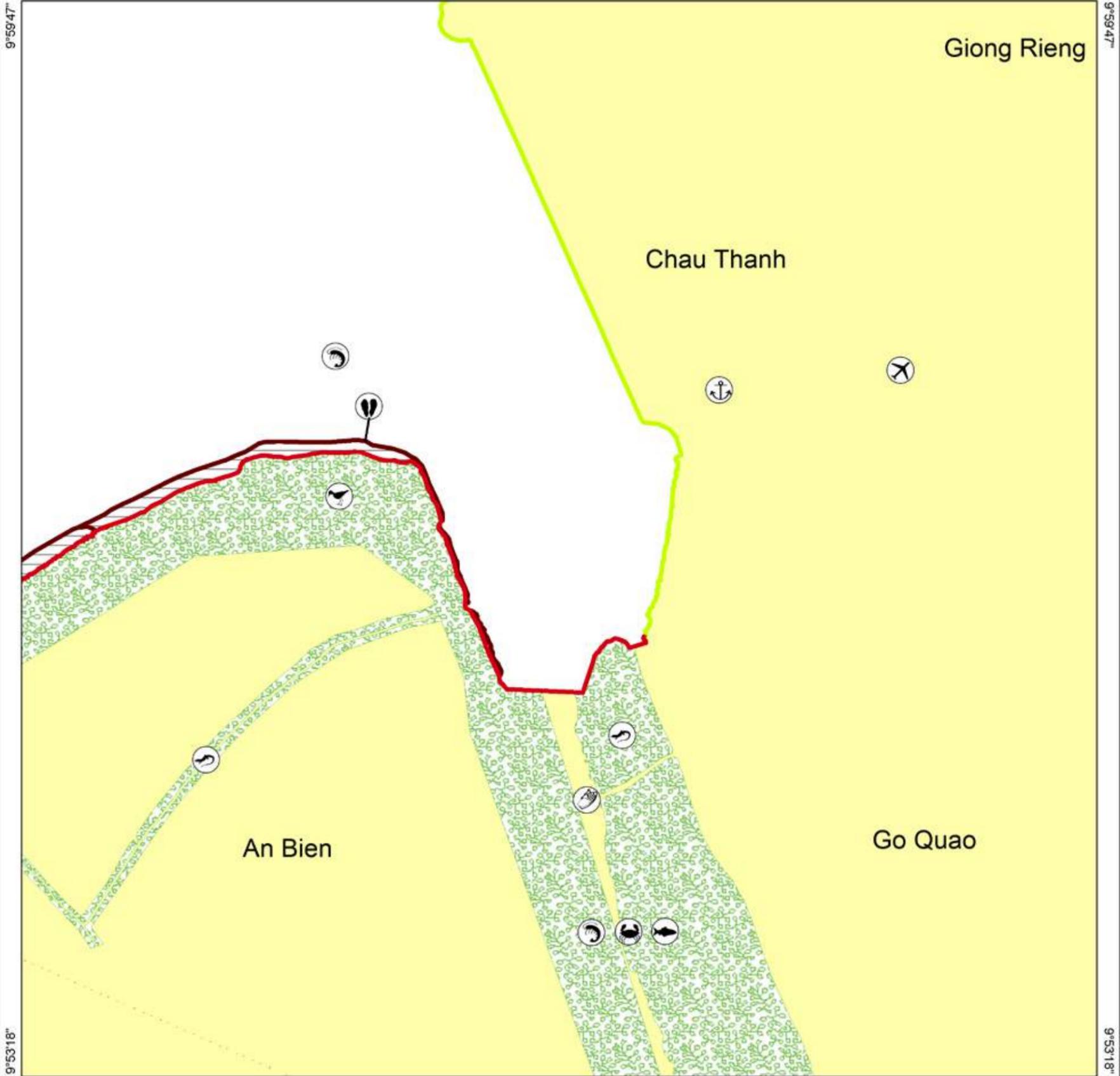
There is no special issue in the area.

Kien Giang Province

Vietnam - 29

105°02'11"

105°08'44"



105°02'11"

105°08'44"

Shoreline Classification

- ESI 6B
- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

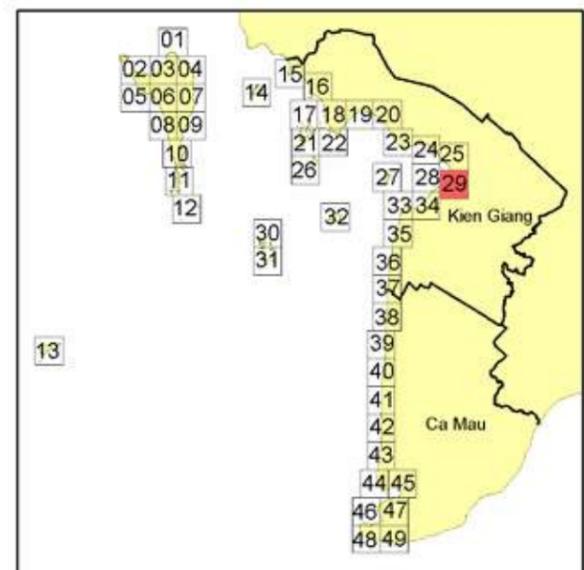
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/Oil Spill Response Resources

- Airport
- Ferry
- Marina

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by the districts of Chau Thanh, An Bien and Go Quao.

Shoreline

Along the coast in the area are ripraps (ESI 6B), exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in the coastal areas include *Ciconia episcopus*, *Threskiornis melanocephalus*, *Tachybaptus ruficollis*, *Leptoptilos javanicus*, *Chlidonias leucopterus*, *Spizaetus cirrhatus*, *Bubulcus ibis*, *Ardeola bacchus* and *Anastomus oscitans*.

Marine fish species located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Therapon theraps*, *Pomadasys hasta* and *Psettodes erumei*.

Shrimp species in this area are *Penaeus japonicas*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Crabs located on the map are *Scylla paramamosain* and *Scylla olivacea*.

Tidal flats are home to bivalve species, such as *Anadara nodifera*, *Solen grandis*, *Saccostrea cucullata*, *Crassostrea rivularis* and *Dosinia nobilis*.

Human Use Resources

Rach Gia Airport is located in Vinh Loi Ward, Rach Gia City in Kien Giang Province, 7 km to the south from the center of the city. The airport is under the management of the Southern Airports Authority, an agency of the Civil Aviation Authority of Vietnam. It has the following features: one 1,500-m-long, 30-m-wide runway; an 85-m-long, 15-m-wide taxiway; aircraft parking area of 5,500 m² with five aircraft parking positions; car parking area of 2,356 m²; and a passenger terminal with an area of 426 m².

Tac Cau-Xeo Ro ferry links the districts of Chau Thanh and An Bien of Kien Giang Province. This is the only ferry in the southwest to pass along two rivers and a canal section. From the shores of Tac Cau to Xeo Ro, about 2 km, the Tac Loc canal links the two rivers (Cai Lon and Cai Be) via the Vinh Hoa Phu dunes, which is about 200 m long.

Rach Gia Marina, located in Rach Gia City, Kien Giang Province, lies at the head of Rach Gia Bay, at the north bank of the Cai Lon estuary, 250 km southwest of Ho Chi Minh City.

The most convenient way to Phu Quoc Island is through a high-speed boat from Rach Gia Marina to Phu Quoc. This route has many ships and plenty of tourists.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

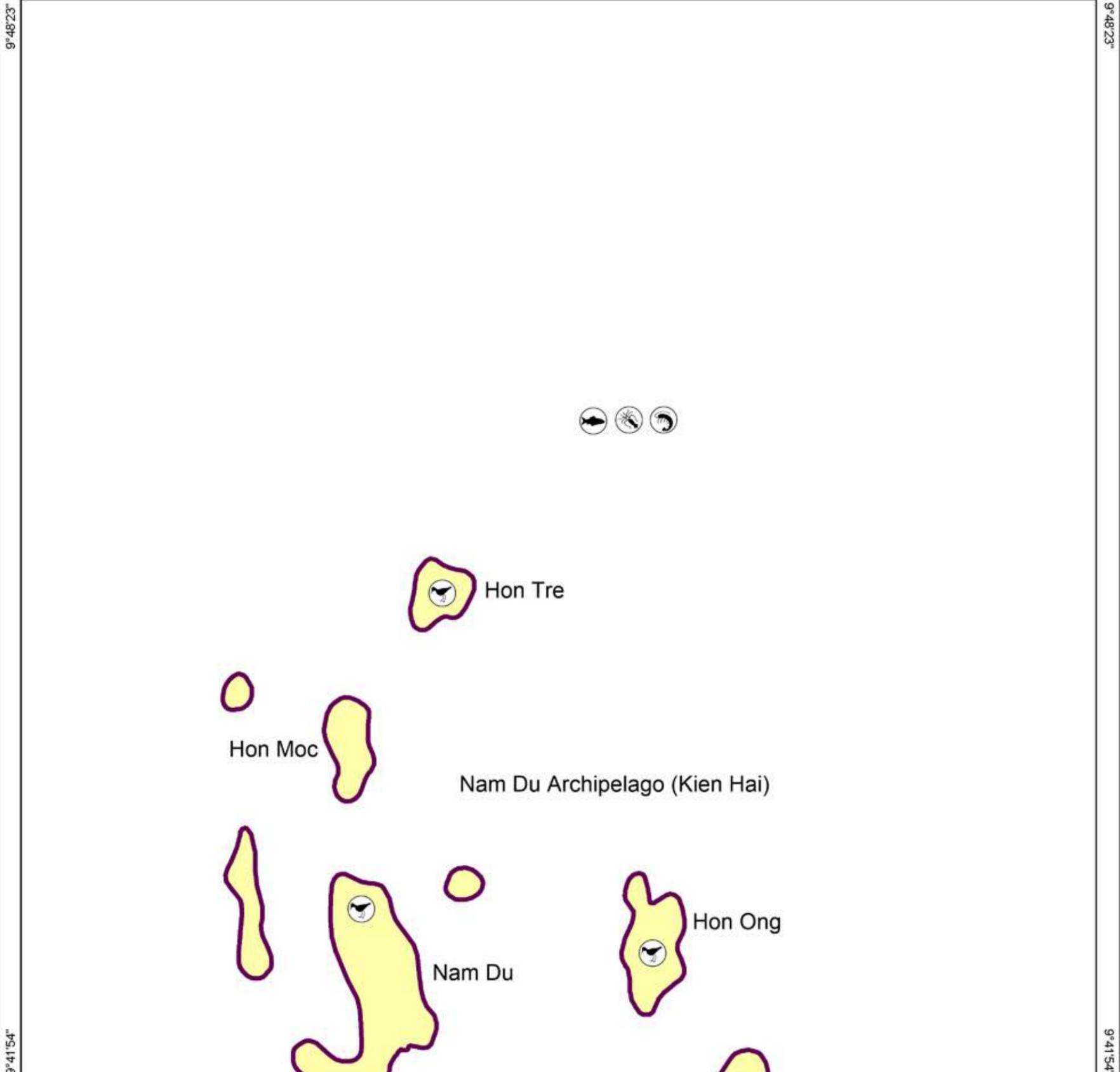
There is no special issue in the area.

Kien Giang Province

Vietnam - 30

104°18'22"

104°24'56"



104°18'22"

104°24'56"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

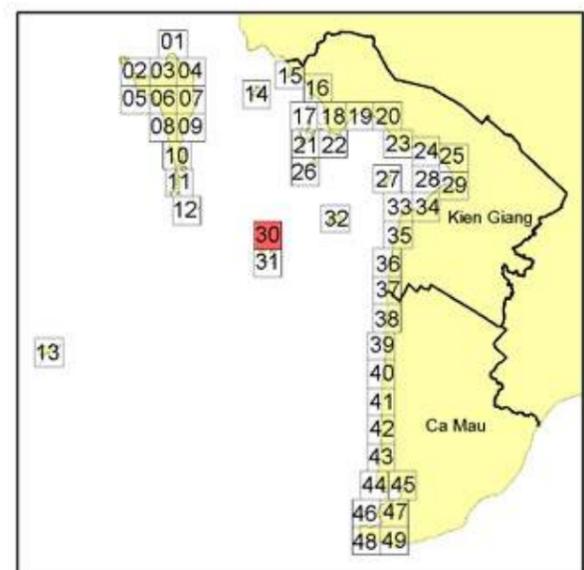
Biological Resources

- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in the archipelagos of Hon Tre, Hon Moc, Nam Du and Hon Ong.

The total area of Nam Du Archipelago is only 40 km², which includes 21 islets with residents in Hon Ong, Hon Ngang, Hon Mau, Hon Tre, Hon Moc and the biggest island, Nam Du. The islands are known for its wild beauty, with sandy beaches, smooth waves, clear blue water and fresh coconut trees.

A population of 13,000 people work in fishing and sea-related services. Formed from a volcano, it has numerous 6-m creeks which are advantageous for transportation. As it is endowed with high mountains, Nam Du is a great spot for offshore fisherfolks seeking shelter from rough storms. It has tropical monsoon climate; the rainy season lasts from April to October every year.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

The biological resources in the area are relatively diverse, consisting of birds, fish, shrimp, squid and octopus.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

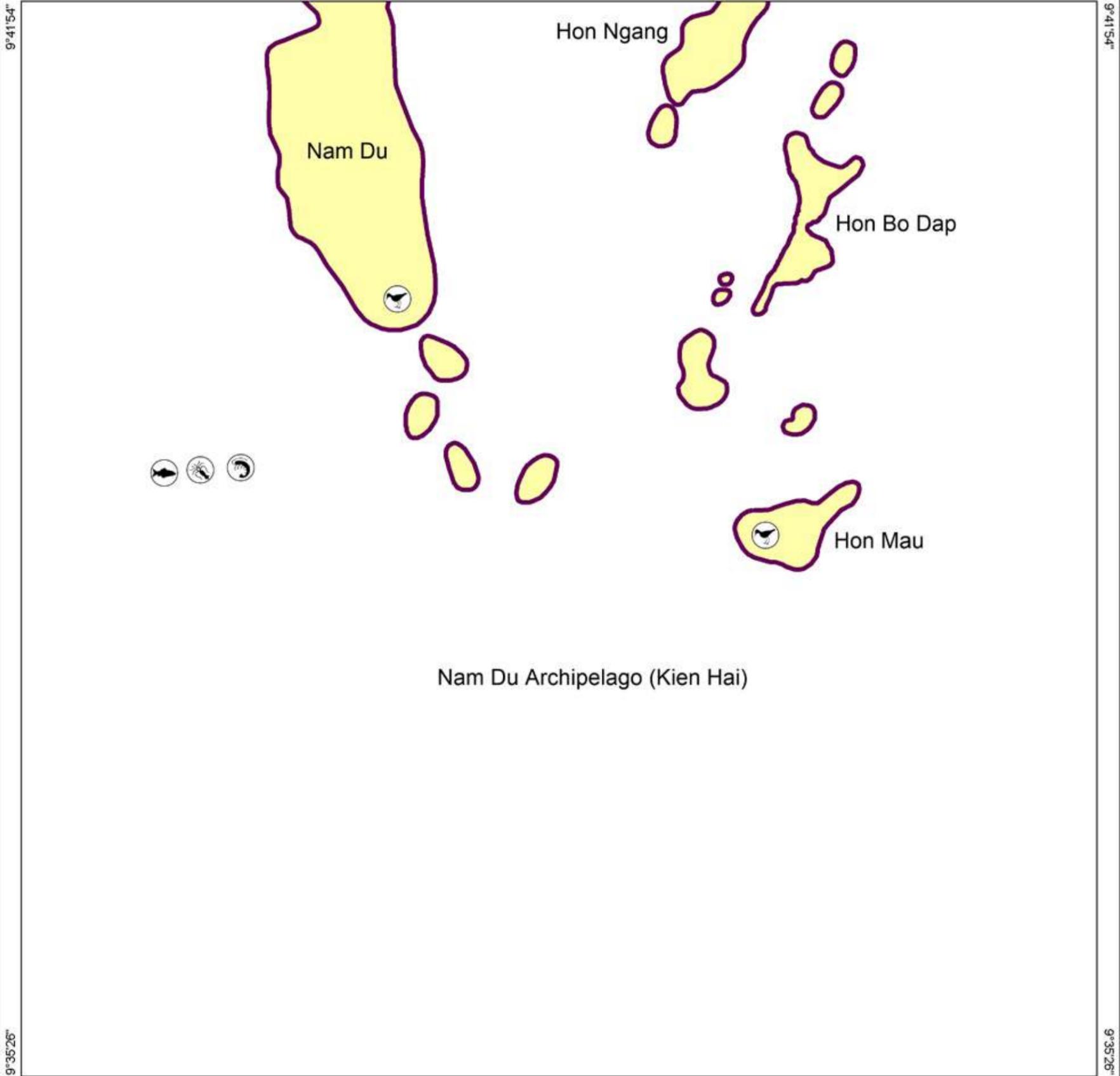
There is no special issue in the area.

