



EDA

جمعية الإمارات للغوص
Emirates Diving Association

DIVERS FOR THE ENVIRONMENT

JUNE 2009, VOLUME 5, ISSUE 2

**DIVERS MAKING A
DIFFERENCE WITH THE
UNDERWATER CENTRE
DIVE SEYCHELLES**

**LIQUID LIGHT'S
RECOMMENDED DIVES SITES IN THE UAE
AND ARABIAN PENINSULA**

**THINGS YOU CAN DO TO
PROTECT CORAL REEFS**



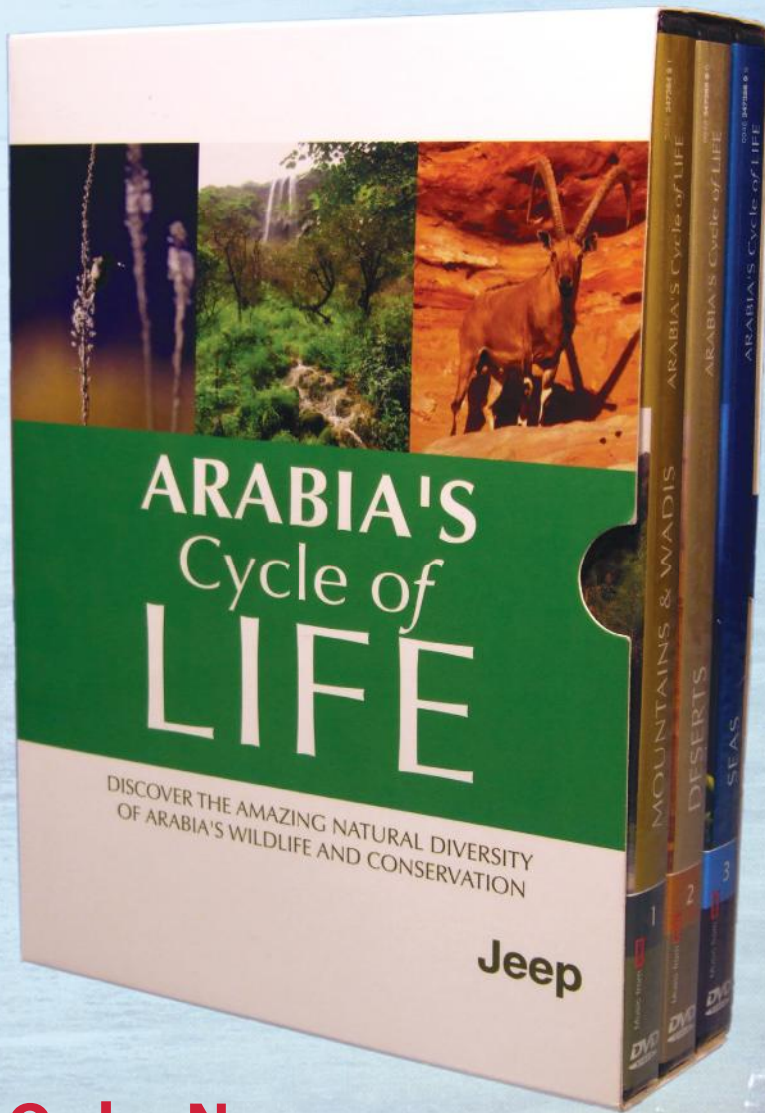
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REGULARS

- 4** EDITOR'S LETTER
- 17** EDA QUIZ
- 56** EDA QUIZ ANSWERS
- 56** FEATURED CREATURE
- 57** UPCOMING EVENTS
EDA Event schedule Updates
- 57** NOTICES

NEWS

- 5** UAE MARINE ENVIRONMENT LEGISLATION
- 7** REEFBALL EXHIBIT AT DUBAI AQUARIUM
- 8** THE PADI SEAL TEAM
- 9** ABLE
- 10** AQUALUNG PARTNER CENTRE
- 10** SUZANNE PLEYDELL
Visits Dubai Aquarium and Underwater Zoo
- 11** EDA PRESENTATIONS FOR TAWASULAT PDC
- 12** CLEAN UP MERIDIEN AL AQAH

CORAL NEWS

- 14** THINGS YOU CAN DO TO PROTECT CORAL REEFS
- 15** CORAL DISEASE
Found to Have Similar MO to Cholera
- 16** STATUS OF CORAL REEFS IN 2008
Synopsis

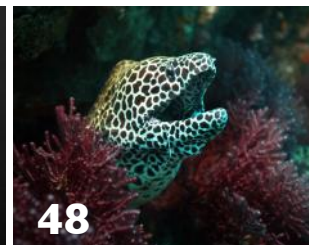
FEATURES

- 18** INTEGRATING A COMMUNITY-BASED MPA NETWORK
At the Barangay Level in the Philippines
- 20** THE HUMPBCK DOLPHIN OF MUSANDAM
- 22** FREEDIVER PATRICK MUSIMU
Comes to the UAE to Wave to his Ancestors

DIVERS FOR THE ENVIRONMENT

Please note that EDA's magazine, "Divers for the Environment" includes articles written by individuals whose opinions, whilst valid, may or may not represent that of EDA. It is hoped that the magazine can become a platform for individuals to voice their opinion on marine and diving related issues. You are welcome to submit an article for the next issue of "Divers for the Environment" released in September 2009. Send all articles/comments to: magazine@emiratesdiving.com.

- 24** FAZZA3 FREEDIVING COMPETITION 2009
- 26** DIVERS MAKING A DIFFERENCE WITH THE UNDERWATER CENTRE
Dive Seychelles
- 28** CONNECT THE DOTS
Save The Whale Shark



- 31** ABOUT WED
(World Environment Day)
- 31** TWELVE WAYS TO UNITE TO COMBAT CLIMATE CHANGE
- 34** EASY WAYS TO GREEN YOUR DAILY ROUTINE
- 35** DIVING WITH DOZENS OF SHARKS IS SOME-FIN TO BOAST ABOUT
- 37** CONSERVATION DIVING
BCDs, SMBs and MPAs
- 40** SANDWATCH
A Community Based Environment Project with a Global Reach

UW PHOTOGRAPHY

- 42** HOW TO CHOOSE MY FIRST CAMERA
- 43** EDA DIGITAL ONLINE 2009 UPDATE
- 44** PIC FIX
Your Images Exposed and Reflected

DIVING DESTINATIONS

- 46** DIVING ICELAND
- 48** LIQUID LIGHT'S
Recommended Dive Sites in the UAE and Arabian Peninsula
- 50** AQABA
A World of Underwater Adventure
- 51** ENJOY DIVING IN SHARM EL SHEIKH

HEALTH

- 53** PLASTIC SURGERY AND DIVING
Breast Augmentation (Breast Implants)
- 54** CLEANING THE OUTER EAR FOR DIVERS



EDA COVER
PHOTO BY MARCELO MARIOZI



Please recycle this magazine after you have read it.

WHERE THERE'S A WILL THERE'S A WAY



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It has been almost three months since DMEX which was an excellent opportunity for the diving industry to meet, discuss and collaborate on how to promote for diving in the UAE in the wake of the credit crunch and of course the Red Tide. EDA has some good news to share with you; we approved 6 new dive centers in the UAE and we have had 135 new members join EDA in the last six months. These are positive indicators that people still have the will to go diving and there is still a demand for this sport.

Another encouraging fact that came out while talking to colleagues in EDA and in the dive centers is the growing interest in children's involvement in diving, participating in EDA campaigns as well as organizing some school talks; It is more clear now that children in the UAE are very interested to dive, and to know more about conserving the Oceans. You will read about two inspiring cases in this issue. It is my great pleasure to introduce our youngest writer yet in this magazine, Nadim Maher – 10 years old – talking about his diving experience. You will also read about the amazing project "Tawasul" as well as a nice day out for EDA staff spent with children learning how they can make a difference through doing sports. One thing you can be sure of is that these kids have an amazing will and I am sure they will come up with creative ways to enjoy the diving sport and conserve the marine environment.

We had an EDA social event last month as requested by HH Sheikh Hamad Al Sharqi, Ruler of Fujairah together with Dibba Municipality to highlight the importance of marine conservation on the East Coast. EDA supported the Clean up Dibba Campaign in collaboration with the Ministry of Environment, Le Meridien Al Aqah Hotel; it was a full house with dive boats packed with volunteers. It was good to see that our members are still involved and they still want to help; many thanks to Al Aqah Dive center, Free style and Sandy Beach Dive centers. They were a great help and this once more shows their level of support and commitment. After the first clean-up dive, volunteers and members were offered a second fun dive to enjoy the clear underwater life in Dibba.

Last but definitely not least, the 5th of June is World Environment Day. This year the theme is about our Planet needing us, where it is imperative that we unite to combat climate change. I believe this is an excellent time to remind people that we do have a big looming problem other than the credit crunch: The climate IS changing and we are STILL consuming more and our oceans are going to continue to suffer unless we act NOW. It is more than a day, it is a time to reflect and take actions to change some attitudes and become

aware and conscious that the planet is in peril and if you have the will, there's definitely a way to make a difference. We have included some tips in this issue to help combat climate change and to spread the word, and I think each one of us can implement more in our daily lives.

I do hope that you will enjoy reading this rich issue. Many thanks to all our members in the UAE and all over the world who sent us amazing articles and gave us the pleasure to share their experiences with our readers. Many thanks to all the divers and organizations who sent us articles from all over the world, we do apologize if we could not have them in this issue, but we will make sure that all articles sent will be published in the next one.

"Don't go around saying the world owes you a living. The world owes you nothing. It was here first."

MARK TWAIN

Eco Regards,

Ibrahim Al-Zu'bi

UAE MARINE ENVIRONMENT LEGISLATION

We all love to go to the sea to dive, swim or just to enjoy the beauty of nature. But how many times have we been faced with issues that upset us, such as spear fishing with scuba gear, nets found inside protected areas, lost fishing cages, garbage, and huge numbers of dead sharks in the ports or even unethical behaviour.

For you to understand where the law stands regarding these matters, here is a summary of the Federal Law No. 23 showing the principal points that concern us as, "divers for the environment".

NOTE: We have inserted the legal legislation document in this issue as it was received and have not made any amendments or edits to it.



Federal Law No. (23) of the year 1999 regarding the Exploitation, Protection and Development of the Living Aquatic Resources In the waters of the state of the United Arab Emirates.

Ministerial Decision number (302) of the year 2001 for issuing the executive bylaws of the Federal Law number (23) of the year 1999 concerning the exploitation, protection and development of the living aquatic wealth in the United Arab Emirates.

CHAPTER ONE

Organization of the Fishing Trade

Article (2)

Any person may not practice the fishing trade in the fishing waters unless authorized by the competent authority and his name entered in the register.

CHAPTER FOUR

Protection and Development

Article (20)

a) Fishing live aquatic wealth, anchoring and

running fishing boats except for passing over; are permanently forbidden in the grounds which the competent authorities specify in coordination with the ministry and they particularly cover:

1. Fish reproduction and hatching grounds.
2. Fish nursery grounds.
3. Natural or artificial marine reserves
4. Regions that are within two (2) nautical miles away from the seashore and fishing in them is confined to line and hook.
5. The region lying within three (3) natural-mile perimeter away from the islands of the state.
6. Regions lying within a distance or perimeter of one nautical mile away from any military premises lying on land or in the country waters.
7. Military training and shooting regions.
8. Regions where petroleum, gas and communications pipelines are found.
9. Internal water regions such as artificial or natural lakes, creeks whether natural or had been expanded and deepened except for fishing with line and hook by walkers.

b) The case of fishing Sardine (uma) and anchovies is exempted from the provision of paragraph (4) of item (a) hereby.

c) Whoever forced to anchor his boat or to run it in such regions due to forcing circumstances arising from the following are exempted from the provisions of anchoring and running stipulated in item (a) hereby:

1. Bad weather conditions from which he fears for the safety of the boat or for the crew thereon.
2. Boat breakdowns that prevent him from running and sailing to the regions he is permitted to enter until the breakdown gets repaired or received salvation.
3. Doing salvation and rescue operations for souls or properties that might exist in such regions subject to the observed, in such concern.

d) Whoever forced to anchor his boat or to run it in the region specified in item (a) of the article hereby under the circumstance arising from the cases specified in item (c) shall abide by the following:

- 1- Notifying the coast guards by radio or telephone of his new position, specifically.
- 2- Specifying the reason that forced him to be present in the banned region.
- 3- Leaving the region he had entered in violation as soon as the reason that forced him to do so is corrected.

e) The employees of the ministry and who have been decided to be awarded the capacity of law officers shall notify the competent authority of any violation to the federal law number (23) of the year 1999 and

the executive by-laws thereof. They are for, such purpose, entitled to inquire from the fishermen and owner of boats about their presence in the prohibited regions and send notices to them and impose punishments thereon.

Article (21)

The following materials and equipment with all of their types shall be absolutely forbidden from using in fishing living aquatic wealth in the fishing waters.

- 1- Explosive, crackers and materials that are harmful, poisonous and atheistic to water organisms.
- 2- Trawl nets (Al kerf) whatsoever the boat that tows such equipment.
- 3- Setting nets (Al Tedrees).
- 4- Drift nets made wholly from the nylon material.
- 5- Drifting nets (Al Hayyal) whatsoever its type.
- 6- Multi, hooked bottom lines.

Article (24)

On using the permitted fishing equipments the following rules shall be observed:

1. They must not be placed in areas of navigation, ships and boats movement, and in areas of natural coral reefs, and near marine signs (buoys) and the used or abandoned marine constructions.
2. Putting outstanding signs on enclosure-nets (Al Halaq).
3. Putting distinguished and clear signs for gargoors or locating their position with GPS devices to find them easily.

Article (26)

Fishing is prohibited in times and grounds which studies and scientific research indicate they are seasons and grounds for fertilization and reproduction of fish species. In coordination with the competent authority the Minister will by a decision determine such times and grounds

Article (27)

a) In coordination with the fishing regulation committees in each emirate, the minister will issue a decision to put ban on catching small fish of the lengths less than the permitted limit.

b) The fisherman who by chance has got fish in his equipment of lengths less than the approved limit, shall return them to the sea as soon as possible for fear of death.

Article (29)

To exercise diving with gas cylinders, compressed air, pipes or any other means for fishing purposes, it is compelling to obtain a written license from the competent authority provided that the following conditions are to be fulfilled:

- 1- The scientific research has to prove that the species intended for fishing is found abundantly and no fear of being extinguished or its stock affected as a result of fishing.
- 2- The purpose of fishing shall be for conducting scientific research and experiments, preservation in governmental aquatic museums or those belonging to local governments or selling aquatic organisms for growers of such organisms.
- 3- Whoever desires to conduct thereof shall be a citizen or a corporate body owned by citizens.
- 4- The applicant for license shall have settled the approved fees thereon.
- b) The license period shall not exceed fifteen days and renewed under essential cases for only one similar period.
- c) On giving out the license according to the provisions herein, provision shall be taken to determine the numbers, sizes and species to be caught.

Article (31)

Marine sport competitions which include catching living aquatic organisms may not be held in any region of the country unless after fulfilling the following conditions:

- a) Obtaining the approval of the competent authority subject to an official application containing the following particulars:
 - 1- Purpose of licensing
 - 2- The place where the competition will be conducted
 - 3- The time period of such competition.
 - 4- The living aquatic species for which the fishing competition will be carried out.
 - 5- The fishing equipment to be used in the competition.
 - 6- The approximate number of the participants in the competition.
- b) The body applying for the license will be a governmental authority or a private authority whose internal discipline allows for conducting and organizing such competitions within the framework of activities permitted thereto.
- c) Not to catch species or sizes that has been banned.
- d) Not to fish in the places and seasons where fishing is banned.
- e) A bidding by the conditions for preserving and developing the live aquatic wealth.
- f) Sticking to the time period being permitted to conduct the competition.
- g) Presenting a proof of paying the approved fees.
- h) Providing the competent authority with comprehensive results of the competition.

Article (37)

It is prohibited to establish artificial coral reefs made of any material in any ground of the fishing waters unless after the approval of the fishing regulations committee and obtaining a license from the competent authority as well as from the ministry to achieve any one of the following two purposes:

- a) Conduct scientific research

- b) Development and enhancing certain species of the living aquatic wealth (releasing larvae, setting up reserves... etc.)

Article (40)

- a) It is forbidden to catch marine turtles of whatsoever species, age or size had been and in any area of the fishing waters or the seashores of islands and land.
- b) The fishermen who fortuitously had got sea turtles in their fishing equipment shall on seeing them release them seeking enough care for their safety.
- c) It is prohibited to collect, shift, sell or trade with the eggs of turtles or tamper with their nests or the places of their reproduction on land or seashores of islands.

Article (41)

It is forbidden to catch the different marine mammals, of whales' species dugongs (Al Atwaml), Dolphins and any other marine mammals. And the fisherman who had got any of the aforesaid aquatic mammals in his fishing equipment shall manage to release them into the sea seeking enough care for their safety.

Article (42)

It is absolutely forbidden to extract oysters, sponges and coral reefs from the bottom of the sea by diving or by using any other means.

Article (43)

Scientific research requirements or enhancement or of such organisms are exempted from the provisions of articles (40-42) thereby after obtaining the approval of the competent authority, on condition that the application for license shall include the following:

- 1- Name of the applicant for the license.
- 2- His capacity
- 3- His address
- 4- Purpose of the license
- 5- Species and numbers he desires to catch.
- 6- The period during which he desires to fish.
- 7- Presenting an undertaking not to violate the conditions of the license.

Article (44)

It is forbidden to catch the living aquatic creatures to extract their eggs, skins, fins and any other parts thereof.

Article (50)

It is absolutely forbidden to throw the dead fish wastes and carcasses of whales and sharks

in the fishing waters.

Article (51)

Whoever exercises the diving hobby shall:

- a) Hold an approved diving license
- b) Abide by the rules, regulations and orders issued by the competent bodies.
- c) Clarify the diving place with the international banner (Alfa) for determining the diving area.
- d) Guarantee the devices fitness he uses for exercising diving.
- e) Hold a navigation license from the competent authority.

Article (52)

It is forbidden for diving hobbyists to:

- 1- Pick off coral reefs
- 2- Pick off ruins and dispose of them personally.
- 3- Pick off ship wreckages or dispose of them for personal purposes.
- 4- Dive individually.
- 5- Use fishing guns while using diving equipment (compressed oxygen).
- 6- Dive in banned waters, prohibited areas, near military constructions or vivid marine constructions and castles.

Article (53)

Fishing and voyaging hobbyists shall:

- a) Hold a navigation license for fishing and voyaging.
- b) Not practice the sports fishing hobby for trading and marketing.
- c) Not using nets, gargours, gears and other forbidden equipment.
- d) Not approach the prohibited areas, vivid military premises, and palaces.
- e) Provide the Ministry with the information it requires about the live marine wealth.

CHAPTER FIVE

Circulation processing and Marketing

Article (59)

Scientific research and marine surveys or others from ships and boats may not carry out any researches or explorations or carry out any studies in the fishing waters unless subject to a special license from the ministry and approval of the competent authority. Anybody desires to conduct any activity of the mentioned activities shall submit an application to the ministry demanding to conduct the required activity and attached with a detailed study in this concern.



REEFBALL EXHIBIT AT DUBAI AQUARIUM



coral propagation, transplant technology, public education and community training to build, restore and protect coral reefs. The foundation has established "Reef Ball reefs" in over 56 countries with ongoing projects in 14 additional countries (giving a total of over 70 countries).

Man's activities and natural disasters have led to a reduction in our natural reef systems. Recreationally, growth in sports fishing, scuba diving, and boating has increased the pressures on these systems. Commercially, our seafood industry is dependent on developing the ocean to enable ever larger, yet sustainable, harvests. The loss of our natural systems, coupled with increased use, compels us to do all that we can to save the natural coral reefs. Even so, the natural reefs cannot rebuild themselves fast enough to meet human demands.

The Dubai Aquarium and Underwater Zoo is hosting a reefball exhibit in the Underwater Zoo. This exhibit is in co-operation with the EDA and Al Boom Diving.

"The aim of the exhibit is to highlight to the general public the need for reef conservation" said Paul Hamilton, Head Curator of the Dubai Aquarium and Underwater Zoo.

"EDA is happy to assist with any local initiatives that operate in an ethical manner with adherence to all local laws and environmental standards," noted Rita Bento, Marine Biologist with EDA.

Al Boom is starting a project to place artificial reefs at two or more locations in Dubai, and one location outside Le Meridien in Al Aqah. Reef ball moulds from the Reefball Foundation (www.reefball.org) have been imported for this purpose.

The Reef Ball Foundation, Inc. is a non-profit organization that functions as an international environmental non-governmental organization. The foundation uses Reef Ball artificial reef technology, combined with

To increase the number of coral reef areas in the UAE, Al Boom Diving has started the Reef ball project.

Although Al Boom Diving is the primary party in this project, we have the assistance of some other companies. Other parties involved in the project are: Emirates Diving Association, PADI Project Aware, and, Le Meridien Al Aqah for a house reef outside the hotel. Permissions for the placement of the Dubai reef at Jumeirah Corniche (Russian Beach) and the Palm Jebel Ali will be sought from the Dubai Coast Guard, and Nakheel as needed.

The first reef balls will be placed at the end of June, just off Le Meridien Al Aqah, as a house reef.

Placement of the other reef balls in Dubai is dependant on permissions from the authorities.

For more information on the Reefball Project, please email Samantha Joffe at Al Boom Diving at sam@alboomdiving.ae



THE PADI SEAL TEAM

FEATURE **NADIM MAHER AND MARIO A. TAPALES**

The PADI Seal Team is a program designed for kids who are too young for the PADI certification programs. This is for the kids aged 8 to 9 years old, to give them a chance to experience scuba diving in the pool environment. The PADI Seal Team consists of 5 Aqua Missions. On each aqua mission they will practice some skills as their training exercise and the skill is taken from the skill of the Confined Water Session 1 of the PADI Open water Diver Course. Once they complete the 5 Aqua Missions and meet the performance requirements, the participants will be awarded a PADI Seal Team certification. The training and experience they earn during this program can be credited toward their Junior Scuba Diver or Junior Open water Diver Course once they reach 10 years of age which is the minimum age requirement for this dive level. The PADI Seal Team also highlights the Action, Adventure, how and why we need to protect and conserve our underwater environment. At their age, it's good to give input about scuba diving and the importance of our environment.

To the parents who love our environment and love scuba diving, this is the program for your kids below 10 years old.

MARIO A. TAPALES

PADI Course Director



Hello! My name is Nadim Maher. This article is about how I completed the PADI Seal Team training and about the people I met with my friend Jake Bibbing. Me and Jake were so excited that we were going scuba diving training. When we arrived at the Royal Meridien Hotel, Jake and me met our instructor Mario. Mario is a very nice man he was both caring and kind. Me and Jake were happy and we thank Ibrahim Al Zu'bi and the Royal Meridien Hotel.

On the first morning, Jake and me were taught how to handle the scuba diving equipment and then we went scuba diving in the pool. It was warm in the suit but it was cold without the suit. When Mario pushed my head under the water it was weird but I remembered not to hold my breath.

The next day we went back to the pool and played games underwater. My favourite game was called Tornado. This game includes a little tornado and you throw it around underwater and it helps you with moving around underwater.

I am really looking forward to scuba diving again and can't wait to go in to the sea.

NADIM MAHER



ABLE

FEATURE ERNST VAN DER POLL



Omar, Younis and Annas are 3 teenage boys from Palestine visiting Dubai as part of the Palestinian Children Relief Fund to undergo surgery or fitting of prosthetic limbs. This is part of an ongoing humanitarian project with the Mohammed bin Rashid al Maktoum Humanitarian & Charity Establishment.

All 3 boys are amputees missing a leg each. When I first met them, my first impression was that they are exactly like any of the other kids we teach to dive. After 5 minutes in their company all you can see is the excitement in their eyes and a strong sense of curiosity when we started to assemble their scuba units.

