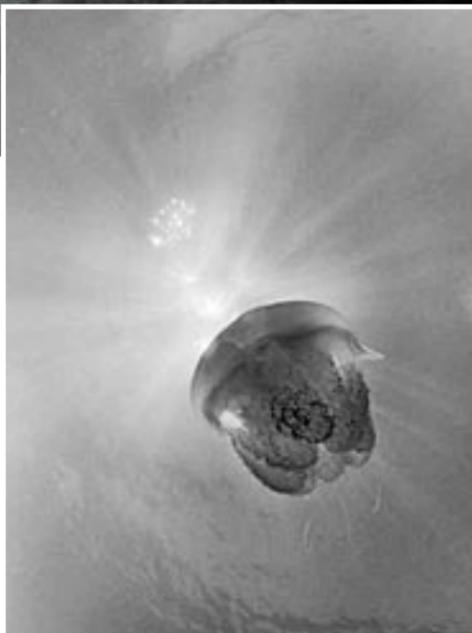




ABOVE: Grotto with one fish

RIGHT: Jellyfish

FAR RIGHT: Barracudas



Text by Gunild Pak Symes  
Underwater Photography by Cathy Church  
Portraits of Cathy Church by Peter Symes

*Unique, unmatched, magical...*

# Cathy Church

**Down the stairs to the friendly photo shop at Sunset House Hotel, a dive resort on Grand Cayman Island, one enters the world of the colourful and inimitable Cathy Church, a legend in underwater photography and an inspiring teacher to many a diver who found his or her way to her popular week-long super courses. At the tender age of 60, Church is still excited about her craft and looks forward to many more years of helping divers take better shots underwater.**

Since 1972, Church has been teaching underwater photography in the Caymans and has conducted seminars in most of the major cities in the US. She is one of the pioneers in the field of underwater photography and has been a contributing editor for SKIN DIVER magazine for 15 years in the 70s and early 80s.

While married to another pioneer

and renowned authority on underwater photography, Jim Church, Cathy co-author a stunning array of over 200 articles and three books on underwater photography with Jim including the Nikonos Handbook. Her underwater images have been published in many underwater and non-diving publications over the years as well as advertisements for Cayman Islands Department of Tourism, US Virgin Islands, Kodak, Nikon, various cruise lines and other businesses.

In 1987, Church was awarded the prestigious NOGI award for the arts from the Academy of Underwater Arts and Sciences, and in 2000, was inducted into the Women Divers' Hall of Fame and received the DEMA Reaching Out Award. She acted as president of the Academy of Underwater Arts and Sciences in 1999 and 2000.

Church has been pioneering new techniques in underwater photography from the beginning and passing along her knowledge to her students. In fact, she was the first underwater photographer to identify and write about the common mistake u/w photographers make when they aim a strobe

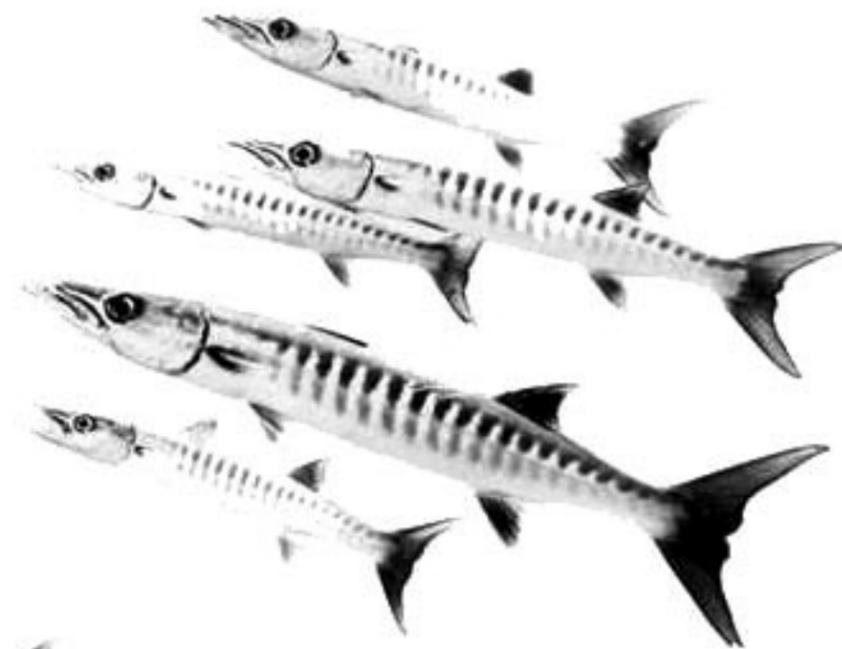
at the apparent image and not beyond it at an angle to compensate for water distortion and to avoid backscatter and hot spots. A simple well-known concept these days, it was not common knowledge back then.