Kien Giang Province

Vietnam - 31

104°18'22"

104°24'56"



Nam Du Archipelago (Kien Hai)

104°18'22"

104°24'56"

Shoreline Classification

ESI 1

Biological/Human-Use Areas

None

Biological Resources

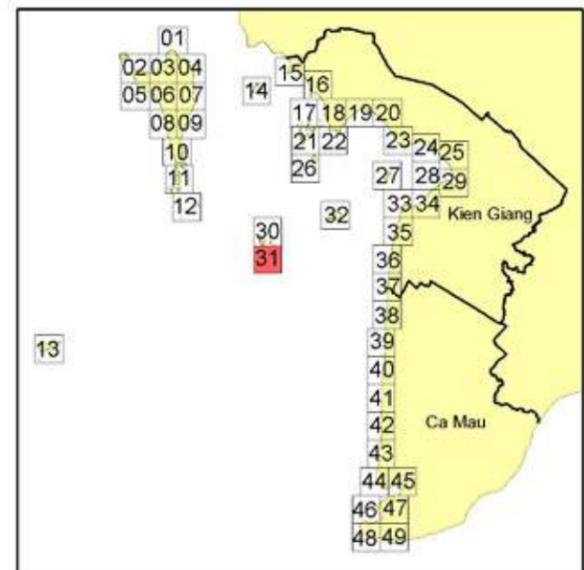
- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/

Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Kien Hai District.

The total area of Nam Du Archipelago is only 40 km², which includes 21 islets with residents in Hon Ong, Hon Ngang, Hon Mau, Hon Tre, Hon Moc and the biggest island, Nam Du. The islands are known for its wild beauty, with sandy beaches, smooth waves, clear blue water and fresh coconut trees.

A population of 13,000 people work in fishing and sea-related services. Formed from a volcano, it has numerous six-meter creeks which are advantageous for transportation. As it is endowed with high mountains, Nam Du is a great spot for offshore fisherfolks seeking shelter from rough storms. It has tropical monsoon climate; the rainy season lasts from April to October every year.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Saxicola torquata*, *Mirafra assamica*, *Alauda gulgula*, *Dendrocopus canicapillus*, *Coracias benghalensis* and *Eudynamys scolopacea*.

Marine fish and shellfish species located on the map are *Trichiurus haumela*, *Megalaspis cordyla*, *Leiognathus insidiator*, *Cynoglossus sp.*, *Pomadasys hasta*, *Psettodes erumei* and *Priacanthus tayenus*.

Squid/octopus species in the area are *Loliolus sumatrensis*, *Symplectoteuthis oualaniensis*, *Sepioteuthis lessoniana*, *Sepia pharaonis* and *Sepia latimanus*.

Shrimp species in this area are *Penaeus japonicus*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 32

104°34'15"

104°40'49"

9°52'14"

9°52'14"



Hon Rai (Kien Hai)



9°45'46"

9°45'46"

104°34'15"

104°40'49"

Shoreline Classification

ESI 1

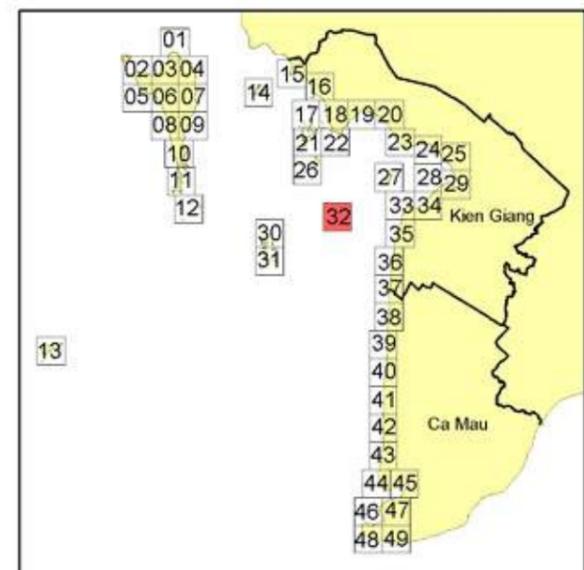
Biological/Human-Use Areas
None

Biological Resources

- Bird
- Fish
- Shrimp
- Squid/Octopus

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline situated in Kien Hai District.

Shoreline

Along the coast in the area are exposed rocky shores (ESI 1).

Biological Resources

Birds living in the coastal areas include *Crypsirina temia*, *Rhipidura javanica*, *Mirafra assamica*, *Alauda gulgula*, *Dendrocopus canicapillus*, *Coracias benghalensis*, *Eudynamys scolopacea*, *Spilornis cheela*, *Bubulcus ibis*, *Ardeola bacchus* and *Nycticorax nycticorax*.

Marine fish and shellfish species located on the map are *Trichiurus haumela*, *Leiognathus insidiator*, *Pomadasys hasta*, *Cynoglossus sp.*, *Sphyraena jello*, *Priacanthus macracanthus* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus japonicus*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Squid/octopus species in this area are *Loliolus sumatrensis*, *Symplectoteuthis oualaniensis*, *Sepioteuthis lessoniana*, *Sepia pharaonis* and *Sepia latimanus*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Kien Giang Province

Vietnam - 33

104°49'03"

104°55'37"

9°54'55"

9°54'55"

9°48'27"

9°48'27"

104°49'03"

104°55'37"

Shoreline Classification

-  ESI 7
-  ESI 10B

Biological/Human-Use Areas

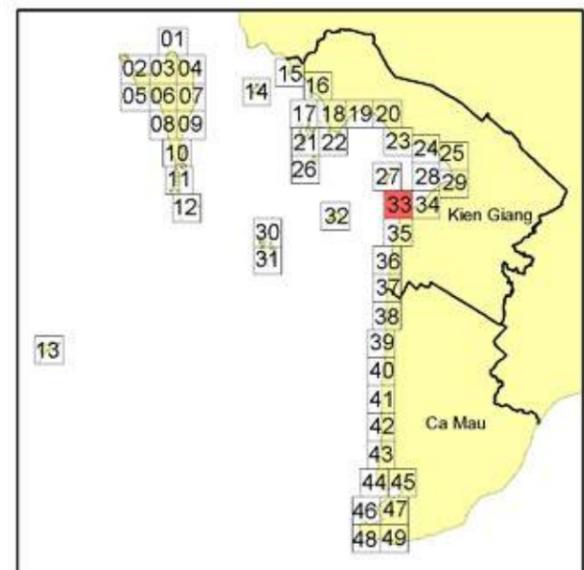
-  Mangroves
-  Tidal Flats

Biological Resources

-  Bird
-  Bivalve
-  Crab
-  Fish
-  Reptile and Amphibian
-  Shrimp

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline shared by An Minh District and An Bien District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Threskiornis melanocephalus*, *Centropus sinensis*, *Metopidius indicus*, *Butorides striatus*, *Dendrocygna javanica* and *Porphyrio porphyrio*.

Marine fish and shellfish species located on the map are *Leiognathus rivulata*, *Megalaspis cordyla*, *Leiognathus insidiator*, *Rastrelliger kanagurta*, *Pomadasys hasta*, *Psettodes erumei* and *Sphyraena jello*.

Shrimp species in this area are *Penaeus monodon*, *Penaeus japonicus*, *Penaeus latisulcatus*, *Metapenaeus affinis* and *Metapenaeus intermedius*.

Bivalves in this area are *Anadara antiquata*, *Brachyodontes emarginatus*, *Modiolus vaginus*, *Perna viridis* and *Sacostrea cucullata*.

Crabs in the area are *Scylla paramamosain* and *Scylla olivacea*.

Other species in the area are *Crocodylus porosus*, *Lutra sumatrana* and *Aonyx cinerea*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

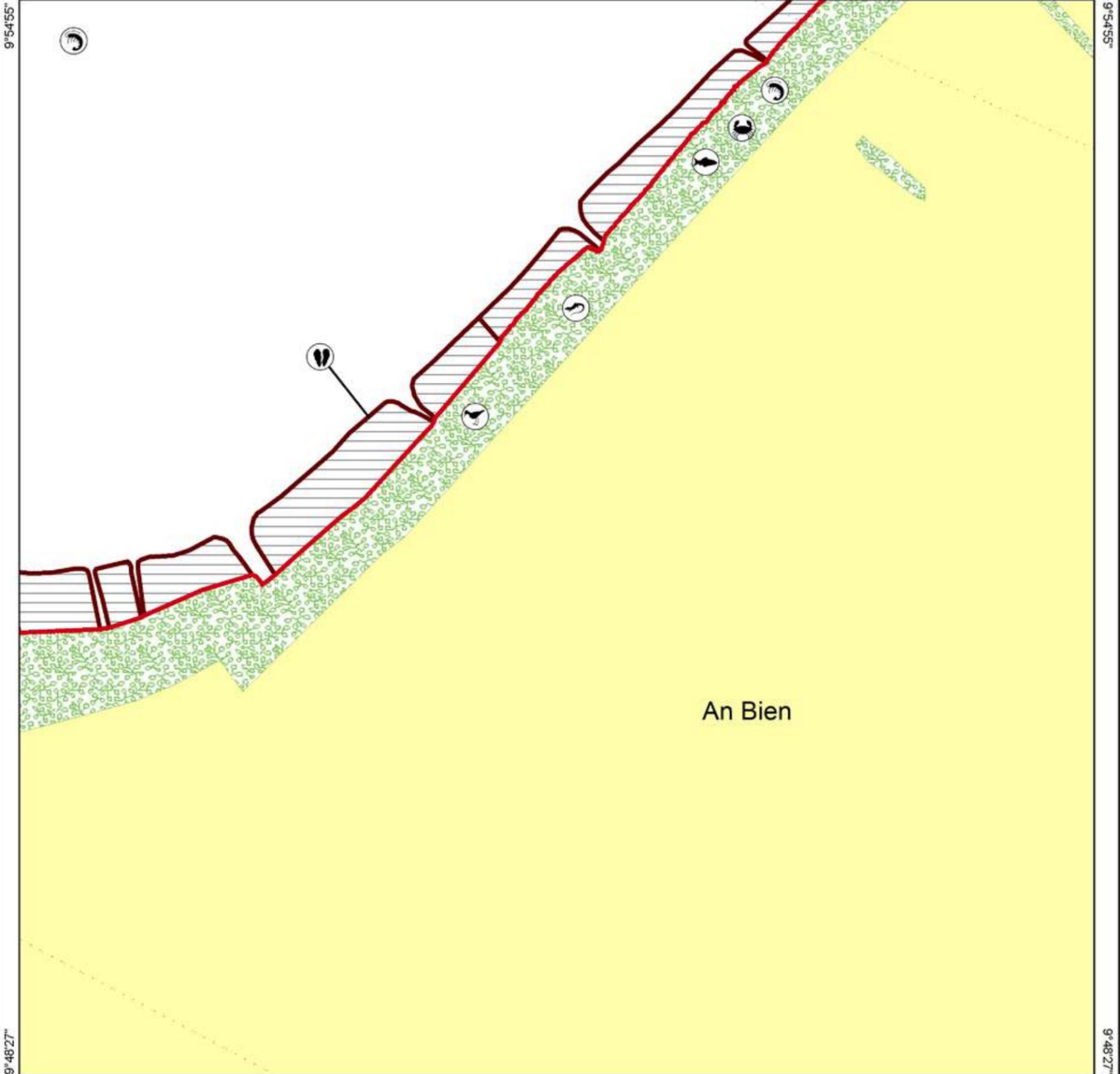
There is no special issue in the area.

Kien Giang Province

Vietnam - 34

104°55'37"

105°02'11"



104°55'37"

105°02'11"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

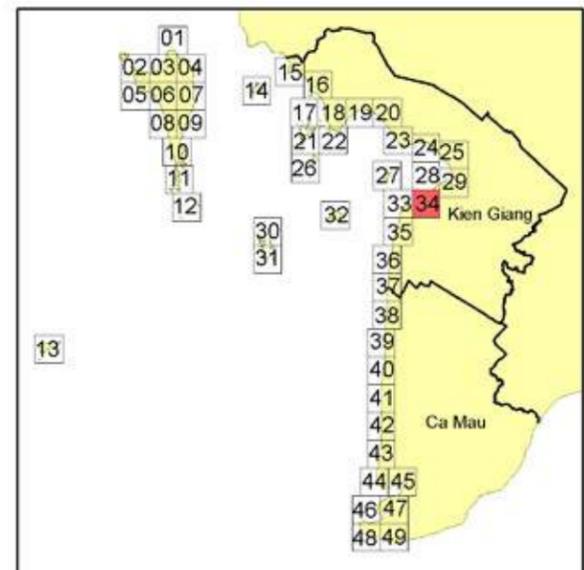
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

None

Location of Map

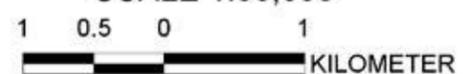


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SCALE 1:50,000



General Information

This area covers the coastline situated in An Bien District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Pelecanus philippensis*, *Leptoptilos javanicus*, *Threskiornis melanocephalus*, *Caprimulgus macrurus*, *Streptopelia chinensis* and *Zosterops palpebrosus*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Megalaspis cordyla*, *Leiognathus insidiator*, *Cynoglossus sp.*, *Saurida tumbil* and *Saurida undosquamis*.