Lana, Mahmoud and Rama translate for me. I start the Discover Scuba Briefing using a flip chart while my assistants Okkie, Chris and Ricky get the equipment ready in the pool.

The boys listened intently, carefully answering my questions after I explained all the skills that we are going to complete in the pool. We learn about air spaces and pressure, equalizing and interacting responsibly with marine life, the boys excitedly eying the blue water of the pool behind me.

It is time to get in the water. Fins and weight belts get donned and one by one we kit the boys up in the water. We spend a bit of time orientating the equipment at the surface, inflating, deflating, breathing, blowing and then it is time to descend, equalizing early and often!

At first it seemed totally alien to be able to breath under the water. There were some mixed responses and a couple of times we

went up to the surface, but after about 10 minutes all of them took like fish to the water! I think the most remarkable observation was the feeling of being weightless under the water and to move into any direction without restrictions. After reg recovery, mask clearing, practicing to breath from an alternate air source, we swam under water down to the deep end. In the deep end we tried everything from spinning on our heads, under water somersaults to a game of under water Frisbee!

A couple of days later I met the boys at 07h00 in the morning for their first sea dive. On arrival I was told that Omar has already decided that scuba diving is his calling in life and that he wants to learn to become an instructor to teach the people back home.

It is a beautiful spring morning. The water is blue and flat like a mirror. The boys and I move right to the water's edge for me to brief them on what they can expect on their first dive in the sea. I explained to them that we can learn a lot from the Ocean. The Ocean treats us all as the same. Under water we all speak the same language, no matter where we come from or what our culture is. The Ocean moves us and we move in it, no matter if we have 2 legs, 1 leg or no legs. The word "disabled" becomes able. The Ocean becomes our sanctuary where we can forget about life's indifference and be ourselves. If we pay attention we can learn from the Ocean and every lesson we learn shares a truth that we will always remember.

During the dive the boys quickly adjusted to the current, using it to their advantage

to move through the water. I showed them adaptive finning techniques and soon they were keeping their own in the water. Moving freely and unassisted with bright eyes and big smiles.

The marine life captivated them. We saw a beautiful Arabian Butterfly ray and got surrounded by a silver shroud of trevallies. Their sharp eyes quickly spotted the countless Goby's in the little holes in the sand. Their eyes widened when they spotted the little bulldozer shrimps working hard to keep shoveling sand from their little underwater lairs.

I had to explain to them how these 2 total different species had to learn to live and work together for survival. The goby being the eyes of the blind shrimp and the shrimp creating their little home for them to stay safe. Without each other they are vulnerable to other predators and therefore need each other to stay alive.

After logging the dives, the boys were on their way with Discover Scuba certificates and big smiles. I hope to see them again. I think I learned as much from them as they learned from the diving experience. I realized as people, we are all "able" it is just a matter of how we face life's challenges and these young men did it head first with confidence after having found a new friend in the Ocean...



For those of you who would like to learn a bit more about the PCRF, please visit their website:

<http://www.pcrf.net/first.html>

Or join the social community network of the Dubai chapter on:

<http://dubaipcrf.ning.com/>

AQUALUNG PARTNER CENTRE

Al Boom Diving is interested in talking to all dive centres that want to increase their retail sales. As the distributor for Aqualung, Al Boom Diving can offer wholesale rates on a complete range of quality equipment.

Buying Aqualung gear for your center – whether it be for use in your own charter business or for resale – will qualify you to become an Aqualung Partner Center.

There are a number of benefits to becoming an Aqualung Partner Centre, you will:

- Receive our maximum wholesale rates on Aqualung Equipment.
- Be given free equipment and further discounts upon purchase of set amounts of gear (this is cumulative over a year and does not have to be made at once).
- Your instructors will be offered further discount to purchase their own personal kit.
- Your staff will be offered free equipment training by Aqualung technicians.
- Your website will be linked to the Aqualung Website.
- You will have permission to use the Aqualung logo.
- We will supply you with free banners, flags, stickers and polos and t-shirts for your staff.
- Your Partner center status will be mentioned in Aqualung's newsletter.

For more information please contact:

Colin Nelson, Retail Manager at Al Boom Diving on 04 342 2993 or email colin@alboomdiving.ae



SUZANNE PLEYDELL VISITS DUBAI AQUARIUM & UNDERWATER ZOO



Paul Hamilton (Head Curator), Suzanne and Francis

On a recent visit to Dubai, Suzanne Pleydell, PADI Director, took time to visit Dubai Aquarium & Underwater Zoo.

Suzanne completed the spine-tingling shark dive. "What a fantastic experience!" she commented. "It is a surreal experience to be surrounded by so many species and so many sharks."

"This aquarium has been very interesting for PADI. We have been able to approve it as a controlled environment suitable for conducting a range of PADI learning specialties. In addition, we were happy to approve the Dubai Aquarium Specialty as a PADI distinctive specialty course," noted Suzanne.

"There are opportunities for Project Aware and Dubai Aquarium & Underwater Zoo to work together in raising awareness for shark, marine and coral conservation issues towards the general public passing through The Dubai Mall" said Paul Hamilton, Head Curator of the Dubai Aquarium & Underwater Zoo.

"All certification cards for the Dubai Aquarium Specialty will automatically include the Project Aware donation, and all cert cards will be issued with the Grey Reef Shark image", said Francis Uy, Course Director at Al Boom Diving. Al Boom Diving is offering daily dives in Dubai Aquarium, as well as PADI Discover Scuba Diving experiences and the Dubai Aquarium Specialty.

Join the shark dive fun at The Dubai Mall, daily at 5pm, 7pm and 9pm. Contact Al Boom Diving on 04 342 2993 for more details.



EDA PRESENTATIONS FOR TAWASUL AT PDC

FEATURE AND PHOTOGRAPHY REEMA AL ABBAS



Rita and Reema were invited by Ernst Van Der Poll to give presentations on EDA and Marine protected areas to a group of kids from The Dubai American Academy.

We arrived at the Pavilion Dive centre at 8.30 am, and were welcomed by a beaming Ernst and his friendly colleagues. There was a buzz at the centre as the group of kids were preparing themselves for the dive later on that morning.

We all proceeded upstairs to the classroom and everyone gathered around while we began our presentations. Afterwards we spoke to them about the environment and how we can do our bit to help. We were glad to see how interested and knowledgeable they all were! Ernst concluded by giving the kids a brief on the dive they were going to be doing. It was an absolute pleasure to watch him brief them; he has a knack for teaching and his technique definitely worked as he kept them all engaged, content and attentive throughout the day.

The group was then split in two and whilst one group was diving, the other group stayed on the beach constructing an EDA logo on the sand. It was an impressive effort! At the end, everyone gathered around to take pictures in front of their masterpieces. It was a lovely and unforgettable day, charged with positive energy!



CLEAN UP MERIDIEN AL AQAH

FEATURE **ALLY LANDES** PHOTOGRAPHY **ALLY LANDES AND REEMA AL ABBAS**



FUJAIRAH: According to a fisheries expert, more than 40 per cent of coral reefs on the east coast have been destroyed by bad fishing practices over the last 30 years. Conservation education efforts have however started to shine through in coastal communities.

On the 16th of May, EDA was asked by Dibba Municipality and the Ministry of Environment and Water to organize a clean up on the east coast through the Meridien Al Aqah with the help of Al Boom Diving, Freestyle Divers and Sandy Beach Dive Centre.

70 divers turned up for registration to do the days two clean up dives. A few fishing nets and traps were pulled up from dive sites between Dibba Port and Dibba Rock amounting to a max of half a ton, but the dive sites were remarkably clear of rubbish which is always a wonderful sign for our environment and its marine life.

The day was one of the most humid since the start of summer crept in, but the sea temperatures of 30°C still managed to cool everyone off with their hard work and efforts making sure the sites were litter free.

EDA would like to thank the Meridien Al Aqah for hosting the clean up and thank the Dibba Municipality and the Ministry of Environment and Water for sponsoring the sumptuous buffet for all the clean up divers and thank the dive centres, Al Boom Diving, Freestyle Divers and Sandy Beach Dive Centre for accommodating everyone. Well done also and thank you to everyone who participated in helping our environment.



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خدمات الغوص في الخليج العربي

THINGS YOU CAN DO TO PROTECT CORAL REEFS

FEATURE **NOAA.ORG** PHOTOGRAPHY **MARCELO MARIOZI**

Even if you don't live near a reef, you can help protect coral reefs around the world.

Educate yourself about coral reefs and the creatures they support.

How many different species live in reefs? What new medicines have been developed from reef organisms? Participate in training or educational programs that focus on reef ecology. When you further your own education, you can help others understand the fragility and value of the world's coral reefs.

Be a wastewater crusader! Make sure that sewage from your boat and home is correctly treated. Excess nutrients in wastewater can negatively impact coral reef ecosystems.

Support organizations that protect coral reefs. Many groups have coral reef programs, and your support will make a big difference.

Don't use chemically enhanced pesticides and fertilizers. Although you may live thousands of miles from a coral reef ecosystem, these products end up in the watershed -- the area that drains to a common waterway, such as a stream, lake, estuary, wetland, and ultimately, the ocean.

Volunteer for a reef cleanup. You don't live near a coral reef? Then consider visiting a coral reef on your next vacation. Spend an afternoon enjoying the beauty of one of the world's treasures while helping to preserve it for future generations.

Be an informed consumer. Only buy marine fish and other reef organisms when you know they have been collected in an ecologically sound manner. Ask store managers where the organisms come from and how they were collected. Does the country have a management plan to insure the harvest was legal and sustainable over time? For more information on how to find sustainably harvested reef fish, go to www.aquariumcouncil.org.

Visit your local aquarium or zoo. Ask what they are doing and how you can help conserve our coral reefs. The answer may pleasantly surprise you.

If you dive, don't touch! Take only pictures and leave only bubbles. Keep your fins, gear, and hands away from the reef, as this contact can hurt you and will damage the delicate coral animals. Stay off the bottom because disturbed sediments can smother the corals.

Support reef-friendly businesses. Ask what your dive shop, boating store, tour operator, hotel and other coastal businesses are doing to

save coral reefs. This is especially important in coastal areas with reefs. Let them know you are an informed consumer and care about reefs.

Recycle. This helps keep trash out of the oceans and also out of landfills where it can have an adverse impact on the water quality of our rivers and oceans.

Conserve water. The less water you use, the less runoff and wastewater eventually find their ways back into the oceans.

Become a volunteer monitor! Participate in community coral reef monitoring programs. If you do not live near a coast, get involved in protecting your watershed.

Report dumping or other illegal activities. Help be the eyes and ears of the reef! Your involvement can make a big difference.

Be a marine debris crusader! In addition to picking up your own trash, carry away the trash that others have left behind. More than just an unsightly nuisance, beach litter poses a significant threat to the health and survival of marine organisms, which can swallow or get tangled in beverage containers, plastic bags, six-pack rings, and other debris.

Hire local guides when visiting coral reef ecosystems. This will help you learn about local resources, and protect the future of the reef by supporting the local economy.

Don't anchor on the reef. If you are boating near a coral reef, use mooring buoy systems when they are available.

Respect local guidelines when you visit a reef. Help keep coral reefs healthy by respecting local customs, recommendations, and regulations. Ask local authorities or your dive shop how to be a reef-friendly tourist.

Stay informed. Find out about existing and proposed laws, programs, and projects that could affect the world's coral reefs. Many Web sites provide information about coral reefs and what you can do to become involved.

Spread the word. Remember your own excitement at learning the value and importance of coral reef ecosystems. Sharing this excitement gets everyone involved.

CORAL DISEASE

FOUND TO HAVE SIMILAR MO TO CHOLERA

FEATURE **DAVID BOURNE**



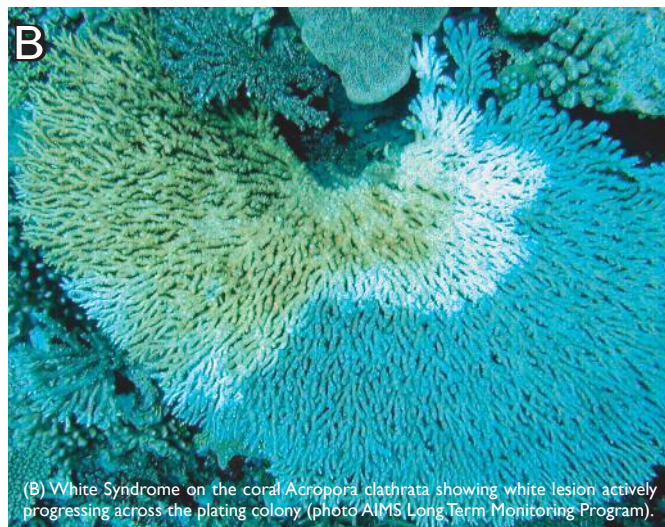
(A) Transect line laid on a coral reef assessing health and disease prevalence on the GBR (photo AIMS Long-term Monitoring Program).

The complexities of coral disease are starting to be unravelled with the key revelation that a similar mechanism that causes cholera in humans may be causing White Syndrome (WS) in coral.

Mr Meir Sussman, a postgraduate student at James Cook University (JCU), working with AIMS scientist Dr David Bourne, coral biologist Dr Bette Willis at the ARC Centre of Excellence for Coral Reef Studies, and colleagues from the University of Groningen in the Netherlands and the Palau Coral Reef Center, have published a paper* showing for the first time how bacterial WS kills coral.

A bacterial zinc-metalloprotease enzyme has been revealed as central in the WS disease process. The enzyme carries out a two-pronged attack, first causing whitening of coral tissue as symbiotic algae are targeted, and subsequently causing coral tissue lesions. This two-stage process leads to the distinctive appearance of bands of white coral skeleton typical of the disease.

The enzyme disturbs the ability of the symbiotic algae living in coral to carry out photosynthesis and breaks down the symbiosis between the coral and the algae, leading to death of the coral. The bleaching caused by WS is distinct from that caused by thermal stress. Unlike bleached corals which can recover from short-term temperature stress, WS causes the infected coral to die, though lesions may stop progressing if the coral can mount an immune response.



(B) White Syndrome on the coral *Acropora clathrata* showing white lesion actively progressing across the plating colony (photo AIMS Long Term Monitoring Program).

The research team published pioneering work last year that uncovered the bacterial cause of WS, specifically certain members of a common family of aquatic bacteria known as *Vibrios*. Another member of the *Vibrio* family causes cholera in humans.

While there are many kinds of *Vibrio* bacterial species, only a small group carrying the gene for the zinc-metalloprotease enzyme can cause WS. This enzyme is a powerful weapon as it disrupts basic processes in target organisms at a cellular level. This mechanism of attack against cells is similar to the one used by the *Vibrio* bacterial species that causes cholera.

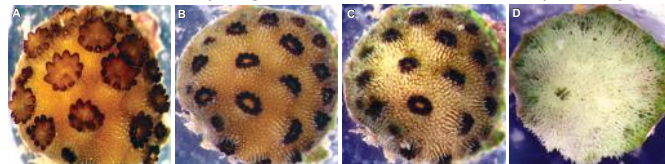
"This study is the first to investigate the clinical effect of the enzyme zinc-metalloprotease on corals," Dr Bourne said. More work needed to be done, he said, to determine the exact process by which the enzyme affects the way the algae photosynthesise within coral and the extent to which the temperature of the surrounding water plays a role in helping the enzyme do its work.

Coral diseases are of increasing concern to marine scientists, particularly in the light of other sources of stress for corals such as warmer seawater. "Coral diseases have been detected along the length of the Great Barrier Reef, worryingly so in healthy reefs with high coral cover," Professor Willis said.

In other parts of the world, notably the Caribbean, coral disease has been a major factor contributing to the decline of coral reefs, which in some places have undergone ecological "phase shifts" from coral to algal-dominated ecosystems.

The paper, written by Meir Sussman, Jos Mieog, Jason Doyle, Steven Victor, Bette Willis and David Bourne, titled "Vibrio Zinc-Metalloprotease Causes Photoinactivation of Coral Endosymbionts and Coral Tissue Lesions", has been published by the international, peer-reviewed, open-access, online publication PLoS (Public Library of Science) ONE.

Effect of isolated bacterial pathogen PI on the juvenile coral host, *Acropora millepora*.



(A) Before exposure (B) 2h following exposure (C) 4h following exposure (D) 8h following exposure

STATUS OF CORAL REEFS IN 2008 SYNOPSIS

FEATURE **CLIVE WILKINSON** PHOTOGRAPHY **MARCELO MARIOZI**

Coral reefs of the world have effectively marked time since the last report in 2004. Some areas have recovered well after the climate change bleaching in 1998 and human damage; while the Indian Ocean tsunami, more bleaching in the Caribbean, and human pressures have slowed or reversed recovery.

Estimates assembled through the expert opinions of 372 coral reef scientists and managers from 96 countries are that the world has effectively lost 19% of the original area of coral reefs; 15% are seriously threatened with loss within the next 10–20 years; and 20% are under threat of loss in 20–40 years. The latter two estimates have been made under a 'business as usual' scenario that does not consider the looming threats posed by global climate change or that effective future management may conserve more coral reefs. However, 46% of the world's reefs are regarded as being relatively healthy and not under any immediate threats of destruction, except for the 'currently unpredictable' global climate threat. These predictions carry many caveats, as explained below.

In 2008, the International Year of the Reef, there is a mixture of good and bad news in this Status of Coral Reefs of the World: 2008 report. Several major events have damaged coral reefs since December 2004 when the previous 'Status 2004' report was released. But there have also been major positive steps taken to conserve the world's coral reefs. Some steps have been forward and some steps backward. Significant backward

steps were:

- The Indian Ocean megathrust earthquake and tsunami struck on 26 December 2004 with enormous loss of life and disruption to Indian Ocean countries. There was considerable damage to the coral reefs of the Indian Ocean, but not at a scale comparable to human losses;
- 2005 was the hottest year in the Northern Hemisphere since 1998 and this resulted in massive coral bleaching and hurricanes throughout the wider Caribbean in 2005 killing many corals and further damaging their reefs;
- Degradation of coral reefs near major centres of population continues with losses of coral cover, fish populations and probably biodiversity. This is certainly happening around the 'Coral Triangle', the world's centre for marine biodiversity;
- There is increasing evidence that global climate change is having direct impacts on more and more coral reefs with clear evidence that rising ocean acidification will cause greater damage into the future;
- Socioeconomic assessments are increasing on coral reefs and being used more in management decision making. These assessments are being employed to strengthen or re-invigorate traditional management structures, especially in the Pacific where many traditional management regimes remain intact;
- However, coral reef declines will have alarming consequences for approximately 500 million people who depend on coral reefs for food, coastal protection, building

materials and income from tourism. This includes 30 million who are virtually totally dependent on coral reefs for their livelihoods or for the land they live on (atolls);

- Problems for coral reef managers are increasing, as 50% the world's population will live along coasts by 2015, putting unsustainable pressures on coastal resources. The reefs they manage will contain less attractive but tougher corals. Rising food and fuel prices, commercialisation of fishing activities and the global financial crisis are resulting in over-fishing and serial depletion of fish stocks in many poor countries; and
- The solution remains in establishing more Marine Protected Areas linked into networks and managed by all stakeholders, especially user communities.

Countering such gloomy news, are some major advances:

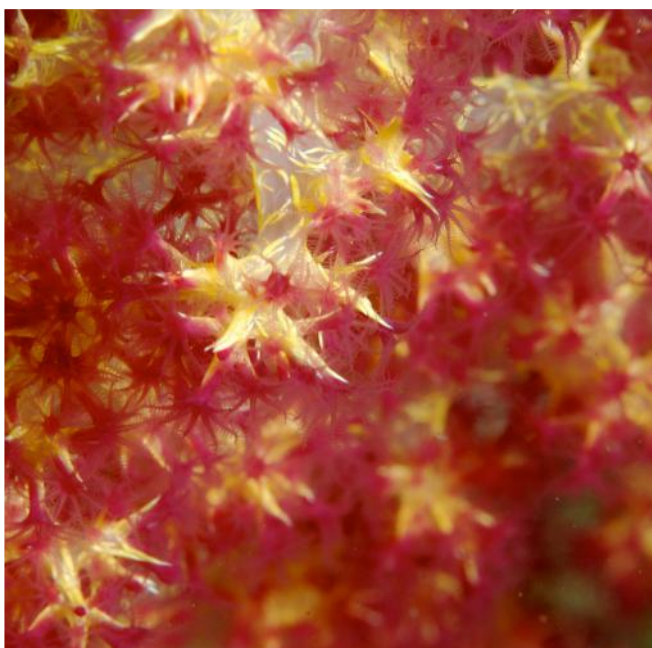
- Two enormous marine protected areas (MPAs) focussed on coral reefs have been declared in the Pacific; the Papahānaumokuākea Marine National Monument covering the North-west Hawaiian Islands and the Phoenix Islands Protected Area (PIPA) were declared by the governments of USA and Kiribati respectively;
- Large areas of the coral reefs around New Caledonia have been given World Heritage listing, and more areas are under consideration elsewhere;
- Coral reefs in the Indian Ocean, especially in the Seychelles, Chagos and the Maldives, and Palau in the Western Pacific, have continued

to recover from the devastating bleaching of 1998;

- In December 2007 President Yudhoyono of Indonesia gained support and funding from world leaders for the 'Coral Triangle Initiative' to conserve the coral reef resources of Southeast Asia;
- This initiative theme was expanded to include Western Pacific countries that border the Coral Triangle when President Remengesau of Palau instigated the Micronesia Challenge with other leaders who made commitments to conserve 20% of the land and 30% of the waters as protected areas in linked networks;
- Soon after, Prime Minister Ingraham of The Bahamas gathered 4 of his neighbours to form the Caribbean Challenge that seeks to conserve 30% of their coastal resources;

In addition, there have been other positive activities for coral reefs including:

- The International Coral Reef Initiative, currently co-chaired by Mexico and the USA, declared 2008 as the International Year of the Reef and developed major awareness raising campaigns around the world;
- The 11th International Coral Reef Symposium assembled 3500 scientists, managers and decision makers in Ft Lauderdale, USA, in July 2008 to bring the power of science to coral reef conservation;
- Reef Check has organised 20 700 signatures on the 'Declaration of Reef Rights' petition launched in the International Year of the Reef;
- The Pew Environment Group is working with developed country governments to declare very large areas as no-take marine reserves, including the Coral Sea of Australia, the Northern Mariana Islands, the Chagos Archipelago in the Indian Ocean, and the Kermadec Trench, off New Zealand;
- The Coral Reef Targeted Research and Capacity Building for Management Program established 4 Centres of Excellence to build science capacity for management;
- CRISP (Coral Reefs Initiatives for the Pacific) has expanded operations into 17 Pacific island countries with considerable progress in raising capacity for reef management and socioeconomic assessment;
- The French and USA governments completed major national coral reef summary reports in 2008; the South West Pacific Node produced a regional report in 2007; the French and SW Pacific Node reports were presented in GCRMN format;
- The Global Environment Facility has allocated \$100 million as the Pacific Alliance for Sustainability to bring Pacific countries together to conserve their environments. Part of this money is going towards the Coral Triangle Initiative and the Micronesia Challenge;
- Germany has launched a new Biodiversity and Climate Research Centre based at the Senckenberg Research Institute in Frankfurt; it will have a significant coral reef component.