Church said that she enjoys exploring the medium of black and white, that perhaps it is her background in science that spurs her interest into the complexities of the craft behind the form – a process that includes the mixing of chemicals and working through a zone system. Still open to the changing technologies in the field, Church also explores the digital realm in underwater photography – a welcome alterna-

tive, especially since her darkroom was damaged by Hurricane Ivan in 2004. The photo centre has since been remodelled and is hopping with business and photo classes once again.

These days, she continues inspiring students with her regular courses in the Caymans and u/w photo tours to the Pacific tropics as well as developing her photo centre and gallery to serve customers better, which she manages with her husband, Herb Rafael, a published and accomplished underwater photographer in his own right.

In the early days, Church was a woman in a field dominated by men. She is candid with her views and per-

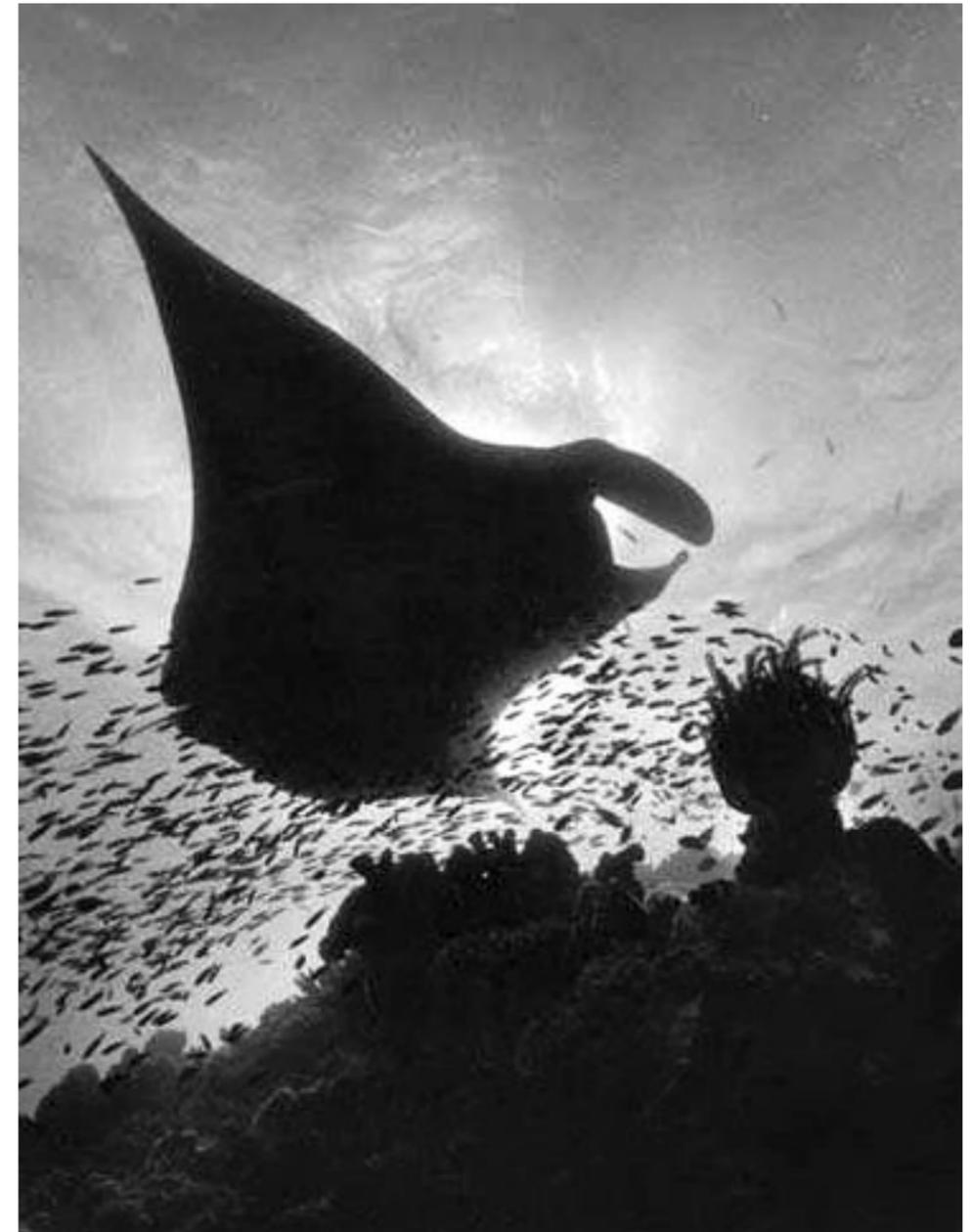




Solomon seafan



Fumisuki bow



Manta cleaning station

spectives on the changes in diving and underwater photography in regards to the involvement



and inclusion of women as well as the rising accomplishments of women in the field and sciences in general. She said that she has seen a positive growth and change over the years.