Shrimp species in this area are *Penaeus latisulcatus*, *Metapenaeus affinis*, *Metapenaeus brevicornis*, *Metapenaeus ensis* and *Metapenaeus tenuipes*.

Bivalves in this area are *Anadara antiquata*, *Brachyodontes emarginatus*, *Brachyodontes senhousei* and *Perna viridis*.

Crabs in the area are *Scylla paramamosain* and *Scylla olivacea*.

Other species in this area are *Crocodylus siamensis* and *Lutra sumatrana*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

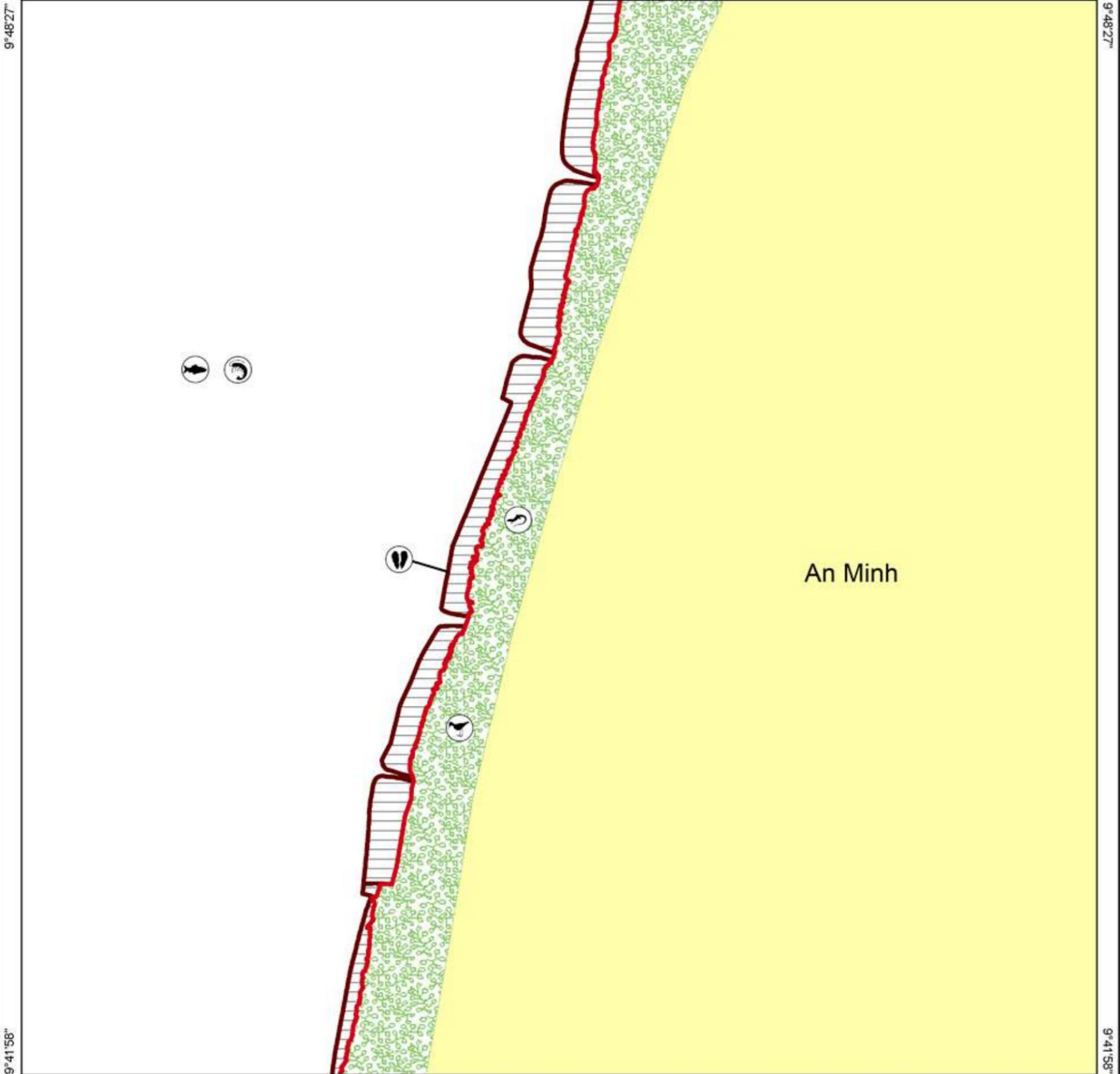
There is no special issue in the area.

Kien Giang Province

Vietnam - 35

104°49'03"

104°55'37"



104°49'03"

104°55'37"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

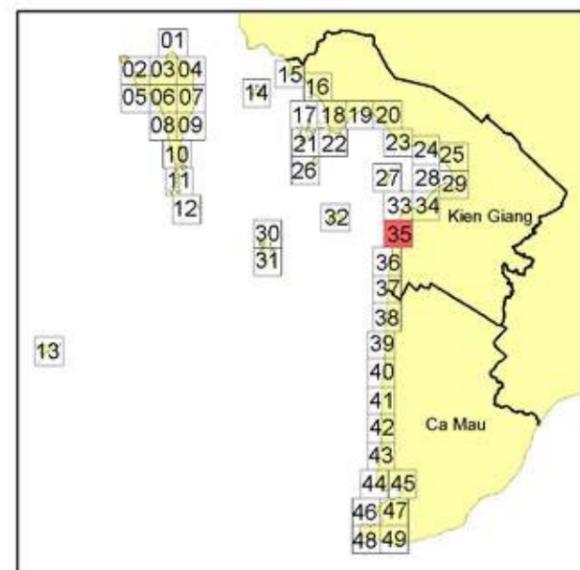
Biological Resources

- Bird
- Bivalve
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in An Minh District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Pelecanus philippensis*, *Streptopelia chinensis*, *Zosterops palpebrosus*, *Megalurus palustris* and *Megalaima haemacephala*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Megalaspis cordyla*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Therapon theraps*, *Saurida tumbil* and *Saurida undosquamis*.

Shrimp species in this area are *Penaeus latisulcatus*, *Metapenaeus affinis*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Metapenaeus intermedius* and *Parapenaeopsis hungerfordi*.

Bivalve species in this area are *Anadara antiquata*, *Brachyodontes emarginatus*, *Brachyodontes senhousei*, *Modiolus vaginus*, *Perna viridis* and *Saccostrea cucullata*.

Other species in this area are *Crocodylus siamensis*, *Crocodylus porosus*, *Lutra sumatrana* and *Aonyx cinerea*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

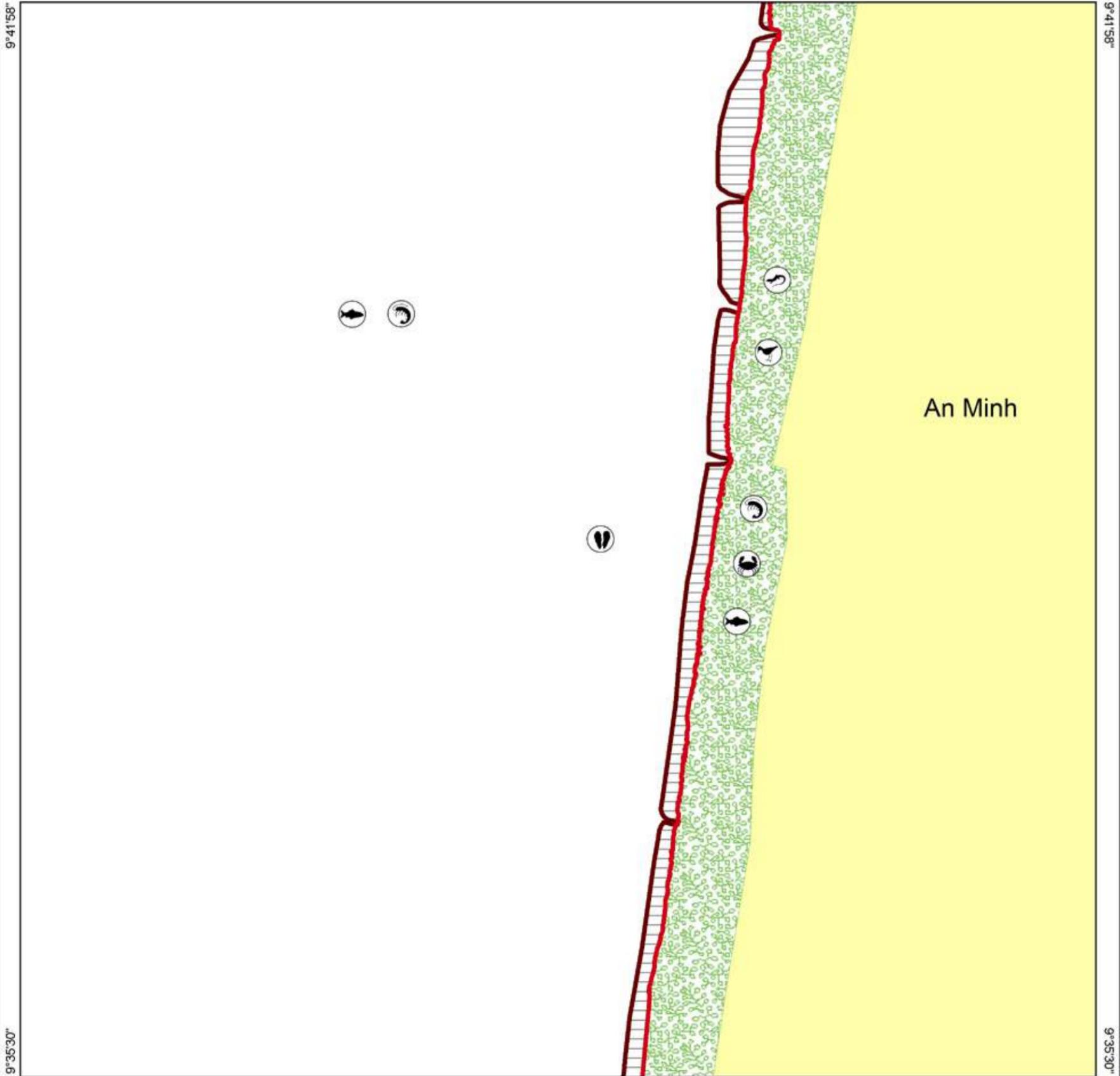
There is no special issue in the area.

Kien Giang Province

Vietnam - 36

104°46'25"

104°52'58"



104°46'25"

104°52'58"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

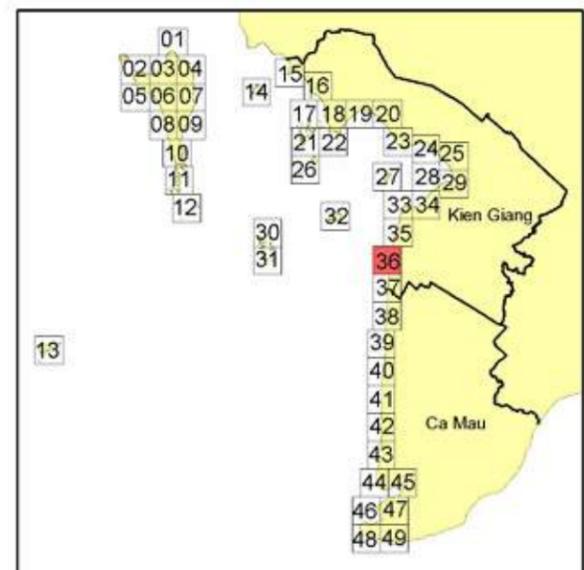
- Mangroves
- Tidal Flats

Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline situated in An Minh District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Caprimulgus macrurus*, *Streptopelia chinensis*, *Zosterops palpebrosus*, *Timalia pileata*, *Megalaima haemacephala*, *Dendrocopus canicapillus* and *Ardea cinerea*.

Marine fish and shellfish species located on the map are *Leiognathus bindus*, *Lagocephalus sceleratus*, *Megalaspis cordyla*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Saurida tumbil* and *Saurida undosquamis*.

Shrimp species in this area are *Penaeus latisulcatus*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Bivalves in this area are *Anadara antiquata*, *Brachyodontes senhousei*, *Perna viridis* and *Sacostrea cucullata*.

Other species in this area are *Crocodylus siamensis*, *Lutra sumatrana*, *Manis javanicus* and *Viverra megaspila*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

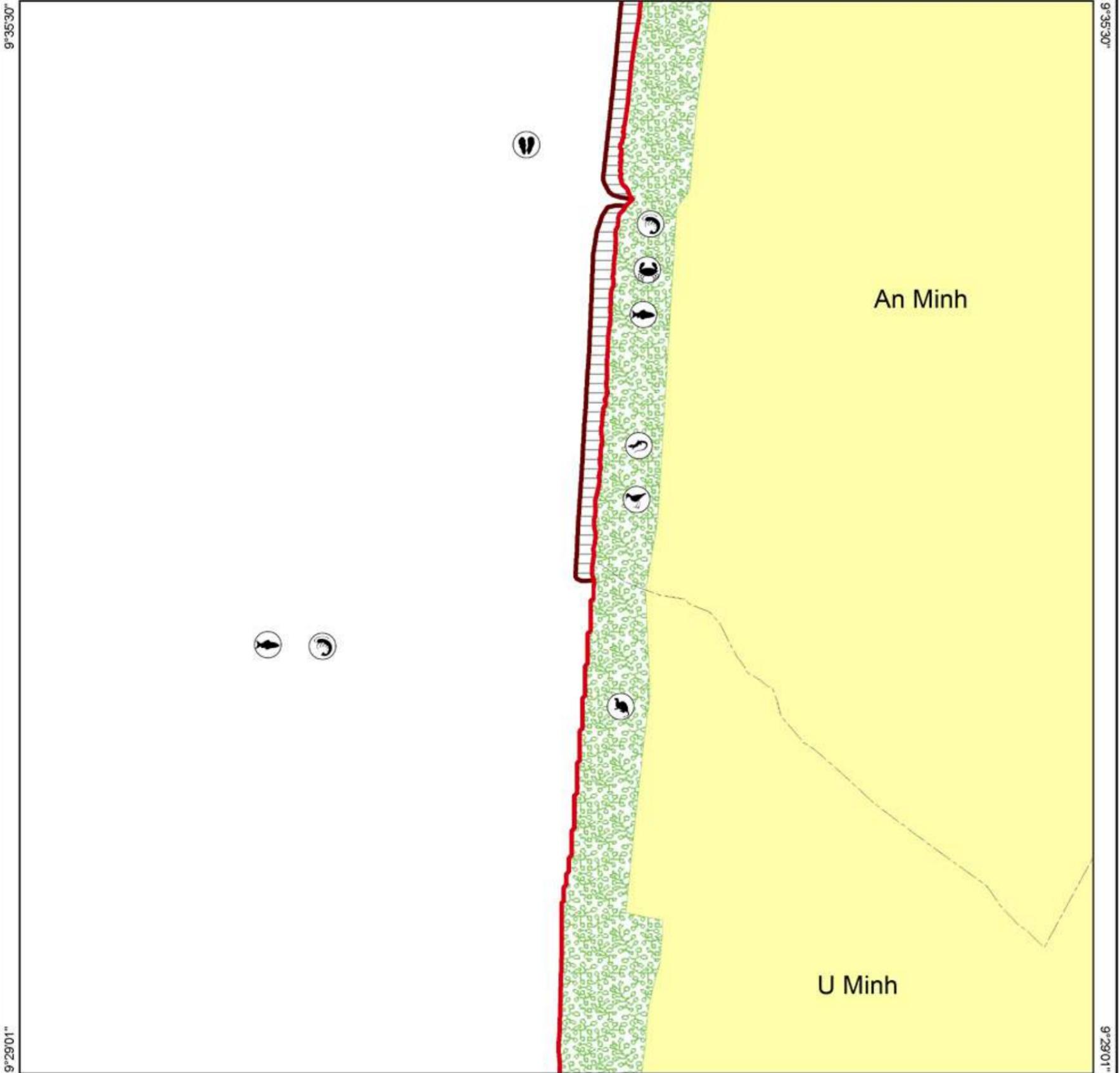
There is no special issue in the area.