EDA QUIZ THE OCEAN

ANSWERS FOUND ON PAGE 56

- Who has the longest gestation period of all cetaceans?
 - Blue Whales
 - Orcas
 - Fin Whales
 - Pilot Whales
- Which fish is the fastest fish in the ocean?
 - Bluefin Tuna
 - Swordfish
 - White Shark
 - Mackerel
- Which of the following do Seahorses not have?
 - Scales
 - Stomach
 - Teeth
 - All of the above
- The Oceans cover about 55% of the earth's surface.
 - True
 - False
- Most of the volcanic activity occurs in the oceans
 - True
 - False
- The biologically richest part of the sea floor is:
 - The continental shelf
 - The continental slope
 - Deep-sea fans
 - The abyssal plain
- The sea level has risen, over the past 100 years, with an average of:
 - 0-5 cm
 - 5-10 cm
 - 10-25 cm
 - 25-30 cm
- Marine animals teetering above extinction on the critically endangered list:
 - Coelacanth
 - Southern bluefin tuna
 - Hawksbill and leatherback turtles
 - All of the above
- How much of the ocean is protected as Marine Protected Areas?
 - None
 - Less than 1%
 - 1-5%
 - 5-10%
- Phytoplankton is responsible for approximately ____ of the world's oxygen production
 - 20%
 - 40%
 - 75%
 - 90%
- Seagrass can be found to depths of:
 - 20 m
 - 30 m
 - 40 m
 - 50 m
- A relationship in which both species benefit is called:
 - Commensalism
 - Mutualism
 - Parasitism
 - None of the above

INTEGRATING A COMMUNITY – BASED MPA NETWORK AT THE BARANGAY LEVEL IN THE PHILIPPINES

FEATURE **JAN-WILLEM VAN BOCHOVE** (WWW.CORALCAY.ORG)



Near Padre Burgos, a coastal municipality in the province of Southern Leyte, Philippines, fish stocks have declined dramatically in recent years. Although local reefs boast high coral cover and diversity, they support low numbers of commercially targeted fish. Pressure on marine resources is enormous, with exponential growth in the human population: the average family size is eight or more individuals. Fishers in super-light vessels, frustrated with disappointing catches close to home, have been venturing farther out under the cover of night to target the remaining large fish in the area.

Six years ago, to tackle these issues, the provincial government invited Coral Cay Conservation (CCC) – a UK-based conservation NGO – to assess Southern Leyte's coastal resources. Together with the Provincial Environmental and Natural Resources Management Office (PENRMO), CCC would develop a coastal resource management plan.

In addition to community awareness campaigns and local capacity-building, CCC viewed the creation of a network of community-based no-take MPAs as an important step in this process. In the Philippines, local-level politics govern the placement of marine protected areas, and hundreds of community-based MPAs have been designated over the past three decades. Unfortunately, in the case of many of these sites, poor management and a lack of community involvement have given them a reputation among fishermen of being a hindrance rather than a practical solution for dealing with declining fish catches.

To change this perception, CCC invited municipal representatives and local leaders on a trip to an MPA on Apo Island, in the province of Negros Oriental. The excursion gave these

officials a chance to share experiences with the local Apo leader and get a first-hand glimpse of this successful community-based MPA. It sparked the enthusiasm and encouragement needed to help pave the way to community-managed, and community-supported, no-take zones back home.

Upon their return to Padre Burgos, the officials shared what they had witnessed on their trip to Apo. It did not take long to put together a plan to establish four MPAs, with one sited in each of four local communities, or barangays, in the municipality. CCC organized workshops to outline the potential benefits to fisherfolk. Lengthy discussions about the costs and benefits of MPAs were held between the barangay captains and their people. Barangay captains control local-level politics, and the success or demise of coastal resource management on the barangay level hinges on a captain's support, vision, and charisma.

Proposed locations of the MPAs were carefully coordinated with the community to avoid placement over important fishing grounds or boat passageways, while targeting the areas of healthiest reef – both to facilitate rapid stock recovery and provide good diving opportunities to attract tourism. CCC volunteers conducted scientific surveys to establish baseline data and, later, annual data on the abundance of fish and general reef health. These data were presented to the community through simple bar charts and pie graphs. (Regular meetings with barangay representatives and fisherfolk are an essential way to show support to their efforts and address any issues that may arise.) The barangays eventually designated all four MPAs.

The MPAs cover about one-fifth of the Padre Burgos coastline. Local dive resorts have shown their support through annual monetary contributions to support guardhouses in the MPAs, and fuel costs for a patrol boat. Divers are happy to support the communities' efforts by paying a \$1 dive fee.

Already the small network of MPAs in Padre Burgos has shown remarkable success: biomass of targeted fish species has increased in the MPAs, as has live hard coral cover. The number of divers visiting Padre Burgos has increased as well. The sites have helped create a new sense of awareness within the community – that there are solutions to an increasingly desperate situation. Other barangays are following their lead: on the nearby island of Limasawa, an 85-hectare MPA is set for designation. Communities are realizing that divers are prepared to pay for diving on well-managed reefs.

It has been said many times before that for an MPA to succeed, there needs to be significant community support. MPA establishment is relatively easy; the real challenge arises a year or two later when fishers have yet to see significant changes, or when a new barangay captain is installed who doesn't understand or support the MPA. It is important to continually provide support and share findings with these communities at meetings. For example, CCC organized a follow-up field trip in 2007 where the same municipal representatives from Padre Burgos were taken to urban MPAs of Mactan Island, in the province of Cebu. The group gathered ideas there on how to develop a better dive user-fee system for their MPAs and more cost-effective ways of management.

Since April of 2008, Coral Cay Conservation has moved its research centre to the remote eastern side of Sogod Bay where it is continuing its work to develop a network of community-led MPAs throughout Sogod Bay.

Are you interested in joining an expedition and help conserve coral reefs and the communities dependent on them? Visit www.coralcay.org for more information.



The MPA guard house at Santa Sofia, Padre Burgos



Official christening of the MPA Patrol Boat

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soon

THE HUMPBACK DOLPHIN OF MUSANDAM

FEATURE AND PHOTOGRAPHY **LAURENCE VANNEYRE**

LOCATION

When you travel by boat to Musandam, the "Fjords" in the very north part of Oman, dominated by the magnificent Hajar mountain, you can be quite sure that dolphins will be following you. The Fjords are created by the Ru'us al Jabal (heads of the Mountains) plunging dramatically into the sea. Most of the flat land bordering the tortuous shoreline is only accessible by sea.

Musandam is three hours from Dubai, including the time spent at the border UAE/Oman on a regular weekday. Once in the regional capital, Khasab, it is easy to take a tour on a traditional dhow. They propose regular stops to snorkel around.

Going further into open sea north of Musandam seems to be more interesting for marine life. Peace, tranquillity and majestic are but a few words to describe this place.

There are two species of dolphins found here; the Bottlenose dolphin (*Tursiops truncatus*) and the Humpback dolphin (*Sousa plumbea*).

The first is the most famous of all, better known as "Flipper". There are two residents, of this species in Musandam, but some groups sometimes come from offshore to join the Bottlenoses or the Humpbacks. So there can be 25 Bottlenoses at the same time inside the fjords.

On the other hand, the Humpback dolphin, although much less famous around the globe, is one of the most frequently-spotted species of cetacean in the UAE.

The Humpback dolphin is a marine mammal that belongs to the Delphinidae family.

There are two species:

- Indo-Pacific Humpback dolphin, including two under-species
 - Pacific Humpback dolphin (*Sousa chinensis*)
 - Indian Humpback dolphin (*Sousa plumbea*), those who live in Musandam
- Atlantic Humpback dolphin (*Sousa teuszii*)

Little information on the population size is available. In Musandam, according to Mohammed, an Omani guide in Khasab, the population of Humpback dolphins tend to increase, but it's difficult to estimate the real number of the whole population because he and the other guide haven't found any marks to recognize the individuals.

MORPHOLOGY

They are characterized by their conspicuous, raised and fleshy hump at the base of their elongated dorsal fin.

The size of males and females reach up to 2 to 2.5 meters, but rarely more, and the weight is about 250kg. A newborn measures one meter and its weight is 15kg. In comparison, the Bottlenose dolphin can reach 4 meters, it's one of the biggest dolphins.

Their rostrum (beak) is quite long, clearly separate from the protruding and projecting melon. The melon is the round organ contained in the head, used for echolocation. The body is robust. Skin colour is usually lead-grey, sometimes dappled, but this colouration strongly varies with age and population. For example, we found some individuals in Musandam and near Palm Jumeirah with a black and white colour. The shape of the head bears some resemblance to that of the Bottlenose dolphin, although the snout is usually more elongated and the melon less distinct. The newborns are more grey and uniform. They can live up to 40 years of age.

HABITAT

They live in tropical and warm temperate coastal waters, shallow water, where the depth does not exceed 25 meters, with no apparent preference for clear or turbid water. They penetrate into rivers, estuaries, bays, mangroves and fjords like in Musandam. They like to live near the rocky coast.

They are not frequent all over the world. They are settled and they don't migrate, but they follow the tides.

In Musandam they stay in the bay of the fjords but sometimes can reach the water near the Golden Tulip Hotel (just out of the fjords!).

Smaller groups are resident in the natural and man-made channels near the city of Abu Dhabi, by the offshore beaches near Dubai and have been recorded along the UAE east coast shores. Local fishermen call these dolphins, "Dukhs".

FEEDING

The Humpback dolphins eat a lot of different species of fish, squids, octopus, crustaceans, often in deep water but also close to the coral reefs.

REPRODUCTION AND FIRST YEARS

Sexual maturity is reached at around 10 years of age. They mate in vertical or horizontal positions. Gestation lasts 10 to 12 months and females give birth to a juvenile every 3 years, all year round, but mainly in spring and summer.

According to a study in Algoa Bay, South-Africa, the animals who have a socio-sexual interaction are isolated from other members of their group and show vigorous activity with "helical interchanging of their

Geographic repartition areas:



relative position”.

Mothers suckle their young until they reach 6 months but it is completely weaned at 2 years. According to Mohammed, there have been a lot of babies these last few years.

BEHAVIOUR

Humpback dolphins swim very slowly, rarely close to boats as they are shy. In Musandam, they like to swim and play with the waves of the dhows, but if one wants to swim with them at the surface or underwater, they swim away.

When they dive to get food, they can stay in deep water for several minutes, but in general they go to the surface every 40 to 60 seconds to breathe.

They sometimes jump in a vertical position, head first out of the water, and slam their caudal fin (tail) against the surface, and then fall back in a reverse somersault.

They can swim on their sides, by waving their pectoral fins.

The Humpback dolphins are known for carrying some objects on their rostrum, melon, and fins, often for playing or for other reasons. For example, in Australia, an Indo-Pacific Humpback dolphin was observed while carrying a sponge on his rostrum. One of the hypotheses is that the sponge is used in searches along the sand to avoid being pricked by urchin's spines.

LIFE IN GROUPS

They live in small groups of 3 to 7 dolphins, and gather in a band of twenty or so to get food or mate. These groups are often composed of youngsters with at least one adult. When there are no young, the adults prefer to live in couples.

Sometimes they join groups of Bottlenose dolphins (Tursiops). In Musandam we can see them all together. The Bottlenose dolphins are faster and more playful making them more spectacular to watch.

ISSUES

Humpback dolphins are still sometimes caught involuntarily by fishing nets. The risks are much higher for the species who live in shallow, coastal waters where most of the fishing takes place.

Furthermore, the damages of their coastal biotope has a negative influence on their local population, that makes it a vulnerable species.

We have all heard about the red tide that also took place in Musandam these last past few months. It's not completely gone, sometimes some patches come back, then go away. This issue hasn't affected the life of the dolphins because they go to the surface to breathe, so the areas of concentrated red tide has no effect on the oxygen they need, contrary to the fish. And thanks to their way of communication – the echolocation – they almost don't need their sight, so the turbidity created by the red tide was not a problem for them.

In the UAE and Oman, the desire to conserve cetaceans and their environment's health has led to proposals in order to ensure their conservation by detailed scientific study, set-ups of marine protected areas, regulation of fisheries activities and cooperation with international conservation organisations.



A Dhow in Musandam



Mohammed, a Khasab Travel and Tours guide and Laurence Vanneyre



Indian Humpback dolphins in Musandam



A Bottlenose dolphin in the Red Sea

FREEDIVER PATRICK MUSIMU COMES TO THE UAE TO WAVE AT HIS ANCESTORS

FEATURE AND PHOTOGRAPHY **PETER DE MULDER**



In 2002, after setting 4 world records under the regulations of A.I.D.A. and I.A.F.D., Belgian freediver Patrick Musimu, decided to step out of the freediving federations.

He redefined the human limits of freediving and became the first man to dive to 200 metres on a single breath of air, in June 2005. This year, Patrick will go in search of the ancestors of apnea, who have practiced and cultivated the techniques of freediving since ancient times, allowing this sport to develop an internationally recognized extreme sport.

Patrick is going to find these ancestors in the old pearl fishermen of the Arabian Gulf and in the sponge fishermen of the Greek island of Kalymnos, the cradle of the apnea in Europe. He plans to have unique meetings and will speak to us about his art, his internal progress, his revelations and his unusual journey to the depth of this amazing tradition. In Kalymnos, Athens, Brussels, Dubai and Abu Dhabi, he will meet scientists, ethnologists, underwater archaeologists and specialists of this traditional form of diving.

Patrick is going to visit the United Arab Emirates in September 2009, and he will experiment with the diving techniques of the pearl fishermen, sail on their dhows, and exchange with them his ideas and thoughts on his own apnea technique. He will also visit a museum in Dubai that possesses a great section on pearl fishing. He will share with us his conclusions on the state of the oceans and the relationship of man with these liquid expanses vital to our survival. These conversations will give us fascinating insight into the techniques used by Patrick when free diving: To compensate for the water pressure on his eardrums at such great depth, Patrick lets water fill his sinuses and middle ears, and literally becomes, at the time of the dive, a new marine mammal. Patrick is also keen to meet all the eminent personalities in the UAE in the diving world.

While diving the "Skandalopetra", the oldest technique of free diving known in Europe, ballasted with a marble stone shaped by a craftsman of the island of Kalymnos, he honours the traditional techniques of apnea (no mask, no fins, no wetsuit, only his body, a stone and a rope). After reaching the depth of 88m established by a spongediver Giorgios Haggi Statti, in 1913, it will be time for Patrick to find out if a thousand year old technique allows a free diver to reach contemporary depths so far established with modern technology. Using the ancient technique learned in The Emirates, Patrick's final deep dive will cast the bridge to modern era and will give tribute to a world class diver deceased during a record attempt.

Patrick writes "During a free dive I feel my mind detached from my body. As I merge into the maritime world, I separate from the predetermined idea I have of myself. Nothing is absolute and barriers are mere mental hypotheses. Little by little, my mind gains the conviction that there are no limits. In this quest, free diving becomes my instrument, which I play like a virtuoso in the silent world of great depths."

All this is going to be filmed, and titled "Waving At My Ancestors". We will follow him on his incredible journey, from the initial preparation to the final realisation of the ultimate free dive through rich human meetings, intense underwater images and breathtaking landscape footage.

To get in contact with Patrick, please contact him through his website <http://patrickmusimu.com>, or write to:

ASBL – NO LIMITS

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patrick@patrickmusimu.com

For more info, please contact Sara-Lise Haith:

Email diva@divasindubai.com, Website www.divasindubai.com



FAZZA3 FREEDIVING COMPETITION 2009

FEATURE **SARA-LISE HAITH** PHOTOGRAPHY **JOHN COWLING**



Adel Abu Haliqa, Alexei Molchanov, Sara-Lise Haith and Alex Boulting

Under the patronage HH Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Chairman of Dubai Executive Council, the Fazza' Championships included exciting sporting events that include falconry, hunting with dogs, archery, freediving (hayaari) and the renowned youla championships. This year, from April 2nd - 4th, local and international competitors competed in two separate categories in a thirst to win a Range Rover HSE Sport sponsored by Al Tayer Motors.

This event has the richest prizes in the freediving world with top prizes ranging from the Range Rover HSE Sport, and 2nd place 15,000 AED, third place 7500 AED, and top 10 divers 5000 AED each.

The Freediving Competition is normally a static apnea competition, performed close to, but not exactly as the Emirati pearl diver tradition. Divers are required to hold a weighted rope with the body comp, with no nose clip, mask, wetsuit, weightbelt or any other diving equipment. The rules are to pull oneself down the weighted line and remain completely submerged for as long as possible. As soon as your head breaks the surface, or your hand lets go of the rope, your dive is over and timing ends. Dubai Police scuba divers are in place on the bottom in case of needed rescue.

The water conditions were not perfect on the day of the competition. There was a dhow race in progress and huge surges were happening around the area of the Mina Seyahi jetty, which affected divers' performance. The water was cold and diving with no wetsuit makes apnea much more difficult.

International participants included world record holder Alexei Molchanov, who took 1st place in the Professional Category. Molchanov said that he "felt lazy" and held his breath for "just" seven minutes to secure his first place. In 2nd place was UK Freediver Alex Boulting with

a timing of 4'40 minutes, and 3rd place was Adel (Algeria) with a timing of 4'10 minutes. 4th place was Sara-Lise Haith, with a 3'37 minute breath hold, still keeping her place since the Fazza3 competition in 2007 and still the only female competitor in this competition.

In the GCC category, the first place was won by Mr. Ma'ath, a newcomer to the local freediving realm who actually blacked out on the surface but was still awarded first prize. AIDA freediving competition regulations state that all blackouts detected by the judges will result in disqualification of the athlete for the discipline or further penalty by decision of the jury. Also each of the following symptoms will disqualify the performance for Black-Out:

- Cardiac arrest
- Respiratory arrest
- Loss of consciousness (blackout)
- Post-blackout mechanical movements
- Conscious, but with the inability to maintain the airway out of the water:

Post-Blackout Mechanical Movements are characteristic, physical movements occurring during short successive losses of consciousness. This movement can clearly be observed after a freedive and is a definite and clear dropping or nodding of the head as an athlete loses and regains consciousness over and over again. It is as if someone is flipping a switch on and off. Nodding or dropping the head just once will not be considered a disqualification because if there is a doubt about the blackout the decision has to be in favor of the athlete. However, if an athlete repeatedly nods or drops their head they will be disqualified. Even if an athlete manages to correctly complete the Surface Protocol within 15 seconds while falling in and out of consciousness, the athlete will be disqualified.

UAE National Pool Freediving Record holder Adel Ali Abu Haliqa, sponsored by the Emirates Diving Association, was just 5 seconds away (finish time 3'19 seconds) from the timing reached by Ma'ath, and finished his dive with a clean surface protocol. In training, Haliqa commented that his 3'19 "timing was not even close to what he was regularly getting in the training 4'5" in same conditions. Adel won the first ever National Records for Freediving in the 4 Dutch Apnea Open in 2008.

In AIDA regulation, after resurfacing the athlete has 15.0 seconds to perform the Surface Protocol (SP). The SP has to be performed without any cues from the jury or the officials. The SP starts when the athlete begins to remove their facial equipment with their hand(s) from their face. In the case of the athlete not using facial equipment, the SP starts when the athlete gives the OK-sign to the judge.

The organizers and judges have been approached officially regarding this matter as it was deemed unfair to award a prize to an athlete who had not successfully completed his dive.

Safety procedures of this competition are under review, as rescue procedures performed by a scuba diver are not efficient and fast enough for a freediver. When Ma'ath reached the surface, he immediately fell face backward into the water, and begun to sink backwards. The rescue diver was not within arms reach, and was talking to the officials. Upon large cries from the crowd, he realized what had happened and swum towards the diver using crawl stroke. Ma'ath was submerged and unconscious for at least a minute.

This lack of safety demoralized the competitors and many of them, including myself, were unhappy with the apparent lack of attention to safety by the rescue divers and were not confident to push big apnea holds in case of any further incidents.

Freediver surface rescue is best done by a freediving safety diver. As soon as the diver shows signs of a Loss of Motor Control, or blacks out, he must immediately be positioned with his head out of the water, airway open and his mask/noseclip removed. The safety diver then proceeds to blow on the diver's face, call out his/her name, and also command the diver to breathe. Blowing on the face influences a reaction by the baroreceptors which are sensors located in the blood vessels of the human body. They detect the pressure of blood flowing through them, and can send messages to the central nervous system to increase or decrease total peripheral resistance and cardiac output. Basically, the brain is commanded to trigger an inhalation. Should this not happen after 30 seconds, then rescue breathing will commence.

A scuba diver in full gear does not have the agility to deal with a freediver, especially in the event of Loss of Motor Control which can be very dramatic. Also, a blackout may happen at depth, and in the case of the Fazza3 competition, divers can be sitting on the sea bed in six metres. This would require the scuba diver to pull him up from the bottom at a very fast pace.

A detailed rescue plan for the Fazza3 Freediving Competition has been discussed and will be implemented for next year's programme.

To find out more information on Freediving and to attend a Freediving Course, contact Sara-Lise Haith at Email diva@divasindubai.com, Website www.divasindubai.com.



Adel Abu Haliqa



Alex Boulting and Sara-Lise Haith



Sara-Lise Haith



The blackout rescue



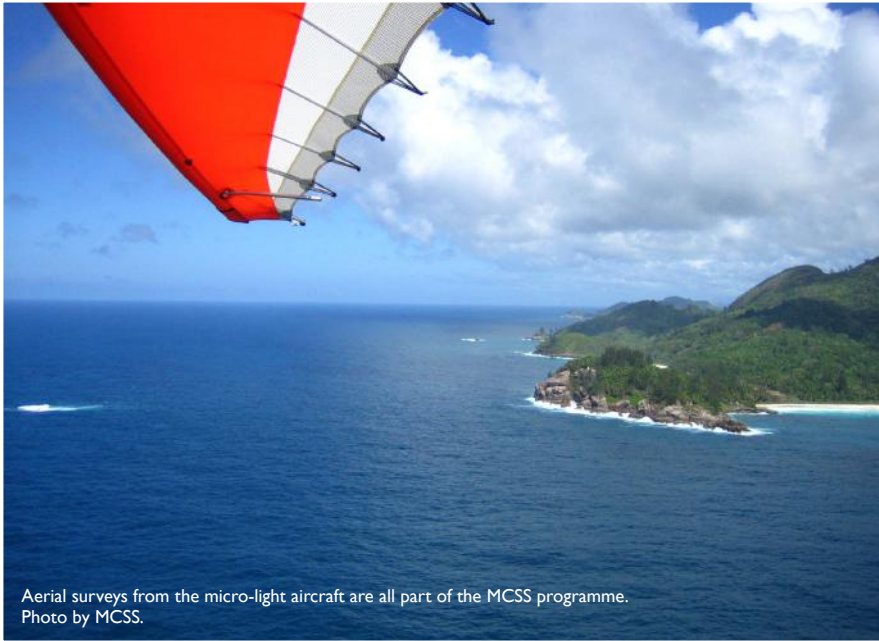
Alex Mulchanov



The GCC winners

DIVERS MAKING A DIFFERENCE WITH THE UNDERWATER CENTRE – DIVE SEYCHELLES

FEATURE **DAVID ROWAT – THE MARINE CONSERVATION SOCIETY SEYCHELLES**



Aerial surveys from the micro-light aircraft are all part of the MCSS programme.
Photo by MCSS.

Resident divers in Seychelles have been showing that when it comes to the marine environment every day is a "PADI Project Aware Day" and they need no prompting to pitch in and lend a hand whenever the need arises.

Divers with the Underwater Centre / Dive Seychelles have had a long involvement with conservation projects as the proprietors also founded the Marine Conservation Society Seychelles (MCSS) and actively encourage resident and visiting divers to get involved. The development of several PADI Project Aware programmes such as 'Coral Reef Conservation' and the 'Coral Watch' initiative have further heightened divers awareness of the marine environment and global conservation issues.

Recently, the annual "Earth Day" clean up dive had a twin focus of cleaning up the reefs and assisting the MCSS in their Crown of Thorns starfish (COTs) management programme. Visitors and resident divers from the Marine Parks Authority / SCMRT, Seychelles Islands Foundation, Seychelles Fishing Authority and Global Vision International joined the staff from MCSS and the Underwater Centre for two dives in northwest Mahe.