Church was first introduced to SCUBA diving at the University of Michigan biology station in Pelston. At the time she was earning a bachelors

degree in biology. She had her first taste of underwater photography at Stanford University's Hopkins Marine Biology Station in Monterey, California, where she met Jim Church. He taught her how to take u/w shots with a Calypso camera and a twin lens reflex Rollei camera. Hopelessly hooked, she attended underwater photography courses at the Brooks Institute of Photography. In 1970, she received her graduate degree in Marine Zoology from the University of Hawaii but

discontinued her studies toward a doctoral degree since women were not allowed, at the time, to overnight on the research vessel, nor at any research station.

After completing her degree in marine biology, Church wanted to work in research in an underwater job for fisheries, for instance, but doors to jobs in the field were closed to women then. Jobs with the California State Fish and Game Department, for example, were not available to women. So, Church became a

substitute teacher after receiving a teaching certificate at San Jose State College. She taught middle school for several years in the 70s. But she still wanted to see the natural habitat of marine animals, and so diving and underwater photography were a natural development.

In 1971, the Churches were invited by friends to stay at their newly built dive resort (now the Spanish Bay Reef) and help guests with underwater photography. Procedures were simple then.

Students shot a roll of black and white. Church processed the film, and then the students held their film over special light sensitive paper out in the sun until an image emerged. That was their studio proof. Nowadays, the regularly packed courses have 15 Nikonos systems available with several sets of lenses and strobes, housed systems and digital systems, three hour dives from large boats loaded with tanks, nitrox, and most importantly, snacks. What a difference 30 years of



LEFT: Stairway to the star



Orange Canyon Angels

was domineering over the other, so Church split them up and worked with them separately. Responses from wives to Church's sensitivity and disposition to listen to them were that of surprise and appreciation. Many women went on to further develop their underwater photography skills. Church said that, nowadays, women outnumber men in her classes, and she also often sees couples enjoying each other's progress over the run of the courses.

Church said that in the early years, she saw society being protective of women, unduly prohibiting them from exploring and excelling in mostly male dominated fields such as marine science and diving. But after the women's liberation movement of the 60s and 70s, she can see that women can be anything they want to be now. Church's own career was often blocked by outdated views towards women. As a professional

in the field, Church was turned down for jobs only to find that a man who was no better than an amateur was hired to fill the post. Another ugly side of the dive community emerged in the early years of her photo courses, when Church found out that male colleagues in the area were telling students not to go to her. But she agreed that professionalism, or lack thereof, cannot be blamed on gender.

Church said that underwater photography is a passion, and those that go into it must contend with a field that can be fickle and difficult to survive upon. Most, she said, must supplement their habit with something else – finding a job that is not too far from their passion. She said that some photographers work as tour operators, and she finds that there are a lot of couples working together in the field. They complement each other's skills and talents and provide an instant dive buddy

and underwater model out on location.

She suggested that photographers gain a combination of skills, become resort photography professionals, work hard and develop their skills on land and on boats. Church said that it is helpful for photographers to get certified as a SCUBA dive master or instructor, and in the beginning, be willing to work in exchange for camera equipment and gear and diving experience whenever possible. Church said underwater photographers do what they do "because they can't not do it".

She said that there is no money in stock images, but dive writing and underwater photography can get you contacts and free advertising, though the assignments are far and few between as competition for publication is

## Cathy Church

fierce. But Church warns photographers not to give their images away to clients for nothing. It hurts the business and themselves.

"Underwater photography is a challenge," said Church. "It is a wide open field. You first have to be good at it. It can't be hurried." With the wisdom of over thirty years in the field, Church concluded that underwater photographers must balance creativity with the business of selling images.



LEFT: Starry night

BELOW: Solitude

RIGHT: Two stingrays



For more information, visit:  
Cathy Church's Underwater Photo Centre and Gallery

[www.cathychurch.com](http://www.cathychurch.com)

Academy of Underwater Arts and Sciences

[www.auas-nogi.org](http://www.auas-nogi.org)

Sunset House Hotel

[www.sunsethouse.com](http://www.sunsethouse.com)

instruction makes!