Ca Mau - Kien Giang Province

Vietnam - 37

104°46'25"

104°52'58"



104°46'25"

104°52'58"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

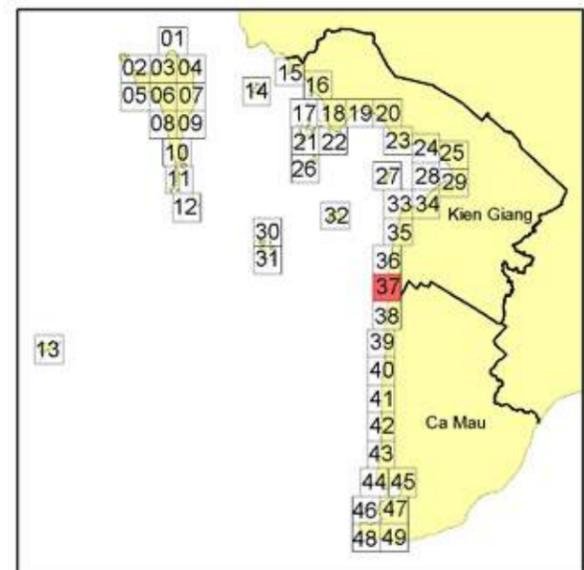
- Mangroves
- Tidal Flats

Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/
Oil Spill Response Resources
None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in the districts of An Minh and U Minh.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Pelecanus philippensis*, *Caprimulgus macrurus*, *Streptopelia chinensis*, *Zosterops palpebrosus*, *Megalurus palustris*, *Dendrocopus canicapillus* and *Actitis hypoleucos*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Therapon theraps* and *Saurida tumbil*.

Shrimp species in this area are *Metapenaeus brevicornis*, *Metapenaeus tenuipes*, *Metapenaeus intermedius* and *Parapenaeopsis hungerfordi*.

Crabs in this area are *Scylla paramamosain* and *Scylla olivacea*.

Bivalves in this area are *Anadara antiquata*, *Brachyodontes emarginatus*, *Perna viridis* and *Saccostrea cucullata*.

Terrestrial mammals in this area include *Sciurus carolinensis*.

Other species in the area are *Crocodylus porosus*, *Aonyx cinerea* and *Viverra megaspila*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

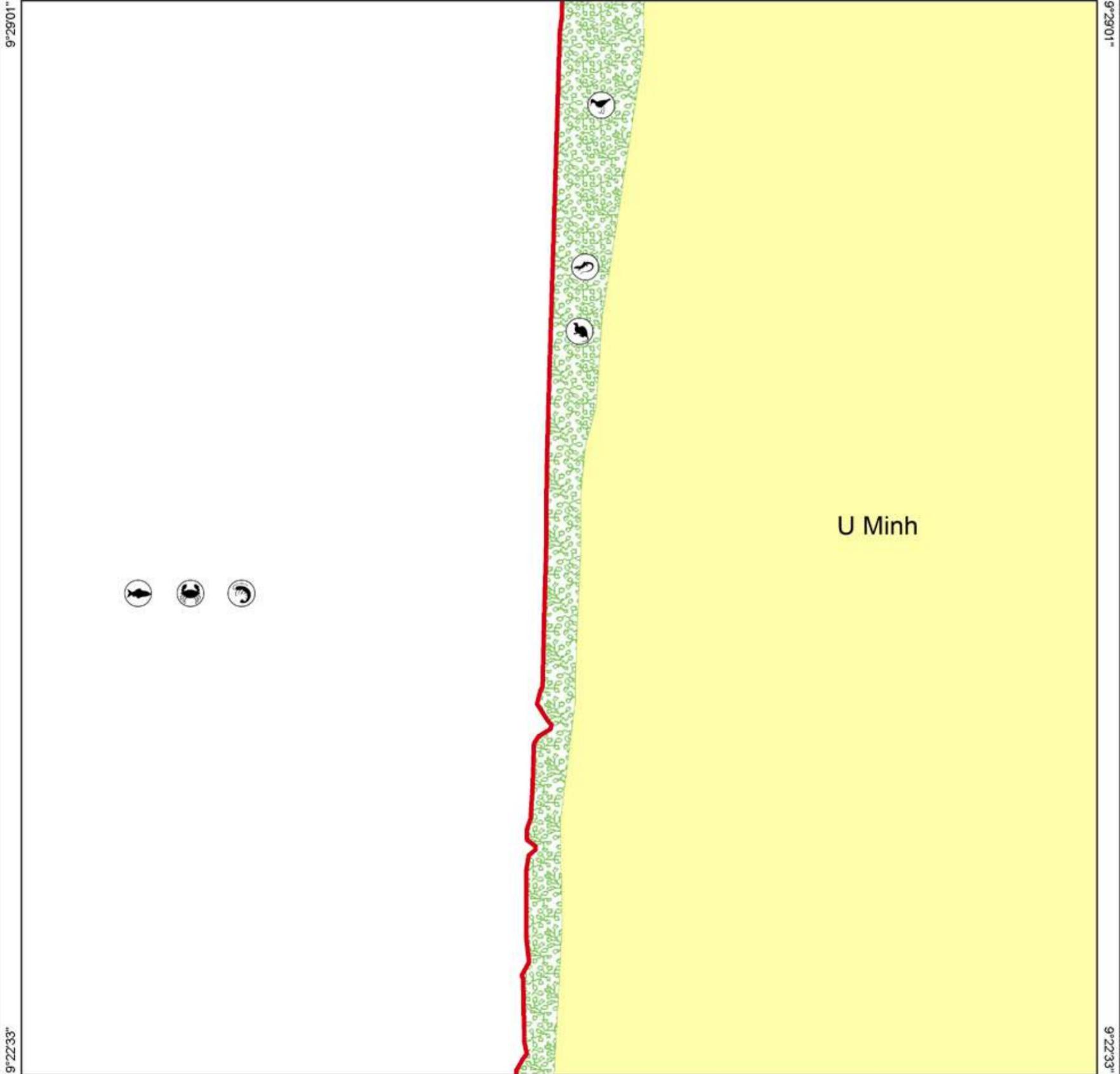
There is no special issue in the area.

Ca Mau Province

Vietnam - 38

104°46'25"

104°52'58"



104°46'25"

104°52'58"

Shoreline Classification

— ESI 10B

Biological/Human-Use Areas

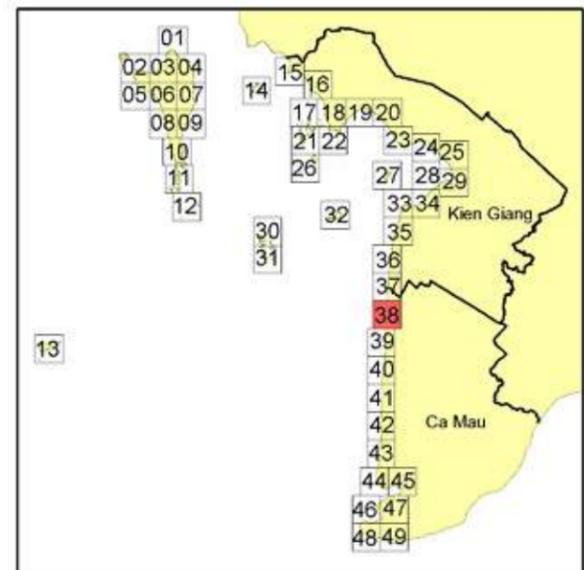
■ Mangroves

Biological Resources

- Bird
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/
Oil Spill Response Resources
None

Location of Map



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General Information

This area covers the coastline situated in U Minh district.

Shoreline

Along the coast in the area are scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Metopidius indicus*, *Tachybaptus ruficollis*, *Nettapus coromandelianus*, *Anas poecilorhyncha*, *Gerygone sulphurea*, *Chrysocolaptes lucidus* and *Alcedo atthis*.

Marine fish and shellfish species located on the map are *Saurida undosquamis*, *Rastrelliger kanagurta*, *Pomadasys hasta*, *Selaroides leptolepis*, *Psettodes erumei*, *Dussumieria haseltii*, *Upeneus bensasi* and *Scolopsis taeniopterus*.

Shrimp species in this area are *Penaeus latisulcatus*, *Metapenaeus affinis*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Metapenaeus tenuipes* and *Parapenaeopsis hungerfordi*.

Crabs in this area are *Scylla paramamosain* and *Scylla olivacea*.

Terrestrial mammals in this area are *Manis javanicus*, *Cervus nippon Temminck* and *Sus scrofa*.

Other species in the area are *Lutra sumatrana* and *Naja naja*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Ca Mau Province

Vietnam - 39

104°45'02"

104°51'36"

9°22'33"

9°22'33"

9°16'04"

9°16'04"

104°45'02"

104°51'36"

Shoreline Classification

ESI 10B

Biological/Human-Use Areas

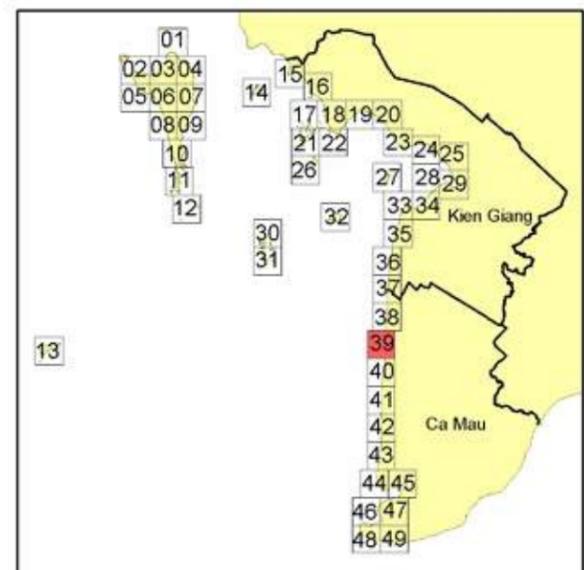
Mangroves

Biological Resources

-  Bird
-  Crab
-  Fish
-  Reptile and Amphibian
-  Shrimp

Human-Use/
Oil Spill Response Resources
None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline shared by U Minh District and Tran Van Thoi District.

Shoreline

Along the coast in the area are scrub-shrub wetlands and mangroves (ESI 10B), which usually grow between the low tide and high tide of seawater and have abundant resident flora and fauna.

Biological Resources

Birds living in the coastal areas include *Phalacrocorax niger*, *Ardea cinerea*, *Centropus sinensis*, *Metopidius indicus*, *Tachybaptus ruficollis*, *Nettapus coromandelianus*, *Anas poecilorhyncha*, *Gerygone sulphurea*, *Ixobrychus cinnamomeus* and *Dupetor flavicollis*.

Marine fish and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Upeneus sulphureus*, *Therapon theraps*, *Priacanthus tayenus*, *Nemipterus virgatus*, *Nibea sp.* and *Priacanthus macracanthus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus monodon*, *Penaeus japonicus*, *Metapenaeus ensis*, *Metapenaeus brevicornis* and *Metapenaeus moyebi*.

Crabs in this area are *Scylla paramamosain* and *Scylla olivacea*.

Other species in the area are *Lutra sumatrana*, *Naja naja* and *Python molurus*.

Human Use Resources

There is no human use resource in the area.

