Surf Tourism & Resource Sustainability

Phuket, Thailand

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Global Surf Cities Conference 2013

Destination Innovation Collaboration
First... A few pictures

PART I – INTRO & HISTORY
PART II – GEOGRAPHY & METEOROLOGY
PART III – SURF CITY CULTURE
PART III – ISSUES IN SUSTAINABILITY

Amazing Thailand

Kalim Reef

Steven Andrew Martin, MA, MBA
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Surfing In Phuket
Chalong Tanus

The First Thai Surf Champion 1999
PART I

INTRODUCTION & HISTORY
“Instant Surf Tourism”
Just add waves!
Surfing History...

Kalim Reef  c.1977
The first ‘Surf Bar’ at Patong Beach  c. 1980

Photo: Paul King
The wave was permanently changed when *Le Meridien Hotel* relocated the mouth of the local stream.
Chin was the “First-ever Thai surfer who truly embraced the heart and soul of surf culture in Phuket. He lived on the beach, surfed everyday, and shaped his own boards.”

Paul King

Photos: Paul King

Kata Noi Beach, c.1996

Thailand’s first backyard shaper
Thailand’s First Surfer Girl

“Everyone that knew her was touched by Gae’s zest for life, the surf, and love of everyone. Wish I could be more like her... Take each day and enjoy life.”

Kata Noi Beach, 1996

Gae
1972 – 1997

Photo: Paul King
PART II

COASTAL GEOGRAPHY & METEOROLOGY of the ANDAMANAN Coast, Thailand
30+ Areas documented through exploratory research

60+ Areas currently documented

60+ Sites

739+ km and over 50 islands (6 provinces)

ANDAMAN COAST

Key areas to include: Ko Samui/Ko Phangan & Ko Chang/Ko Kut

70+ Sites

1874+ km and over 50 islands (17 provinces)

GULF COAST

Surf Sites of Thailand
S. A. Martin (as of July, 2010)
A Brief Look at the Gulf of Thailand...

- Southwest Monsoon Windswell
- Northeast Monsoon Windswell
- Local Weather System
- Regional Weather System
- Wind Swell
- Typhoon
- The Sunda Shelf
The Southwesterly Monsoon
May through October
Southwest – West Windswell

Indian Ocean Groundswell
Quality Waves
Potential To Arrive Year-round

Cyclonic activity
Depressions, Tropical Storms & Cyclones
Potential for BIG

S. A. Martin
Bathymetry varies at different latitudes along Thailand’s Andaman Coast, affecting wave speeds and heights.

**The Coastal Shelf**

- **110 km wide in the north**
  Ranong and Phang Nga

- **25 km near Phuket**
  The deepest water on Thailand’s Andaman Coast

- **130 km in the south**
  Krabi, Trang & Satun
Key Surf Beaches of Phuket

- Nai Yang Beaches & Reefs
- Surin Beach
- Bang Tao Beach
- Kamala Beach
- Kalim Reef
- Kata Yai Beach
- Kata Noi Beach
- Nai Harn Beach

(approximately 30 sites)
PART III

PHUKET & THE GLOBAL SURF CITY CULTURE
PHUKET IS THAILAND’s GLOBAL SURF CITY

- 20 Surf Shops
- 15 Surf Lesson Businesses
- 25 Surfboard Rental Concessions

KARON BEACH
300 Thai Surfers
250 Expat Surfers

Surf Tourists
Australian
Japanese
USA & UK
‘Incidental’ Tourists
Phuket International Airport

KE11Y
KELLY SLATER 11X ASP WORLD SURFING CHAMPION

AVAILABLE @
PHUKET JUNGCEYLON
CENTRAL PHUKET FESTIVAL
CENTRAL WORLD
SAMUI AIRPORT
TERMINAL 21
JUNGCEYLON
The International Shopping and Leisure Destination in Patong, Phuket
5th ANNIVERSARY