Church loves to teach. She likes to help students visualize their pictures, find where the scene exists in nature and help them set up the shot. Church said that she helps them learn how to optimize what they have and find out what they can get out of a shot – how to get the most that they can. She is also sensitive to the unique needs of individuals, some of whom may have certain fears or issues to overcome in

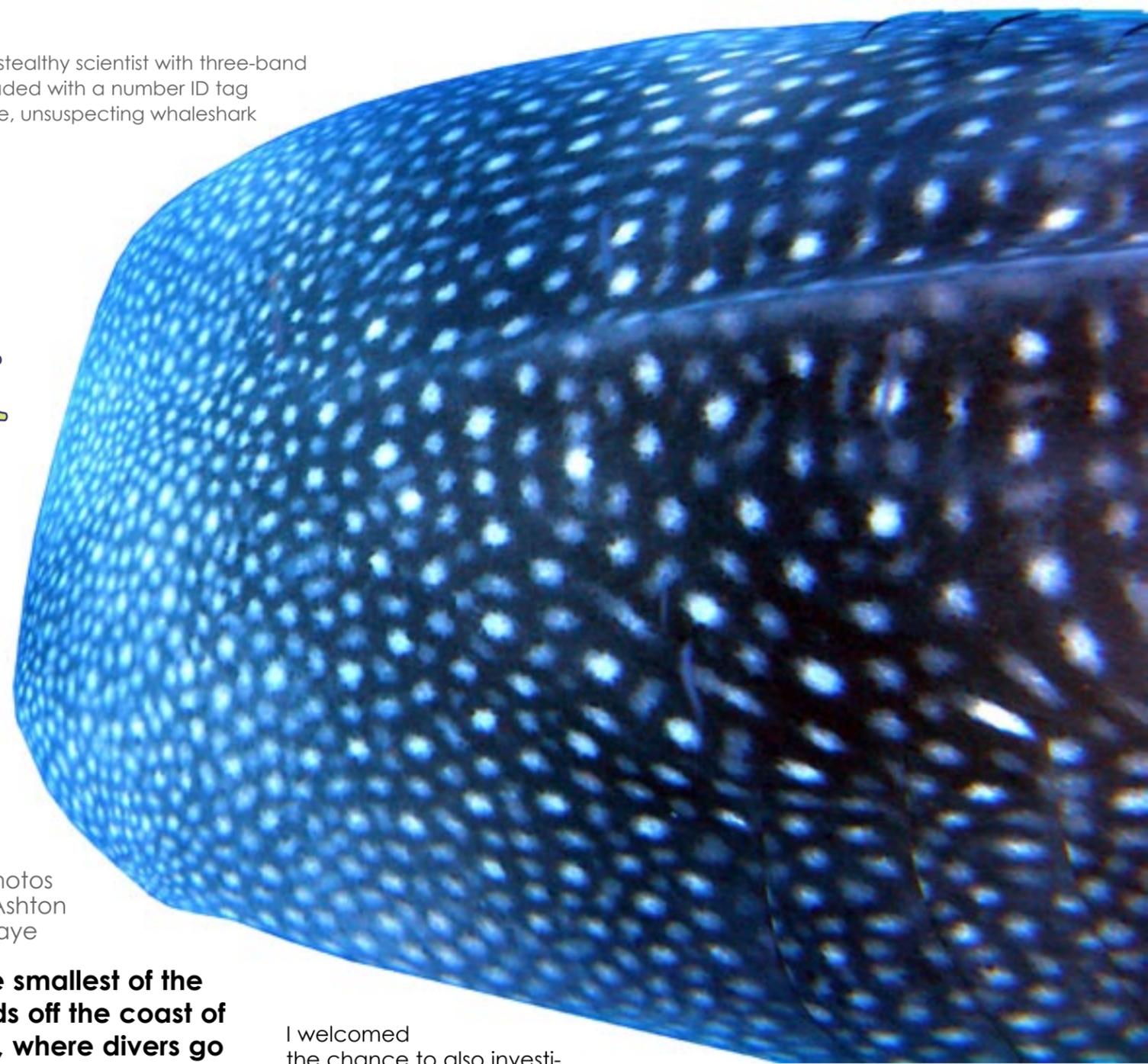
the water or in learning how to dive. Church continues to seek new directions and methods to aid those who are apprehensive, yet yearn to learn underwater photography.

Over the years, Church has observed differences in the genders as they approach underwater photography. In the early years, women usually did not come to her course out of their own interest, but through that of their spouse or partner. Often, one spouse

OF WHALE SHARKS AND MANTAS

# Playing Tag with a whaleshark

LEFT: Tagger, stealthy scientist with three-band spear gun loaded with a number ID tag  
RIGHT: Taggee, unsuspecting whaleshark