Oil Spill Response Resources

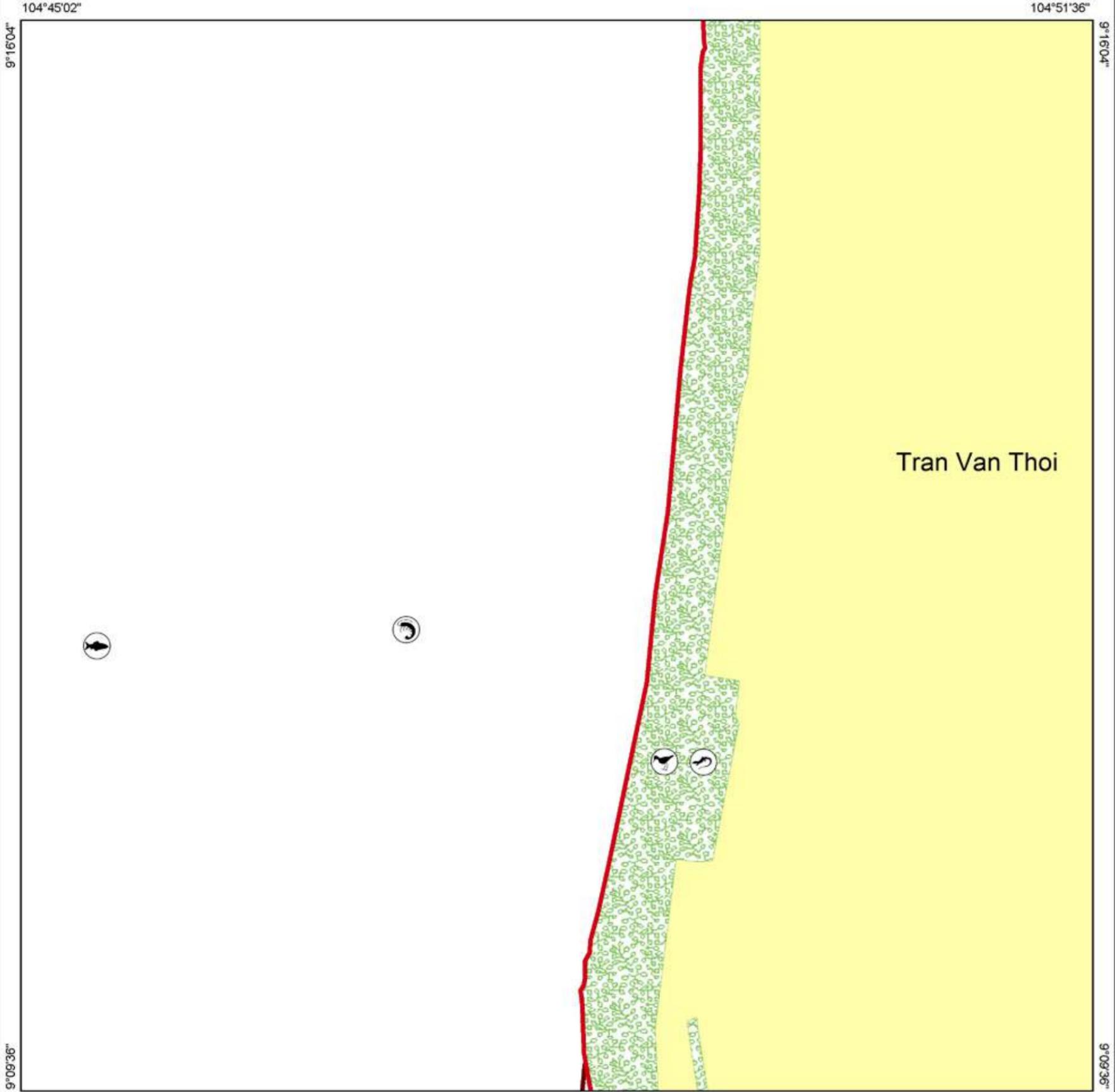
There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Ca Mau Province

Vietnam - 40



Tran Van Thoi

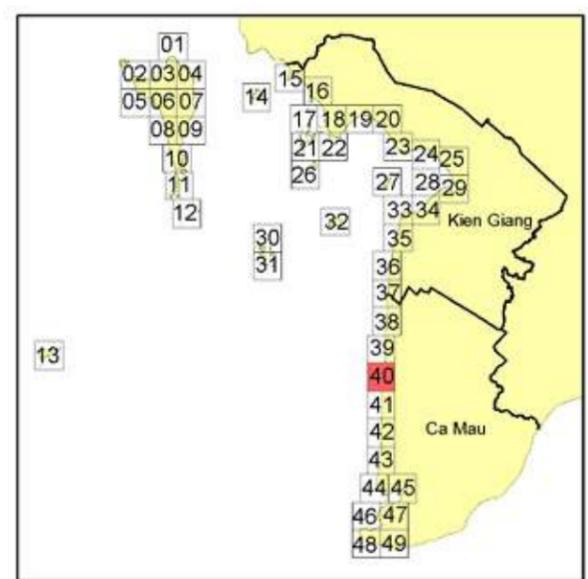
Shoreline Classification
 ESI 7
 ESI 10B

Biological/Human-Use Areas
 Mangroves
 Tidal Flats

Biological Resources
 Bird
 Fish
 Reptile and Amphibian
 Shrimp

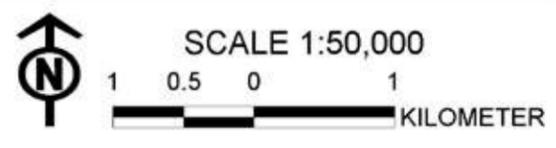
**Human-Use/
 Oil Spill Response Resources**
 None

Location of Map



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General Information

This area covers the coastline situated in Tran Van Thoi District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) in Khanh Binh Tay village and scrub-shrub wetlands and mangroves (ESI 10B) situated from Khanh Binh Tay Bac village to Khanh Binh Tay village.

The main types of mangroves in this area are *Rhizophoraceae* and *Avicenniaceae*. Mangrove forest ecosystems are located in the inland delta.

Biological Resources

Birds living in coastal areas include *Xenus cinereus*, *Actitis hypoleucos*, *Pluvialis fulva*, *Egretta garzetta*, *Gallicrex cinerea* and *Porphyrio porphyrio*.

Marine fishes and shellfish species located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Nibea sp.*, *Leiognathus equula*, *Dussumieria haseltii* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus indicus*, *Metapenaeus affinis*, *Parapenaeopsis hardwickii* and *Parapenaeopsis hungerfordi*.

Other species in this area are *Lutra sumatrana*, *Naja naja* and *Python molurus*.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill resource in the area.

Special Issue

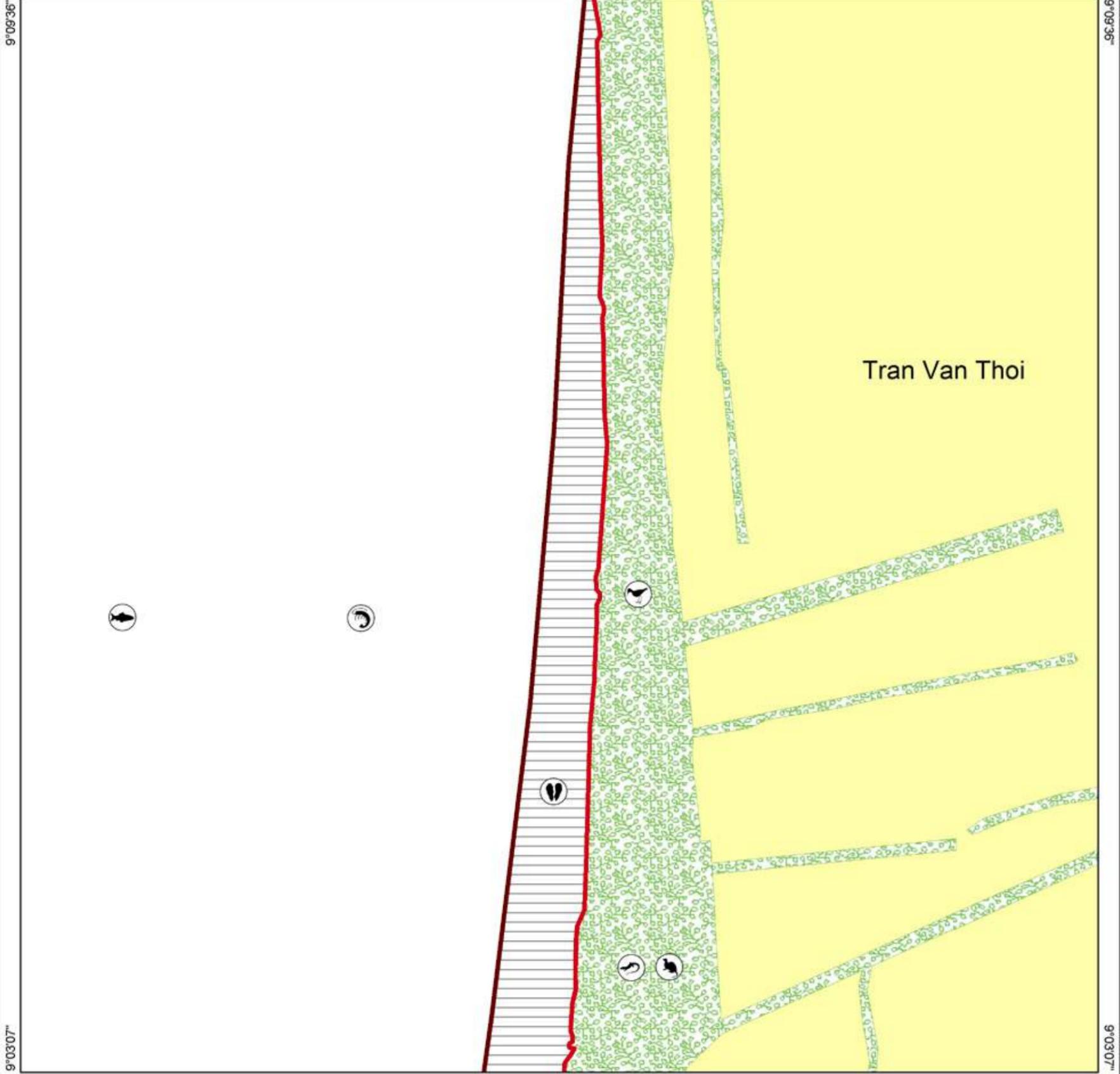
There is no special issue in the area.

Ca Mau Province

Vietnam - 41

104°45'02"

104°51'36"



104°45'02"

104°51'36"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

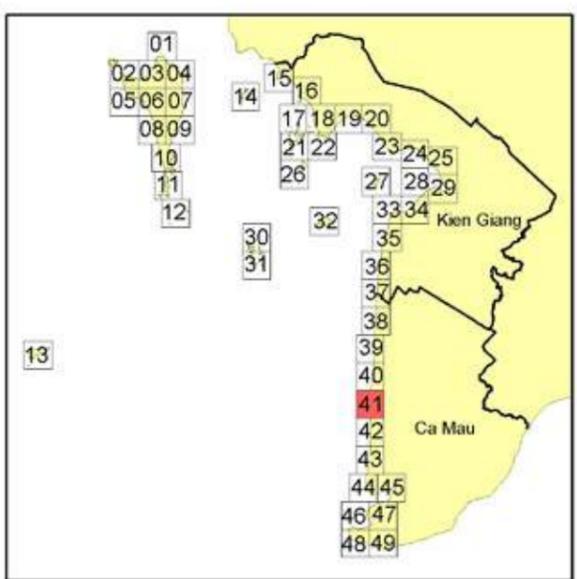
Biological Resources

- Bird
- Bivalve
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/Oil Spill Response Resources

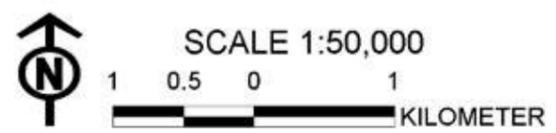
None

Location of Map



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General Information

This area covers the coastline situated in Tran Van Thoi District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Pelecanus philippensis*, *Phalacrocorax niger*, *Ardea cinerea*, *Centropus sinensis*, *Metopidius indicus*, *Tachybaptus ruficollis*, *Caprimulgus macrurus*, *Streptopelia chinensis* and *S. tranquebarica*.

Marine fishes located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Leiognathus equula*, *Dussumieria haseltii* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus indicus*, *Metapenaeus affinis*, *Parapenaeopsis hardwickii* and *Parapenaeopsis hungerfordi*.

Bivalve species found only in the tidal flats are *Anadara antiquata*, *Brachyodontes emarginatus*, *Mytilus smaragdinus*, *Modiolus vaginus*, *Perna viridis* and *Enignomia aenigmatica*.

Terrestrial mammals in this region are *Manis javanicus*, *Macaca fascicularis*, *Cervus nippon Temminck* and *Sus scrofa*. Reptiles in this region include *Lutra sumatrana*, *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

There is no special issue in the area.

Ca Mau Province

Vietnam - 42

104°45'02"

104°51'36"

9°03'07"

9°03'07"

8°56'39"

8°56'39"

104°45'02"

104°51'36"

Shoreline Classification

-  ESI 7
-  ESI 10B

Biological/Human-Use Areas

-  Mangroves
-  Tidal Flats

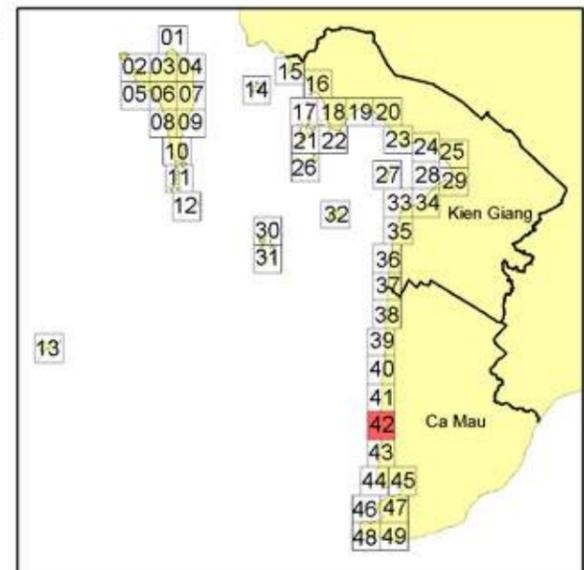
Biological Resources

-  Bird
-  Bivalve
-  Crab
-  Fish
-  Reptile and Amphibian
-  Shrimp
-  Terrestrial Mammal

Human-Use/

- #### Oil Spill Response Resources
-  Oil Spill Response Equipment

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Tran Van Thoi and Phu Tan District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Ardea cinerea*, *Centropus sinensis*, *Nettapus coromandelianus*, *E. eulophotes*, *Porzana fusca* and *Porphyrio porphyrio*.

Marine fishes located on the map are *Argyrosomus argentatus*, *Megalaspis cordyla*, *Leiognathus insidiator*, *Upeneus sulphureus* and *Saurida tumbil*.

Shrimp species in this area are *Penaeus merguensis*, *Metapenaeus affinis* and *Parapenaeopsis hardwickii*.

Crab species in this area are *Scylla paramamosain* and *Scylla olivacea*.

Bivalve species in this area are found only in the tidal flats, such as *Anadara antiquate*, *Brachyodontes emarginatus*, *Mytilus smaragdinus*, etc.

Terrestrial mammals in this region are *Manis javanicus*, *Macaca fascicularis* and *Sus scrofa*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

Oil spill response resources located on the map are at the Ong Doc estuary. These consist of oil spill response equipments, such as boom, skimmer, portable tank, chemical dispersant and power Vac. These equipments are transported from NASOS, Petrovietnam Drilling and Well Services Corporation (PV Drilling). However, the recovery capacity of these equipments is only ideal for oil spillage inside storage facilities and may have limitations in recovering oil spillage at sea.