The dive was a great success and while not much rubbish was collected, this was a reflection of the general care for the marine environment in the area. Similarly, only 21 starfish were removed and their size, weight and genetic samples were collected. The starfish were fairly large with an average width of 32.95cm and average weight of 1.5kg which is characteristic of a managed population; small

numbers of COTs are a necessary part of coral reef ecosystems as they tend to browse on fast growing corals giving slower growing corals a chance to flourish and thus increase the diversity of the reef.

Another very popular diving and conservation programme in Seychelles is the whale shark monitoring programme. Whale sharks can be seen at any time of the year if the environmental conditions are correct; large numbers are generally found from August to November, feeding on the abundant zooplankton on the shallow Seychelles plateau.

Whale sharks have a unique pattern of spots behind the gill slits that does not change throughout their life and so photo identification of this area can be used to identify individuals over long time periods. All divers are therefore informed of this and about the on-going national and global photo-ID programmes so that, if they get the chance, they can capture an image of the correct area.

There is a dedicated whale shark monitoring programme run by MCSS from the middle of August to the end of October and a team of eight interns assist local divers and the general public who want to get involved. The team handle the technical aspects but encourage public participation at every level and for many visitors although this is often their first encounter with a shark the size of a small bus, the initial awe is soon replaced by a great willingness to participate further. And participate they do, assisting with aerial surveys from our micro-light aircraft, helping with plankton tows, pulling in CTD casts and

of course contributing photographs for the photo-identification project.

Utilising a computer programme, images collected of the whale shark's gill slit area are 'fingerprinted' by the MCSS team; using this method 512 individual sharks have been identified in Seychelles. The majority of the images are captured by the team but there is a steady flow of images from visiting divers that are also included. By using the relative proportions of new individuals identified to those resighted, the research team have estimated the population in 2004 - 2007 to be 348 - 488 site-faithful sharks who were joined by a similar number of sharks that were only ever seen once.

Another charismatic group of animals are the marine turtles and visiting divers are almost certain to meet one of the local hawksbill turtles on their dives. The hawksbill turtle is listed by the International Union for the Conservation of Nature (IUCN) as 'critically endangered' and Seychelles hosts one of the five largest remaining populations of this species. The MCSS run several turtle monitoring and beach rehabilitation programmes which help to safeguard this emblematic species and its nesting beaches around Seychelles. Volunteers are often needed to assist with these programmes and during 2008 over 2000 native bushes were planted to rehabilitate nesting beaches on Mahe. MCSS also found that the hawksbill turtles in Seychelles may in fact be shared with neighbouring countries as one satellite tagged turtle migrated from her nesting site on the south of Mahe to northwest Madagascar, visit the MCSS turtle blog for more information.

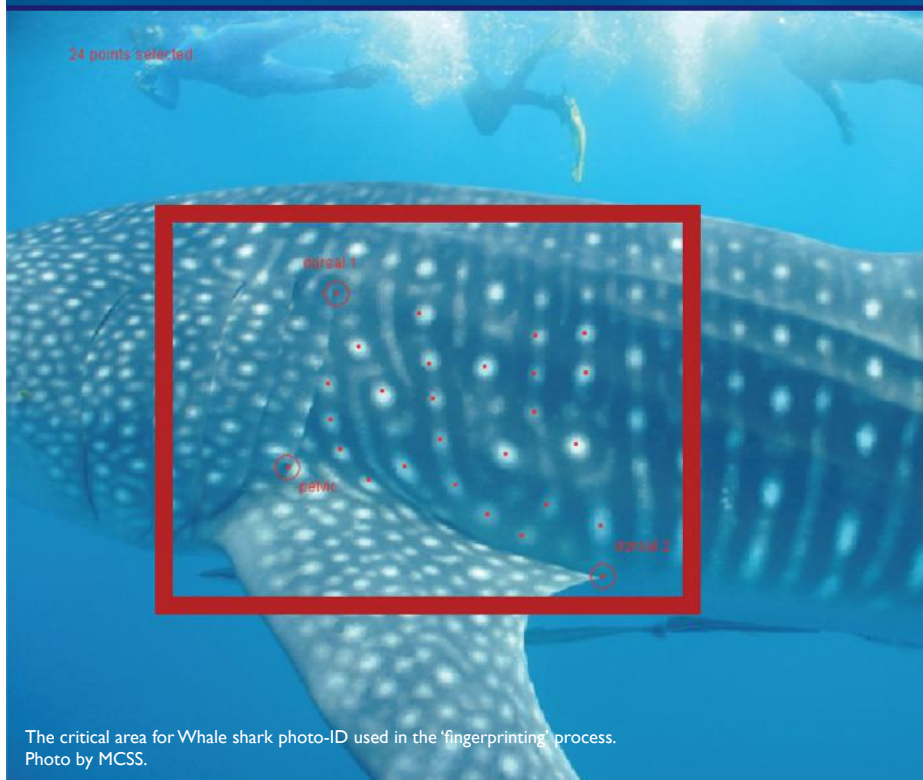
So if you are wondering what to do on your next diving holiday and fancy getting involved with some conservation efforts as well as getting in some great diving, visit the web sites of the Underwater centre or Marine Conservation Society Seychelles... MCSS also has two blogs that give up-to-date information on their whale shark and turtle monitoring activities...



Divers at the recent 'Earth Day' clean up.
Photo by Dive Seychelles.



Whale sharks are found year round in Seychelles but in large numbers from August to November.
Photo by Justin Spray



The critical area for Whale shark photo-ID used in the 'fingerprinting' process.
Photo by MCSS.

INFO /CONTACTS

Underwater Centre / Dive Seychelles is Seychelles' longest established diving facility and is a PADI Five Star IDC Resort based at the Berjaya Beau Vallon Beach Resort, Mahe.

PO Box 384, Victoria, Mahe, Seychelles
Tel: +248 247165

Email: divesey@seychelles.net,
Web: www.diveseychelles.com.sc
<http://dive-seychelles.blogspot.com>

Marine Conservation Society Seychelles is Seychelles only non-governmental organisation dedicated solely to the conservation of the marine environment.

PO Box 1299, Victoria, Mahe, Seychelles
Tel: +248 261511,
Email: info@mcss.sc
Web: www.mcss.sc

For up to date information about the MCSS whale shark monitoring activities or turtle monitoring visit the blogs:

<http://seychelles-whale-sharks.blogspot.com>
<http://seychelles-turtles.blogspot.com>

Seychelles Tourism Board provides a wealth of information for visitors to Seychelles with links to many accommodation establishments and leisure facilities.

PO Box 1262 Victoria, Mahé, Seychelles
Tel: + 248 67 13 00
Fax: + 248 62 06 20
info@seychelles.com
www.seychelles.travel



'Carol' the satellite tagged turtle before her migration to Madagascar. Photo by Elke Talma.

CONNECT THE DOTS **SAVE THE WHALE SHARK**

FEATURE **DARCY BRADLEY** PHOTOGRAPHY **STEVE LINDFIELD**



Copyright Steve Lindfield

"WHALE SHARK!" The skipper's words spring the boat into action. Mask and fins on, we hang on tight and head full throttle to what we hope to be our first whale shark of the day.

With the boat still moving, a spotter enters the water, swimming furiously to the location of the shark. He holds his arm up straight to let us know he has the shark in view; now it's our turn to share these seas with the largest of all the sharks and one of the more elusive animals on our planet.

Ningaloo Marine Park in Western Australia has long been a favorite destination for those in search of the rare opportunity to swim with the whale shark (*Rhincodon typus*). An extraordinary series of ecological events in March and April each year – a mass coral spawn creating a nutrient storm attracts marine species small and large to the waters of Ningaloo Reef. Whale sharks come too, well over a hundred of them, in a reliable annual migration that lasts between March and July.

But this year, Ningaloo whale shark operators are noticing something special. "2009 is the best 'sharking' season on record," says Richard Casey of Three Islands Marine Charters in Exmouth, Western Australia. And now, much to everyone's delight, there is evidence that the high volume of sharks currently visiting Ningaloo Reef will be back again next year.

An exciting study by ECOCEAN, a not-for-profit group with offices in Australia and the

USA, has involved scientists and members of the public in an innovative online photo-identification survey to reveal that the whale shark population here at Ningaloo is stable. And, consistent with industry observation, the numbers may even be on the rise.

It was a discovery in 1995 by shark researcher Brad Norman, Project Coordinator and founder of ECOCEAN, which inspired this non-invasive, international monitoring project. By examining the whale shark's extensive spot patterning, Norman was able to confirm that a specific section of the 'spots' could be isolated and, like a human fingerprint, used to identify individual sharks.

Now, with the simple click of an underwater camera and a visit to www.whaleshark.org anyone and everyone can be a part of this global effort to better understand the 'gentle giants' of our oceans.

"Besides showing that whale sharks can increase where they are well-protected, we have also demonstrated the power of citizen-science, that people around the world can make a real contribution to serious research and conservation," says Norman.

It may be all good news at Ningaloo, but unfortunately the whale shark is still in serious danger in many parts of the world. And with few natural predators, the most significant threat to the whale shark is, unsurprisingly, us.

Despite being classified as 'vulnerable to extinction' on the World Conservation Union's (IUCN) Red List of Threatened Species, whale sharks are only protected in about ten percent of the more than 100 countries the species is known to visit worldwide. As a result, hundreds and possibly thousands of whale sharks have been killed each year. In part, this is for their low-grade meat – dubbed 'tofu-fish' for its soft texture and less than savory flavor – but mostly as display items in restaurants and at weddings where shark fin soup is served (whale shark fin is not considered of sufficiently high quality for the actual soup).

With this global reality, it's hardly surprising that Ningaloo, a paradigm in terms of marine park management, has become a haven of sorts for the whale shark. And with so much mystery still surrounding the species, whale shark enthusiasts insist that continued protection of the animal is imperative. Jason Holmberg, information architect for ECOCEAN, points out that "For such a long-lived, far-ranging animal, a big-picture view is important – especially to promote global protection."

The success of the online survey carried out by locals, tourists, tour operators and researchers at Ningaloo has inspired a worldwide call to action – now is the time to join in this global research conservation effort to monitor and protect the largest fish in the sea.

"We couldn't conduct our research on any meaningful scale without the public's help,"

says Mr. Norman, "and we're looking forward to a continued partnership with ecotourism at Ningaloo and elsewhere to take this project forward."

ECOCEAN's call to the public has not fallen on deaf ears. "Community monitoring using the ECOCEAN Library has recorded more than 500 individual whale sharks visiting Ningaloo Marine Park since the industry began in 1993. A related study in the Philippines in collaboration with WWF has so far recorded 250 individual animals there, while another in Mozambique, conducted by the Manta & Whale Shark Research Centre, has confirmed sightings of more than 350 identified individuals."

There are few projects in which members of the public can play a crucial role in a scientific study of this magnitude, not only as contributors but as continued monitors of whale shark behavior. After submitting encounter information, participants are given the opportunity to provide an email address through which email updates are sent each time 'their' shark is seen and reported to the online library.

Further personalized shark tracking is made possible through a whale shark adoption program. This allows even those who have never seen a whale shark to choose a specific shark to 'adopt' thereby linking themselves – or

friends and family – to that animal to receive live updates on the whereabouts of their whale shark over a one-year adoption period.

ECOCEAN's results complement a collaborative study with Curtin University, Western Australia, confirming that the whale shark ecotourism industry provides significant monetary benefit for local communities. In other words, their results verify that whale sharks are indeed more valuable alive than dead.

With climate change, ocean pollution and a dwindling food supply all further acting to keep the whale shark at risk, it's time to step up and support the conservation of the behemoths of the deep. A click of a camera, and a few clicks of a computer mouse is all the effort required. Though there is good news about whale sharks in some parts of the world, their success as a species is at a precarious crossroad. Until governments worldwide realize the importance of and inherent benefit in protecting the whale shark, the pressure will have to come from below. It's up to us to help. Now it's our move.

For more information about the research of ECOCEAN, including videos and general whale shark information, visit the *ECOCEAN Whale Shark Photo-Identification Library*® at <http://www.whaleshark.org>

WHAT YOU CAN DO

- Upload your pictures of whale sharks – particularly left side images – to www.whaleshark.org; include, sighting location, date, time, any noticeable scarring, shark sex (if known) and estimated length
- Adopt a Whale Shark www.whaleshark.org
- Contribute home computing power to the ECOCEAN online grid computer at www.sharkgrid.org
- Avoid eating and purchasing 'tofu-fish,' whale shark meat and shark fin soup



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UNite to combat climate change

WORLD ENVIRONMENT DAY, 5 JUNE 2009

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WORLD ENVIRONMENT DAY, 5 JUNE 2009

ABOUT WED

(WORLD ENVIRONMENT DAY)

FEATURE WWW.UNEP.ORG

World Environment Day (WED) was established by the UN General Assembly in 1972 to mark the opening of the Stockholm Conference on the Human Environment.

Commemorated yearly on 5 June, WED is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action. The day's agenda is to:

- Give a human face to environmental issues
- Empower people to become active agents of sustainable and equitable development
- Promote an understanding that communities are pivotal to changing attitudes towards environmental issues
- Advocate partnership which will ensure all nations and peoples enjoy a safer and more prosperous future

The theme for WED 2009 is 'Your Planet Needs You-UNite to Combat Climate Change'. It reflects the urgency for nations to agree on a new deal at the crucial climate convention meeting in Copenhagen some 180 days later in the year; and the links with overcoming poverty and improved management of forests.

This year's host is Mexico which reflects the growing role of the Latin American country in the fight against climate change, including its growing participation in the carbon markets.

Mexico is also a leading partner in UNEP's Billion Tree Campaign. The country, with the support of its President and people, has spearheaded the pledging and planting of some 25 per cent of the trees under the campaign. Accounting for around 1.5 per cent of global greenhouse gas emissions, the country is demonstrating its commitment to climate change on several fronts.

Mexican President Felipe Calderon states that the WED celebration will "further underline Mexico's determination to manage natural resources and deal with the most demanding challenge of the 21st century – climate change."

TWELVE WAYS TO UNITE TO COMBAT CLIMATE CHANGE

FEATURE WWW.UNEP.ORG

Whether you are an individual, an organization, a business or a government, there are a number of steps you can take to reduce your carbon emissions, the total of which is described as your carbon footprint. You may think you don't know where to begin, but by reading this, you have already begun.

1. MAKE A COMMITMENT

Reducing your carbon footprint is no different from any other task. Telling people you will reduce carbon emissions may seem simplistic, but even simple actions like announcing your commitment to going carbon neutral can be effective, while the simple act of asking for ideas can lead to creative and innovative solutions. Several countries have indicated in recent months that they will go carbon neutral, led by Costa Rica, New Zealand and Norway. The United Nations system itself, led by Secretary-General Ban ki-Moon, and guided by the UNEP-led Environment Management Group, is moving towards carbon neutrality. UNEP is also facilitating carbon neutrality in all sectors and all regions through its climate neutral network.

2. ASSESS WHERE YOU STAND

It is likely that carbon will eventually be judged as an atmospheric pollutant and regulated accordingly, with consequent costs – and opportunities – for all sectors of society. Knowing where and how you generate greenhouse gases is the first step to reducing them. For individuals and small businesses, online calculators and internal assessments can help start the process. Larger organisations may need specialised advice and tools, such as the new ISO 14064 standard for greenhouse gas accounting and verification, or the Greenhouse Gas Protocol, provided by the World Resources Institute and World Business Council for Sustainable Development, which is an accounting tool for government and business managers to understand, quantify, manage and report greenhouse gas emissions.

3. DECIDE AND PLAN WHERE YOU WANT TO GO

Based on your assessment of climate-related risks and opportunities, a strategy and action plan can be developed. Targets help focus efforts and also provide a benchmark for measuring success. Most homes or businesses can reduce energy use by 10 per cent – which almost always results in a 10 per cent reduction in greenhouse gas emissions – with a one year payback or less. A plan to reduce carbon emissions will first focus on the type of energy and the way it is used; for example electricity for buildings and fuel for transport. Reducing this energy can create instant savings. An effective tool is an energy audit. Many electric utilities and government energy offices now offer an audit as part of their efforts to reduce carbon emissions.

4. DE-CARBON YOUR LIFE

There is a broader way to think about carbon and climate. Everything an individual, organization, business or government does or uses embodies some form of carbon, either in products themselves or in the energy and materials it takes to make them. Buildings, fittings and equipment are all proxies for carbon; 'carbon copies' can be chosen based on the least amount of impact they will have on the climate. Integrating climate friendly criteria into decision making can trigger a ripple effect.

If consumers, manufacturers and lawmakers all think 'low carbon' and 'climate friendly' savings in carbon emissions will multiply. Take packaging as an example. US retail giant Wal-Mart worked with one of their toy suppliers to reduce packaging on just 16 items. The toy suppliers saved on packaging costs while Wal-Mart used 230 fewer shipping containers to distribute their products, saving about 356 barrels of oil and 1,300 trees. By broadening this initiative to 255 items, the company believes it can save 1,000 barrels of oil, 3,800 trees, and millions of dollars in transportation costs.



Another example: you can buy paper or wood products that adhere to internationally certified standards. The Forestry Stewardship Council (www.fsc.org), for example, is an international non-profit organisation promoting responsible management of the world's forests. The FSC trademark is increasingly recognised as an international standard for responsible forest management. More than 90 million hectares in more than 70 countries have been certified according to FSC standards while several thousand products are produced using FSC certified wood and carrying the FSC trademark. Switching to recycled or sustainably sourced paper can also lead to considerable savings, reducing both landfill use and carbon emissions. Using recycled paper can save 1.4 tonnes of CO₂ for every tonne of paper and cardboard.

Other ways of reducing your carbon footprint include wasting less time and energy on travel. Cities can improve public transport options, companies can encourage low carbon habits (by ceasing to subsidize parking or investing in hybrid technology company vehicles), and individuals can car pool or use public transport. Sometimes simple actions can produce a shift. Secure bicycle storage and changing and shower facilities, for example, are often inexpensive compared to other parking structures but create a strong incentive for those who can commute by bicycle. In larger cities with adequate public transport, a monthly or yearly pass can be offered instead of parking facilities. Paris and Vienna, for example, offer a public bicycle system that reduces greenhouse gas emissions and traffic congestion.

5. GET ENERGY EFFICIENT

Improving the efficiency of your buildings, computers, cars and products is the fastest and most lucrative way to save money, energy and carbon emissions. This does not mean going without. Energy efficiency is about increasing productivity but doing more with less. More efficient buildings, cars and products with a direct and lasting contribution to limiting carbon emissions. Conventional buildings can account for almost 40 per cent of CO₂ emissions. High performance, environmentally accountable, energy efficient and productive facilities are now economically possible.

Very simple measures can lead to immediate savings. Just turning off unused lights, motors, computers and heating can substantially reduce wasted energy – and money. Generally, laptop computers use less energy than desktop computers and LCD monitors use less energy than CRT screens. Also consider what to do with equipment when its useful life is finished. Some manufacturers offer take-back or recycling. Also look for energy efficiency standards. For appliances, the Energy Star rating is a way to describe efficiency. For many brands now, the highest energy efficiency rating does not cost any more than less efficient products. Originally from the United States, Energy Star is now applicable in Europe.

Think about your travel. Advanced web and video conferencing technology mean the time is rapidly approaching when the need to travel will be substantially diminished. A two-day trip to attend a meeting 1,000 km (600 miles) away can cost about US\$2,000 per person when accommodation, travel and meals are included, while a video conference may cost as little as US\$200. The savings

are US\$1,800 and about half a tonne of carbon. Telecommuting is also increasingly an option for many. A study by the Telework Coalition (www.telcoa.org) found that if 32 million Americans who could telecommute did so one day a week, they would drive 2 billion kilometres less, save 300 million litres of fuel and gain the equivalent of 32 million extra hours every week for leisure, family or work.

Lighting can account for 15-20 per cent of total electricity use. Converting coal at the power plant into incandescent light is only three per cent efficient. Compact fluorescent lights (CFLs) have evolved rapidly in the past decade. They now last between six and 15 years and reduce electricity use by a minimum of 75 per cent compared to a standard incandescent bulb. The advantages of CFLs and other high efficiency

lighting have prompted legislation to ban incandescent bulbs. In 2007, Australia was the first country to mandate that no incandescent bulbs will be sold by 2012, a move that will reduce emissions by four million tonnes and cut power bills for lighting by up to 66 per cent.

6. SWITCH TO LOW CARBON ENERGY

If possible, switch to energy sources that emit less carbon and can reduce costs and emissions. Generally, coal produces twice the emissions of gas, six times the amount of solar, 40 times the amount of wind and 200 times the amount from hydro. In many parts of the world customers can choose to have a percentage of their electricity supplied from a renewable energy source, such as a wind farm or landfill gas project. These 'green choice' programmes are maturing and proving to be a powerful stimulus for growth in renewable energy supply. Today, more than 50 per cent of all US consumers, for example, have an option to purchase some type of green power product.

Larger users can even build their own lower emission energy systems, using solar power or lower carbon technologies such as generators powered by natural gas. A Global Environment Facility project in eastern and southern Africa is promoting small scale hydro schemes in the tea industry and cogeneration using agricultural waste from the sugar industry to generate electricity for industry use and to feed into national grids. In the United Kingdom, the Body Shop bought a 25 per cent stake in a large modern wind generator to provide renewable energy for its UK operations. Other companies installing their own renewable energy plant include 3M, DuPont, General

Motors, IBM, Johnson & Johnson and Staples. At the small business or household level, tax breaks and incentives can make solar photovoltaic systems and other renewable energy technologies cost effective. Rooftop solar electric panels can provide energy over time, reduce electricity costs and provide a buffer against price fluctuations. UNEP is helping promote such schemes in southern India and North Africa.

The transport sector is responsible for 25 per cent of total energy consumption and greenhouse gas emissions, mainly from burning petrol and diesel. Various options exist for kicking the carbon habit. Hybrid engines that combine electricity and conventional petrol or diesel engines can offer substantial fuel savings while reducing emissions. Vehicles can also run on a range of alternative fuels that can offer both cost and environmental benefits, although they also often require an additional investment that take some time to pay back. These include compressed natural gas (CNG), liquefied petroleum gas (LPG), liquefied natural gas (LNG) and biofuels.

Biodiesel and bioethanol are biofuels made from crops, such as wheat, soy, corn and sugar cane. They are often blended with petrol or diesel, and almost all vehicles can run on blends up to 10 per cent without modification. Specially enabled biofuel cars can run on higher blends, such as a mix of 85 per cent bioethanol and 15 per cent petrol. In many parts of the world, biofuels are becoming more popular and easier to find commercially and in various blends. For companies with automotive fleets, biofuels can be a cost-effective low-carbon alternative.

7. INVEST IN OFFSETS AND CLEANER ALTERNATIVES

There is a limit to how much efficiency you can squeeze from your lifestyle or your organisation's operations, or how much renewable energy you can employ. The choice for those who wish to compensate for their remaining emissions is to fund an activity by another party that reduces emissions. This is commonly called a 'carbon offset' or 'carbon credit'. The term carbon neutral includes the idea of neutralising emissions through supporting carbon savings elsewhere.

The average price for carbon offsets is US\$15 per tonne, but costs range from US\$5-50 per tonne. To purchase offsets, individuals or businesses pay an offset company to implement and manage projects that avoid, reduce or absorb greenhouse gases. Climate change is a global problem, so carbon reductions will have the same impact no matter where they are implemented. Carbon credits can be generated by emission-free energy generation, reduced demand, including energy efficiency, or sequestration in the form of underground and forestry storage.

According to one report, the highest quality offsets are generated from the flaring of methane from landfills, since methane is an even more potent greenhouse gas than CO₂. Green Gas International (www.greengas.net) is a company that generates carbon credits by converting waste gas to clean energy through partnerships with mines, landfills and biogas producers. The worldwide benefits of such projects include 125 megawatts (MW) of power, saving four million tonnes of CO₂.

