

GREEN FINS APPROACH FOR MANAGEMENT FOR SUSTAINABILITY OF CORAL REEFS AND DIVING TOURISM IN THAILAND



Presented by Nipon Phongsuwan
Department of Marine and Coastal Resources,
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Thailand

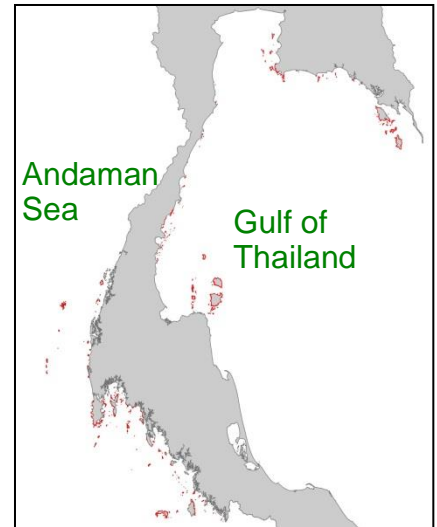
Expert Conference on Development of Island's Sustainable
Societies, 29-30 June, 2014, Okinawa, JAPAN





Coral reefs are an important resource in Southeast Asia, contributing to the economic incomes of the coastal population and the growing dive tourism industry in this region.

Coral reefs, with total area of about 225 km², are wide spreading on the coastlines of islands and mainland, along the Gulf of Thailand and the Andaman Sea, Thailand



Situations

- Coral degradation
- Tourism impact to coral reefs
- Number of **dive operators** increasing

Total 11 million

20%
China

3%
Russia

77%
Europe

2004 – 2009

- Coral degradation
- Tourism impact to coral reefs
- Number of **snorkeling operators** and **speed boats** increasing

Total 26 million

43%
China

16%
Russia

41%
Europe

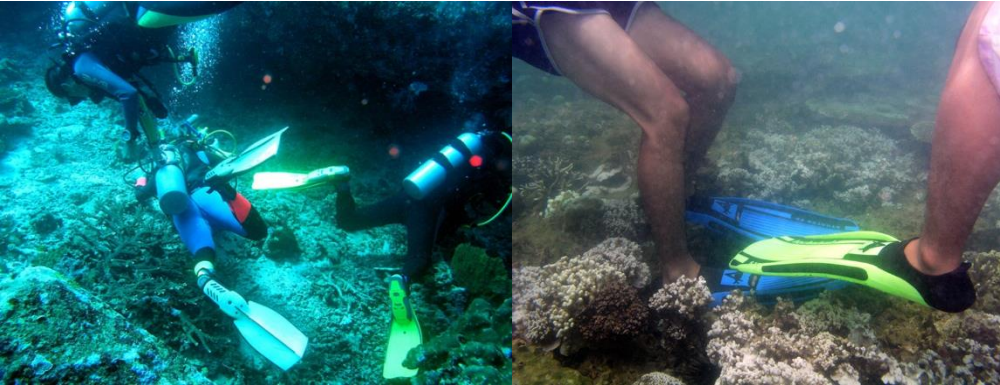
2010 - 2014

Continuously Challenged by newly Emerging Issues



As tourism continues to expand, coral reefs come under increasing threats and pressure from tourists.

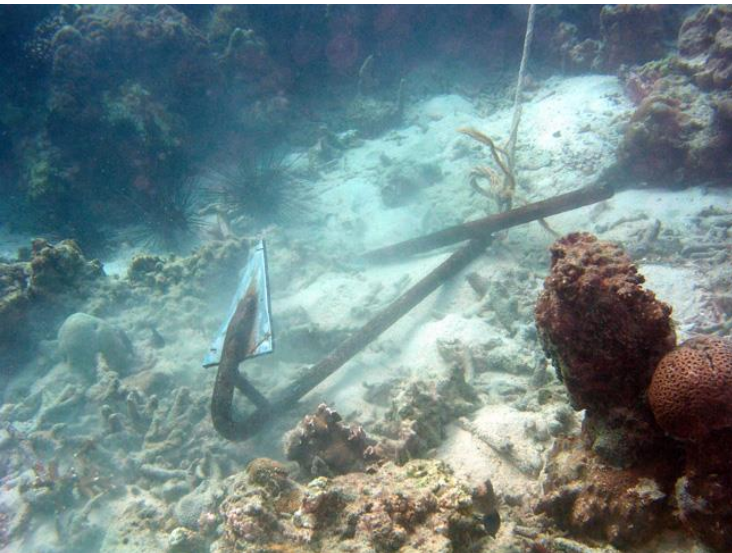
The main issue associated with tourism are:



Holding,
Touching,
stepping on
corals



Fish
feeding



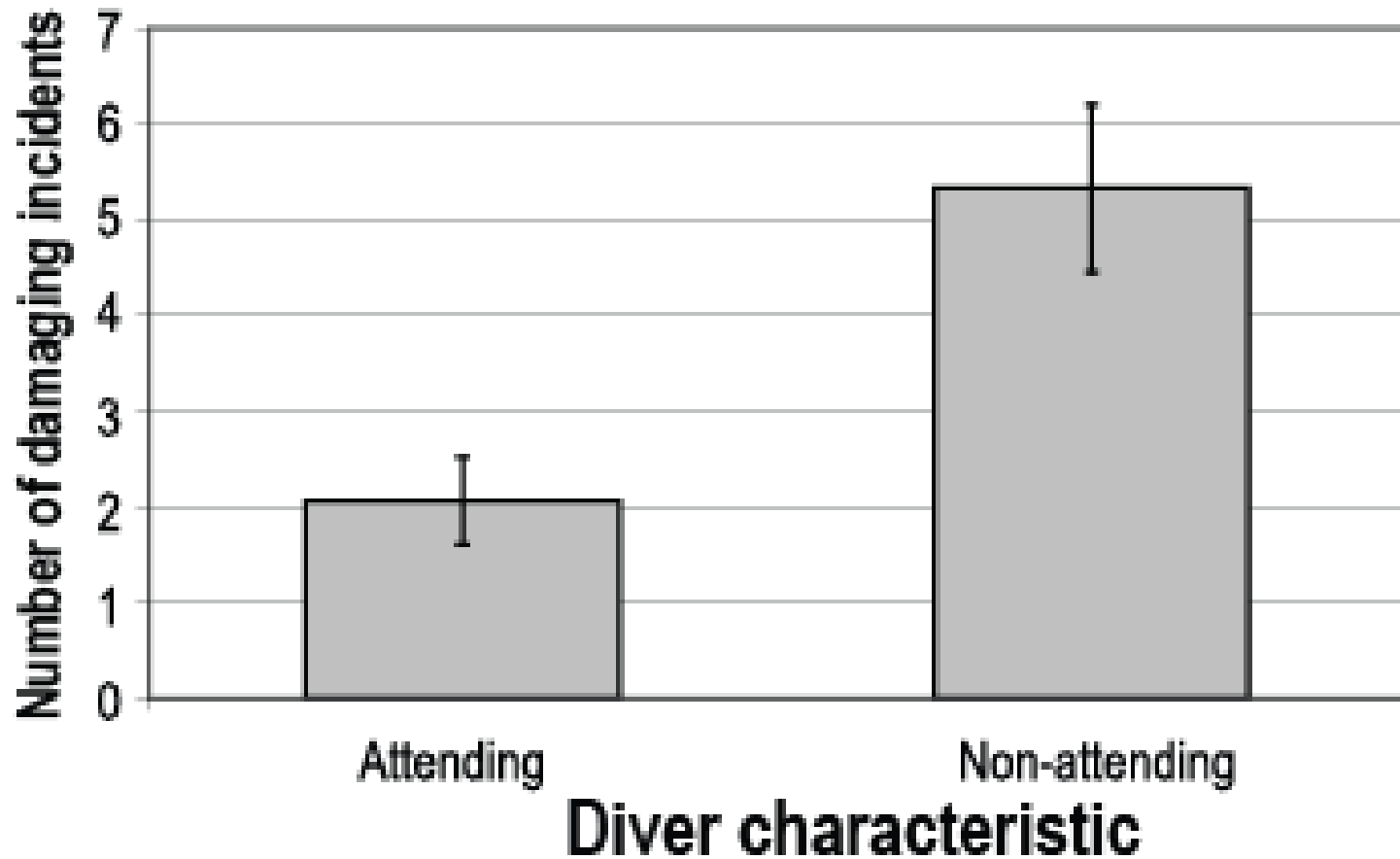
Anchoring in
the reef



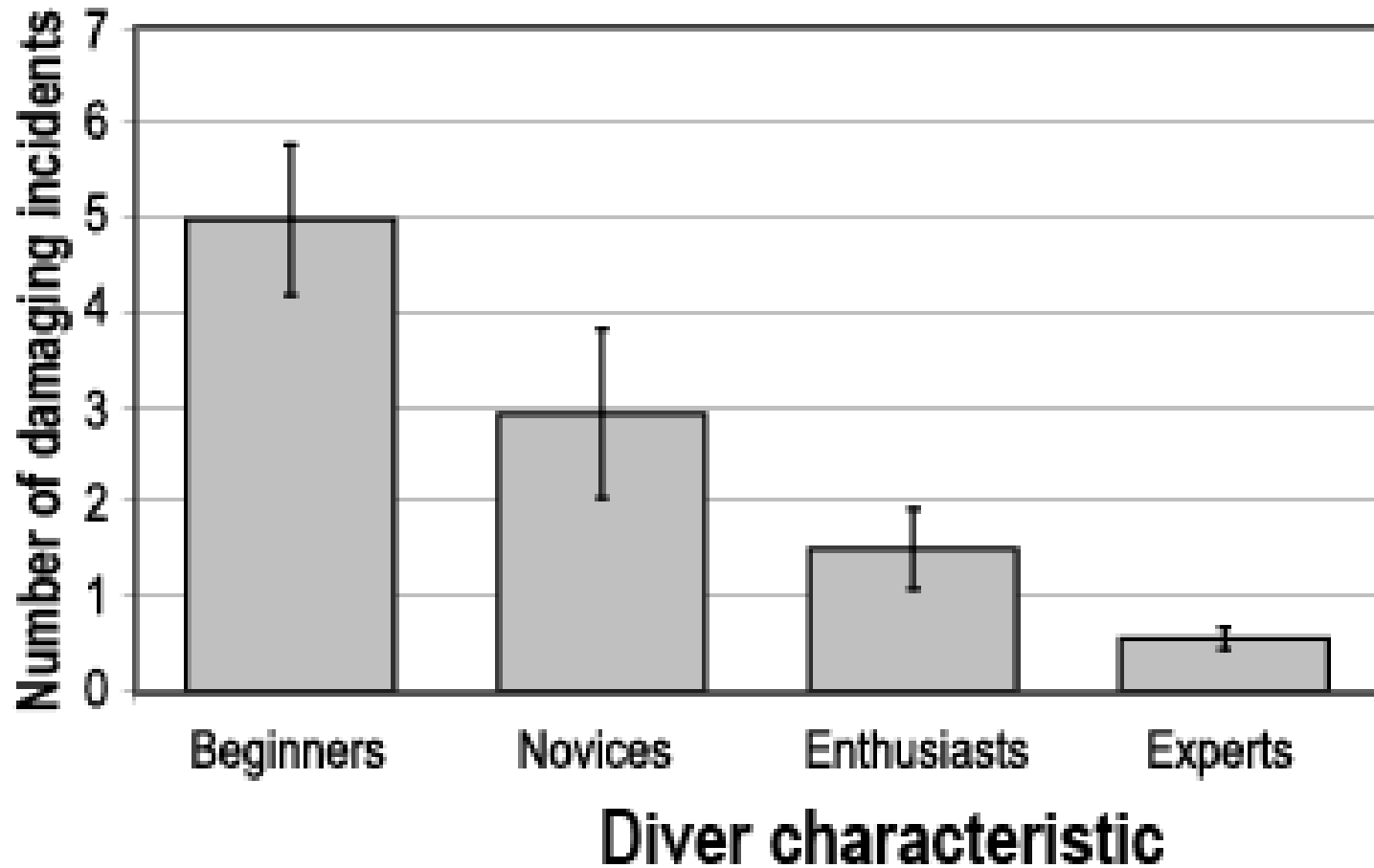
Littering







Difference of damaging incidents (per ten minutes) of divers who attended pre-dive briefing and non-attended (Worachanan, 2007)



Difference of damaging incidents (per ten minutes) of divers with various experience (logged dives)
(Worachananan, 2007)

I Intensity of impact depends on:

- Structure of the reef ... fragile or not?
- Environment ... visibility, current, waves
- Method of diving ... Scuba or snorkel
- Expert or beginner
- Activity in the water .. e.g. taking photos
- Awareness of divers, dive leader
- Briefing or not?
- Ratio of leader to customers

'Green Fins' project

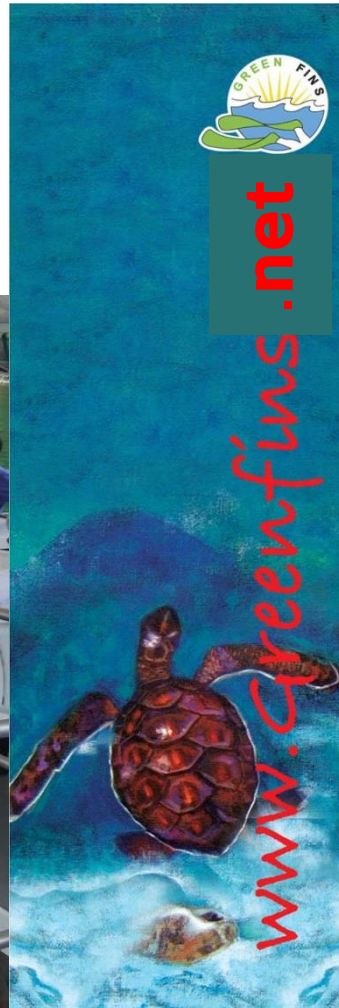
Establish a network of environmentally-friendly dive operators for sustainable tourism in coral reef areas and to assist in coral reef monitoring, in Southeast Asia countries



Mission Statement

To protect and conserve coral reefs by establishing and implementing environmentally friendly guidelines to promote a sustainable diving tourism industry

UNEP launched "Green Fins" in 2004 as an approach to address threats posed by recreational scuba diving-related activities. The Green Fins approach works with dive centres to establish a network of educated dive operators and divers, to promote a set of standards for environmentally sustainable scuba diving tourism activities



Green Fins project provides certificates to dive operators that offer tours according to a set of environmentally-friendly guidelines (code of conduct).



Certificate of Participation

This certifies that _____
has participated in the GREEN FINS program. The person / Company
is now entitled to the privileges of a GREEN FINS accredited member.
This GREEN FINS certificate, issued on _____,
is valid for a period of one year.