Special Issue

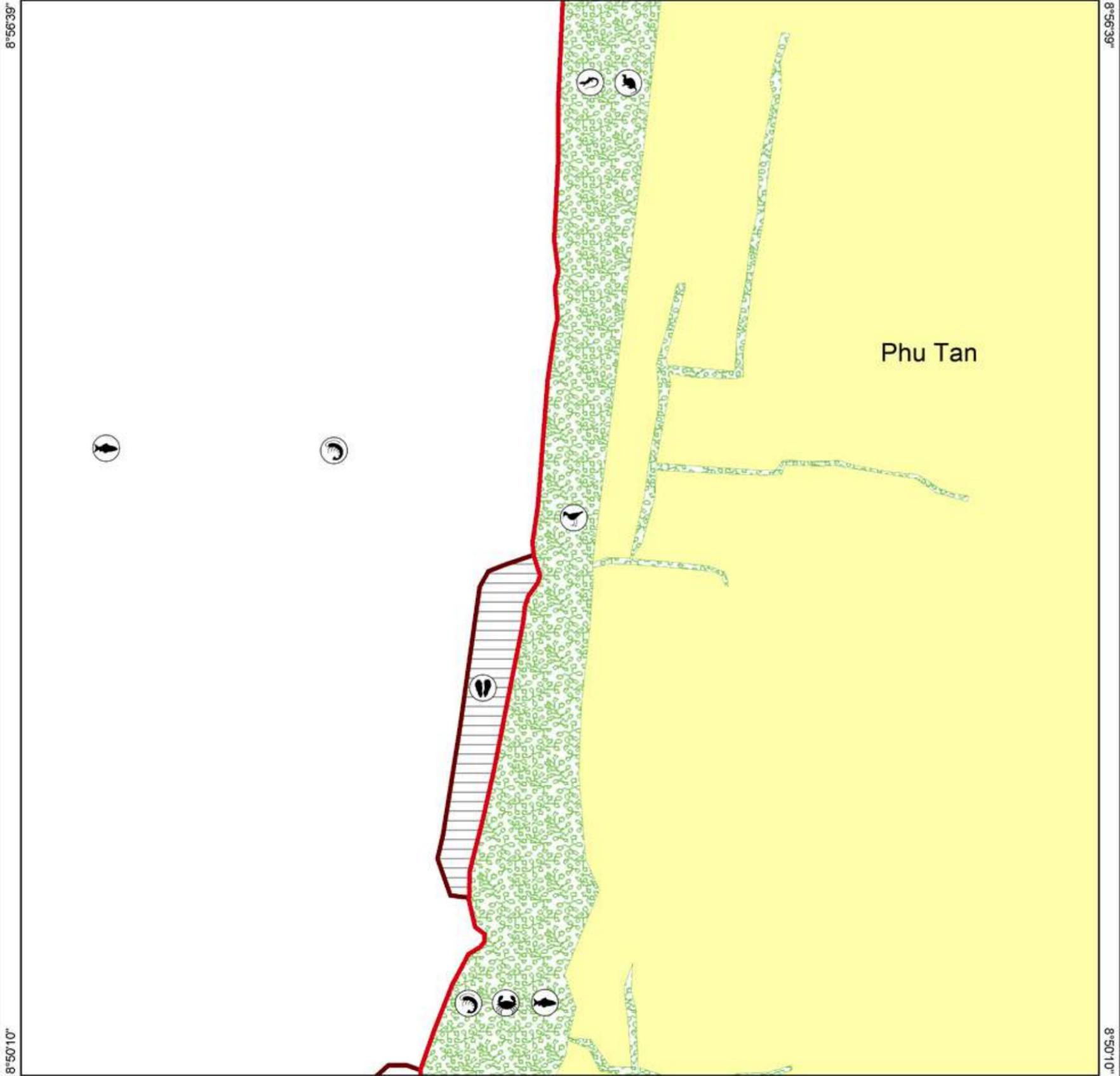
There is no special issue in the area.

Ca Mau Province

Vietnam - 43

104°45'02"

104°51'36"



104°45'02"

104°51'36"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

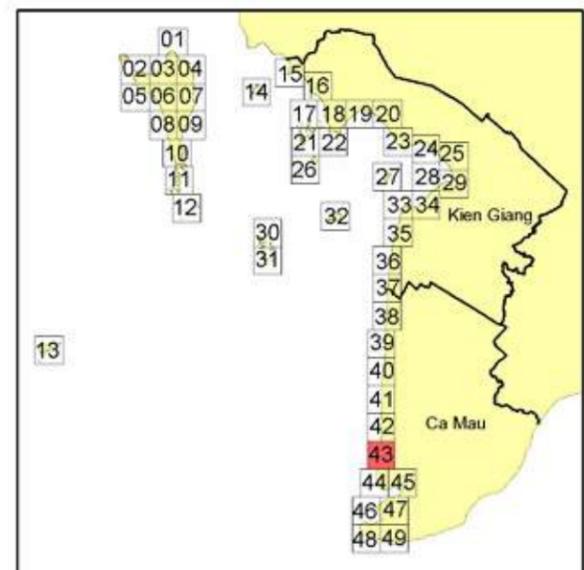
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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General Information

This area covers the coastline situated in Tran Van Thoi District including My Binh and Cai Doi Vam estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Pelecanus philippensis*, *Phalacrocorax niger*, *Ardea cinerea*, *Centropus sinensis*, *Metopidius indicus*, *Tachybaptus ruficollis*, *Caprimulgus macrurus*, *Streptopelia chinensis* and *S. tranquebarica*.

Marine fishes are located on the map as *Argyrosomus argentatus*, *Leiognathus bindus*, *Arius thalassimus*, *Priacanthus tayenus*, *Upeneus bensasi*, *Scolopsis taeniopterus* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus monodon*, *Metapenaeus affinis*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Metapenaeus moyebi* and *Parapenaeopsis sculptilis*.

Crab species in this area are *Scylla paramamosain* and *Scylla olivacea*.

Bivalve species in this area are found only in the tidal flats, such as *Anadara antiquata*, *Gomphina aequilatera*, *Macra quadrangularis*, *Sanguinolaria diplos*, *Phareonella acutidens* and *Aloidis laevis*.

Terrestrial mammals in this region are *Manis javanicus* and *Sus scrofa*. Reptiles in this region include *Lutra sumatrana*, *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

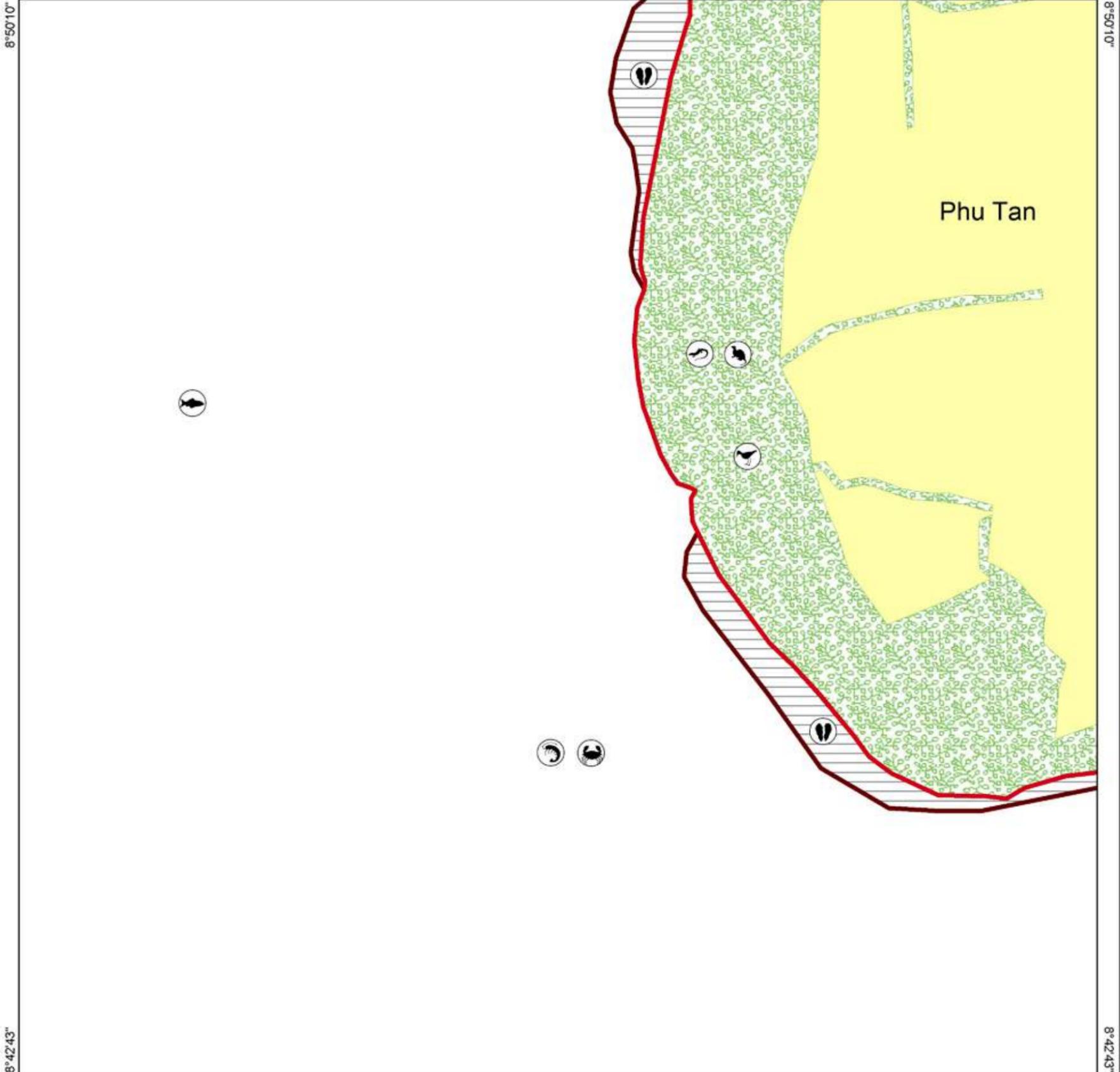
There is no special issue in the area.

Ca Mau Province

Vietnam - 44

104°43'23"

104°49'57"



104°43'23"

104°49'57"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

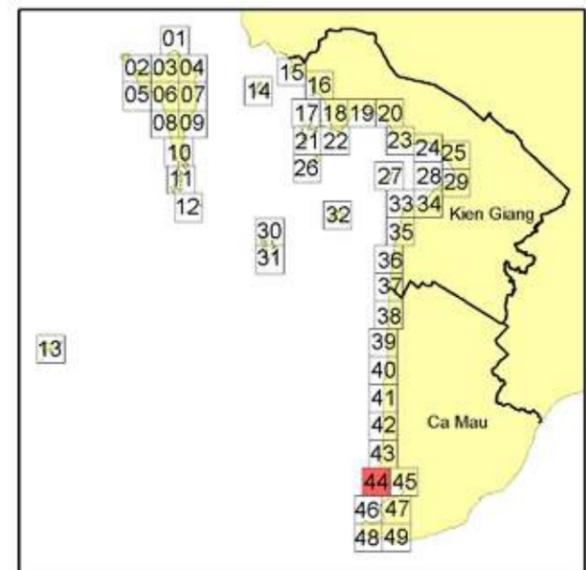
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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General Information

This area covers the coastline situated in Phu Tan District, near Bay Hap estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) or scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Centropus sinensis*, *Metopidius indicus*, *Tachybaptus ruficollis*, *Cisticola juncidis*, *Zosterops palpebrosus*, *Pellorneum ruficeps*, *Macronous gularis*, *Glareola maldivarum* and *Bubulcus ibis*.

Marine fishes located on the map as *Argyrosomus argentatus*, *Saurida undosquamis*, *Rastrelliger kanagurta*, *Nemipterus virgatus*, *Nibea sp.* and *Leiognathus equula*.

The shrimp species in this area are *Penaeus semisulcatus*, *Metapenaeus affinis*, *Metapenaeus ensis* and *Metapenaeus intermedius*.

The crab species in this area are mud crabs and little crabs.

Bivalve species in this area are found only in tidal flats, such as *Brachyodontes emarginatus*, *Brachyodontes senhousei*, *Mytilus smaragdinus*, *Sinonovacula constricta*, *Solen grandis* and *Phareonella acutidens*.

Terrestrial mammals in this region are *Sciurus carolinensis* and *Macaca fascicularis*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

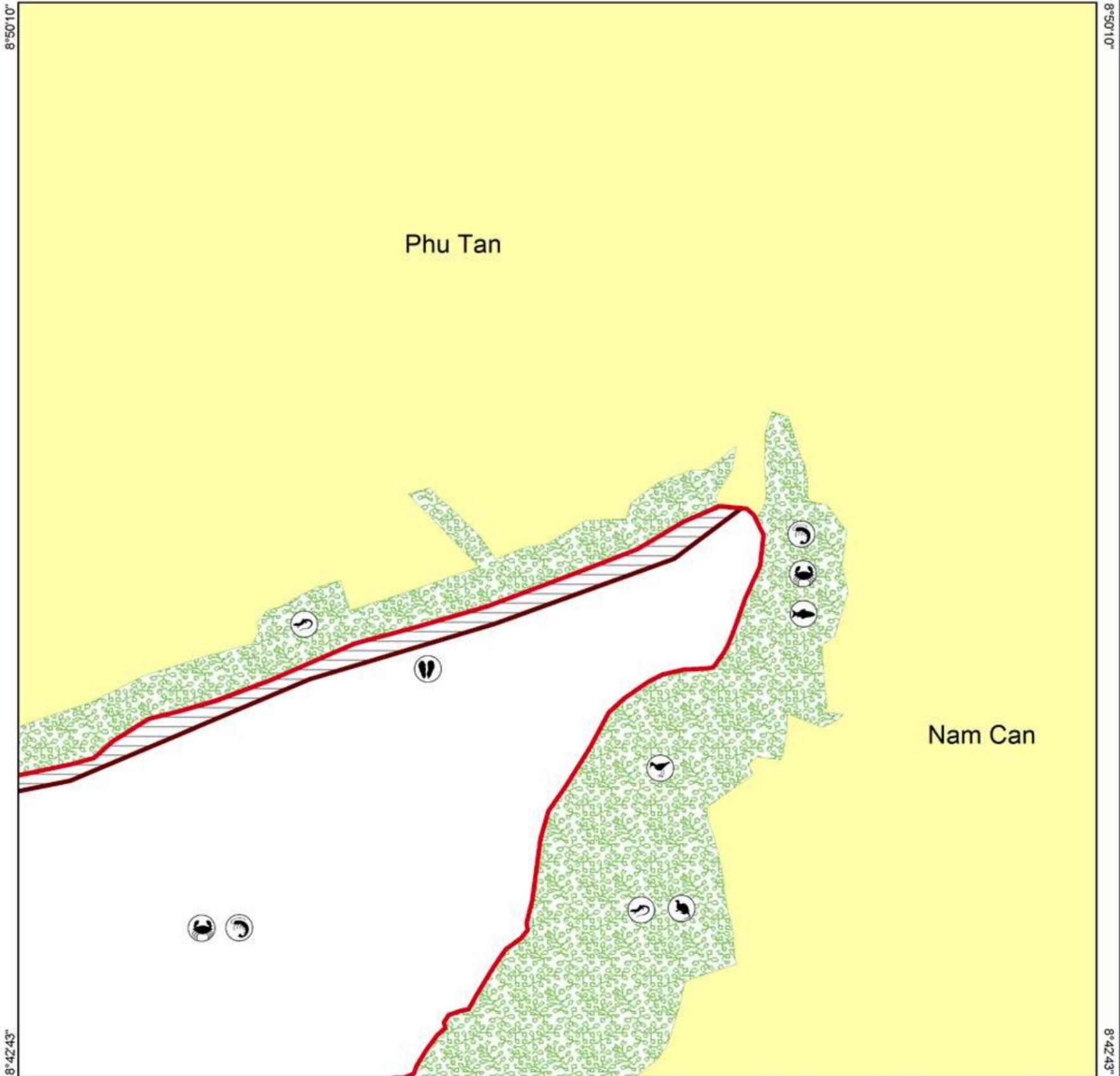
There is no special issue in the area.