8. GET EFFICIENT

Looking at your life or business through a carbon neutral lens can help you in other ways by increasing the efficiency of resource use, avoiding and reducing waste and ultimately improving your overall performance and reputation. Economists are fond of saying that there are no banknotes lying around because someone will have already picked them up. In climate change, there are still plenty of banknotes just waiting to be picked up. After all, carbon is generally the waste product of producing energy, and reducing waste and becoming more efficient is always a good idea. Integrate the 3R approach – reduce, reuse and recycle – into your thinking.

9. OFFER – OR BUY – LOW CARBON PRODUCTS AND SERVICES

The market for climate friendly products and services is growing rapidly, from energy efficient products to new renewable energy systems. To offer such products, however, it's important to begin at the design stage. Actions as simple as adding energy efficient specifications into the design process, for example, can produce a design that minimises energy consumption during its use and saves customers the time and energy from making adjustments to a product after a purchase, (for example having to wrap water heaters with insulation blankets).

A more systematic approach comes from the field of 'design for sustainability', which includes life cycle design and environmentally conscious design and manufacturing. This new approach considers environmental aspects at all stages of development to create products with the lowest environmental impact throughout the product life cycle. Ecodesign is an important strategy for small and medium sized companies both in developed and developing countries to improve the environmental performance of their products, reduce waste and improve their competitive position on the market.

10. BUY GREEN, SELL GREEN

The market for green products and services is growing rapidly. In many countries consumer surveys report that growing numbers of consumers are willing to buy green products if given the choice. For businesses, innovative product design and presentation combined with responsible marketing and communications can help ensure that this consumer interest translates into purchasing.

However, the market for green products remains underdeveloped because people still find it difficult to locate products or trust their environmental claims. Businesses can help consumers to be more climate friendly, from the online click for carbon offsetting on a tourism booking website to the label on a product at the local store.

11. TEAM UP

Many private sector companies are increasingly working with non-governmental organisations, cities or governments to identify and implement best practice solutions to reduce emissions. The Carbon Disclosure Project (www.cdproject.net), for example is an independent non-profit organisation providing information for institutional investors with a combined US\$41 trillion of assets under management. On their behalf, CDP seeks information on the business risks and opportunities presented by climate change and greenhouse gas emissions data from more than 2,000 of the world's largest companies.

Similarly, local and national governments are seeking opportunities to partner with business on delivering low carbon solutions. In countries such as Canada, government institutions and power utilities supported the setting up of Energy Service Companies (ESCOs). In the United States, the federal Environmental Protection Agency started the Energy Star program (www.energystar.gov) in 1992 as a voluntary partnership to reduce greenhouse gas emissions through increased energy efficiency. In 2006, American businesses and consumers saved US\$14 billion on energy bills with the help of Energy Star saved and reduced greenhouse gas emissions equal to 25 million vehicles annually.

12. TALK

The increasing importance of climate change means that companies and organisations will need to communicate. Transparency is critical. The internet and other new media mean that companies, organisations and governments cannot hide behind greenwash. This is where tools for verification and reporting guidelines with recognised indicators are critical. One example is the Global Reporting Initiative (GRI) (www.globalreporting.org). Internal communications via intranets and company publications can report progress and acknowledge contributions by individual staff or teams. It's also important to let shareholders know. Reducing emissions, particularly by improving efficiency is a win-win situation that can also enhance a company's reputation. Consumers and investors alike are requesting information on a company's response to risks and opportunities related to climate change.

(This is an abridged and adapted version of an original piece produced by UNEP for the UNEP/ Sustainable Development International publication 'Climate Action' www.climateactionprogramme.org)

EASY WAYS TO GREEN YOUR DAILY ROUTINE

FEATURE WWW.UNEP.ORG

This year's theme for World Environment Day (WED) is Your Planet Needs You! UNite to Combat Climate Change. But too often we are presented with environmental problems without being given the tools to act. WED is about taking action to be a part of the solution. And the Daily do something Tips are a great start.

We can all do our part to protect the planet by using less and acting more. Going green is not as difficult as you might think. Here we walk you through 30 easy ways to green your daily routine, from the moment you hit snooze on your solar-powered alarm clock to the point when you crawl into your eco-washed, organic cotton sheets.

Make your WED commitment today. But don't stop at today and don't stop here. Try to incorporate all of these into your life as a matter of routine. Get others to do the same. And get involved!

IN GENERAL:

1. Plant a tree! Help achieve UNEP's Billion Tree Campaign target of planting seven billion trees – one for every person on the planet – by the end of this year! Three billion are planted. Five billion are pledged. On every continent in the world trees can be planted in June, so start your efforts on WED.
2. Find needy homes or charitable organizations for things that you no longer need or want rather than throwing it away.

DAILY ROUTINE:

Bathroom:

3. It would seem to go without saying, but many of us forget that we can save water in simple ways like not letting the tap run while shaving, washing your face, or brushing your teeth.
4. Insulating your water heater will help save valuable energy, and you can go the extra mile by installing showerheads with a low flow in your bathrooms for bathing purposes to help save water. You can also put a timer on your heaters to save power.
5. Using an electric razor or hand razor with replaceable blades instead of disposable razors goes a long way to cutting back on waste. And plant a tree.
6. Use towels for drying your face and hands instead of tissues that are used and thrown away. Also, hang your towels to dry so that they can be reused several times. You are after all clean when you use them!

Breakfast:

7. Juice or yoghurt lovers can do their bit by buying juice in concentrates and yoghurt in reusable containers instead of single serving packages.
8. Many of us like to leaf through the paper as we munch on breakfast, but consider reading the dailies in communal spaces like the office or coffee shops. However, if you prefer to have your own copy, make sure you recycle!
9. When packing your lunch, opt for reusable containers for food storage instead of wrapping the food with aluminum foil or plastic wrap.
10. As you leave the house, don't forget to switch off all the lights and appliances at the wall unit (if you have this feature) and unplug chargers as they continue to consume even if they are not charging; saving energy helps reduce air pollution.

GETTING TO WORK:

11. Don't go anywhere without your cloth bag so you can just say no to plastic whenever you shop.
12. Radical as it may seem, in today's "the easier the better" society, the easiest way to reduce your carbon footprint is by avoiding driving altogether. Power down and instead try biking, walking, carpooling, public transport or an occasional telecommute.

13. If you have no other choice than to drive to work, look for the most fuel-efficient car model for your next purchase and keep your tyres inflated to the correct pressure.
14. If you're one of the lucky few blessed with clear stretches of road on your way to work, use cruise control, as it saves fuel and also helps you maintain a constant speed.
15. If you're among the majority of drivers who spend their mornings stuck in traffic, consider turning your engine off if you will be idling for long periods of time. And plant a tree.
16. For those who suffer from road rage, remember that aggressive driving lowers your mileage, so if you want to save on fuel and save the planet while you're at it, accelerate gradually – something to keep in mind the next time that bad driver cuts you off! Just count to 10 and say the planet needs me!

AT WORK:

17. Do you have a morning hot drink routine? Using a washable mug is an environmentally-friendly alternative to non-biodegradable styrofoam or plastic cups.
18. Leave a cup and reusable bottle for water at work to eliminate buying drinks, which get served in plastic cups, or bottled water. 80% of plastic bottles are recyclable but only 20% are actually recycled.
19. When you need a pad for lists and messages, turn over an old document and write on the back of that instead.
20. If there isn't an office recycling system, start one yourself! Recycling our trash actually contributes to reducing global warming emissions. And it is estimated that 75% of what is thrown in the trash could actually be recycled, though currently only 25% is.
21. When you must have a paper copy, make sure you default your printer option to use both sides. This is an easy tree-saver!
22. Most computer accessories like ink cartridges and CDs and DVDs are made of materials that could be reused. Computer cords and speakers are fairly standardized, meaning they can be used for a variety of computer models and makes.
23. Lower your office's carbon footprint by seeing computers, monitors, printers, copiers, speakers and other business equipment to their energy saving feature and turning them off at the end of the day. And plant a tree!
24. Turning off all unnecessary lights, especially in unused offices and conference rooms is an easy way to save energy.
25. If you're in search of something to personalize your workspace, look no further than the humble houseplant. Houseplants are good for the environment because they remove quantities of pollutants present in the air.

AFTER A LONG DAY:

26. In the summer/warmer months, consider using an interior fan in conjunction with your window air-conditioner to spread the cooled air more effectively through your home. While you're at it, in winter, lower your thermostat and put on a jumper. In summer, increase it and wear lighter clothes, you will also save money!
27. Don't place lamps or TV sets near your air-conditioning thermostat as it senses heat from these appliances, which can cause the air-conditioner to run longer than necessary.
28. When cooking dinner, match the size of the pan to the size of the heating element to lower energy wastage.
29. When you are feeling at your laziest, don't throw clean clothes in the hamper to avoid hanging them up! Wear jeans more than once...
30. When you wash, use only eco-friendly products in your home. It's best for you and the environment! And did we mention plant a tree!

DIVING WITH DOZENS OF SHARKS IS SOME-FIN TO BOAST ABOUT

FEATURE **COLIN SIMPSON**

Photo by Francis Uy

You know that moment when you're on the boat on the way back to shore and, to pass the time, the divers start boasting about the exotic marine animals they've seen?

"I saw a manta ray in the Maldives once, it was incredible," says one. Then your buddy chips in: "Well I saw two white-tip reef sharks off Hawaii – now that really was amazing." And so it goes on.

I would just like to give notice that in future no one should bother trying that sort of one-upmanship with me, because if they do I'll blow them out of the water.

"I went on a dive and saw sand tiger sharks – 32 of them," I'll say in a soft voice. "And there were grey reef sharks, nurse sharks and zebra sharks." As the others fall silent I will continue: "Rays? Well let's see, there were eagle rays, cownose rays, fantail rays and spotted eagle rays... Oh, and giant grouper, humphead wrasse, blowmouth guitarfish... All in all I saw 33,000 fish on the one dive – BEAT THAT!"

No, this wasn't some sub-aquatic fantasy and I wasn't suffering from nitrogen narcosis. I really did see all those fish on one dive – in the giant aquarium at Dubai Mall. And you can too, for the Dubai Aquarium and Underwater Zoo has started to offer dives in the three-storey high tank to the public.

My dive buddy was Head Curator Paul Hamilton. Before we entered the water I asked the question that had been preying on my mind for some time – are the sharks, well... dangerous?

"There is an element of danger as the sharks have teeth and can inflict a wound," he said. "But in terms of assessing the risk I would say there is greater danger at the ice rink."

So why don't the sharks eat all the little fish in the aquarium?

"Because we've trained them," said Hamilton. "In the wild a shark would eat as much as it could at one time because it wouldn't know when it would be able to eat again."

"But here we have a routine, we feed them and they have come to trust that food will come every day. They've lost all interest in hunting and live peacefully with the other fish."

The fish in the tank range from 10cm sergeant majors to mighty giant groupers, which weigh 200kg and can grow to 2.7m. The sand tiger sharks with their sharp, curved teeth are the undoubted stars of the show. They grow to 3.5m, though the ones in the tank are not yet fully mature – they are between six and eight years old and measure between 2m and 2.3m.

But the giant groupers are the real kings of the aquarium as they progress sedately through the water.

"Everything gets out of their way," added Paul. "We move for them – even the sharks move for them."

Before the dive you're shown a training video that explains the do's and don'ts of diving with sharks. Quite frankly for me this was the scariest part of the whole experience as the description of how a shark displays aggression (it lowers its pectoral fins and arches its back) made me wonder what I'd let myself in for.

I was, however, reassured to hear that the sharks had just been fed and so would not be hungry when I entered the tank.

After watching the video you change into your wetsuit and go to the entry point, a set of stairs at the top of the aquarium that leads down into the water. Once you're kitted out with aqualung, fins and mask you step into the water and descend using a vertical rope to a point 5m deep above an underwater cave.

The water is kept at 24°C – the tank contains cold water and warm water sharks and this temperature is a happy medium. You would feel pretty cold without a wetsuit.

FEATURE

You stay put for a minute or two to adjust to your surroundings then move down to the floor of the tank near the viewing panel.

I could see people looking in from the mall – so this is what it feels like to be a goldfish in a bowl, I thought. Most of the onlookers were taking pictures of Paul and I. One or two waved, and I waved back. But I soon forgot about them as the sharks began to sweep past.

The biggest surprise was how calm it felt in the tank. You'd think that if you were in the water and a very large shark came by or swam a metre or so above your head you'd feel, well, a bit alarmed, but it just wasn't like that. Hamilton had explained that the sharks could detect the electrical impulses generated when your heart beat and would sense if you were stressed. And he said that if one animal in the tank became tense then the feeling spread instantly among all 33,000 occupants.

I reckon it works the other way, too. The sharks and other fish are so used to seeing divers that they do not perceive them as a threat and hardly notice them. And because the sand tigers are so blissed out you feel calm too, in the same way you're meant to when you swim with dolphins.

So who'd have thought it – diving with sharks, far from giving you a wild adrenaline thrill, is actually a calm, tranquil experience.

After 10 minutes we headed off on a trip around the edge of the tank, encountering literally tens of thousands of fish. And it was not just all the large predators that caught my eye – smaller yellow and silver species looked enchanting as they sailed past. Groups of smaller rays swam above my head just beneath the surface, looking like flocks of birds.

And then suddenly Hamilton indicated it was time to return to the surface, and it was all over. The dive lasted around 30 minutes but the time flashed by. Thinking about it afterwards, remembering how a weird-looking bowmouth guitarfish had swum right up to me to have a look, it all seemed like a dream.

The dives, which are operated by Al Boom Diving, are not cheap. Certified divers pay Dh625 while the cost for non-divers is Dh825, which includes a short training course. The price covers the hire of equipment – you're not allowed to take along your own as the gear

provided is kept specially clean so it can be used in the aquarium. You also get a certificate to prove you've dived with sharks.

"The price is prohibitive for some people," said Paul. "But we don't want to get a lot of people through, we want to attract enthusiasts and also to change the public perception of sharks. They're not aggressive animals, they're very passive."

For further details call Al Boom Diving on: +971 4 342 2993



Photo by Colin Simpson



Paul Hamilton and Colin Simpson getting ready to dive in the aquarium.
Photo by Al Boom Diving



Photo by Francis Uy



Photo by Francis Uy



Photo by Francis Uy

CONSERVATION DIVING – BCDs, SMBs AND MPAs

FEATURE **MATT DOGETT AND CORAL CAY CONSERVATION – WWW.CORALCAY.ORG**

PHOTOGRAPHY **MATT DOGETT**



Reef Rangers

AS A DIVER HOW CAN YOU GIVE BACK?

Coral Cay Conservation (CCC) is an award winning, not-for-profit conservation organisation dedicated to the protection, restoration and management of coral reefs around the World, for the benefit of local coast communities that depend on them. By training non-divers and teaching experienced divers science, surveying methods and environmental responsibility, CCC is able to initiate and achieve pragmatic marine conservation in many developing nations.

With a pioneering, multi-stakeholder (governments, non governmental organisations (NGOs) local businesses and local communities) and 'citizen' science approach, CCC is able to initiate long-term conservation management plans for all those with a personal stake in the coral. Most notably, the millions of the world's poorest coastal dwellers that depend almost entirely on reef resources for their food, shelter and income.

Over the last 23 years, CCC has become a recognised and respected leader in the field of coral reef conservation. CCC has worked in 12 countries, proposing and designating marine protected areas (MPAs) and wildlife sanctuaries in the Philippines, Fiji and most notably a UNESCO World Heritage Site in Belize.

Most recently in Limasawa, Philippines, CCC, German Technical Corporations (GTZ) and the local municipality celebrated the opening of the first ever MPA for Limasawa. The MPA is situated in the Northeast of the island along the Barangays San Agustin and Lugsongan; it is the largest MPA in Southern Leyte and one of the largest scattered amongst the Philippines' 7,107 islands.

"CCC is an organisation that is really doing something positive for this world of ours – and you can help by taking an active role in our work."

David Bellamy OBE, President of CCC

HOW DOES CCC DO THAT?

CCC's expeditions have both scientific and community elements. The primary scientific aim of the marine expeditions is to generate detailed information on the marine biodiversity and conservation values of the coastal zones. These surveys involve a team of four divers counting everything they see as they swim along pre-determined survey lines. The information gathered is entered into a central database and used to produce maps displaying areas of high conservation value. These maps can be used in marine spatial planning, such as establishing MPAs.

In addition to these detailed surveys, CCC also surveys existing MPAs in the locality of the expedition and reports the results to the local fishing communities and local authorities; helping enhance public understanding of CCC's work. Since the expedition in Southern Leyte in the Philippines began in 2002, CCC has been instrumental in establishing five new MPAs and monitoring their success. Early indications suggest that local fishermen are proud to be the guardians of their protected areas and believe their catches have improved as a result.

Reef Check is an international coral reef survey programme, which monitors coral reef health on a global scale. To do this, Reef Check requires that volunteers the world over use the same survey methods. Each CCC marine expedition conducts Reef Check surveys on a regular basis. As one of Reef Checks' biggest contributors, Coral Cay is proud to be providing volunteers with the opportunity to gain their Reef Check EcoDiver certification on selected expeditions.

Community education is a vital part of all CCC expeditions; only by encouraging the local people to understand the importance and fragility of the reef ecosystem can any expedition stand a chance of long-term success. To this end, CCC's track record is excellent. Expedition staff and volunteers often make visits to local schools and colleges to hold



A false clownfish resting in its anemone home shared with the anemone crab



Threadfin hawkfish resting on soft coral at Buluarte



Colourful nudibranch (species not identified)



Feather star open and feeding on Ampo Reef

special marine awareness classes for students of all ages. Open days are also held at the CCC expedition base which students and teachers are invited to attend. These events involve both classroom and practical, hands on lessons where students can snorkel on the local reefs and see the ecosystem they are learning about firsthand.

CCC teacher training events allow CCC scientists to inform science teachers from across the province about marine biology and pressing environmental issues. The teachers leave the events armed with lesson plans and activities to use in school and pass the message on to students across the region.

One of the most successful schemes set up in two schools near the expedition base in Southern Leyte is the Reef Rangers. The scheme (set up by Karen Holman, a volunteer teacher with CCC) selected ten top students from each school and brought them to the CCC base for two weekends of classroom lessons and practical sessions. At the end of the course, the students were able to conduct basic surveys of their local reefs, write up the results and present them to their year group. The Reef Rangers then conducted snorkelling surveys on their local reefs under the supervision of CCC, two to three times each year.

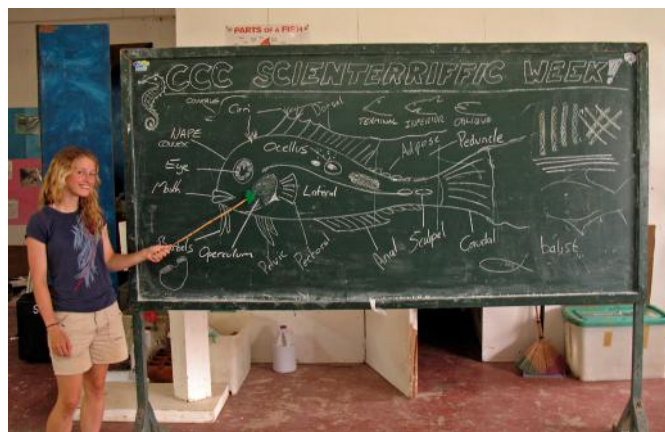
Recently, CCC scientists have forged links with Southern Leyte State University and the staff and students of its new Marine Biology degree course. As part of this relationship, students from the degree course are awarded scholarships with CCC. Scholarships allow a student to join the expedition for a full month during which time they learn to SCUBA dive and how to conduct underwater surveys. With this scheme in place, local capacity to guard and monitor the reefs will remain when the expedition eventually moves on.

In April 2009, Grace Quiton, an Ex CCC Scholar from the Philippines, did exactly this. After completing her scholarship programme Grace went on to set her own local NGO, Ocean Group Action (www.oceanactiongroup.org), that envisions Filipino coastal communities transforming themselves into active, educated stewards of their marine environment through youth education and public awareness.

WHAT'S LIFE LIKE OUT ON EXPEDITION?

Life on an expedition can be fast-paced with staff and volunteers packing as much activity as they can into each day. Expedition staff comprise of an Expedition Leader, a Project Scientist, Science Officers, a Diving Instructor, a Community Liaison Officer, a Medic, local boat and compressor staff and if you are lucky, an expedition chef.

On a typical day, volunteers will be up at 6am for breakfast closely followed by chores and preparations for the first dive. During science training week this might involve a lecture on some aspect of marine ID or survey techniques. The diving might take place on the house reef if science training or Reef Check diving is the order of the day or it might be off on the boat to a more remote location for baseline monitoring. Either way, being at the centre of global marine biodiversity, the diving in the Philippines is of world-class quality.



After the dive, survey forms are completed before lunch and checked by the science staff. Lunch might be prepared by a member of local staff or by the volunteers themselves, but it will be sure to recharge the batteries for the afternoon. After lunch there might be more lectures or a chance for a short break before dive two. With the second round of survey forms completed or science revision consolidated, if you still have the energy then you can fit in a game of volleyball before sunset and dinner.

An evening on site could see the science staff giving additional lectures or helping volunteers learn their marine ID. Data entry is equally important and the day's survey forms are entered into a database that is emailed back to head office each week.

For science officers, each day is much the same as for the volunteers with the added extras of planning the day's diving activities, planning and presenting the lectures, dive marshalling, checking the survey data, carrying out community projects, preparing extra activities for the volunteers and keeping everything running smoothly. They need a lot of energy!

The role of the Project Scientist differs from that of the Science Officers in being more community-based. Most of my diving activity occurred during the science-training week, when extra help was needed to teach the volunteers and keep the survey programme running. The rest of the time, diving was intermittent as I might be spending several days at a time out in the community arranging MPA surveys, open days or school visits. Sometimes I would build new relationships with other stakeholders e.g. Southern Leyte State University or consolidate those we already had e.g. with the staff at the Provincial Environmental Management Office. In addition to this there were reports to write and data to analyse; either survey reports on the MPAs for the local communities, weekly reports for Head Office or monthly reports informing the local communities of our survey progress and community events.

Each district in Southern Leyte is divided into small sub-sections called Barangays. Each Barangay has its own Captain, responsible for overseeing day-to-day affairs and representing community issues at a higher level. It was important to pay regular visits to the local Barangay Captains to maintain good relationships. These visits provided the chance to ensure local fishermen were reporting any problems with the MPAs and adhering to the management rules. Relationships were maintained by helping them to gain funding for MPA patrol boats, making MPA marker buoys and creating information boards on MPA management and wildlife for public awareness.

Much of the community work involved setting up events in which many more of the CCC staff and volunteers could participate. Open days and school visits could not happen without all the hard work behind the scenes from other expedition staff and volunteers who would prepare the expedition site for open days, run many of the lessons, put on the legendary Fred the Fish puppet show and most importantly, keep the kids under control!

CCC has two marine conservation projects currently running in Napantao, Philippines and Charlotteville, Tobago and a pilot programme in Cambodia is in the planning phase.

Divers can be assured that by joining the Philippines expedition they will have the opportunity to dive and help conserve some of the world's most pristine and diverse coral reefs, work with local communities and give back in Southern Leyte. In Tobago there is opportunity to become a certified Reef Check Eco-diver, be visited by manta rays, see one of the world's largest brain coral, all the while contributing to the collection of valuable information about the condition of the reef.

If you would like to join an expedition and help conserve coral reefs and help the communities dependent on them, visit www.coralcay.org for more information.

MATT DOGGETT'S PERSONAL HIGHLIGHTS (EX – CCC PROJECT SCIENTIST, PHILIPPINES)



There were too many highlights during my time in the Philippines to name just one. It would be wrong to ignore the coral reefs for they are truly amazing. The present House Reef at Napantao lies adjacent to Napantao Marine Sanctuary. The sanctuary has been described as one of the finest wall dives in the Philippines. Two sheer walls covered in soft and hard

corals drop to over 40m, separated by a steep bank. The descent takes you through tens of thousands of anthias, damselfish and wrasse. Turtles are frequent as well as lionfish, six-bar and emperor angelfish and grouper. Further out into the blue, tuna, jacks and barracuda patrol the wall and at the right time of year whale sharks will be passing close by.