Dr. Srisuda Jarayabhand
Coordinator
East Asian Seas / Regional Coordinating Unit

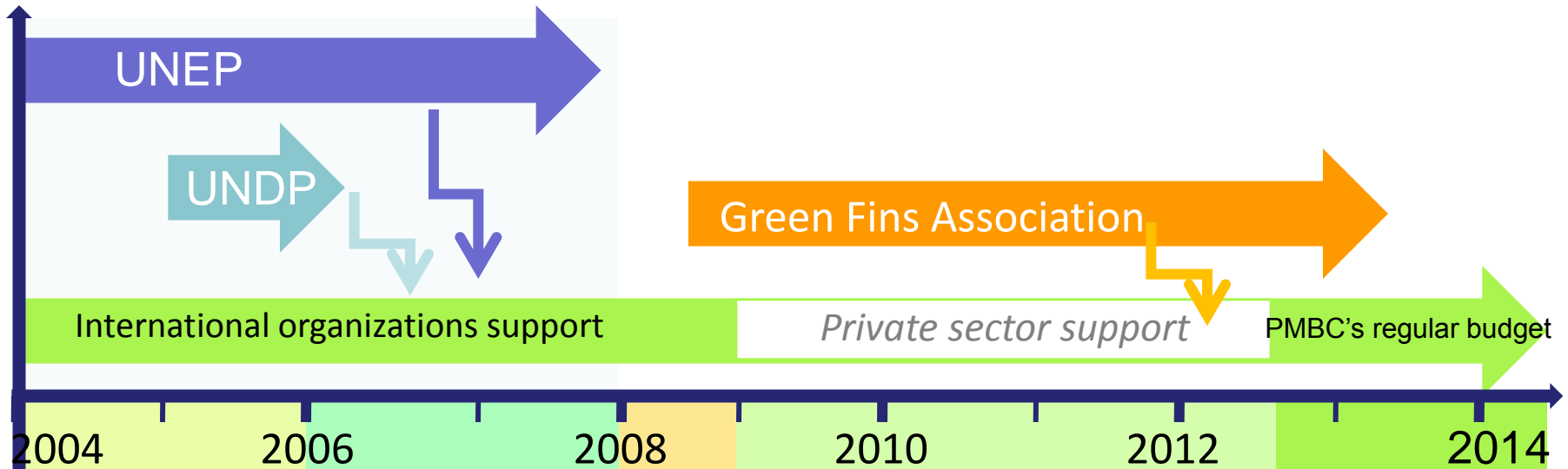
Mr. Niphon Phongsuwan
Network Leader
Green Fins - Thailand

UNEP supports the Green Fins Programme



From Past to Present of Green Fins Programme in Thailand

Funding



Staff : Company member

5 : 105

2 : 105
+3 volunteers

2 : 130
+3 volunteers

1 : 130

2 : 150
+3 volunteers

From Past to Present of Green Fins Programme in Thailand

Achievement

- Refreshed website / Reef Watch database (2013)
- 430 data of Reef Watch monitoring (until 25Mar14)
- Adopt the Reef by dive operators (2013-present)
- Revamp Green Fins Code of Conduct (2013)



GREEN FINS : Member Agreement and Best Practices



I. GREEN FINS – Agreement Between Green Fins Members

1. Adhere to *The Green Fins Environmentally Friendly Diving and Snorkeling Practices – the 7 Do's and 7 Don'ts* – by being role models for divers to follow.
2. Identify someone at your shop as your “**Green Fins Ambassador**” to promote Green Fins Best Practices for dive staff and conduct reef monitoring.
3. Educate and train group organisers and dive staff on *The Green Fins Environmentally Friendly Diving and Snorkeling Practices* annually and as new trainers are hired; ensure dive staffs are briefing customers on these practices prior to all diving and snorkeling trips.
4. Do not allow spear fishing or support the shark fin trade.
5. Promote courses such as those teaching good buoyancy, species identification and careful finning and photography skills. Do not promote try diving or activities that could potentially damage the reefs.
6. Ensure inexperienced individuals wear life jackets when snorkeling.
7. Conduct annual reef monitoring at your diving locations and submit data.

II. GREEN FINS: Best Practices for Dive Staff

1. Aid in public awareness of our fragile coral reefs by prominently displaying Green Fins membership and *The Green Fins Environmentally Friendly Diving and Snorkeling Practices* both inside and outside the shop, dive boats and other transport.
2. Ensure employees provide Green Fins briefings on *The Green Fins Environmentally Friendly Diving and Snorkeling Practices* before diving and snorkeling trips – most importantly enforce a strict “**no touch**” policy.
3. **Always use moorings**, drift or hand-placed anchors for your boats and where possible install and maintain mooring buoys.
4. Adopt “**minimum discharge**” and “**responsible garbage**” policies by ensuring safe collection and disposal of all hazardous waste including used oil, chemical cleaning products, fuel, food scraps, batteries, waste water and sewage. Recycle and use eco-friendly cleaning products whenever possible.
5. Make guests **aware of environmental rules and regulations**, marine protected areas and offer ID books and posters for fish, corals and other marine life.
6. Participate in **regular beach and underwater cleanups** and remove garbage where possible.
7. Prohibit the collection, sale and display of corals and other marine life.

www.greenfins-thailand.org



GREEN FINS Environmentally Friendly Diving and Snorkeling Practices:

Customer Do's and Don'ts

As a Green Fins member we are committed to protecting our marine life, please help us by following these simple guidelines

7 Things Divers **Must Do** :

1. Practice **buoyancy control** and photography skills away from the reef
2. Ensure gauges, regulators and other equipment are **secured and do not drag over reefs**
3. **Avoid stirring up sediment** by keeping your distance
4. **Hold on to rock or dead coral** if you need to hold onto something
5. **Respect marine life** and shoot photographs without altering or disturbing the environment
6. **Practice advanced finning techniques** (e.g. finning backwards, pivot finning and frog kicks) to avoid causing damage to reefs
7. **Support conservation** and champion the best practices to ensure the sustainability of our beautiful and fragile coral reef environments

Must NOT Do :

1. Touch or step on coral
2. Feed the fish
3. Litter
4. Wear gloves
5. Chase, touch, spear or capture any marine life
6. Place cameras on reefs or move marine life to capture a better shot
7. Collect marine life souvenirs from the beach or ocean – **you may be breaking the law**



www.greenfins.net

Poster to publicize Green Fins code of conduct

GREEN FINS – Agreement of Green Fins Members

- Adhere to *The Environmentally Friendly Dive Practices* – the Do’s and Don’ts – by being role models for divers to follow.
- Identify someone at dive shop as “Green Fins Ambassador” to promote Green Fins Best Practices for Dive Staff and conduct reef monitoring .



- Educate and train group organisers and Dive Staff on *The Green Fins Friendly Guidelines* annually and as new trainers are hired; ensure Dive Staff are briefing customers on these practices prior to all diving and snorkeling trips.
- Do not allow spear fishing or support the shark fin trade

- Promote courses such as those teaching good buoyancy, species identification and careful finning and photography skills. Do not promote try diving or activities that could potentially damage the reefs.
- Ensure inexperienced individuals wear life jackets when snorkeling.
- Conduct annual Reef Watches on diving locations and submit data to Green Fins.