Ca Mau Province

Vietnam - 45

104°49'57"

104°56'31"



104°49'57"

104°56'31"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

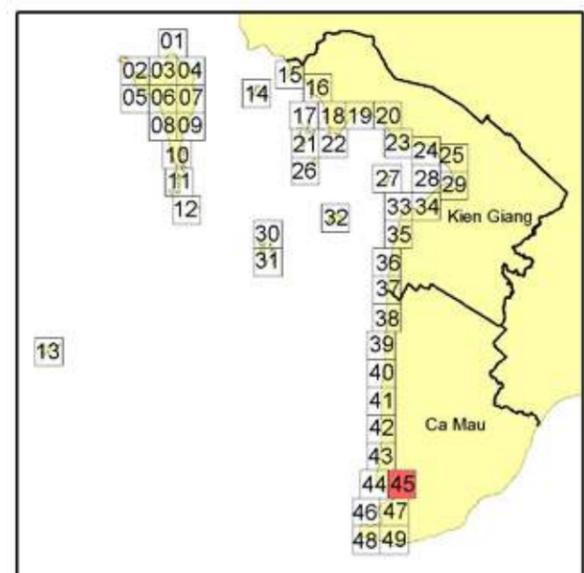
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/

Oil Spill Response Resources
None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Nam Can District, including Bay Hap estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Pelecanus philippensis*, *Acrocephalus bistrigiceps*, *A. orientalis*, *Megalaima haemacephala*, *Dendrocopus canicapillus*, *Picus vittatus*, *Coracias benghalensis*, *E. eulophotes* and *Dupetor flavicollis*.

Marine fishes located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Nibea sp.*, *Scolopsis taeniopterus*, *Priacanthus macracanthus* and *Pentaprion longimanus*.

Shrimp species in this area are *Metapenaeus affinis*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Parapenaeopsis sculptilis* and *Parapenaeopsis hungerfordi*.

Crab species in this area are mud crabs and little crabs.

Bivalve species in this area are found only in tidal flats, such as *Anadara nodifera*, *Brachyodontes emarginatus*, *Brachyodontes senhousei*, *Cyclina sinensis*, *Meretrix meretrix*, *Meretrix lusoria* and *Gomphina aequilatera*.

Terrestrial mammals in this region are *Sciurus carolinensis* and *Macaca fascicularis*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

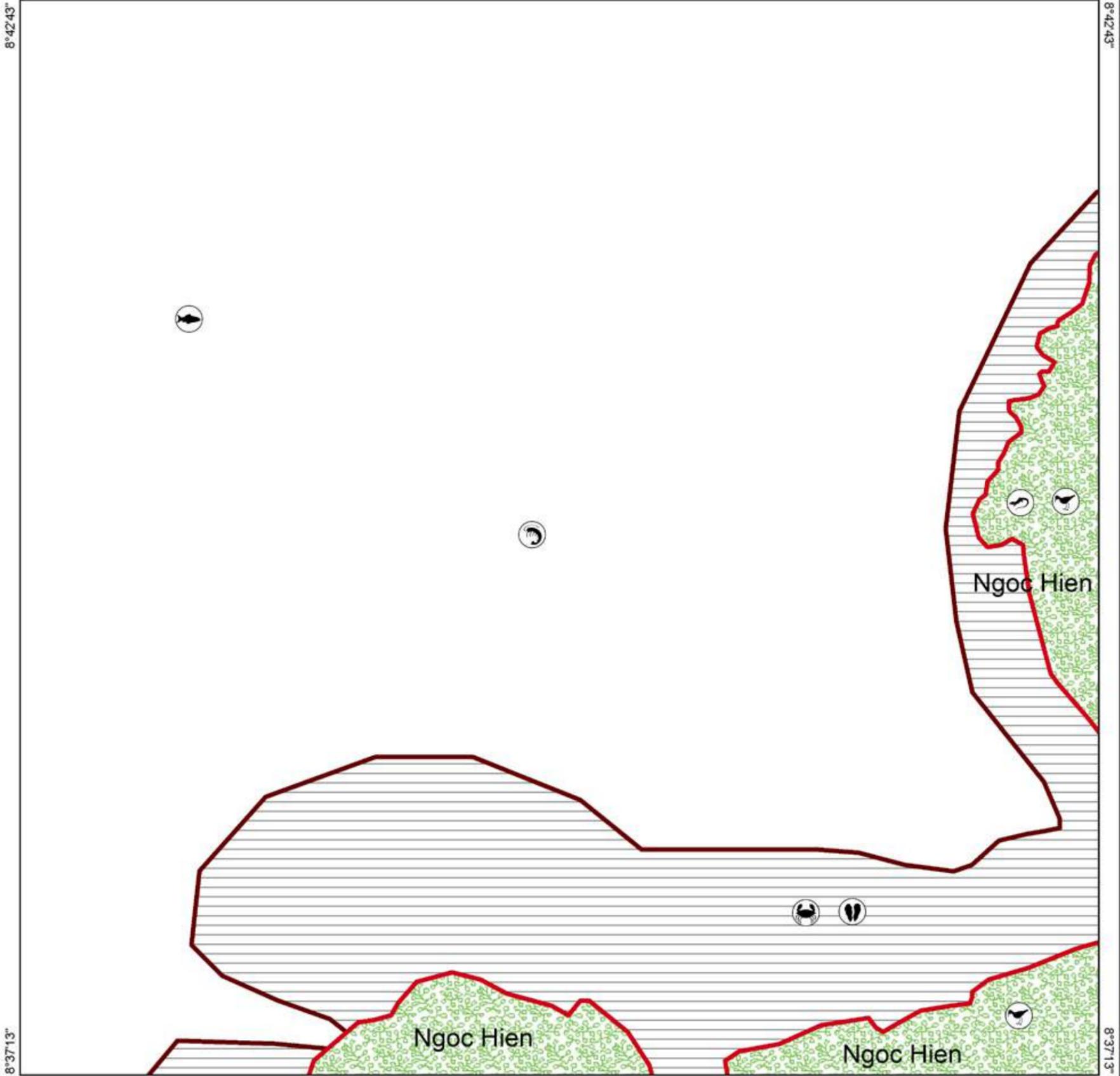
There is no special issue in the area.

Ca Mau Province

Vietnam - 46

104°41'33"

104°48'07"



104°41'33"

104°48'07"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

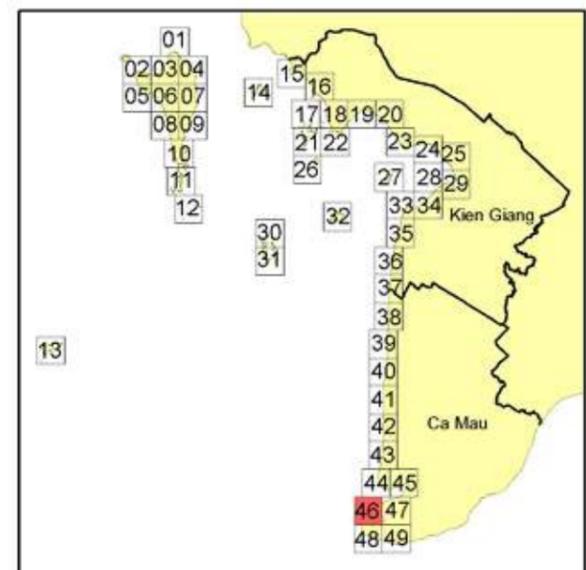
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Ngoc Hien District, near Bay Hap estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Pelecanus philippensis*, *Threskiornis melanocephalus*, *Plegadis falcinellus*, *Porphyrio porphyrio*, *Anas poecilorhyncha*, *Gerygone sulphurea*, *Alcedo atthis*, *Aegithina tiphia*, *Picus vittatus*, *Mycteria leucocephala* and *H. smyrnensis*.

Marine fishes located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Trichiurus haumella*, *Megalaspis cordyla*, *Therapon theraps*, *Saurida tumbil*, *Saurida undosquamis*, *Rastrelliger kanagurta* and *Priacanthus tayenus*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus indicus*, *Penaeus latisulcatus*, *Metapenaeus affinis* and *Parapenaeopsis hardwickii*.

Crab species in this area are mud crabs and little crabs.

Bivalve species in this area are found only in tidal flats, such as *Anadara antiquata*, *Anadara subcrenata*, *Brachyodontes senhousei*, *Modiolus vaginus*, *Saccostrea cucullata* and *Cyclina sinensis*.

Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flat habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

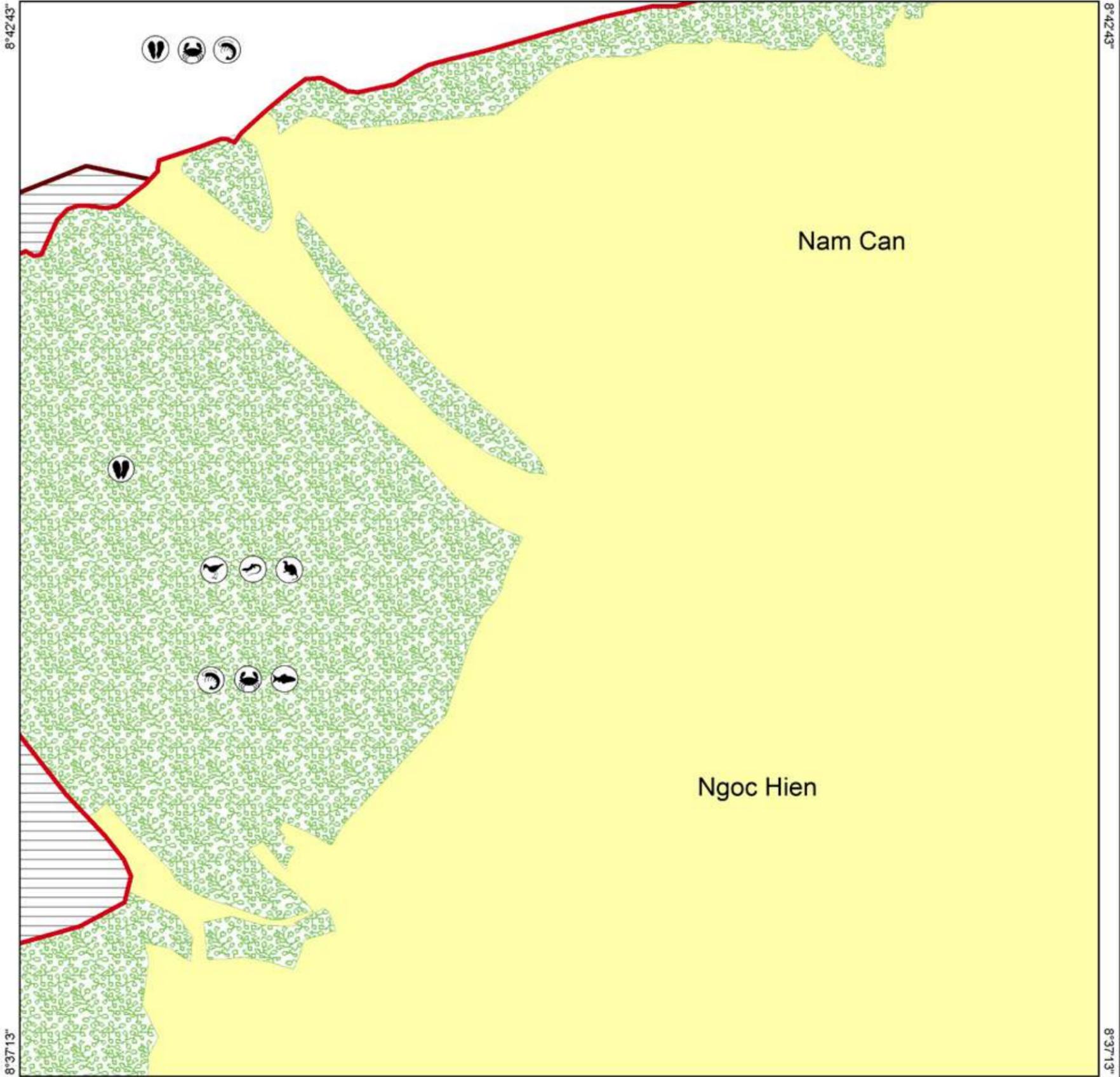
There is no special issue in the area.

Ca Mau Province

Vietnam - 47

104°48'07"

104°54'41"



104°48'07"

104°54'41"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

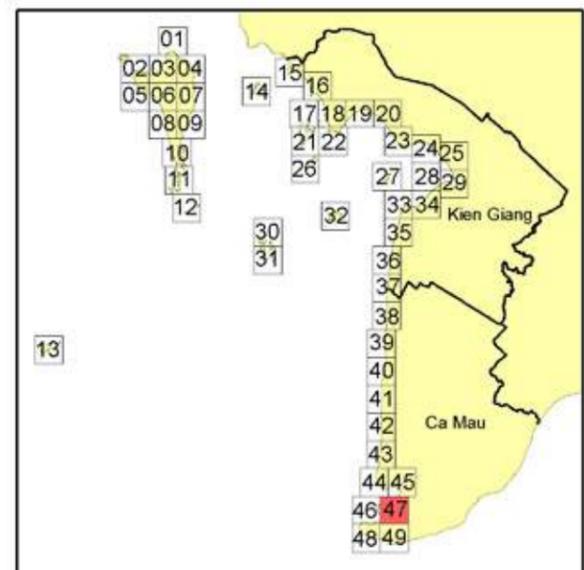
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Nam Can and Ngoc Hien District, including Cua Lon estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Crypsirina temia*, *Coracina polioptera*, *Zosterops palpebrosus*, *Orthotomus sutorius*, *Dendrocopus canicapillus*, *Mycteria leucocephala*, *Ardea cinerea* and *Dupetor flavicollis*.

Marine fishes located on the map are *Cynoglossus sp.*, *Upeneus sulphureus*, *Therapon theraps*, *Saurida tumbil*, *Nemipterus virgatus*, *Scolopsis taeniopterus* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus japonicus*, *Metapenaeus brevicornis*, *Metapenaeus ensis*, *Metapenaeus tenuipes*, *Metapenaeus moyebi*, *Parapenaeopsis hardwickii* and *Parapenaeopsis hungerfordi*.

Crab species in this area are mud crabs and little crabs.

Bivalve species in this area are found only in tidal flats, such as *Mytilus smaragdinus*, *Modiolus vaginus*, *Perna viridis*, *Placuna placenta*, *Cyclina sinensis* and *Meretrix meretrix*.