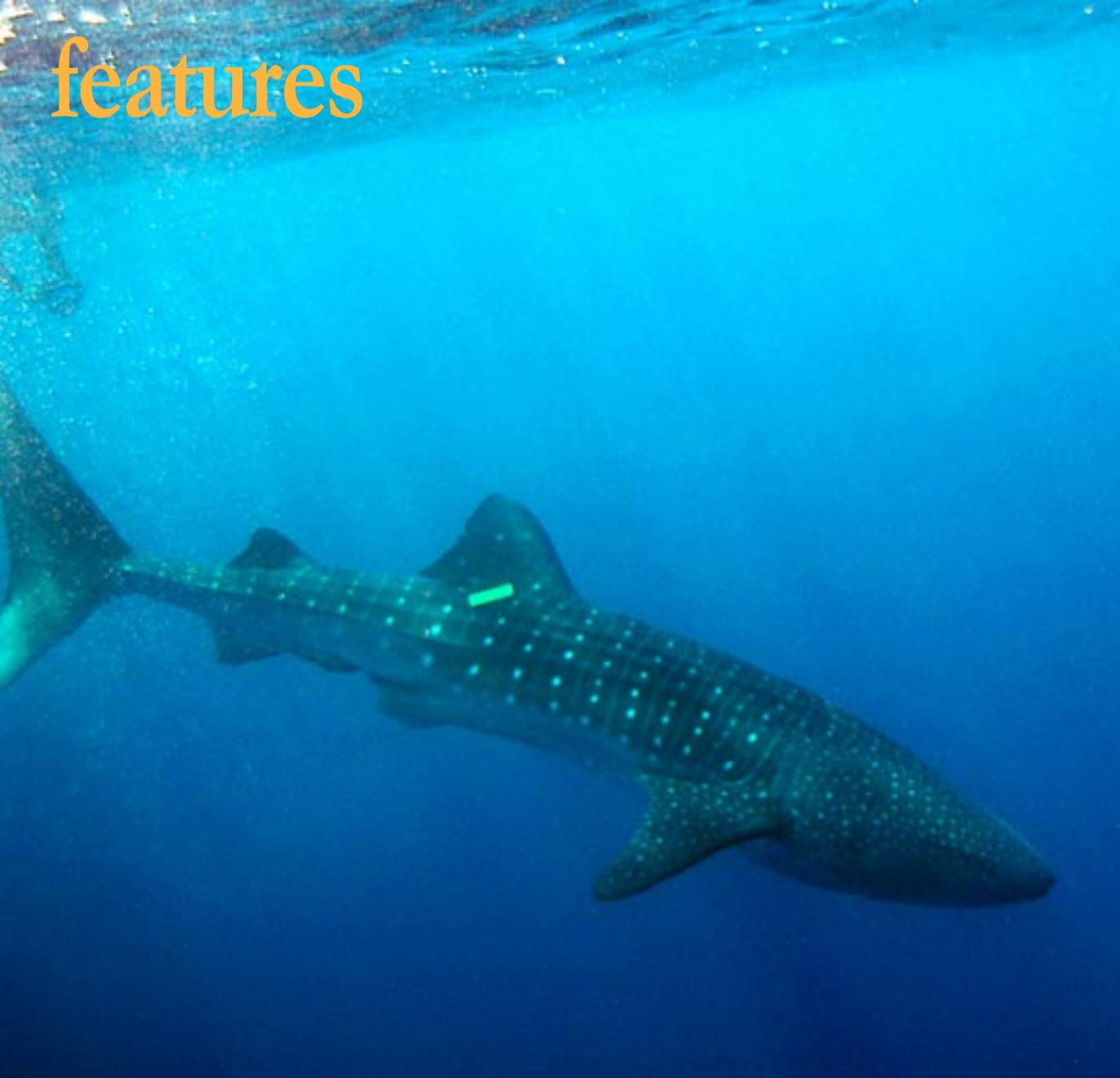
Text and photos  
by Robert Ashton  
and Lynn Jaye

**Utila is the smallest of the Bay Islands off the coast of Honduras, where divers go in search of whalesharks, but find much more. Being the Executive Director of The Manta Network, a global conservation organization, I was very interested in the local efforts to protect whalesharks. Patric Douglas, Director of SharkDiver.com, invited us to stay in Utila and write about his dive group's whaleshark experiences.**

I welcomed the chance to also investigate pelagic animal field research and local conservation efforts. Whalesharks are the largest of all sharks and are the largest fish in the sea. They can grow to more than 50 feet long and feed on plankton, which are some of the smallest organisms in the ocean. These highly migratory animals are capable of sustaining high speeds yet usually display a leisurely grace. These gentle giants show no fear of humans but have been mercilessly exploited and are now on the World Conservation Union's

Threatened Species list as vulnerable to extinction. CITIES (Convention on International Trade in Endangered Species) has also listed them in an effort to protect them from the international trade of whale shark products.