GREEN FINS: Best Practices for Dive Staff

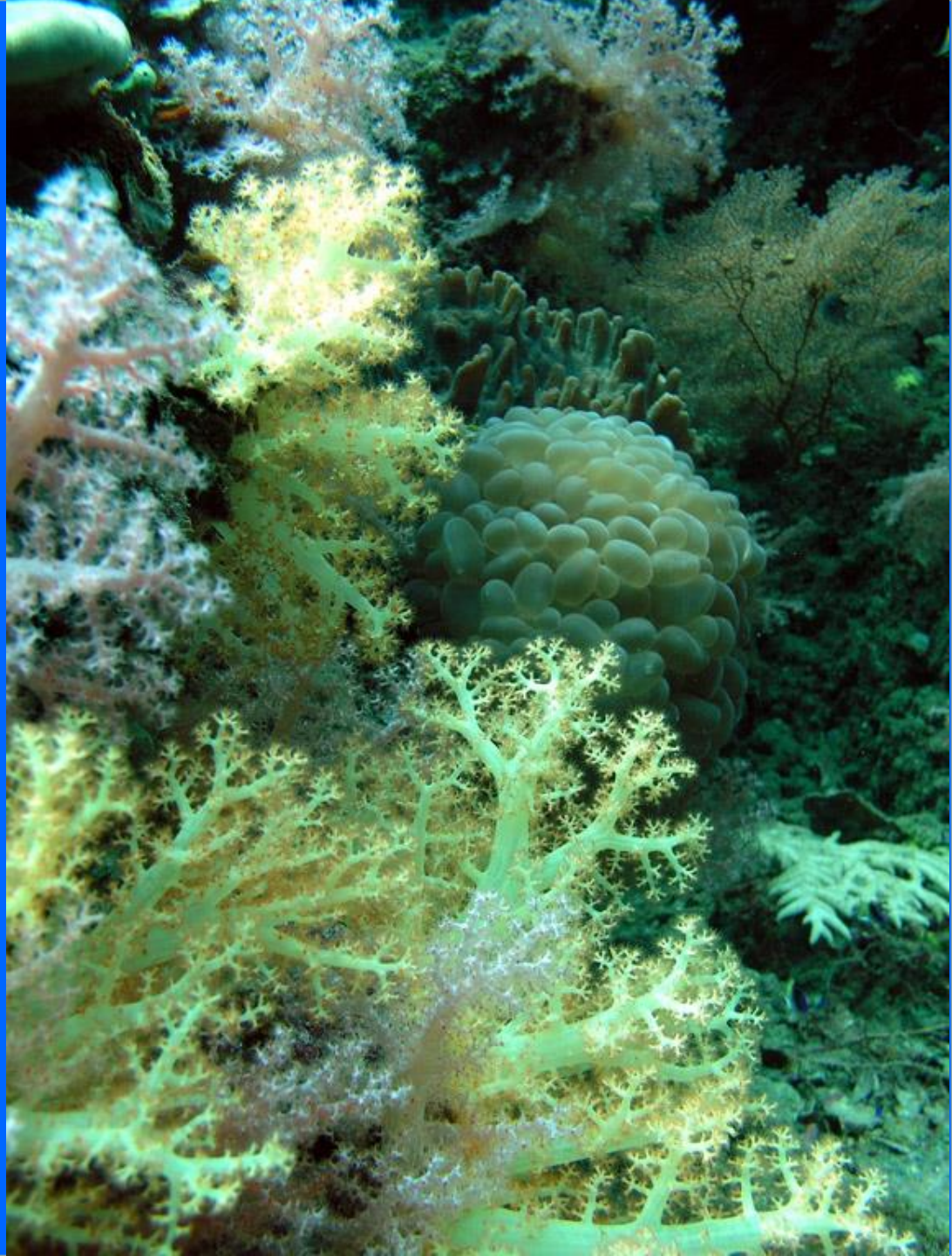
- Aid in public awareness of our fragile coral reefs by prominently displaying Green Fins membership and *The Green Fins Friendly Guidelines* (or similar), both inside and outside the shop, dive boats and other transport
- Ensure employees provide Green Fins briefings on *The Green Fins Friendly Guidelines* before diving and snorkeling trips – most importantly enforce a strict “no touch” policy

- Always use moorings, drift or hand-placed anchors for your boats and where possible install and maintain mooring buoys.
- Adopt “minimum discharge” and “responsible garbage” policies by ensuring safe collection and disposal of all hazardous waste including used oil, chemical cleaning products, fuel, food scraps, batteries, waste water and sewage. Recycle and use eco-friendly cleaning products whenever possible.

- Make guests aware of [environmental rules and regulations](#), marine protected areas and offer [ID books and posters](#) for fish, corals and other marine life.
- Participate in regular [beach and underwater cleanups](#) and remove garbage where possible.
- Prohibit the collection, sale and display of corals and other marine life.

Friendly
Diving and
Snorkeling
Guidelines

Do & Don't



7 Things Divers Must NOT Do



1) Touch or step on coral



Must NOT Do

2) Feed the fish

3) Chase, touch, spear or capture any marine life



4) Litter the sea



5) Wear gloves



Must NOT Do

6) When photographing:
Kneel on floor,
place fins on coral,
place cameras on reefs or
move marine life to capture a better shot



Must NOT Do

- 7) Collect marine life souvenirs
from the beach or ocean
– you may be breaking the law !

7 Things Divers Must Do



1) Practice buoyancy control and photography skills away from the reef

Must Do



- 2) Ensure gauges, regulators and other equipment are secured and do not drag over reefs



Must Do

3) Avoid stirring up sediment by keeping your distance

- 4) Hold on to rock or dead coral if you need to hold onto something

- 5) Be aware of your surroundings when taking photographs, use your buddy or dive guide to help you stay clear

- 6) Practice advanced finning techniques (e.g. finning backwards, pivot finning and frog kicks) to avoid causing damage to reefs



7) Support conservation and champion the best practices to ensure the sustainability of our beautiful and fragile coral reef environments

Green Fins Certificate

- Certificate of participation
- Certificate of excellence
 - based on additional activities/criteria in the Code of Conduct that the member has fulfilled



This certifies that _____
has participated in the GREEN FINS program. The person / Company
is now entitled to the privileges of a GREEN FINS accredited member.
This GREEN FINS certificate, issued on _____,
is valid for a period of one year.

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Coordinator
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Mr. Niphon Phongsuwan
Network Leader
Green Fins - Thailand

UNEP supports the Green Fins Programme



Membership evaluation (annually)

- dive operator self assessment
- guest assessment of the dive operator (end of the trip)
- network leaders assessment of each dive operator

Green Fins members

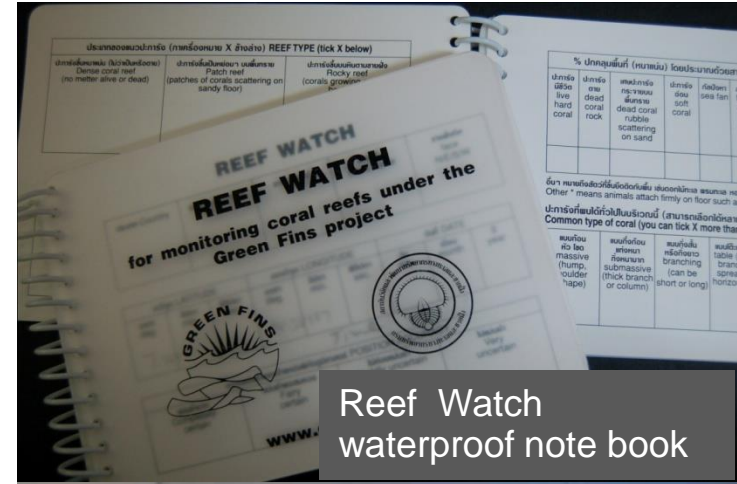
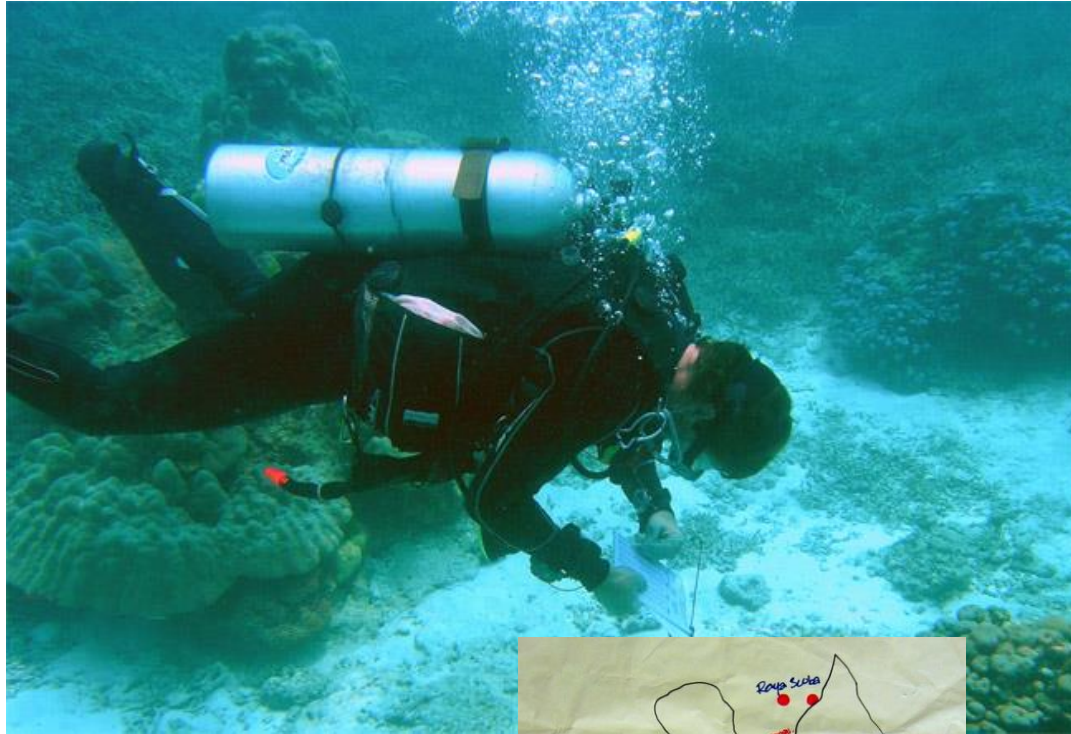
- **Abut 150 diving companies**
- **Over 200 individual members**
(general divers)