Terrestrial mammals in this region are *Sciurus carolinensis* and *Macaca fascicularis*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flats habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

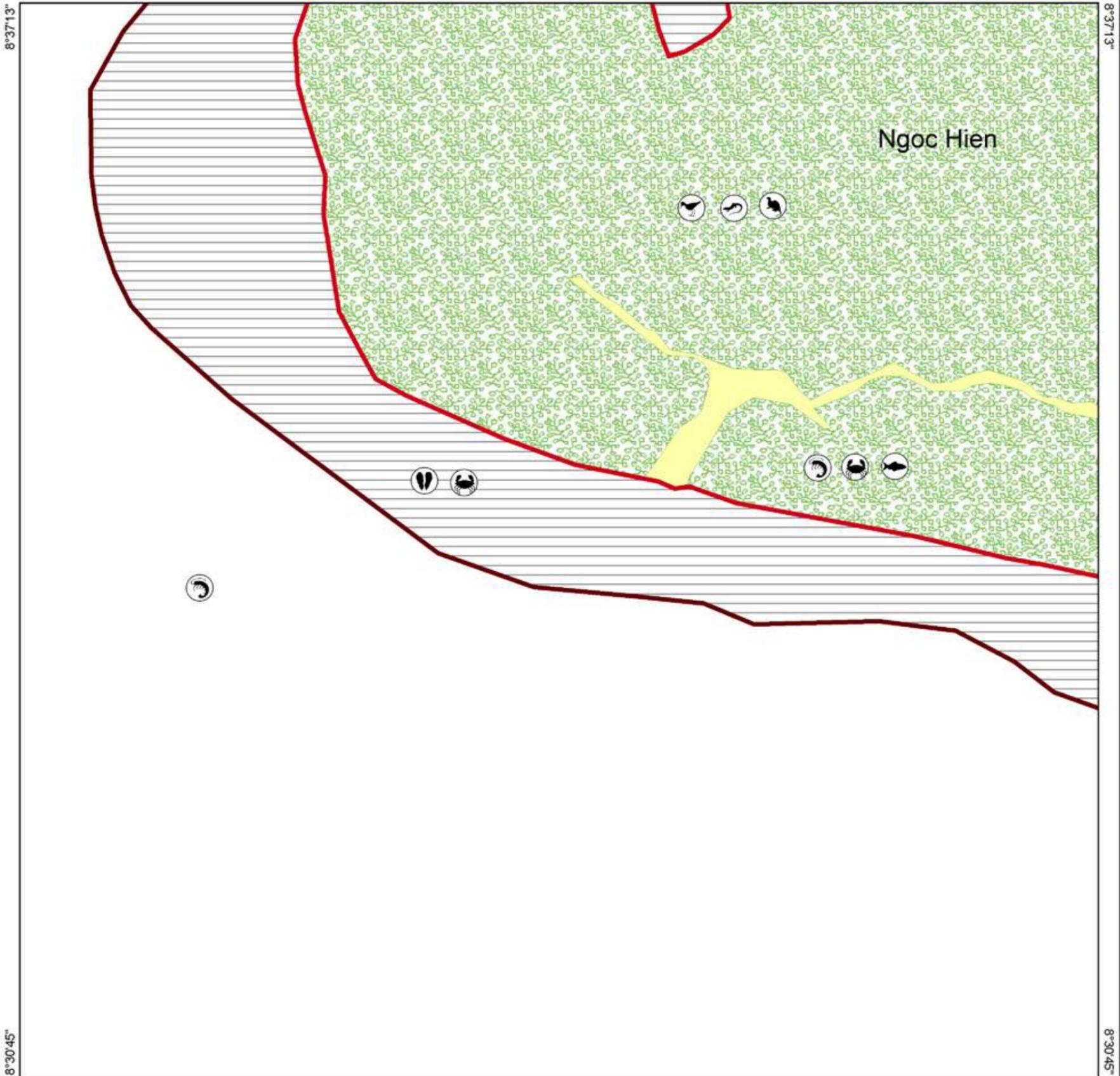
There is no special issue in the area.

Ca Mau Province

Vietnam - 48

104°48'33"

104°54'41"



104°48'33"

104°54'41"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

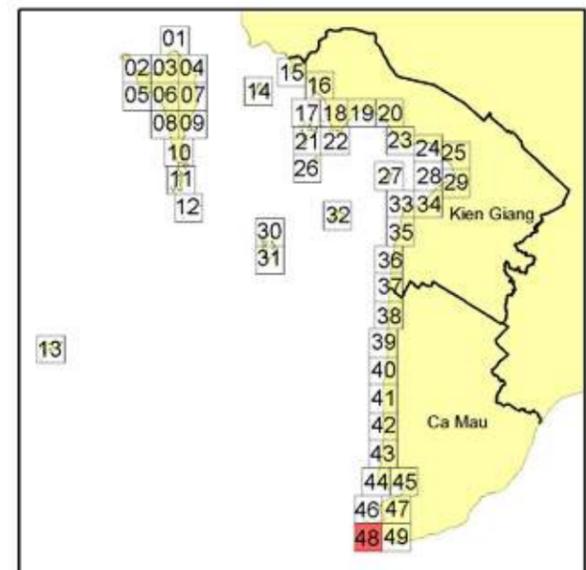
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Ngoc Hien District.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Gerygone sulphurea*, *Chrysocolaptes lucidus*, *Streptopelia chinensis*, *S. tranquebarica*, *Mycteria leucocephala*, *Ardea cinerea*, *Ardeola bacchus*, *Gallinula chloropus*, *Glareola maldivarum* and *Bubulcus ibis*.

Marine fishes located on the map are *Leiognathus rivulata*, *Cynoglossus sp.*, *Upeneus sulphureus*, *Rastrelliger kanagurta*, *Pomadasys hasta*, *Upeneus bensasi*, *Scolopsis taeniopterus*, *Priacanthus macracanthus* and *Pentaprion longimanus*.

Shrimp species in this area are *Penaeus merguensis*, *Metapenaeus affinis*, *Metapenaeus moyebi*, *Parapenaeopsis hardwickii*, *Parapenaeopsis sculptilis* and *Parapenaeopsis hungerfordi*.

Crab species in this area are mud crabs and little crabs.

Bivalve species in this area are found in tidal flats, such as *Anadara nodifera*, *Brachyodontes emarginatus*, *Mytilus smaragdinus*, *Modiolus vaginus*, *Crassostrea rivularis*, *Cyclina sinensis* and *Meretrix meretrix*.

Terrestrial mammals in this region are *Sciurus carolinensis* and *Macaca fascicularis*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flats habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Oil Spill Response Resources

There is no oil spill response resource in the area.

Special Issue

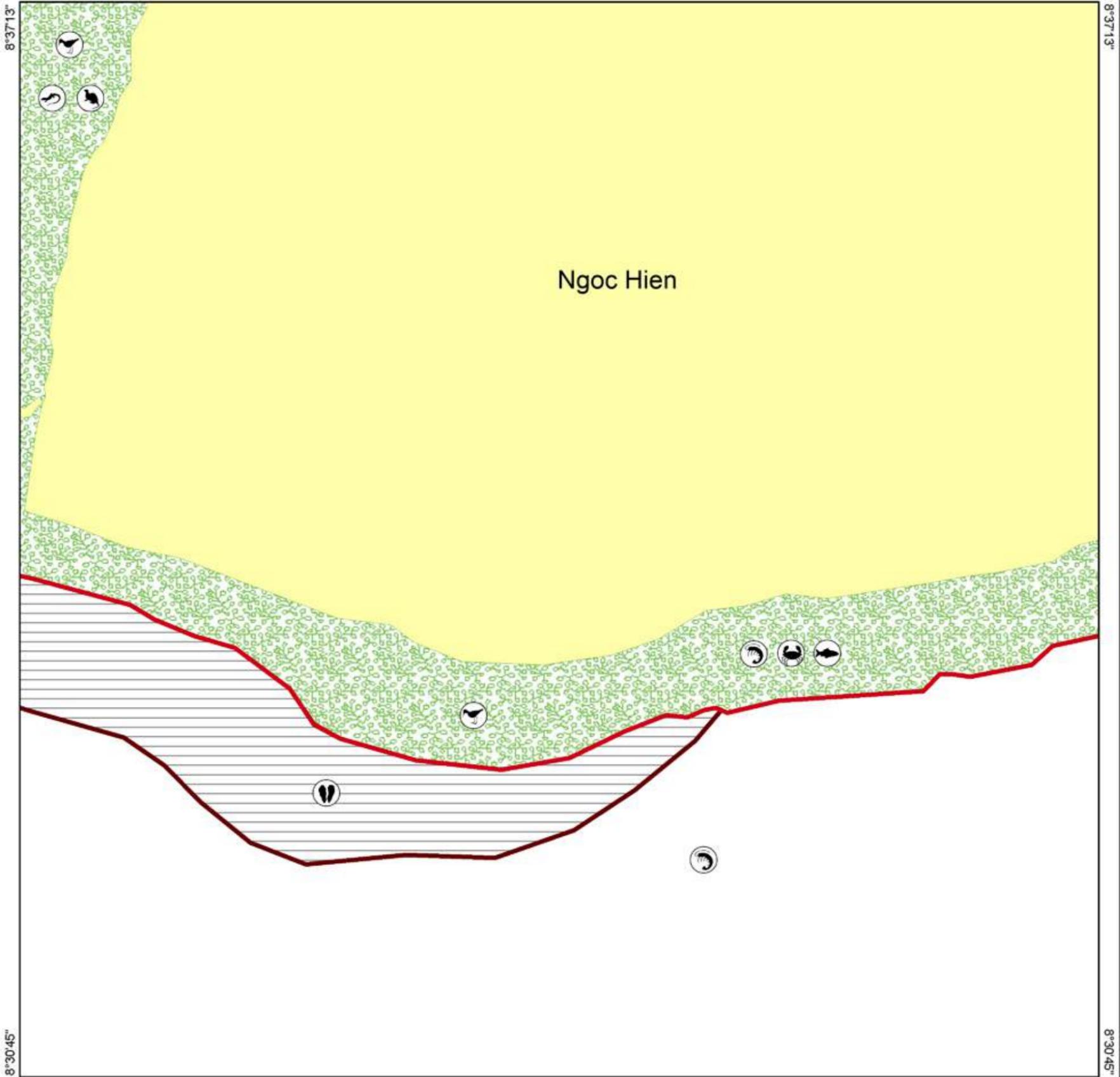
There is no special issue in the area.

Ca Mau Province

Vietnam - 49

104°48'07"

104°54'41"



104°48'07"

104°54'41"

Shoreline Classification

- ESI 7
- ESI 10B

Biological/Human-Use Areas

- Mangroves
- Tidal Flats

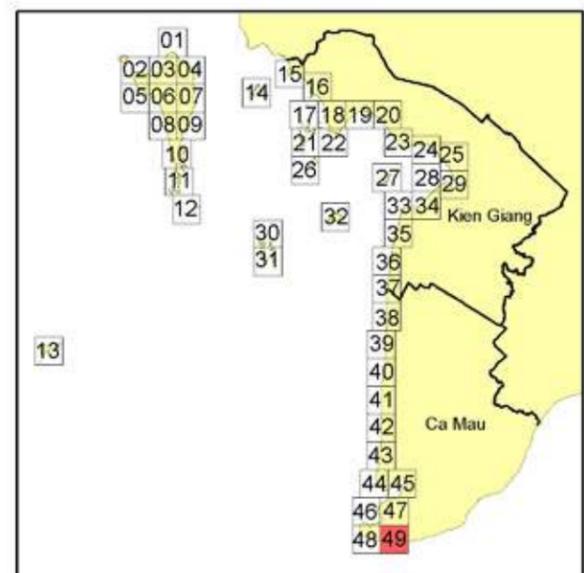
Biological Resources

- Bird
- Bivalve
- Crab
- Fish
- Reptile and Amphibian
- Shrimp
- Terrestrial Mammal

Human-Use/ Oil Spill Response Resources

None

Location of Map



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SCALE 1:50,000



General Information

This area covers the coastline situated in Ngoc Hien District, including Rach Goc estuary.

Shoreline

Along the coast in the area are exposed tidal flats (ESI 7) and scrub-shrub wetlands and mangroves (ESI 10B).

Biological Resources

Birds living in coastal areas include *Copsychus saularis*, *Zosterops palpebrosus*, *O. ruficeps*, *D. paradiseus*, *Pycnonotus goiavier*, *Cisticola juncidis*, *Megalaima haemacephala*, *Picus vittatus* and *Hirundapus caudacutus*.

Marine fishes located on the map are *Argyrosomus argentatus*, *Leiognathus bindus*, *Lagocephalus sceleratus*, *Upeneus sulphureus* and *Saurida tumbil*.

Shrimp species in this area are *Penaeus merguensis*, *Penaeus japonicus*, *Penaeus latisulcatus*, *Metapenaeus affinis*, *Metapenaeus moyebi* and *Parapenaeopsis hardwickii*.

Crab species in this area are mud crabs and little crab.

Bivalve species in this area are found only in tidal flats, such as *Mytilus smaragdinus*, *Modiolus vaginus*, *Perna viridis*, *Placuna placenta*, *Cyclina sinensis* and *Meretrix meretrix*.

Terrestrial mammals in this region are *Sciurus carolinensis* and *Macaca fascicularis*. Reptiles in this region include *Naja naja* and *Python molurus*.

Mangrove and tidal flats habitats are found in this region. The mangroves in this region are mostly *Rhizophoraceae* and *Avicenniaceae*. Most of the biological resources gather in this region.

Human Use Resources

There is no human use feature in the area.

Response Resources

There is no oil spill resource in the area.

Special Issue

There is no special issue in the area.

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Acronyms and Abbreviations

cm	- centimeters
ESI	- Environmental Sensitivity Index
FAO	- Food and Agriculture Organization of the United Nations
GIS	- Geographic Information System
GOT	- Gulf of Thailand
ha	- hectares
IMO	- International Maritime Organization
KIOST	- Korea Institute of Ocean Science and Technology
km	- kilometers
km ²	- square kilometers
KOICA	- Korea International Cooperation Agency
L	- liters
m	- meters
m ³	- cubic meters
MAFF	- Ministry of Agriculture, Forestry and Fishery (Cambodia)
MOE	- Ministry of Environment (Cambodia)
MONRE	- Ministry of Natural Resources and Environment (Vietnam)
MPWT	- Ministry of Public Works and Transport (Cambodia)
MOT	- Ministry of Transport (Thailand)
NASOS	- National Southern Oil Spill Response Center (Vietnam)
NOAA	- National Oceanic and Atmospheric Administration
PAT	- Port Authority of Thailand
PEMSEA	- Partnerships in Environmental Management for the Seas of East Asia
RIMSI	- Research Institute for the Management of Seas and Islands
t	- tons
TEU	- Twenty-foot Equivalent Unit
UNEP	- United Nations Environment Programme
VINASARCOM	- Vietnam Search and Rescue Committee
VASI	- Vietnam Administration for Seas and Islands