Several worldwide manta ray programs have recently been initiated and we are taking many of the same directions as global whaleshark conservation efforts. I received several reports saying that Utila was the best place to see manta rays on the



A tagged whaleshark

Caribbean side of Central America. Only a few months earlier in Roatan, another of the Bay Islands, I was able to obtain some footage from a local photographer who was lucky enough to catch a rare glimpse of manta rays. Therefore I was eager to see what I could find in Utila.

During our stay, we learned more about the problems that face Utila than could possibly be imagined. One of the main attractions of this island is the opportunity to be in the water with whalesharks. However, this eco-tourist experience is being threatened by many fac-

tors. The number of dive boats racing to see each whaleshark that surfaces was creating a dangerous and chaotic situation. Whalesharks were being disturbed, snorkelers were being hurt and fishermen were angry because the presence of so many dive boats affected their ability to fish. There was a report of local fishermen who had purposely killed a whaleshark. They were threatening to kill more in order to stop the dive boats from surrounding the *boils* of jumping tuna where the whalesharks surface to feed.

The government is trying to decide on what

actions to take and the biologists are trying to establish guidelines for all the dive operators to follow in order not to frighten the whalesharks away and to give them space to feed.

There are two local groups researching whalesharks on Utila. Jim Engle, who runs the Utila Lodge and BICA (Bay Island College of Diving), has been studying whalesharks for more than 12 years. In the last few years he has also been working with SRI (Shark Research Institute). He has now established an independent research and conservation organization called WSORC (Whale Shark Oceanographic Research Center) and has started a tagging program. Another resort and dive operator, Deep Blue, has also begun to collect information about whalesharks. They are working with Ecocean, a whale shark conservation group in Australia that has created a Global Photo ID Library. The library consists of a visual database of individually catalogued whalesharks and encounters. It is maintained and used by marine biologists to collect and analyze whale shark data in order to learn more about the behavior of these amazing creatures.

### Dynamics of a Boil

A *boil* (also know as a bait-ball) is an area on the water's surface that has so much activity of fish jumping and splashing that it resembles boiling water. This is where we can find whalesharks, other types of sharks and even manta rays. Jim Engle has found that only the boils containing bonito tuna are where the whalesharks feed.

There are two schools of thought on how a boil is created: one theory is that the whale harks create the boil themselves and the other is that

the boil is created and the sharks use their superior senses to locate the bait-ball.

It is possible that the whaleshark may first locate food and then circle from the depths to force the baitfish upwards. Circling ever closer, the fish are concentrated and are forced to the surface. When the boil has sufficient density, the whaleshark opens its mouth and a ton of small fish cascade down into its waiting gill rakers. The other theory is that the whale-

shark may sense a boil from far below and ascend directly into its center.

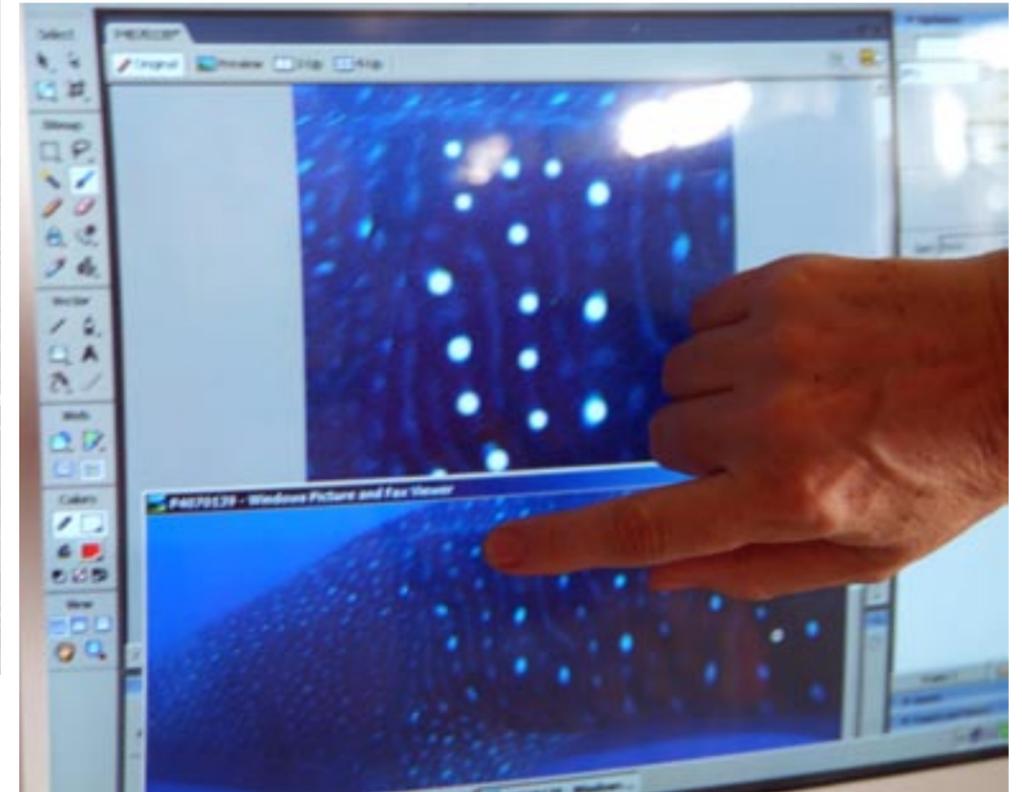
Whalesharks have cartilage spines that run the length of its body. Some biologists believe that these spines are sensing devices and can accurately pinpoint an active boil. Tuna circling the small fish may be responsible for creating the boil.