The whale sharks really were incredible. At Sonok Point between November and February, whale sharks are often seen. These graceful beasts are shy and divers and snorkellers should respect the Code of Conduct outlined by the Shark Trust; remain at least 3m from the sharks and refrain from flash photography. I found that snorkelling allowed me to spend longer with the sharks than any of the scuba divers.

Community highlights are many. Soon after I arrived, the local Mayor asked me if a group of us would perform the national dance, the Tinikling, in front of the townspeople; a daunting prospect if ever there was one. Of course we accepted. Then we found out the dance involved jumping between large bamboo sticks in bare feet whilst they were struck together in rhythm to the music! Three weeks and several sore ankles later we gave a flawless performance to a 1000+ crowd and gained rapturous applause.

At Christmas we held a party for the youngest children from the surrounding villages. Usually open days were educational affairs but this one was all about having fun and making CCC staff and volunteers look silly. The day was a resounding success although the mobbing of Santa Claus required an evacuation of the beach shack as it began to crack under the weight of the children rushing for a gift!

That leads onto the best highlight which for me was the Filipino people. Everyone I had the pleasure to work with was courteous and friendly with a warm welcome. The children always wanted to learn and play and enjoy life. I left the Philippines with many happy memories and knowledge that the continuing work of CCC is having a real impact on the ground, touching the lives of many.

CCC FACTS

- *New* Marine Conservation Pilot Programme planned for Cambodia in 2009
- Whale shark migration through Sogod Bay is December to May
- Leatherback turtle season in Tobago is March to August
- Expeditions begin every month
- Prices start from £650 for a 2 week expedition
- Free Reef Check and Rescue Diver training available on selected expeditions
- Up to 40% reductions on all Marine Expeditions

SANDWATCH:

A COMMUNITY BASED ENVIRONMENTAL PROJECT WITH A GLOBAL REACH

FEATURE **PAUL DIAMOND AND GILLIAN CAMBERS**



Measuring beach width, Maldives

Sandwatch is a grassroots network of schools and community groups working together to monitor and conserve local beach and nearshore environments and to build resilience to climate change.

The project is coordinated by the Sandwatch Foundation, a non-profit, non-governmental organization, and supported by international organizations including the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Sandwatch provides a framework for youth to work with their teachers and local communities to evaluate critical problems facing their beach environments and to develop sustainable approaches to address these issues.

Originally established in the Caribbean in 1999 as an initiative of UNESCO, the programme has steadily expanded and is now active in schools in about 40 countries worldwide, mostly small tropical islands (including the Pacific and Indian Oceans) and the coastal regions of Africa.

Each Sandwatch school or group adopts a local beach and regularly, ideally once a month, takes a series of measurements and tests of their beach using simple and readily available equipment.

By measuring how the beach width, currents, waves, water quality and other factors change over time (more than a year) the teams can determine whether their beach is stable and healthy or stressed and deteriorating, and the nature of the stressors.

When a group identifies a problem they can in partnership with their community develop

a specific project to address and mitigate the problem(s).

Project activities include alerting the media to potential hazards such as water contamination (from sewage, construction or agricultural runoff for example), conducting beach clean-ups, replanting mangroves or dune stabilization vegetation, creating informational pamphlets or signage for proper beach use, monitoring and protecting marine turtle nesting sites, or monitoring the effects of coral bleaching.

By keeping the beach and related ecosystems healthy they are made more resilient and better able to adapt to climate change.

A Sandwatch climate change database, presently under design, is intended to provide an inventory of beach data against which climate change impacts can be assessed from 2010 onwards.

All Sandwatch groups are encouraged to regularly post their data, photographs and other project details on the Sandwatch website, as well as to contribute articles and photographs to the Foundation's news journal, The Sandwatcher, which is published several times a year in English, Spanish and French language editions.

All editions of The Sandwatcher can be read online at: www.sandwatch.ca/schedule.htm

Sandwatch representatives from each country

are also invited to participate in regional and international workshops and conferences, where they share their experiences and data and forge partnerships with similar environmental groups.

Video conferences and contests between teams are also regularly held to promote the Foundation's activities and group cohesion.

One of the main strengths of the Sandwatch programme is its ability to foster a real sense of community within its members.

Project participants world wide often have their data and photographs posted on-line within 24 hours of it being emailed to the projects website.

Their data is posted on their own "national homepages" within the overall Sandwatch Website (www.sandwatch.org) and these home-pages are also theirs to customize as they see fit, and often contain additional information on their local school, community, culture and related environmental projects that they may be involved in.

The Sandwatch manual is also available for download from the website and is also available in French and Spanish editions.

If you are interested in finding out more about Sandwatch, please contact:

Paul Diamond: pdiamond@sandwatch.ca

Gillian Cambers: gcambers@sandwatch.ca



Water quality analysis in Banda Aceh, Indonesia

www.freestyledivers.com

Royal Beach Hotel

Miramar Al Aqab Beach Resort and Spa

Fujairah Rotana Beach Resort and Spa

HOW TO CHOOSE MY FIRST CAMERA

FEATURE **MARCELO MARIOZI** - **PHOTO@EMIRATESDIVING.COM** (WWW.UWPHOTO.AE)

The main features you might need to consider before buying your first underwater photo equipment.

The main mission of an underwater photo instructor when teaching a beginner is not to teach him how to become an amazing underwater photographer, but instead take him to a basic level where he does not become disappointed by his otherwise not so good first results. In that mission, one of the most challenging things to approach is when a student comes to you with a camera that is not well suited for the job. It is an even more challenging subject to approach when that camera is more expensive than a better suited beginners camera.

The characteristics of light underwater makes it very hard, if not impossible, for a camera maker to make one camera naturally suited for underwater photography. So when you choose your first camera you need to look for cameras that will adapt more easily to the conditions and necessities underwater. It is much easier when the student approaches the instructor before buying his/her first camera, but that is not always an option.

The digital camera market is very dynamic, the compact digital market even more so. There is no way one can accurately say which camera model is the best. This information will change within weeks and depends on the shooter, location and objectives. The obvious first choice is to house your own camera, and yes it will be possible to take your first pictures with it. But it is very likely it does not have all the features we would find most useful. In any case when you buy your first camera it is not always as suitable for underwater photography, but most people agree on a set of functions very useful for underwater photography that will likely take you through the first steps with ease and might make you happy for a good time.

First of all your camera should be "house-able", sometimes the camera maker also makes housings for it, but most of the time you will find third party housing makers. Among these you should keep in mind not just the housing, but how many and what controls the housing allows you to access underwater and just as importantly, the accessories you can choose to buy later, especially flash adapters, and extra lenses or adapters for macro and wide-angle photography.

The second best feature is the ability to control your camera setting manually, underwater lighting is very complex, and most of the time we have to overrule automatic camera settings to get good results, that's when the manual setting of shutter speed and lens aperture comes in.

To correct for the lack of light and strong blue color cast underwater, we make use of flash most of the time, and those are controlled either by optical cables or water proof sync cables, and the housing of the camera you choose must have a connection for some kind of flash cable as well as wide-angle and macro adapters.

More to the point, these are the functions you should look for on an underwater camera. If you follow these guidelines you are at a good start. Based on these I would like to suggest the best options for the diver who wants to start in underwater photography (or at least the best cameras I want my students to come to me with). These are: the Canon G10 or Nikon P6000 (in Ikelite or Fisheye housings) or Sea&Sea DX1G (or the newest DX-2G), any of those with an articulated strobe arm carrying a Sea&Sea YS-100a strobe. Any of those options can surely take you through the first years of this interesting activity and even give you great images on the surface!

Sea&Sea YS-110a flash head



Sea&Sea DX-1G and with housing



Nikon P6000



Canon G10



"There are many choices in underwater photography equipment, and for the beginner it might represent a challenge if you don't know what to look for."

NEW FORUM FOR PHOTOGRAPHERS



The newly created EUPS — Emirates Underwater Photographic Society, is another way for underwater photographers to develop their skills by getting together and exchanging experiences.

If you like to shoot your dives and meet your peers, you can join the Yahoo! Group:

<http://groups.yahoo.com/group/eups/>

Or send an e-mail to:

eups-subscribe@yahoo.com

And/or, go to the Face Book Group:

<http://www.facebook.com/group.php?gid=54454423911>

Or search for "EUPS"

EDA DIGITAL ONLINE 2009 UPDATE

FEATURE **MARCELO MARIOZI** - PHOTO@EMIRATESDIVING.COM (WWW.UWPHOTO.AE)

The results for the EDA Digital Online 2009 Competition are around the corner. By the time you read this magazine, the Jury votes will be coming in and the results will be out this month at the next EDA Social.

I must confess I am really impressed. When I first set out to do this I did not expect such a good response. Ten years ago, I helped setup the Brazilian underwater photo commission, pretty much the same thing we are trying to do here in the UAE, and I remember that at the first event there we got less than 10 participants, ten years later we have built a national ranking of more than 60 photographers and at least 20 high level underwater photographers publishing images world wide.

Based on this previous experience and the difference in size between these two countries, I personally set the minimum number of participants at the EDA event to 5, if we had less than that we would have had to consider cancelling the event or taking other measures. But luckily we have at least 10 participants, and I came to know a few more underwater photographers in the UAE that for one reason or another did not take part in this event. It was great!!! We want more participants next year.

Another great surprise and a reason for all of us in EDA to be proud of is the amazing response we got from the international underwater photography community. The jury we have been able to put together for this event is of an amazing quality, and in fact in this aspect we are second to no other contest in the world, this is an amazing achievement for a first event. Now I can finally present it to you:

JEFF COLLETT (UK) <http://www.jeffsaquaimages.com/>

One of the most experienced underwater photographers in the Gulf region, based in Dubai and diving regularly on the east coast of the UAE. He has been an underwater photographer for many years and has dived in many of the world's best dive locations with underwater images used by several UK based agencies, featured in many publications and magazines and more recently, has been used extensively by the new Sharjah Aquarium.

MARTIN EDGE (UK) <http://www.edgeunderwaterphotography.com/>

With more than 30 years of underwater photography experience, Martin achieved amazing results in contests, and is the author of what is regarded as "best book on the subject" – The Underwater Photographer.

LUIZ FERNANDO CASSINO (BRAZIL) <http://www.nikonbrasil.com.br/noticia2.htm>

Biologist, Dive and Underwater Photography Instructor; underwater photographer since 1997, 5-time Brazilian UWPhoto Champion having conquered 4 categories top-ten in World Championships, and was top-ten general in Spain UWPhoto World Championship in 2005. He is one of the few photographers with the recognition of being sponsored by Nikon.

MARCIO LISA (BRAZIL) http://www.xdivers.com.br/gal_marciolisa.htm

Divemaster and Underwater Photographer; actual runner-up in the Brazilian UWPhoto Championship and winner of the international contest "Raja Ampat Photo Contest"

NUNO SÁ (PORTUGAL) <http://www.photonunosa.com>

A Wildlife Photographer specialized in marine life, living in the Islands of the Azores (Portugal). He has been nominated in several National and International Photography Competitions and is a regular contributor of several magazines, such as National Geographic Portugal.

JORDI CHIAS (SPAIN) <http://www.uwaterphoto.com>

Born in Barcelona in 1973, is a freelance photojournalist specialized in underwater and marine themes. His work include extreme sports like cave diving, free diving and deep wrecks, and he is also working on travel articles and natural history subjects. His stock library has over 15,000 selected images and is still growing by day. Some of those images are published regularly in books and magazines in Spain and overseas. He won two awards at the BBC Wildlife Photographer of the Year in 2008 and one award on the Shell Wildlife Photographer of the Year in 2006, the most prestigious contests in the world of wildlife imaging.

MARCELO MARIOZI (BRAZIL) <http://www.uwphoto.ae>

Has competed and organized underwater photo contests for over a decade, he has been to two World Championships and participated in workshops with the CMAS Audio Video Commission. He is the captain of the Brazilian Underwater Photo Team and the EDA Photography Coordinator.

REEMA AL ABBAS (UAE) <http://www.reema-abbas.com>

Is a UAE national educated in London's prestigious Chelsea College of Art & Design, she immersed herself in the study of fine art, design and marketing by London's finest tutors and has participated in numerous group exhibitions, showcasing her paintings and has had several private views of her work. Her creativity is obvious as colors and textures excite her and her keen eye sees everything as an artistic composition. The rich marine life she encounters whilst diving, inspires many of her paintings.

I consider Jeff an amazing photographer; with an extensive background (from the film era) and knowledge of our local industry and dives, he is in my humble opinion the best underwater photographer I have seen here in Dubai and it is really nice to have at least one jury on our doorstep. I am really excited about working with him and seek some of his knowledge and skills! Reema is a UAE national, EDA's Project Manager, but above all she is a highly skilled artist with very refined taste, and we will benefit from her

feminine point of view. I am very curious to see her votes. Martin Edge is simply the author of the best book on uwphotography which is compared to the late "Galen Rowell – Inner Game of Outdoor Photography". A book that can improve even the most experienced uwphotographer. In aviation words, "an envelop breaker". Luiz Fernando Cassino is my dive and uwphotography instructor and friend. He has been on top of the sport for almost a decade now, going to his 4th World Championship in June. Luiz has so far always come back with top-ten images. It is a pleasure and an honor to become an instructor like him and to discuss ideas today on the same level. Marcio Lisa can be considered the new generation, but he is certainly not any less capable, having won the first international contest he ever entered, the prestigious Raja Ampat Contest. Nuno Sá was presented to us by Rita Bento, and aside of coming from the prestigious "school" of Portuguese underwater photographers, a few of which I have the pleasure to know in person, he is very well published, including National Geographic and a nomination in the Shell Wildlife Photographer of the Year in 2008. Jordi Chias in turn was recommended by Nuno, a new member of the prestigious Spanish school. When I look at his portfolio I tend to think his impressive CV does not do his imaging enough justice. It has been a long time since I last saw someone revolutionise the uwphotography world as he is doing.

Best of all these amazing professionals are devoting their free time and expertise to help us, for the cause of the Ocean.

As per the participants, I would like to congratulate all of them. We found we have a mix of people with advanced equipment and entry-level cameras, but all of them take good images regardless of their equipment and some with minimum formal training. This is another thing we want to change for next year...

As we told you all before, the EDA Digital Online Competition is just the first step, the first of a big project. We can now publish the next steps to follow.

To begin with, the EDA Digital Online Competition will generate two separate rankings, one will be EDA's annual ranking and the second one will be the EUPS – Emirates Underwater Photographic Society ranking that will take the past 10 year results into account.

We have decided against having a National UWPhoto Championship this year and will use the time to prepare ourselves for next year. We have had normal delays to this first edition that had pushed the event into late June, (the original planned date for results was late March) and since we plan to start next year's Digital Online Competition earlier (January 2010) there is very little room for a championship inbetween these two dates.

The best news is that we are going to use this time in the second semester to try to develop the activity by organizing courses and maybe a photo-trip workshop. Interested members can find out more details about that by sending an e-mail to: photo@emiratesdiving.com.

PIC FIX

YOUR IMAGES EXPOSED AND REFLECTED

FEATURE **MARCELO MARIOZI** – [PHOTO@EMIRATESDIVING.COM](mailto:photo@emiratesdiving.com)

If you want to get your pics published here and reflected on, send an email to: photo@emiratesdiving.com with your attached picture (2000 x 3000 JPG), with a description of the equipment you used, where you took it and your background in underwater photography.

Hussein Mourad's image is a great example of how a technically perfect image can be taken to another level by interfering with the automatic or preset modes of your camera.

The original image is in focus and with the "right" ambient and flash exposures. There is absolutely no error in the framing or in its direction, as I said it is technically perfect, and considering the amount of formal training (none) and the equipment (compact) it is an amazing image that shows above all a nice aptitude for underwater photography.

Of course this is not an easy subject. The Lion fish, although not as fast as a barracuda or other fish, it is not very static and they tend to veer away from us. There are some things in this picture that could have made it better, but all of them require training, because what I am going to talk about happens really fast underwater.

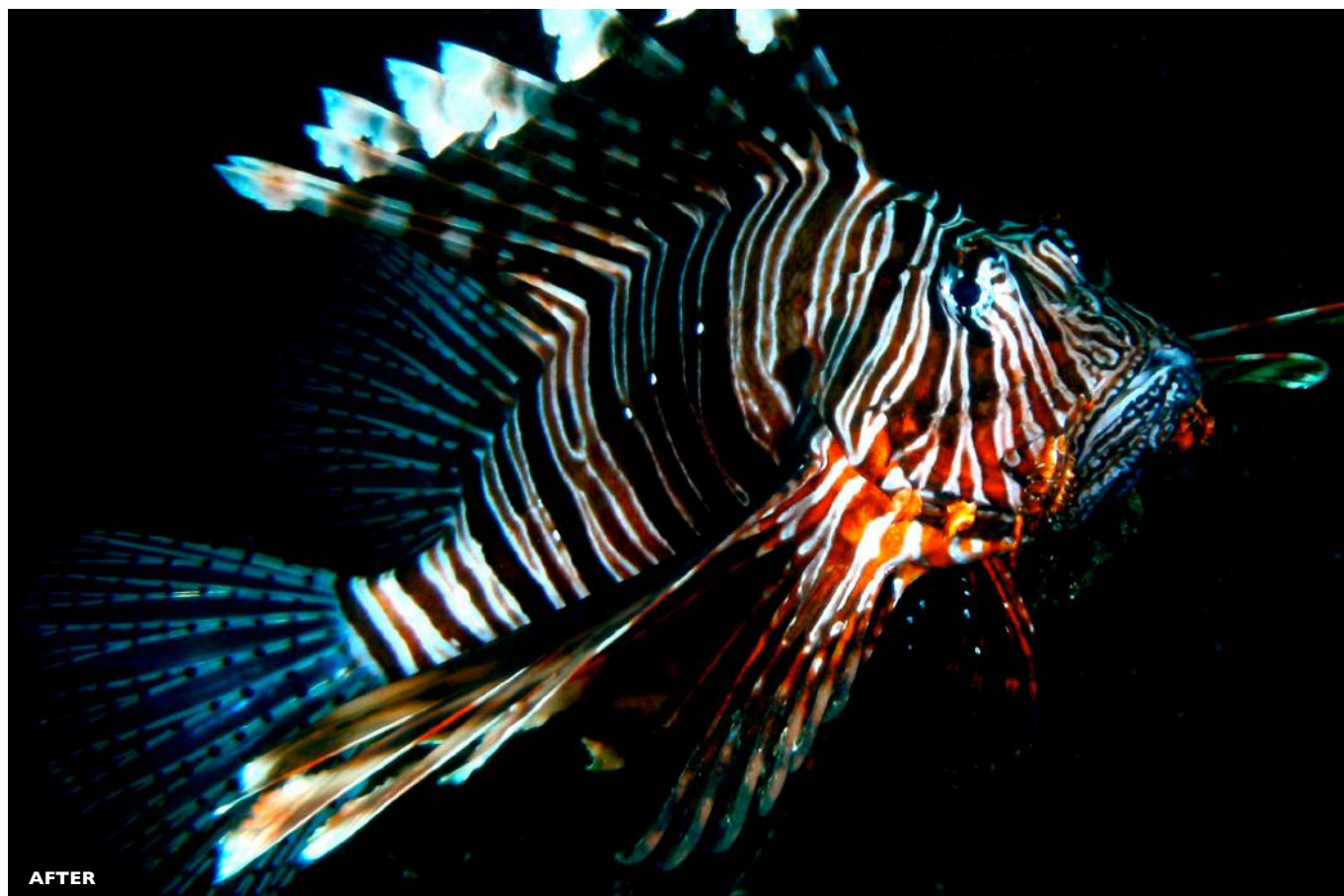
Although the background is underexposed and doesn't compete with the subject, the fish would receive more attention with a complete black background, and that's easily achievable with higher shutter speeds. If you were already at the maximum sync speed for the flash, a smaller aperture would also have the same effect as long as the flash could cope with it.

In fact, with the flash being in TTL, we could close it a little more so that you underexpose it a little in order to make its colors more saturated. In the end it would look a bit like the edited image I show below.



Another completely different approach would be to do the complete opposite, and slow down the shutter to about 1/15s and follow the fish movement panning the camera with a rear curtain flash sync. That would render the background a nice light blue hue, and blur it due to the movement. The fish would also blur a bit but the rear synced flash would add the detail at the end of the blur.

Both are completely different techniques that bring amazing results, and by the level shown in the first photograph, Hussein is on the verge of mastering it.





AL BOOM DIVE TRIP TO SHARM IN JULY



We are planning a trip to dive the Red Sea in July. Come along to enjoy some diving, fun and travel!

THE PLAN

16 July: Egypt Air:

MS 913 15:45 – 1830 Dubai to Cairo

MS 315 20:45 – 21:45 Cairo to Sharm

Transfer to the hotel to check in and before an optional visit to the Rooftop Camel Bar.

6 nights at the Camel Dive Centre Hotel (a three star hotel, voted the Best Dive Centre Hotel in the World), bed and breakfast included. The Camel Dive centre is located in the downtown pedestrian area of Sharm, close to Starbucks, Hard Rock Café and Pasha night club. The hotel has an agreement with a beach hotel for beach use and all water sports including snorkelling, parasailing and wakeboarding. The Camel Hotel is also home to the Camel Bar and rooftop Restaurant with beautiful views of Sharm and a great atmosphere!

17th: Stop at Starbucks next door to the hotel before meeting up at 8am for a day boat trip to dive the reef sites in the Sharm area. Boat departs at 9am and returns by 3pm, a buffet lunch is available for 7 euros on board. Boats are all multi-level day boats with sun mattresses and a dive deck. On return, relax at the hotel swimming pool. Meetup at 7pm for an optional dinner at the nearby Mexican restaurant and bar.

18th: Meetup at 7pm to depart by day boat for Ras Mohammed National Park. Dives today will be at Shark and Yolande Reef (the best site and the best time of year for shark spotting!). That evening join the trendy party at Little Buddha Bar – in walking distance of the hotel.

19th: After the schedule so far, we suggest a day at leisure to relax on the beach or signup for a wakeboarding session. Diving is available for enthusiasts, at an extra cost. A relaxed dinner is suggested as the trip to Dahab tomorrow will be a long that you won't want to miss out on!

20th: At 5am we have an early start for a day trip by luxury bus to Dahab for two beach dives, one dive will be to dive the world famous Blue Hole! Lunch in Dahab is at a local restaurant.

21st: Optional Day: We have planned a day at leisure, although diving the WW2 Thistlegorm wreck is an option for your account. This is the last change to do some shopping, sightseeing or just relax on the beach and practise your wakeboarding 180-airs. In the evening we will have dinner at the Hard Rock Café, and on to the Pasha Nightclub for a farewell party.

22nd July: Day at leisure.

Egypt Air

MS308 20:15 – 23:30 Sharm to Cairo

MS910 23:30 – 04:15 Cairo to Dubai

WHATS INCLUDED

Airfare

Airport transfers in Sharm, Sharing or single accommodation including breakfast at the Camel Divers Hotel, Three days diving, 2 dives a day, nitrox if requested, Day trip to Dahab

WHATS NOT INCLUDED

Lunch, dinner and beverages, Water sports / wakeboarding, Any visa costs, Third dive in any day; night dives, Diving on 19th July and Thistlegorm dive on the 21st July

Sharing total: approx 6,000 Dhs per person

Single total: approx 6,500 Dhs per person

EVENT ORGANISER AT AL BOOM

Samantha Joffe

Sam@alboomdiving.ae

04-342-2993



DIVING ICELAND

FEATURE AND PHOTOGRAPHY **FRANCES PARRY AND MASSIMO BOSI**

Massimo and I are in our early thirties and live in London, UK. I learnt to dive in Malawi when I was 18 and since then diving has been a fair weather sport I do on holiday. Massimo took diving to Divemaster level in Thailand when he was 25 and has since been seeking new ways and places to dive. Unfortunately London doesn't lend itself easily to the sport and we are generally confined to diving on warm holidays. That is, until recently when we went to Reykjavik in Iceland for a mini break. London to Reykjavik takes about 4 hours by plane and out of season i.e. September – May there are pretty good deals to be had. We went at the beginning of March when average temperatures hover around 0°C.