Amusea World!
30 March – 8 April 2012

Beyond the Beach
Welcome to a Paradise of Fashion, Food, and Fun!
The big names are all here: Armani, A/X, Calvin Klein Jeans, DKNY, Nautica, Lacoste, Nike... and after you've found your favorite outfit, enjoy some of the best foods the island has to offer, all found at Central Festival Phuket.
With more than 250 shops offering an irresistible selection of international and local brands, you'll be spoilt for choice.
Do not miss Central Department Store, the best shopping destination in Phuket that offers 5% return discount as well as 7% VAT refund on top of a host of attractive promotional prices.
Sparks enthusiasts will love the range of goods at Sugar Spots, the biggest venue of its kind in Phuket.
Savor the delectable foods the island has to offer when you dine at any of 40 restaurants in the complex, simply delicious!

Central Festival Phuket
The best shopping centre in Phuket
Open daily 11am – 9pm
Tel: (076) 91 34 34

Enjoy Your Lifestyle in Phuket!

the irresistible shopping destination

© 1719
24-07/2013

Central Festival Phuket

Central Festival Phuket

Bangkok Hospital
Phuket
www.phukethospital.com

5 - 70% Discount PLUS
7% Tax Refund and other privileges
See more terms and conditions at Tourist Information Counter

Phuket's first international university, and the first from Thailand.

rungus Phuket

Polo Club
www.poloclubphuket.com

Phuket is the next destination

24-07/2013

Phuket is the next destination

31-07/2013

Phuket is the next destination
International Surfing Competitions

The Phuket Governor

Is that Jake ‘the Snake’ Patterson?
The 2011 Phuket International Surfing Contest, Patong Beach

The First Phuket Surfing Contest was in 1999 at Kata Beach
Domestic Surf Tourism

Thai Movie Stars from Bangkok Try Surfing for the First Time
Surf's up, drownings down

Phuket water safety expert uncovers the island's unsung lifesaving heroes.

IN RECENT years Phuket beaches have been plagued by drownings, which remain a leading cause of death among tourists, especially those from abroad.

Lifeguard services have been precarious in recent years. Simply put, sometimes there are lifeguards, sometimes not. Throughout the current high season which began last November and which is now drawing to a close, there have been no lifeguards on the island's beaches, although the Phuket Provincial Administration Organization is expected to announce a new service provider by the time this issue is published.

But even with new lifeguards patrolling beaches, it seems inevitable that the death toll will continue to rise until something is done to address the dangerous combination of factors that lead so many foreign tourists into treacherous surf with fatal results.

One man's study

In a recent study conducted by Phuket resident Steven Martin, he cites unfamiliarity with local beaches, poor swimming skills, language barriers and the disorientation of being in a foreign environment as part of the deadly equation – one made even worse when tourists enter the surf after consuming alcohol.

Several physical factors make Phuket's west coast beaches more dangerous than they may appear to the layman during the monsoon season that runs from May to October, said Mr Martin.

Monsoon season surf in Phuket is characterized by a wave phenomenon known as "short-period swell", which means that waves arrive relatively close together and propagate proportionately strong currents – including rip tides – even if the waves themselves don't appear particularly large or dangerous.

Short-period swells allow swimmers and surfers very little time to recover between waves. For example, a swell period of six
BEACH & OCEAN SAFETY are NOT to SURF CITY standards
Do you want the Silver, Gold or Platinum Rescue Package?
PART IV

KEY ISSUES IN SURF RESOURCE SUSTAINABILITY
The $5T$ of SURF SITE DEGRADATION in PHUKET

- **TIN MINING**
  - Reef destruction and mine tailings

- **TRASH**
  - Beach litter & Marine debris

- **TOURISM**
  - Tourist impacts, construction, pollution

- **TEMPERATURE**
  - Coral Bleaching

- **TSUNAMI**
  - Coral destruction and salt invasion
TIN MINING

Maritime tin mining was invented in Phuket in 1903

Over 6,000 boats in operation in 1988

Suction Boat

Bucket Dredge
1960s Bucket dredge operating at 22-meters depth in Phuket
Sediment plumes from intensive coastal dredging