### Whaleshark Tagging

We were invited by Jim Engle to participate in the tagging of a whale-



A member of the tag team holds up one of the number ID tags to be attached to a whaleshark in order to identify it and track its movements for scientific research



ABOVE: The splashing of a boil of fish can be seen at the surface while a whaleshark hunts its prey. INSET: Members of the tag team prepare for an encounter with a whaleshark

shark. Luke Tipple, a young and energetic biologist working for WSORC, spearheads the tagging program. Luke has a BSc in Marine Sciences and has been studying whalesharks since coming to Utila from Adelaide, Australia. In the last three months he has successfully tagged at least ten whalesharks.

Luke is also planning to take tissue samples for DNA analysis to learn about the relationship of Utila's whaleshark population to that of other areas around the world. These samples will be sent to Ecocean and will combine with other data to build a picture of the whale shark's family tree and possibly their long-range migration behavior.

Using a three-band spear gun, visual identification tags are attached just below the dorsal fin. These white or yellow tags are large enough to be visible from a distance. Luke is a highly accurate shot, having grown up free diving and spear-fishing. He can place the tag at precisely the best location for reading

without hurting the animal. Shooting the tag into its thick skin requires a lot of force but it does not harm the whaleshark.

With cameras in hand, we spent the better part of a day searching the waters on the north side of Utila for surface boils. Birds gathering from a distance signal the creation of a boil. Not all boils attract whalesharks so we had to be very patient.

On our second encounter, Luke successfully attached tag No. 0173 to a small 20-foot whaleshark, but did not determine its gender until a later dive. We then recognized the whaleshark by



its tag and my photograph determined that it was a female. Filing the sighting report and photograph with Ecocean's on-line global database is the first step in the identification process.

Project, which has enabled the library to grow through sighting submissions from research, conservation, and eco-tourist communities around the world. As part of Ecocean's global database of whale shark sightings, they have developed

ABOVE: Unique spot pattern behind the fifth gill identifies individual whalesharks

## Spot Pattern Recognition

The Ecocean Library began in 1995, building on the research of Brad Norman at Ningaloo Marine Park, Western Australia. Every whaleshark has a unique pattern of white spots on its grey skin. The spot pattern behind the fifth gill on the left side is used to document whalesharks. Any scars also help to distinguish between individual animals.

In 2002, Jason Holmberg established the Shepherd

image-processing software that performs pattern matching on the whaleshark's spots.

The best way to spot whalesharks is from the air. On three occasions, Patric hired a scouting plane. We circled and watched while flocks of birds and dive boats converged below. When viewed from above, the whalesharks look like large catfish in the blue water below.

While snorkeling with Patric's group, we captured some images of whalesharks underwater, one of which clearly showed the spot pattern behind the fifth gill on the left side. We submitted the image data and learned that we had identified a new animal, now nicknamed *lynnjaye* for the photographer. These activities will lead to insights into whaleshark migratory behavior and will make possible the development and establishment of better conservation practices.



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## features

### Rules of Encounters

The whalesharks off the coast of Utila exhibit behavior very different from anywhere else in the world. It is believed that they may be shy because they are juveniles. Here, the sea is nearly a half a mile deep and encounters take place in the deep blue water. Whalesharks dive quickly when they are startled or have finished feeding. It is for this reason that tourists are only allowed to snorkel with them. It is feared that scuba divers will follow the whalesharks on their quick descent and lose track of their depth in the excitement of the chase.

It has been the practice in Utila for many dive boats to surround one unsuspecting shark. All of a sudden there can be as many thirty snorkelers in the water splashing and kicking. The young whalesharks are usually disturbed by the onslaught and immediately dive for the deep. Amidst the commotion, some of the snorkelers do not get to see the whaleshark at all.

We accompanied Luke and his team on several tagging trips. On our second excursion, members of the Honduran Ministry of Tourism were on board. They were witness to several boats racing to get snorkelers in the water to see the whaleshark before it disappeared. They were also on board when a dive boat steamed through the center of the boil right over a whaleshark and narrowly missing a snorkeler.