Reykjavik is a small but lively city that gets its energy from geothermal water (this is so abundant it is even used to heat the pavements from under the ground in winter!) and uses hydrogen to run its buses. Iceland lies over the Eurasian and North American tectonic plates and near Reykjavik, within the Thingvellir National Park is the rift between these two plates and our dive site. This is one of 3 'must see' sites of Iceland known as the 'Golden Circle'. The Vikings established the world's first democratic parliament (Althing) in Thingvellir and it is now a UNESCO World Heritage Site. Also in the Golden Circle are the stunning Gulfoss Waterfalls and the geysers which erupt regularly with 15-30m plumes of boiling water.

Diving in the cold and amongst all this seismic activity was somewhat daunting and involved a drysuit, something neither Massimo nor I had ever used before. The great visibility and sheer experience of the trip made it all worthwhile and I shall leave Massimo to explain the rest...

It was a particularly crisp morning in Reykjavik in March and we had just finished breakfast at the Leifur Eriksson hotel. I love diving but considering that I had just eaten (and enjoyed) pickled herrings and crackers as part of my first meal of the day, the temperature outside and that I had woken up early in order to jump into a submerged trench in the earth's crust which was full of freezing cold water, I began to wonder whether there wasn't something wrong with me. Surely this was no acceptable way to spend a holiday. I had recently read

Tim Ecott's 'Neutral Buoyancy' and remembered understanding when he mentioned enjoying even the seemingly mundane experience of cleaning a swimming pool simply because he'd used SCUBA for the job. This, together with the fact that my girlfriend had also agreed to do this morning's dive with me made me feel a little better; we couldn't all be crazy.

We were picked up by Tobias, the owner of the dive centre and his divemaster, Louis. After a short, comfortable drive East out of Reykjavik across a wild, frozen landscape interspersed with snow covered mountains, settlements of little wooden houses and herds of wandering horses, we arrived at the dive site, the Silfra crack in the Thingvellir National Park. We unloaded the van a short distance away, Tobias gave us the dive briefing and it instantly began to snow as we started getting changed into the dive gear. All of us were already wearing thermal clothing and over this we donned thick, one-piece thermal under suits, a heavy duty drysuit, a hood, gloves and webbing which, along with the ankle weights we would put on before entering the water, held about 16kg of lead ballast. Together with the rest of the usual kit and the 12 litre steel tank this was easily one of the heaviest sets of dive kit I have ever used; it was certainly a far cry from the wetsuit diving I was so used to and I remember the boyish excitement of suddenly feeling more like an astronaut than a SCUBA diver.

Thankfully it was only a short walk over to the dive site itself and once there, we were met with a rather impressive metal dive platform and stairwell which had been bolted into the wall of the trench to help you down into the water. After a final buddy check we switched on our cameras, stepped off the edge and began our dive.

Most divers will probably find a drysuit takes a little getting used to and using one for the first time in a body of water at 2°C makes the sensation all the more striking. You feel the suit gently 'shrink-wrapping' around you (this begins to impede movement so you compensate as you descend by pumping gas from your tank in through a valve, same as you would your BC jacket) and the freezing temperature which suddenly hits your exposed face compared to the relative warmth of the rest of

your body, is truly refreshing! As for the other environmental factors however, such as the near total lack of any current and a maximum depth of 18 meters, which you only ever reach in the lagoon at the end of the Silfra crack, means that the dive itself is not particularly demanding.

And then there's the visibility; people estimate 50m, 100m, 120m plus but the bottom line is that at any point on this dive you can look ahead and you realise that you can clearly see as far as the next twist in the trench, the next rock face or the other side of the lagoon, depending on where you are. Silfra crack is fed by meltwater from Iceland's glaciers (Incidentally, Iceland is home to Europe's largest glacier; Vatnajökull) which has been filtered over many years through porous lava rock before emerging through underground wells in the Thingvellir lake, so this really is one of the purest and clearest naturally occurring waters imaginable; it's virtually like looking through air.

Of course, I had to take my regulator out and drink in a few mouthfuls, although you don't want to do this too much as this does little to help you stay warm!

Silfra is also particularly clear because the temperature prevents or hinders the growth of algae and other microorganisms. In fact, by the time we surfaced in the lagoon at the end of the dive 35 minutes later I had well over half of my air left and I hadn't seen a single fish (apparently you do get fish over in the lake). But then you do not dive this place to see fish, so this did not detract from the experience in the slightest: what Silfra lacks by way of obvious aquatic life, it more than makes up for with its huge rock formations, dramatic lighting and its uniqueness; there is something magical about just being there, swimming through a trench sometimes no more than a few meters wide where you can reach out and literally touch two separate continents, one on either side of you. It is little wonder that so many people rank it as one of the best dives to be had anywhere in the world. It is certainly one of the most memorable.

The rest of our stay in Reykjavik involved relaxing at the Blue Lagoon, a thermal lake 50 km south west of the capital with water temperatures of 38°C and mineral rich silica mud meant to be very good for your skin. Either way, it is such a relaxing place that it just has to be good for you. In Reykjavik itself we embraced the coffee culture and walked about the city taking in the sites and sounds.

The Silfra dive is one of several available in the area and can be incorporated into a day's guided tour of the surrounding National Park; the most popular of these is the aforementioned Golden Circle tour, which also takes you to Geysir (the 'original' hot spring which lends its name to all others) and to the impressive waterfall Gullfoss. For more information, photos, prices and availability go to www.dive.is



LIQUID LIGHT'S

RECOMMENDED DIVE SITES IN THE UAE AND ARABIAN PENINSULA

FEATURE **JANA MURRAY** PHOTOGRAPHY **SANDY CHESTNUT**

The UAE diving scene has had a hard time of it recently with a spell of bad weather and a prolonged period of the red tide. What better time could there be to venture further afield and discover some new diving spots, all within close proximity of Dubai.

Here are our top 5 local recommendations:

1) DAYMANIYAT ISLANDS NATURE RESERVE OMAN



A 3.5 – 4 hour drive from Dubai, depending on the ease of crossing the border at Hatta, the Daymaniyat Islands Nature Reserve is located 45 minutes by boat offshore from the Al Sawadi Beach Resort, about an hour North of Muscat.

Sandy, our underwater photographer, and I dived there last October and were amazed at the colour, density and variety of the coral and marine life, not to mention the 20 metre plus visibility.

The South sides of the 9 uninhabited islands that make up the reserve are relatively shallow, with a maximum depth of 10 metres, which makes them a true paradise for underwater photographers and filmmakers like us. I don't very often get overexcited but I was like a child at an amusement park! I could hardly contain myself.

As well as all the usual suspects you see in this region, we saw rays, large shoals of tuna and trevally and Sandy saw a leopard shark. Stupidly I missed it because I had my head in an anemone filming yet another Nemo! Idiot!

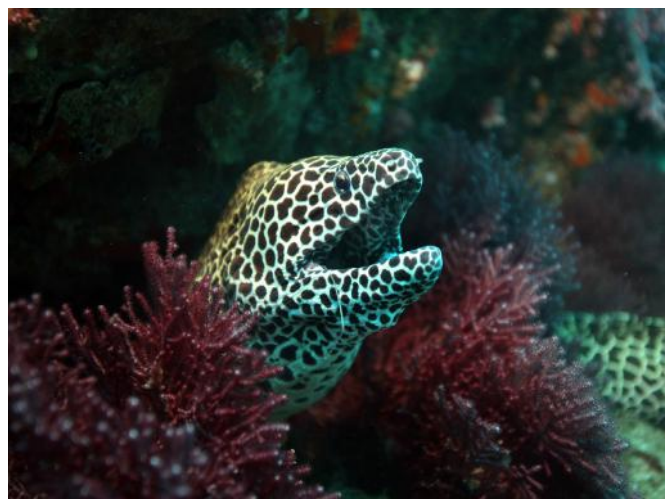
The Daymaniyats really are a must see diving destination and not just for us divers fortunate enough to live nearby; we also bumped into divers from Europe on their annual diving holiday so it must be pretty good.

Chalet accommodation is available at Al Sawadi Beach Resort and they have a special summer offer on at the moment. You pay 60 OR (AED 600) for one night in a sea view chalet (with breakfast) and you get the second night free.

Does it sound too good to be true? Check out our Daymaniyat footage at:

<http://www.seraphproduction.com/recommended-dive-sites-in-the-uae-and-middle-east>

2) FAHAL ISLAND MUSCAT, OMAN



Around a 30 minute boat ride from Muscat, Fahal Island is a world class dive location that appears to have it all. Well, we think so anyway. Sandy and I both have fond memories of Fahal. Sandy used to live in Muscat and was fortunate enough to be a regular visitor; I dived there for a weekend in 2004 with the Muscat Divers BSAC Club and I remember it like it was yesterday.

I saw the largest grouper I have ever seen on Fahal Island, on Shallow Reef, and it scared the life out of me!

Most memorable though was an adrenalin fueled propulsion with the current in pitch black through East Tunnel (a short tunnel through the island) arriving in the cave on the other side to see my buddy Helen frantically waving at me because there were at least 5 sting rays blocking the exit!

For the final dive of the weekend we did a 1 hour 20 minute shallow dive over the most beautiful coral reefs imaginable. It was one of those magical dives where the water temperature is just right and the vis is good. We become so mesmerized by the dive that, at 5 metres and with unlimited bottom time, we lost all track of time – oops.

Sandy remembers regular 30 metre visibility, photographing turtles over vast coral beds, groups of blacktip reef sharks in the shallows and the biggest free swimming honeycomb moray eel he has ever seen. Sandy loves eels and is normally quite happy to stick his camera in an eel's face, but not this time. Apparently the eel was about 4 metres long. What a monster!

Fahal also has some good deeper dives, particularly Deep Reef at 35 metres, which attracts sting rays.

Apart from the Muscat BSAC Club, Oman Dive Centre (ODC) and Blu Zone Diving run dive trips to Fahal Island. It's a 4 – 5 hour drive from Dubai to Muscat, depending on the ease of the border crossing.

3) SIR ABU NU'AIR ISLAND SHARJAH, UAE



Located 65 kilometres off the northern coast of the UAE, and belonging to the Emirate of Sharjah, Sir Abu Nu'air is one of the UAE's largest offshore islands with an area of nearly 10 square kilometres. Virtually uninhabited, its coastline is fringed by beautiful beaches where green turtles are reported to nest. The island is surrounded by coral reefs making it an undiscovered haven for divers.

We haven't had the pleasure of diving there yet but Kirsty Kavanagh from the BSAC run Desert Sports Diving Club (DSDC) dived there twice in 2008 and was happy to fill us in.

"Visibility was very good, about 20+ metres," says Kirsty. "We saw a variety of marine life including lots of staghorn corals and smaller schooling fish, eagle rays, a guitar shark, turtle, cuttlefish, crabs and a dolphin on the journey there. We even had rays doing back flips out of the water during the surface interval".

Sir Abu Nu'air is a 2-3 hour boat trip from Um Sequim Harbour in Dubai, depending on sea conditions, so it's a long haul, but Kirsty reckons it's worth it for the "different" diving experience. She believes that the diving is better in some parts of the island than others and more exploration is needed to determine the best dive sites.

As far as we know, the only way to dive on Sir Abu Nu'air at present is through DSDC. Given the distance trips are infrequent but, if there is enough interest, they can always be arranged.

4) BU RASHID ISLAND MUSANDAM, OMAN



Bu Rashid Island is located right at the top of the Musandam Peninsular in the Straits of Hormuz, close to Iranian waters. I've been there 3 times and this is one of my all time favourite dive sites.

The first time I was there was during a liveaboard trip. It was my 100th dive and I could not have asked for a better dive experience. I saw blacktip reef sharks, giant groupers and shoals of manta rays and yellowtail barracuda. The visibility was 25 metres.

The second time I dived there I was filming an underwater sequence for a television programme about the Musandam and I only had 2 dives

to capture the footage. Fortunately the island was accommodating; providing good visibility and a variety of marine life – perfect.

The third time, amazingly, the visibility was also great, about 20 metres. Ok, you could say it's a fluke but would you ever manage 3 dives in a row with 20 metre plus visibility on Martini Rock in Khor Fakkan? I think not!

If you want to experience Bu Rashid you can request the site on liveaboard trips from Dibba on the UAE/Oman border. A fast boat from Dibba is also possible, but only if the water is dead calm; otherwise you're in for a long, bumpy ride.

Alternatively you can drive up to Khasab and book a dive to Bu Rashid with Extra Divers Musandam. They are based at the Golden Tulip Hotel. The boat trip from there is 1 hour. The drive to Khasab is around 3 hours and you need an Omani Visa.



And finally, here's one most of us can only dream about...

5) NORTH FIELD GAS DEVELOPMENT QATAR

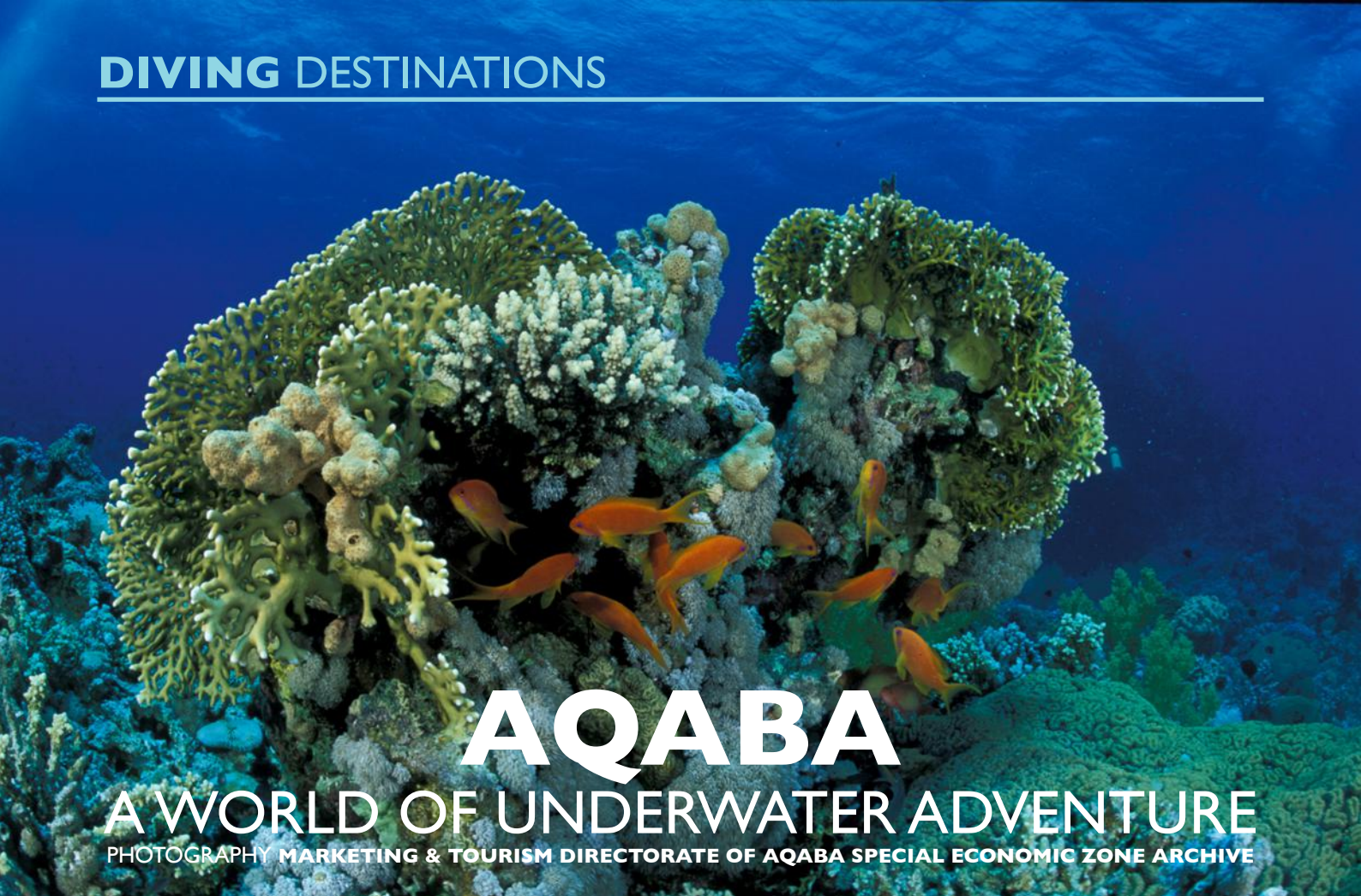
This is Sandy's personal favourite. He used to work for Qatar's National Oil Company and was fortunate enough to witness schools of 60 to 70 whale sharks that circle Qatar's North Field Gas Development platform during the summer months.

Unfortunately though, most of us can only dream of this diving opportunity as access to the platform is restricted, unless you happen to work in the oil industry or you are best buddies with the Qatar Ruling family.



Liquid Light is the underwater filming and photography division of Seraph Production FZ-LLC, a Dubai Media City based film production company. Jana Murray is a producer and underwater filmmaker.

For more information about Liquid Light check out:
<http://www.seraphproduction.com/services/underwater-filming>



Aqaba is a picturesque Jordanian city situated on the Red Sea coast, that enchants with its fairytale landscape both on land and sea. The underwater environment is truly admired by tourists from all over the world. It has five hundred species of corals and over a thousand species of brightly coloured fish. Aqaba is a real paradise for experienced divers, as well as beginners. More and more people are planning their holidays in connection with this sport. Aqaba – Jordan's pearl is a perfect diving getaway due to the fact one can enjoy the sport all year round within 23 dive sites along its coastline.

Aqaba is also a perfect destination for those who are just starting to learn to dive. Visibility under water is an important factor for divers, thus it is worth underlining that visibility surpasses 20 metres and the stream current is minimal. The city offers easy access to the dive sites since they are located near the beach and some dive sites have beach access making it possible to dive either by shore dive or boat dive through the local dive centers.

Aqaba Marine Park, consisting of 21 dive sites, situated along the coast is a perfect place for underwater sports lovers. The place offers many facilities and utilities, which serve the divers. The diversity of the fauna and flora, artificial dive sites; such as ships (Cedar Pride), barges or tanks, provide unforgettable memories just a few meters from the sandy shore (Aqaba Marine Park is responsible for the protection of the underwater life of the Gulf of Aqaba and so they make sure that Aqaba's beaches and coral reefs are kept clean). In the North Beach area there is a choice of hotels, suitable for the needs of all clients. Jordan's beaches are the perfect place for spending the holidays for the whole family, all year round. Due to the fact that the Aqaba Bay is a gulf sea and protected, the water, though deep, is warm and calm. The water temperature ranges from 20°C in the winter to 26°C in the summer. Aqaba's air temperatures range from 20°C in the winter to a pleasant 34°C in the summer (though it can soar as high as 40°C in July and August).

Night diving is an attraction worth recommending for advanced divers. Observing nocturnal animals such as crabs, shrimps and lobsters coming

alive in search of food in the dark waters of the night will definitely become an unforgettable experience. An underwater guide will take you to places for advanced divers and hard to get to; for example Rainbow Reef where you will find Spanish Dancers and many lobsters, treats for anyone to see.

The Marine Science Station aquarium is home to 30 species of stony and soft corals, 30 different invertebrates and about 45 species of reef fish that live in the Red Sea. These include the renowned butterfly fish, parrotfish and lionfish; it is definitely a great opportunity for becoming familiar with Aqaba's marine life. A trip on a boat with a glass bottom is a unique attraction for those who do not want to get wet. There is also the opportunity to partake in a variety of water sports above water.

IMPORTANT INFORMATION

- A valid international licence is required for scuba diving, which can be made by completing a diving course in Aqaba.
- It is illegal to remove, buy or sell corals or shells.
- Aqaba Marine Park has strict regulations which must be adhered to.

More information at: www.aqaba.jo



ENJOY DIVING IN SHARM EL SHEIKH

FEATURE **RUTH STEPHENS, PADI COURSE DIRECTOR** PHOTOGRAPHY **DIVERS INTERNATIONAL**

Sharm-el-Sheikh is a particularly stunning coastal resort that offers one of the best diving destinations in the world. It has always been a beautiful place and diving here used to be a real adventure. In the old days, you had to set up camp on the beach and take a long and difficult hike to get in the water. Nowadays, diving is still beautiful and adventurous but you can enjoy it in comfort and even luxury if you like.

Sharm-el-Sheikh is one of the most accessible and developed tourist resort communities on the Sinai Peninsula. 4 and 5 star hotels are abundant and you will find yourself being surrounded by beautiful sandy beaches, turquoise waters and fantastic coral reefs. The center of activities where most of the hotels and diving centers are located is Naama Bay, about 7 km from the City of Sharm-el-Sheikh. Numerous bars, restaurants, shops and the attractive promenade have made Naama Bay a busy holiday resort, but always with the spectacular mountains of the Sinai in the background.

Sharm-el-Sheikh lies at the most southerly point of the Sinai Peninsula. The Sinai has a very long history and a civilization taking us back to the Pharaonic times. It is the land of mystic beauty consisting of rugged mountains between the Gulf of Suez and Aqaba. These mountains form rows of granite walls that change color with each passing hour. These coastlines meet at Ras Mohamed National Park in the Red Sea, where reefs of magnificent coral lie just below the water's surface.



The Red Sea stretches over 2000 km from the north, the Gulf of Aqaba to Bab el-Mandeb in the South, connecting to the Indian Ocean. The origin of the name "Red Sea" is not easy to determine. One of the theories is that "red" refers to the colour of the water, which under particular conditions and in very limited areas, takes on a reddish hue because of the proliferation of an algae called *Trischodesmium erythraeum*.



However, it is more likely the term "Red Sea" derives from the fact that its coasts are composed of rocks that often have a reddish colouration because of their high iron oxide content. Due to high air temperatures and lack of freshwater from rivers, the salinity of the water is higher than in any ocean in the world. A diver has to carry more weight here than anywhere else in the world. The water temperature in Sharm-el-Sheikh averages 25°C with the lowest of 21°C in the winter and as high as 30°C in August.

Fortunately, the Red Sea has not been affected by coral bleaching, as in the Maldives or the Seychelles. The marine life is amazing, and there are 1248 different species of fish life to be found, and over 250 species of soft and hard coral. Sharm-el-Sheikh is the best location for daily diving in the Red Sea, having the most variety of different dives, boasting the famous Ras Mohamed National Park and the Strait of Tiran. There are about 40 dive sites to select from with many accessible by shore diving because the reefs are growing right on the shoreline. Also it is the most protected area of Egypt with "no fishing" laws so there are an abundance of fish.



The best diving sites to be found in Sharm-el-Sheikh are located in Ras Mohamed and Tiran. Ras Mohamed National Park, on the most southern tip of the Peninsula is Egypt's first national park. Shark and Yolanda Reefs are the most popular dive sites in the park and have

an amazing array of coral and other marine life. On your way to this dive site, you will have a good chance to see dolphins from the boat. It will take you about 50 minutes to reach this spectacular dive site which is one of the top 10 dives of the world.

Shark Reef is a dramatic drop-off to about 800 meters with quite strong currents. Especially during the summer months you can see schools of barracudas, jackfish and unicorn fish.



This wall can easily be recognized by huge gorgonias. Once you cross over to Yolanda Reef into shallower water, you will find a splendid coral garden with multicolored softcoral and tablecoral. After crossing the garden, you will see the remains of the cargo of Yolanda, a Cypriot merchant ship that sank here in 1980. It had containers of toilets and bathtubs on board that are lying encrusted in coral in shallow water.