Figure 2. Landsat photo taken January 1979 showing Andaman Sea coast of Thailand. The sediment plumes were generated by intensive dredging activities within a depth of 20 meters along the Phang-nga coast. More limited plume distribution on northern parts of the west coast of Phuket Island was also detected. Suspended loads from land-based mines are visible as turbid streams (white lines on land) discharging into the coastal waters. Photo: NASA.
SURIN BEACH, PHUKET

Global Surf City Standards?
## Analysis of 1,127 Plastic Food Rappers

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<th>Percentage</th>
<th>Language</th>
<th>Potential country of origin</th>
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<td>Thai</td>
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<tr>
<td>6.5%</td>
<td>Bahasa/others</td>
<td>Indonesia</td>
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<tr>
<td>3.5%</td>
<td>Malay/others</td>
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<td>2%</td>
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<tr>
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<tr>
<td>12.5%</td>
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TOURISM

700 HOTELS
40,000 ROOMS

- Sewage
- Urban runoff
- Construction waste

SEWAGE WATER
Discharged at HIGH TIDE
KALIM REEF
95% Dead

KALIM REEF
Coral bleaching in Thailand in 2010


In 2010, sea surface temperature (SST) rose rapidly in Thai waters in both the Andaman Sea and the Gulf of Thailand. These elevated temperatures caused extensive coral bleaching from the last week of April onwards, with SST reaching 31°C in the first week of April. The putative threshold temperature of coral bleaching in the Andaman Sea was estimated as 30.1°C (blue line) which is about 1°C above maximum SST in this area (Brown 1997) though light levels may of course modify these thresholds.

Phuket Marine Biological Center is responsible for the study of the impact of coral bleaching on coral reefs in the Andaman Sea, while the Marine and Coastal Research Centers in the Gulf of Thailand take responsibility for coral reefs in the Gulf. Additional surveys by diving tourists and dive operators also contributed to the database. Roughly 80% of corals bleached on each reef throughout every province along the Andaman Sea and the Gulf. Mortality rates of between 5 - 40% were already reported at the end of May.

Conclusions from these preliminary surveys are as follows:

1. In areas where environmental factors are good and coral diversity is high, with large numbers of colonies, corals are usually partially bleached. Some normally coloured colonies are found at these sites.
2. In the beginning, bleaching is more prevalent on shallow zones of the reef compared to the deep slopes. However later on bleaching spread down to lower slope (30 m).
3. In the Andaman Sea, the reefs on the east coast of the islands are more impacted than on the west. On the west sides of islands, which are subject to internal waves and generally stronger wave action, the reefs may show partial bleaching (or slight paling).
4. In turbid areas where the water flow is high, many coral colonies can resist bleaching. This is probably due to the acclimatization and adaptation of corals to extreme environmental conditions. Also, light penetration through the water column is decreased at these sites thus reducing the combined temperature/light stresses that induce bleaching.
5. The reefs which have been subject to human disturbance show more extensive bleaching than those which are less disturbed.
6. Very few coral species have been found which resist bleaching, e.g. Pocillopora damicornis, Diploria strigosa and Leptastrea transversa. Porites lutea colonies frequently show partial bleaching (with apical surfaces being normally coloured while the sides are bleached).

The 2004 Indian Ocean Tsunami

Before

After
Phuket is inevitably moving toward a **Surf City Culture**

**Key Areas of Concern**

- **Beach & Water Quality**
  - Develop a lifesaving culture

- **Beach & Ocean Safety**
  - Adopt the *Surfing Reserve* approach

- **Surf Site Sustainability & Conservation**
Research Articles Available at San Diego State University Center for Surf Research
http://csr.sdsu.edu/2012/11/14/steven-martin/

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Please share your thoughts and suggestions
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