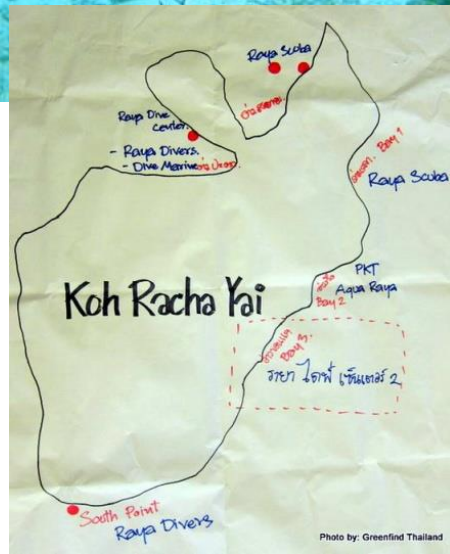


Group training:
introduction of Green
Fins, general reef
ecology & Reef
Watch survey

“Green Fins” members assist in coral reef monitoring (using Reef Watch method) by providing data illustrating changes in coral reef health



Reef Watch waterproof note book



Training the dive operators to survey the reefs and help repair the damaged corals



Discuss results of the reef survey to standardize the survey

- Data will be input in the national database
- Data submit – on line (www.greenfins-thailand.org or post

Green Fins Divers can submit Reef Watch data in www.greenfins-thailand.org



" Save Our Reef "

" To protect and conserve coral reefs by establishing and implementing environmentally friendly guidelines to promote a sustainable diving tourism industry. "

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Reef Watch Monitoring

Reef Watch is a simple one-dive-one-survey method to record the health of a coral reef. You can easily learn the method and take part in the programme. On your dive or snorkel trip you will be able to collect valuable information to help us care for the reefs you visit today.

The data you collect using the ReefWatch underwater slate will help us to see any trends developing on the reef. Your participation provide us with valuable information to monitor the reef's health. [Read more about ReefWatch Monitoring Guideliane here>>](#)



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Update scientific knowledge and environmental conservation topics.

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Reef Watch



" Save Our Reef "

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Releasing Sharks
Back into the Ocean

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Reef Watch Results

 Province :

 Island :

Display : 1-20 of 363

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No.	Reporter	Date	Province/Island	Action
1	Jo Healy	Feb 08, 2014	Krabi/Koh Lanta	
2	Projects Abroad	Jan 29, 2014	Krabi/Bida Naii	
3	Projects Abroad	Jan 29, 2014	Krabi/Bida Naii	
4	Projects Abroad	Jan 29, 2014	Krabi/Maya Nui South	
5	Projects Abroad	Jan 29, 2014	Krabi/Maya Nui South	
6	Prosjects Abroad	Jan 28, 2014	Krabi/Koh Haa	
7	Prosjects Abroad	Jan 28, 2014	Krabi/Koh Haa	
8	Projects Abroad	Jan 28, 2014	Krabi/Yawasan	
9	Projects Abroad	Jan 23, 2014	Krabi/Koh Yawasam	
10	Proiects Abroad	Jan 22, 2014	Krabi/Koh Phi Phi	

Reef Watch records

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Reef Watch Result

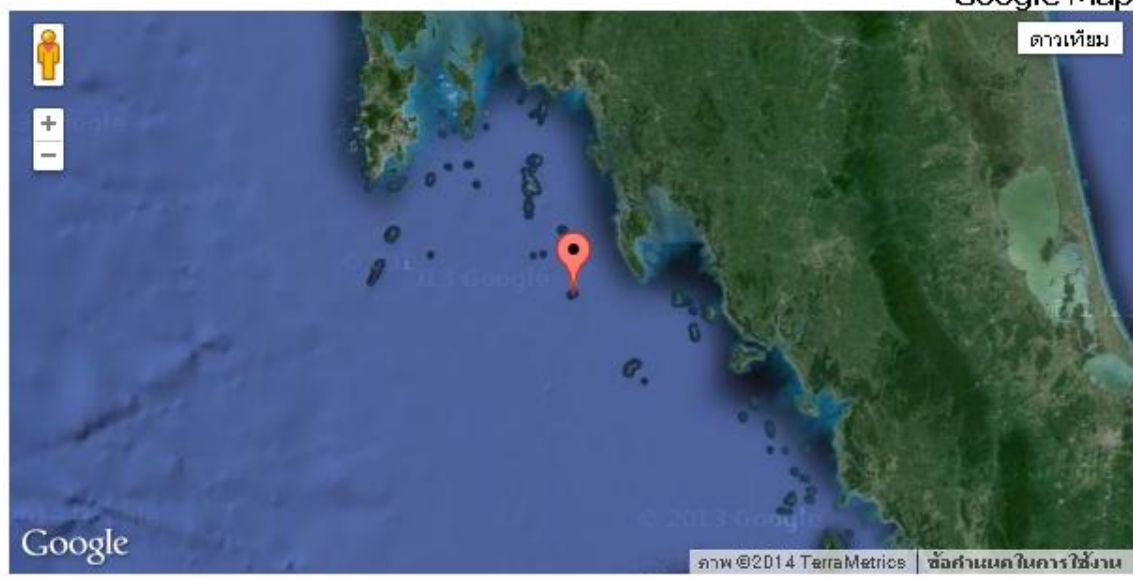
Date :	Feb 08, 2014
Location (Province / Island) :	Krabi / Koh Lanta
Latitude :	7.429990287691381
Longitude :	98.89623803520203
Reef width :	20 m.
Maximum depth of reef :	15 m.
Reef topography at the dive site :	Obvious reef flat and reef slope
Reef type :	Dense coral reef (no matter alive or dead)
Zone of the reef where you observed :	Both flat and slope
Common type of coral :	<ul style="list-style-type: none"> - Massive (hump, boulder shape) - Submassive (thick branch or column) - Branching (can be short or long) - Leafy/plate - Encrust (thin layer covering on floor) - Mushroom