This is a great place for your safety stop and you will have a good chance for encounters with napoleons and turtles.



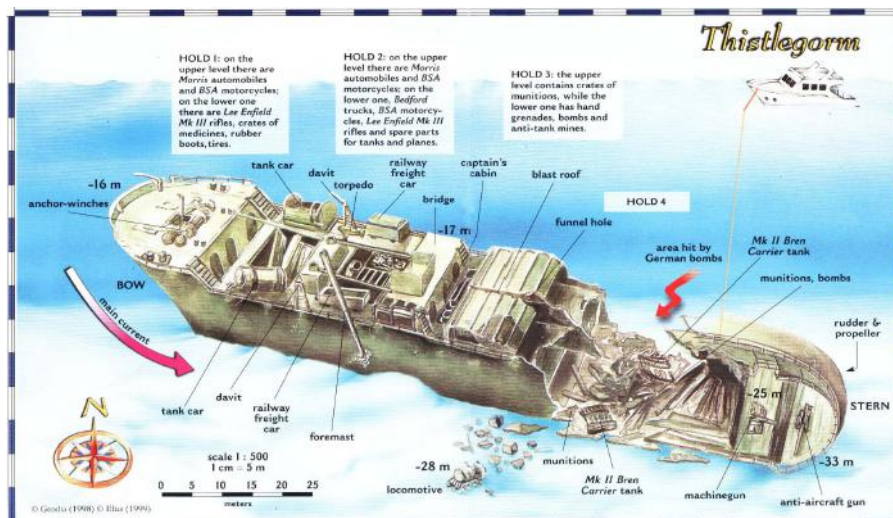
There are many other good dive sites in Ras Mohammed such as Jackfish Alley, Ras Za'atar and Ras Ghazlani.

DIVING DESTINATIONS

Another must is going to the Strait of Tiran which lies at the mouth of the Gulf of Aqaba and is bounded on the west by the Sinai and on the east by the island of Tiran. In the middle of this channel are four coral reefs called Jackson Reef, Woodhouse Reef, Thomas Reef and Gordon Reef. The strong currents characterizing the Strait of Tiran transport great quantities of plankton and other nutrient material every day, thus supplying a great deal of food to the corals and hence to the reef fish, which in turn are eaten by the large pelagic predators such as barracuda, jackfish, tuna and above all sharks. In the summertime, you might even see hammerheads out there.



Another interesting dive is the Wreck of the Thistlegorm. You need to get up early in the morning to do this dive because it takes nearly 4 hours by boat to get there. The Thistlegorm was discovered by Jacques Cousteau in 1956 but not really dived on by tourists until the early 90's. It was a British transport ship built in 1940 and it was loaded with material for the British troops in North Africa. The ship was shot down by a German plane in 1941 and it sunk in 30m of water. You can explore the wreck and swim through it and you will see BSA motorcycles, trucks, tanks, cars, munitions, tires, rubberboots and out in the sand, two locomotives.



The dive centres in Sharm also offer day trips to Dahab, in the Sinai, 90km North of Sharm-el-Sheikh. After travelling by jeep or bus through the scenic mountains, you will arrive in this Bedouin Village which has expanded into a resort area by now.



During the one day dive trip, you will be diving the Canyon and it's surrounding reef and you will get to dive the world famous Blue Hole. Both are shore dives, and there is easy access to the water. The Canyon is a deep fissure that descends to 54 meters. The light effects inside are beautiful and there are some caverns with dense schools of glassfish. You usually turn around in 30 meters and you will continue your dive along the reef with a coral garden and you end your dive in a lagoon.

Your next dive, the Blue Hole is a world famous place. This dive usually starts from a nearby site called The Bells.



It is sort of a chimney in the reef and it forms cavities in the shape of bells. You enter through a crack in the reef and you basically jump into the blue. You proceed along a beautiful



seaside and you have an opportunity to buy some souvenirs.

To dive Ras Mohamed or Tiran you will go out on large and comfortable dive boats. Trips are usually from 8.30 am till around 4 or 5 in the afternoon. You will go for 2 dives or 3 if you like, and lunch is served in between dives. You will have a couple of hours to eat, relax and sunbathe, or find a quiet spot in the shade before you do your afternoon dive.

All boats have a salon, sun decks, freshwater shower and toilets on-board. You will find lifevests, marine radios, mobile phones, Emergency Oxygen and First Aid box on each boat.

Sharm-El-Sheikh also has a hyperbaric chamber:



There is a special for EDA members this summer by Divers International www.diversintl.com until July 15th: 5 Days / 10 Dives with 7 Nights B&B 4* Deluxe Hotel in Na'ama Bay for 265 Euros.

There is also a special offer for the IDC professional training course by Course Director Ruth Stephens: The PADI IDC is 995 Euros which includes the EFR Instructor Course. Also, Divers International throws in free a 2 week internship to learn the dive sites of Sharm el Sheikh following the IDC.

You may contact Divers International at info@diversintl.com for more information.

You may contact Ruth Stephens at ruthscd@gmx.de

wall and after about half an hour you reach the entrance to the inside of the Blue Hole situated by a beautiful coral garden.

The dive center staff will take you after those dives to a traditional restaurant right on the

PLASTIC SURGERY AND DIVING BREAST AUGMENTATION (BREAST IMPLANTS)

FEATURE **WESLEY HYATT, SENIOR EDITORIAL ASSISTANT**



(c) Wolcott Henry 2005/Marine Photobank

Though it's cosmetic rather than life-saving, plastic surgery is still surgery, and it has inherent risks. And most insurers don't cover it.

It's important that anyone undergoing any procedure must be realistic about what it involves, what it can accomplish and what can go wrong with it, whether it's a general concern or related to future diving.

Clearly there is a demand for plastic surgery. It's mostly done as a spare-time exercise. So is recreational scuba diving. To balance the need to accommodate both, the following information gives an overview of breast surgery and its impact on diving. These recommendations come from two DAN referral physicians who are familiar with both plastic surgery and scuba diving. Edward Golembe, M.D., is the director of the Hyperbaric and Wound Healing Centre at Brookdale University Hospital in Brooklyn, N.Y.

Dr. Ralph Potkin is the medical director for the Beverly Hills Centre for Hyperbaric Medicine in Los Angeles, California. Dr. Potkin consulted with fellow plastic surgeon Dr. Steven Zax for his answers and, as he noted, "First and foremost, these remarks are generalizations, and each case needs to be individualized and the cosmetic surgeon should be involved in the decision-making. Also, these recommendations are based on favourable, uncomplicated healing."

Besides the risks given for this procedure, all surgeries' potential risks include bleeding, reaction to the anaesthetic and infection. Risk of complications can be reduced by following your surgeon's instructions before and after the surgery.

GOAL OF PROCEDURE

Goals are many and varied – to have larger breasts; to balance the size or shape of uneven breasts; to make the breasts more proportional

with the rest of the body; to enhance breasts that have lost volume and shape due to pregnancy, nursing, weight loss or age; and to reshape or reconstruct the breast after surgery. Individuals ineligible for breast augmentation include women who are pregnant, nursing or have breast cancer.

WHAT IT INVOLVES

In this augmentation, surgeons surgically place a saline or silicone gel-filled implant in each breast to push the breast tissue forward. Implants are empty sacs made out of silicone elastomer.

Depending on anatomy, breast condition and other factors, the implant can be inserted through four different incision styles; the patient and doctor must decide which is best.

TYPES OF INCISIONS

The inframammary incision is made on the underside of the breast at the inframammary fold, where the crease of the breast meets the chest.

With the periareolar incision, made on the lower edge of the areola, scars tend to heal well, and surgeons have desired control over implant placement.

The axillary incision is in each armpit. With this method, surgeons typically use an endoscope. The scars are tucked away in the natural folds of the armpit. In the transumbilical (TUBA) method, the implant is inserted through the navel.

IMPLANT FACTORS

Implants can vary widely due to many factors, including:

- Sizes – Implants are measured from 125 to 1,200 cubic centimeters.

Traditional cup sizes are not used because the patient's original breast size contributes to the final size.

- Types – Round implants vary in projection and diameter. Contour implants also vary in height, width and projection.
- Volume – Depending on preferences, the same size implant can require different amounts of saline injected.

IMPLANT SITES

There are three potential implant placement sites. The subglandular procedure (also known as overs, retro glandular and submammary) places implants on top of the pectoral muscles between the chest wall and breast tissue. Benefits include no muscle disturbance, shorter surgery and recovery time, tandem sagging and less pain. And implants are more accessible for replacement or removal than with other placements.

DISADVANTAGES INCLUDE:

- Implants placed in this manner are more palpable and potentially visible if the patient has little breast tissue, and thus look more "fake";
- Mammogram readings can be difficult because the implant obscures some of the glands, requiring additional views that insurance may not cover; and
- A common complication is capsular contracture, where a scar capsule tightens around the implant and compresses it, causing pain and displacement.

GETTING READY

Medical preparation before surgery should include the following:

- Get a mammogram to help establish a baseline for postoperative mammograms.
- Stop taking aspirin, ibuprofen, vitamins and herbs at least two weeks (some surgeons say 30 days) before surgery; they may increase the risk of bleeding.
- Disclose to the physician all medication, herbs and vitamins being used.
- Do not drink any alcohol for at least 24 hours prior to surgery.
- Quit smoking four to six weeks before surgery. Smoking reduces the oxygen levels in the blood and impedes healing.

LENGTH OF PROCEDURE, RECOVERY TIME AND POSSIBLE COMPLICATIONS:

Except for TUBA (transumbilical), surgery takes between one and

three hours, depending on implant placement and the surgeon's skill and experience. Typically, general anaesthesia is used, especially for placements under the muscle; local anaesthesia with sedation may be used for an over-the-muscle placement. Surgery can be performed at an office facility or a hospital outpatient facility. Occasionally, a patient will stay a day or two at a hospital. Someone should drive a patient home and monitor recovery for at least 24 hours after surgery.

After surgery, patients can expect pain and sensations lasting for days or even weeks. These can include:

- Sudden chest pains due to nerve regeneration (during surgery nerves have been disturbed and need time to heal and regenerate);
- Tightness in the breast area;
- A burning sensation or sensitivity in the nipples;
- Swelling due to fluid retention;
- Implant noises from fluid build-up or air bubbles as they settle;
- Nausea;
- Constipation;
- Itchy skin due to skin stretching;
- Mood swings; and
- Depression.

For each patient, the pain and discomfort varies in intensity and duration. Size (larger implants can have more pain and bruising); technique and complications contribute to the postoperative pain. Most pain can be controlled by prescribed medication.

WAITING TIME FROM PROCEDURE UNTIL DIVING:

There's a difference of opinion here. Dr. Golembe believes about three months' recovery is necessary. Dr. Potkin says, "Pressure is an issue; and therefore diving should be avoided for approximately six months. The type of implant is important, since some allow the release of subcutaneous air, which could be problematic."

However, Dr. Golembe said that the amount of time to get air out of saline implants typically is no more than 6-12 hours after surgery. He believes the six-month recommendation is too extreme.

Consult with your doctor if you're considering breast surgery; having your own healthcare professional to advise your surgeon is always a wise choice.

CLEANING THE OUTER EAR FOR DIVERS

FEATURE ALFONSO BOLOGNINI MD

The external ear canal is around 2.5cm long and is composed of an initial cartilaginous part, which then continues in a bony part that ends at the tympanic membrane or eardrum.

The hair follicles, sebaceous glands and cerumen glands are found in the cartilaginous part. Although often only regarded as something that can cause discomfort to divers when it becomes inflamed or blocked due to the presence of earwax, in actual fact it has important acoustic functions and protects the more internal parts of the ear.

The canal, which is closed at the innermost end, acts like a real resonance chamber that provides natural amplification of around 10-15db for frequencies between 0.25 and 4KHz.

Its main function is to provide physical protection against the penetration of foreign bodies into the ear and against infections.

This function is essentially linked to particular anatomical characteristics: the presence of robust hairs called tragi; the external projection of skin-covered cartilage (tragus) that restricts the entrance of the meatus; the

Cerumen is rich in lipids produced by the cerumen glands in the cartilaginous part of the EAC. The acidic pH of earwax creates an environment that is unsuitable for the reproduction of bacteria and fungi. In normal conditions, earwax is carried towards the outside with epithelial migration and is thus expelled approximately every 2 weeks. When there is a tendency for earwax to accumulate and form a total blockage that obstructs the ear canal, there is a real risk of barotrauma injury when scuba diving.

relative narrowness of the canal itself and its two bends – one in the coronal plane and one in the horizontal plane – that make an "S" shape and make it very difficult for foreign bodies or insects to penetrate.

In addition, earwax with its acidic pH, creates a hostile environment for the reproduction of bacteria and fungi.

The external auditory canal also carries out the important function of



Blockage of earwax obstructing the EAC

modulating and optimising the thermal gradient between the air outside the ear and the air inside the middle ear:

WHAT IS AN EARWAX BLOCKAGE?

The pathogenesis of earwax blockage has not been definitively explained yet.

Definite predisposing factors are:

1. The type of wax ("dry" wax, which is of the recessive type forms a blockage more easily than the "humid" type which is dominant);
2. Increases in glandular secretion;
3. Attempts to remove earwax that cause the material to buildup and become impacted inside;
4. The introduction of water into the ear which causes earwax to expand since it is highly hygroscopic;
5. Any reduction in the diameter of the canal due to the presence of malformations or exotosis.

Generally, symptoms manifest when the blockage is watertight, thus completely occluding the EAC.

WHY IS IT DANGEROUS FOR DIVERS?

It encourages stagnation of liquids, maceration of the skin of the canal and hence colonisation of bacteria. It is a risk factor for barotrauma injuries of the outer and middle ear. It appears on the eve of bank holiday weekends or on holidays in tropical paradises where the diver can't find a specialist who can treat it (Murphy's divers' law).

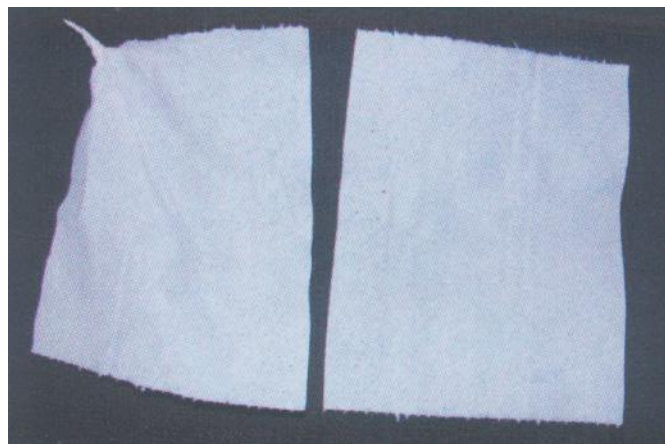
DOES PROPER EAR CLEANING PREVENT INFECTIONS?

In every day practice, many divers ask us about the correct method of ear cleaning and whether there are any preventative measures that can be carried out during stays in the tropics. In the research literature there are two scientific studies where an increased incidence of otitis externa was shown in divers who carried out dives in tropical waters.

As regards advice for cleaning the ears, specialist physicians agree on advising the use of neutral soap, drying the ears after every dive, rinsing with clean running water and not using infamous cotton buds. However, they do not agree on the question of whether we should dry our ears or not.

SCOPE OF THE RESEARCH

In order to respond to the questions on which the specialists differ and to clarify the importance of ear cleaning for divers who go on diving holidays in tropical locations, we enlisted a group of divers who were



The correct way to dry the ears in our view is to use a very absorbent and soft tissue and twist the corner of it. In this way, it is not capable of causing damage to the ear canal or pushing any earwax towards the eardrum.

preparing to go on a trip to the Cape Verde Islands. We sought to answer the following question: is it possible to prevent otitis externa ("Swimmers ear") by following simple hygiene measures alone?

MATERIALS AND METHODS

For the research we had a group of 48 people comprising 22 divers and 26 non-divers who had planned a trip to the Cape Verde Islands. All of them either swam or dived every day.

We selected two groups by conducting ENT medical examinations.

Group A – 22 people who were instructed in how to prevent otitis externa.

Group B – a group of 26 people who comprised the control group and who were not given any instructions.

Those in group A were instructed to rinse their ears with fresh water and dry them thoroughly after every dive in order to prevent skin maceration and changes in the environment that could favour microbial growth.

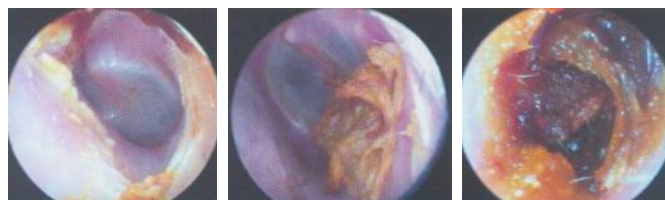
SO HOW DO YOU CLEAN THE EARS PROPERLY THEN?

Do not use any hard cleaning object inside the meatus. Removing earwax is in fact damaging. The turn-over of the epithelial cells of the ear canal is such that the substitution occurs by gradual movement towards the exterior. As a result, earwax is carried little by little outside. In addition, the skin of the auditory canal is very fine and taut over the underlying rigid walls; it is very easy to damage or cause incisions in it. The introduction of water dissolves the water-soluble components of the earwax breaking the protective film that it forms on the skin. Furthermore, if soapy water is used it creates an alkaline environment that is favourable for bacteria growth.

CONCLUSIONS:

To our great surprise we had no case of otitis externa in either of the two groups. Perhaps it is not that important to clean the ears? Whether we dry the ears or not does not seem to influence the onset of otitis externa.

We shall continue the study using a greater number of divers and collecting more information perhaps on the water and air temperature and humidity levels.



Increasing levels of earwax obstructing the auditory canal

ANSWERS TO THE OCEAN QUIZ



1. **b)** The gestation period of an orca is about 17 months – the longest known of all cetaceans.
2. **b)** The swordfish and marlin are the fastest fish in the ocean reaching speeds up to 121 kph in quick bursts; the Bluefin Tuna (*Thunnus thynnus*) may reach sustained speeds up to 90 kph.
3. **d)** Instead of the scales found on most fish, seahorses have a thin layer of skin stretched over a series of bony plates visible as rings around the trunk. Seahorses have no stomach or teeth. They suck in prey through a tubular snout and pass it through an inefficient digestive system.
4. **b)** The oceans cover 71% of the Earth's surface and contain 97% of the Earth's water.
5. **a)** 90% of all volcanic activity occurs in the oceans.
6. **a)** Continental shelves are an oasis in the ocean for plants and animals due to the abundance of sunlight, shallow waters, and nutrient packed sediment that washes in from rivers, wave action, and, in some areas, upwelling.
7. **c)** The sea level has risen with an average of 10-25 cm over the past 100 years and scientists expect this rate to increase. Sea levels will continue rising even if the climate has stabilized, because the ocean reacts slowly to changes. 10,000 years ago the ocean level was about 110 m lower than it is now. If the entire world's ice melted, the oceans would rise 66 m.
8. **d)** Unfortunately, all of the above.
9. **b)** Less than 1% of the world's ocean declared under marine protected areas and fewer than 10% of marine protected areas that exist today achieving their management goals and objectives
10. **d)** Phytoplankton account for possibly 90% of the world's oxygen production because water covers about 70% of the Earth and phytoplankton is abundant in the photic zone of the surface layers. Some of the oxygen produced by phytoplankton is absorbed by the ocean, but most flows into the atmosphere where it becomes available for oxygen dependent life forms.
11. **d)** Seagrasses, unlike seaweed, are flowering plants that live submerged in the marine environment. There are an estimated 50 species of seagrasses worldwide, most of which are found in the tropics. Seagrasses typically grow as long, thin leaves with air channels that grow up from a creeping rhizome. Seagrasses are found from the mid-intertidal region to depths of 50 m.
12. **b)** Mutualism. The basic types of species interactions are indicated by a (0), (+) or (-) indicating whether the two species involved experience zero effects, positive effects, or negative effects respectively. Commensalism is (+, 0), Mutualism is (+, +), and Parasitism is (-, +).

FEATURED CREATURE

GULF BLENNY

(Also known as pretty blenny)

(*Ecsenius pulcher*)

FEATURE **RITA BENTO**

PHOTOGRAPHY **MARCELO MARIOZI**

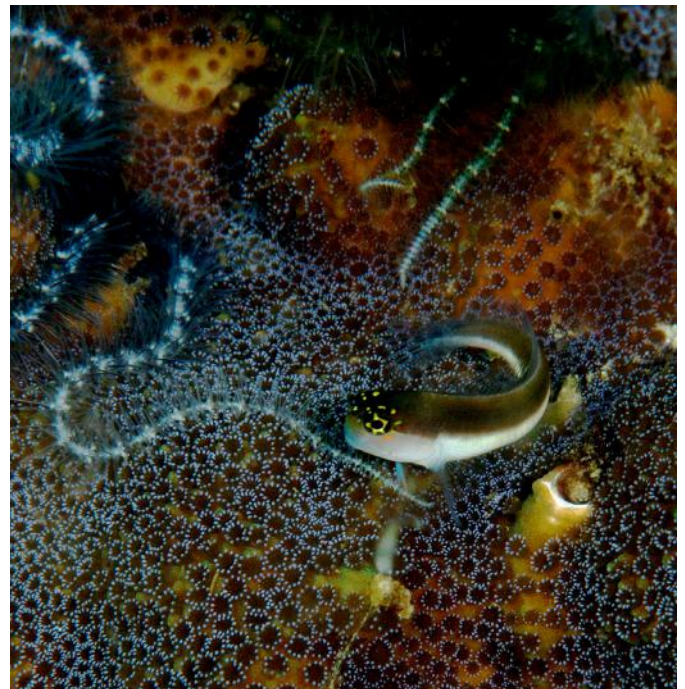
EDA accepts text and photo contributions for this page.

FAST FACTS

- They have sexual dimorphism: 11cm (male) and 4.4cm (female)
- Known only from the Persian Gulf, Gulf of Oman, coast of Oman, and northwestern coast of the Indian subcontinent as far south as the Gulf of Kutch
- Almost exclusively benthic
- They are oviparous (egg-laying)
- Unfortunately they are gathered for aquarium use

FUN FACTS

- Eggs are demersal and adhesive
- They feed mainly on benthic algae and detritus
- They are scaleless with an elongate body shape
- The head is blunt and adorned with tentacles or cirri
- They gain protection from mimicking the coloration of other genera of Blennies (*Meiacanthus*) that use venom defensively



UPCOMING EVENTS

WORLD ENVIRONMENT DAY

5 June 2009

EDA MOVIE SOCIAL

7 June 2009, MOE, 19:30pm

CLEAN UP ARABIA

November 2009

BIOSPHERE EXPEDITION

8-31 October 2009



Chairperson Mr Faraj Butti Al Muhairbi

Vice Chairperson Mr Essa Al Ghurair

The Secretary General Mr Jamal Bu Hannad

Financial Director Mr. Khalfan Khalfan Al Mohiari

Head of the Technical Committee Mr. Omar Al Huraiz

Head of the Scientific Committee Mr. Mohd Al Salfa

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MISSION STATEMENT

To conserve, protect and restore the U.A.E. marine resources by understanding and promoting the marine environment and promote environmental diving.

LEGISLATION

Emirates Diving Association (EDA) was established by a Federal Decree, No. (23) for the year 1995 article No. (21) on 23/02/1995 and chose Dubai as its base. The Decree stipulates the following responsibilities for EDA.

- To Legislate and regulate all diving activities in the UAE.
- Ensure environmentally respectful diving practices in all EDA members.
- Promote and support the diving industry within the UAE by coordinating the efforts of the diving community.
- Promote diving safety in the commercial and recreational diving fields through standardization of practices.
- Promote and preserve historical aspects of diving within the gulf region and enhance environmental education to diving and non diving communities through EDA activities.

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