Google Map



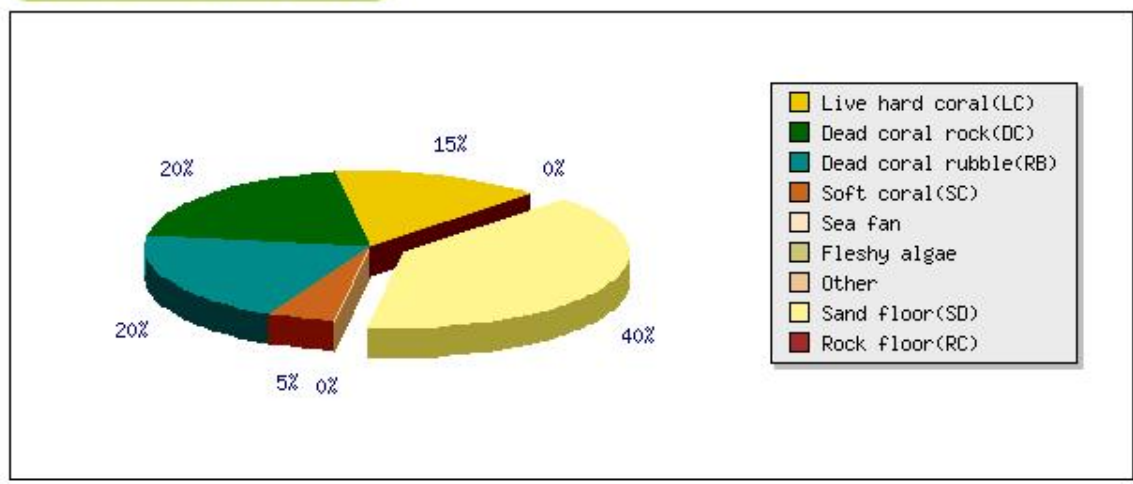
General information

Google Map



Percentage cover (visual estimate)

Reef status



Reef fish and invertebrate in the area approximately 10x10 m. you find :

	None	Small number	Fair number	Large number	Total/dive
Needle spined urchin					35
Crown-of-thorns starfish					3
Sea cucumber					68
Parrot fish					83
Bumphead parrot fish					
Groupers					13
Snapper					85
Butterfly fish					30
Napoleon wrasse					

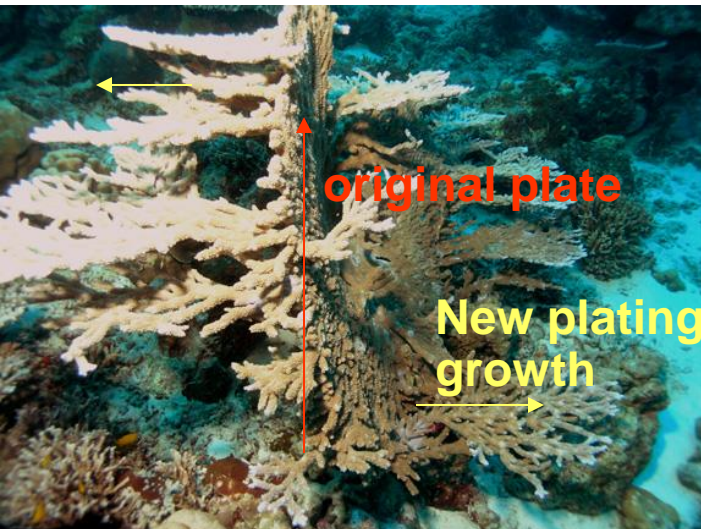
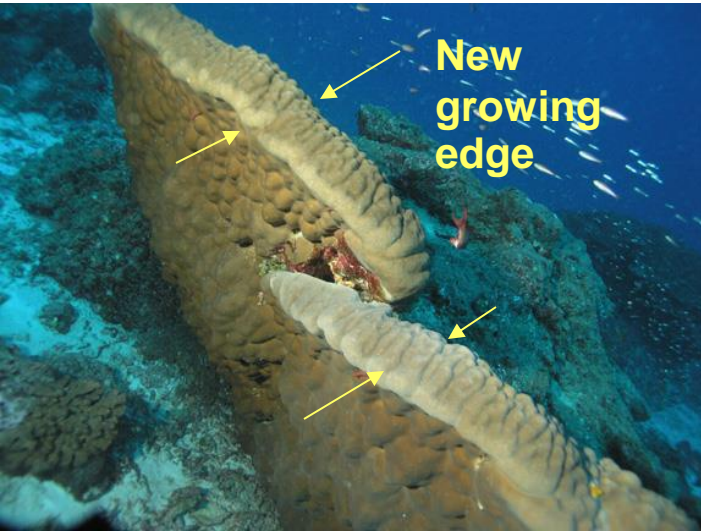
* If you answer for the last column, how far you dive : 300 m.

Damage in the reef	None	Possible/Little	Some	Moderate	Extensive/Severe
Fishing gear	●				
Spear fishing	●				
Dynamite blasting	●				
Diving			●		
Shell collecting	●				
Stepping/holding on to coral		●			
Oil slick	●				
Anchoring on coral	●				
Sediment			●		
Sewage	●				
Crown of thorns star fish infestation					
Dead from coral bleaching	●				

Diversity of some important reef fauna

Threats

Surveyors may send photos



Re-oriented coral growth of coral overturned by tsunami

Crown-of-thorns starfish infestation



Red tide

Coral bleaching



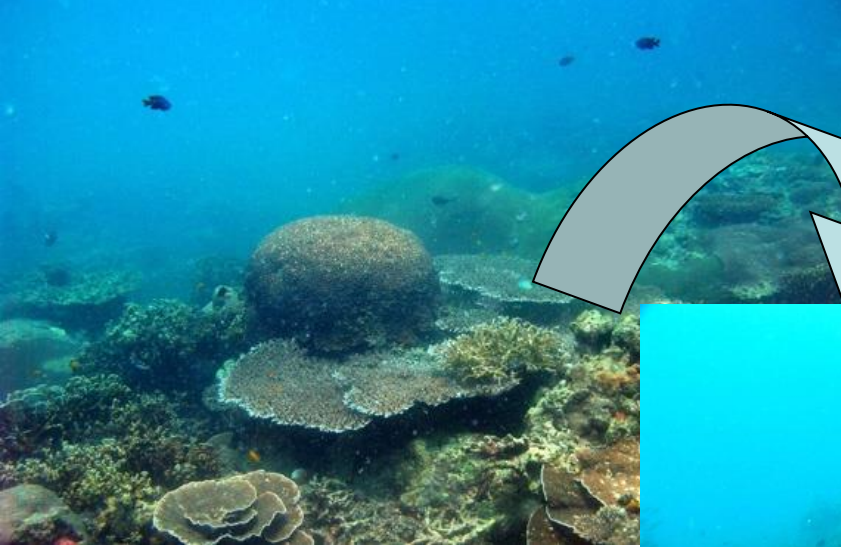


Marine life die-off, late 2007 (reported and photo by Green Fins member)

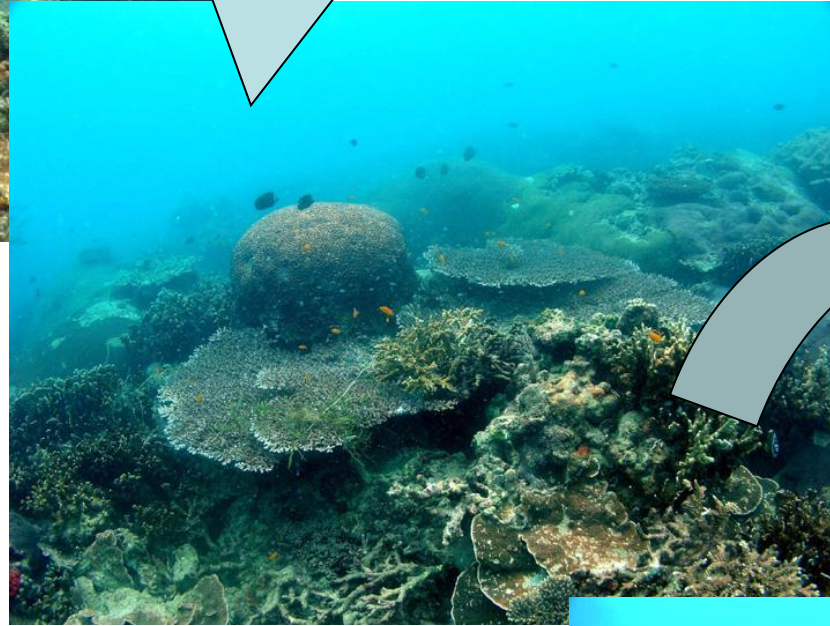
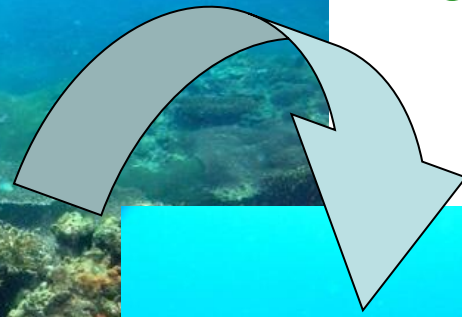
White band disease on coral



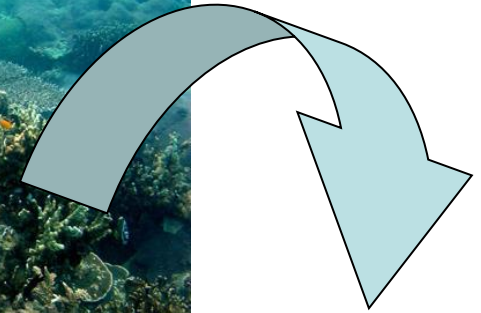
Coral reef at Patong, Phuket



Before
tsunami
2004



Just after
tsunami
2004



After bleaching
2010

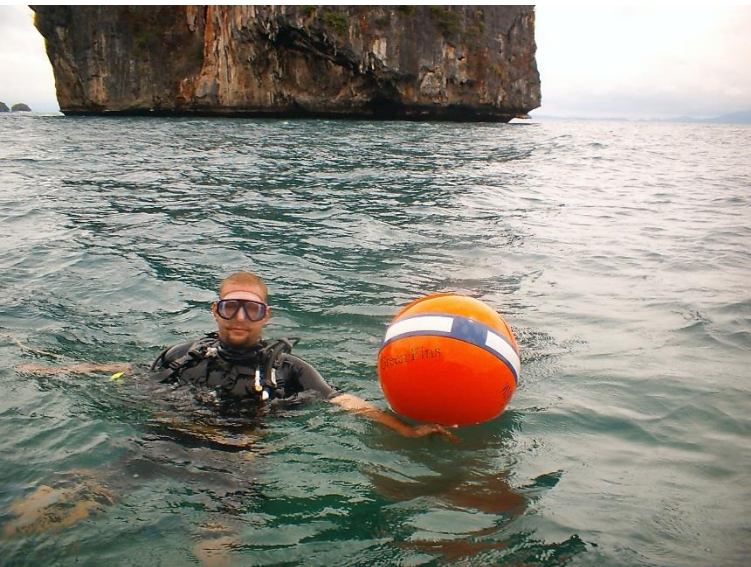






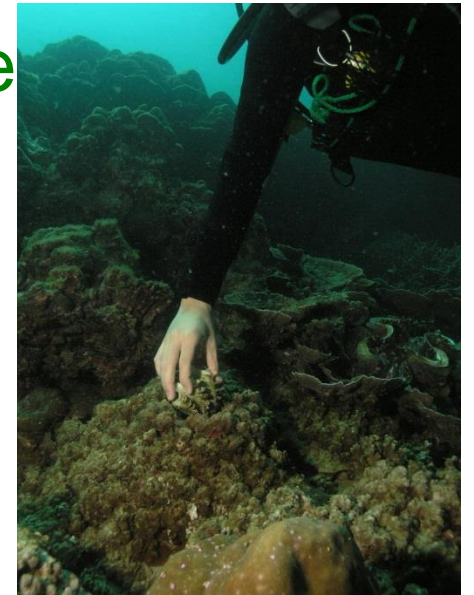
Members join
together
regularly or on special event

Clean-up the reef



Release
giant
clam

Help install
mooring buoy



save coral reefs today, dive the greenfins way



No stepping on coral



No stirring the sediment



No chasing or touching marine life



No feeding fish



No littering



No collecting dead or live marine life



No gloves



No shark finning



No spear fishing



No anchoring on coral reef



Use mooring buoy



Wear life jacket



Don't buy souvenir of coral and marine life



Volunteer to help environment



Support conservation



www.greenfins-thailand.org





CAMPAIGN ON REDUCING PLASTIC BAG USE

อันตรายจากถุงพลาสติก

The Dangers of Plastic Bags



ข้อมูลจากองค์กรพิทักษ์สิ่งแวดล้อมของสหรัฐอเมริกา
ชี้ให้เห็นว่าในปีหนึ่งมีการใช้ถุงพลาสติกประมาณ
500 พันล้าน ใบ 1 ล้านล้านใบทั่วโลก

Data collated by the United States Environmental Protection Agency show that somewhere between 500 billion and 1 trillion plastic bags are consumed worldwide each year - National Geographic News September 3, 2008



น้อยกว่า 1% ของถุงพลาสติกเหล่านี้
ถูกนำมารีไซเคิล ส่วนที่เหลือในสารีทั่วโลก
จะสูงกว่าการนำรีไซเคิล

Less than 1% of bags are recycled. It costs more to recycle a bag than to produce a new one.



ถุงพลาสติกถูกนำไปสู่ทะเล ทะเลสาบ และแม่น้ำของอาน
นาทางของกระแสน้ำ มีกรรมถุงพลาสติกติดและขยอยู่ในทะเล
น้ำในเขตรัฐโลกที่ติดกับขั้วโลกเหนือและตอน
และทั่วโลกได้ไกลถึงเกาะฟอล์กแลนด์

Bags get blown around by different parts of hot, warm, cold, and frozen. They find the way into the sea via rivers and sewage pipes. Plastic bags have been found floating north of the North Pole and Antarctica and as far south as the Falkland Islands. British Antarctic Survey



การบดขยี้ของถุงพลาสติก เมื่อเวลาผ่านไปนั้นจะกลายเป็น
ออกเป็นชิ้นเล็กๆ ที่เรียกว่าไมโครพลาสติก ซึ่งมันจะ
ก็จะทำให้อินทรีย์น้ำปนเปื้อน และสุขภาพเด็ก, เหยื่อ
ก็จะเข้าสู่ห่วงโซ่อาหาร

These tiny bags get broken down over time into small bits called microplastics. These particles, which eventually end up in the sea and elsewhere, will be taken up by animals. National Geographic



ตั้งแต่ปีเลขจำนวนเกือบ 200 ชนิดของกระดาษ โหลา มีฟิล์มและ
และกระดาษอีกหลายพันชนิดของพลาสติก ซึ่งมาจากห่วงโซ่อาหาร
และเข้าสู่ห่วงโซ่อาหาร

Over 200 different plastics are used in packaging, clothing, toys and other products. They get broken down into tiny pieces that enter the food chain. National Geographic



ขยะทางทะเล

ขยะทางทะเลเป็นภัยคุกคามต่อสัตว์ทะเลและระบบนิเวศทางทะเล
ซึ่งรวมถึงการปนเปื้อนของน้ำและดิน การกัดกร่อนของปะการังและแนวหินใต้น้ำ
และผลกระทบต่อสุขภาพของมนุษย์



ผลกระทบของขยะทางทะเล

- การปนเปื้อนของน้ำและดิน
- การกัดกร่อนของปะการังและแนวหินใต้น้ำ
- ผลกระทบต่อสุขภาพของมนุษย์
- การปนเปื้อนของน้ำและดิน
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- ผลกระทบต่อสุขภาพของมนุษย์





Competition on T-shirt design on campaign of the impact of marine debris

Beach clean up



Garbage sorting







Training on producing cleaning agent – nontoxic to environment



Challenges

Changing people's behaviour is challenge

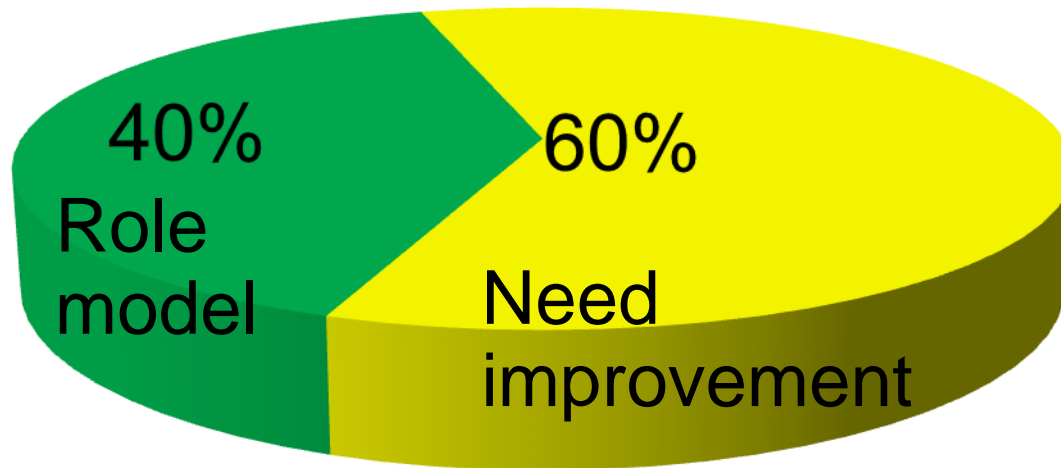
- Snorkelers still **feed the fish**, **touch coral** and **litter the sea**
- **No briefing standard** for snorkeling tour leader
- **Lack of safety management** on snorkeling tour
- Lack of awareness on **chemical use** (cleansing products) on board
- **Lack of mgt of waste** discharged from toilet





20 dive operator assessment in 2013

Overall rating



Green Fins Programme in Thailand

Direction

- Strengthening Green Fins networks
- Improving a quality of Green Fins members in “green” enterprises
- Educating the public and providing knowledge
- Advocating specific policy/strategies to cope with environmental change



Green Fins - Thailand Networks

- **Regional network**

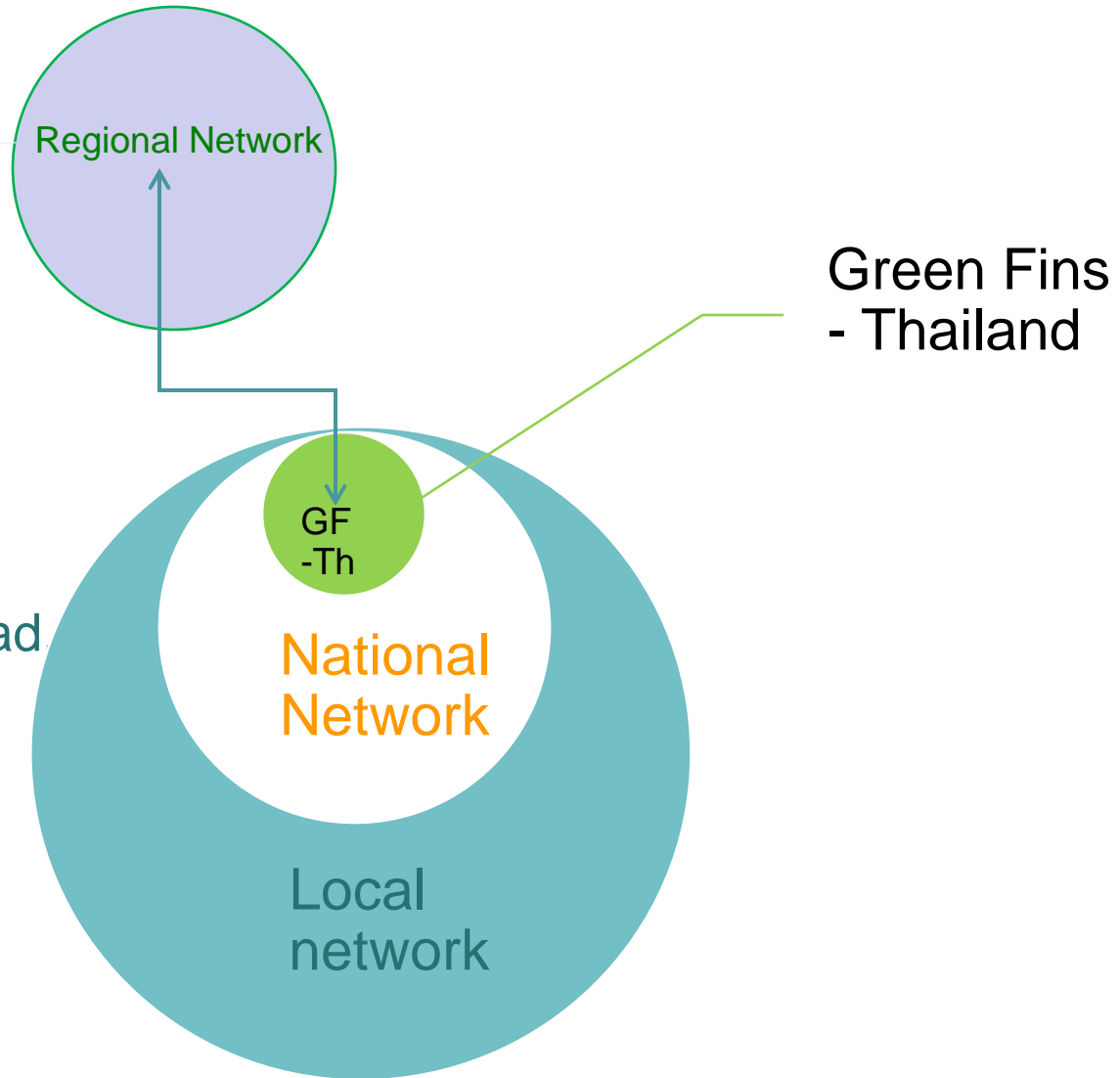
UNEP, MFF, Reef World Foundation

- **National Network**

PMBC, DNP, TAT

- **Local Network**

Save Koh Tao, Project Abroad
Eco Phuket,
Healthy Reef Club, Reef
Guardian, Green Fins
Ambassador, volunteers,
membership



Green Fins at regional level



NGOs

Govs



As Green Fins hits 10 years since its inception by UNEP, all the project partners across seven countries met in Bangkok to share past successes and discuss next steps for Green Fins in each country. This fantastic opportunity was facilitated by Mangroves for the Future (IUCN) which has initiated Green Fins in Vietnam and Maldives since 2013 until 2015.



Green Fins Programme in Thailand

Communication Channel

- **www.greenfins-thailand.org**
- E-mail : reefwatchthailand@gmail.com
nph1959@gmail.com
- Google + : Greenfins “Thailand” Reefwatch
- You Tube : Greenfins Reefwatch
- Face book fan page : Greenfins-Thailand.org





Thank you



Save the reefs, Dive the Green Fins ways