One day as we joined the snorkelers jumping into the water, a woman received a major injury consisting of a large gash on her calf, a fractured tibia and a huge bruise on the other inside thigh. Although no one actually saw

one, it was guessed that a silky shark was responsible. This has never happened before in Utila and hopefully the new guidelines will prevent it from ever happening again. If this were truly a shark bite, it was probably not the shark's fault as the woman may have accidentally jumped right in its path or on top of it, or it would not have bitten her. It probably only did so in defense.

Obviously, whaleshark eco-tourism will not be allowed for long unless strict rules for the safety of sharks and snorkelers are established and enforced.

New rules for whaleshark encounters were drawn up by Luke and his team at WSROC and were modeled after those initially developed by Ecocean. These include creating a 600-foot diameter contact zone around the whaleshark in which only one boat, designated by a special flag is allowed at a time. Only a maximum of eight snorkelers are allowed in the water at a time and entry must be made as quietly as possible. Touching, riding or obstructing the path of the whaleshark is not allowed nor is the use of flash photography. The ten guidelines were approved by the local dive association but are yet to be fully adopted by everyone.

### Politics and Education

As with most small island politics, the needs of several groups have to be carefully balanced. Fishermen, dive operators, scientists and government all have their special interests. The Honduran Government is quickly becoming aware of the importance of the marine ecosystems and the value of whaleshark encounters to the

## Whalesharks

tourist industry. However, Luke and the other marine scientists face an uphill battle to protect the young whalesharks. He is intent on educating and building awareness through sound eco-tourism principles. These include programs to educate and integrate the fishermen, dive operators and the island's children, who are often found catching the rare seahorses which are dried and sold to tourists.

Producing informative materials for each group is important but they must also be convinced of the economic benefits. The fishermen need to realize that over-fishing will lead to a complete collapse of the food chain, causing the reef to die along with their livelihood. This has already begun as most of the grouper, barracuda and snapper have been over-fished. Algae have proliferated, suffocating parts of the reef and affecting the diminishing population of reef fish. This situation is unaided by the lack of sewage treatment on the island.

### Conservation

Conservation plans in Utila include rewards to fishermen for whaleshark sightings. It is hoped that many fishermen will elect to become whaleshark tour operators thereby earning a better income. In order to protect their economy, the fishermen and the dive industry must learn to work together. With the aid of the government and the scientists, they must learn to protect the entire marine eco-system including the whalesharks, the fisheries and the coral reef.

The Bay Island College of Diving, where Luke also works as a dive

# features

instructor, has been first to implement the guidelines that he proposed to the local dive association. We were there the evening Luke announced that they had been approved and everyone was jubilant. It is a big step towards safeguarding the presence of whale sharks in that area and the tourist economy that surrounds it. This was a large accomplishment for Luke, the young marine biologist who came to Utila to take on his first assignment after graduating from the University of Adelaide in Australia less than a year ago.

Once these safeguards are fully adopted and enforced, the whaleshark encounters should prove to be more enjoyable and of longer duration. The dive operators must learn to understand that the guidelines will not only ensure that whalesharks return each year but that encounter times will be longer. This will lead to higher satisfaction for the divers and assure a growing eco-tourism industry.

Luke's important work will help establish a baseline to determine whether Utila's whaleshark population may be declining. His data may also shed important insights into the health of the world's populations.

## Whale Sharks & Mantas

Manta rays are often seen in the vicinity of whalesharks in the deep waters that

surround Utila. While waiting for a whaleshark to surface within the boil, we spotted a large manta ray close to the surface. This was the first time that we had observed two of the largest fish in the sea together. The possible interdependence of these two important pelagic species raises new questions as to their migration patterns and increases the importance of protecting their common food source. In other parts of the world, mantas generally swim in the shallow waters over coral reefs and this also applies to whalesharks.

In Utila, it is extremely rare to see a manta ray in the shallow water and whalesharks are never found there. This suggests that the manta rays are not resident to Utila but are migratory and they may even accompany the whalesharks on their long pelagic migrations.

We left Utila with a new-found appreciation for the work being done there and for what lies ahead in our efforts to protect the world's manta and mobula populations. The challenge we face obtaining scientific data to make the case for manta ray protection is only a small part of the ultimate conservation effort. Economic impacts, political maneuverings and the need to balance local interests must be carefully weighed. In the end we are all connected and must realize that biodiversity also includes human beings. ■



## Whalesharks

Robert Aston is the Executive Director of The Manta Network and Chief Editor of On-The-Edge Magazine. Lynn Jaye is a contributing editor and photographer for both organizations. Both Aston and Jaye are actively involved in conservation efforts worldwide. They can be reached via email at [Robert@mantas.org](mailto:Robert@mantas.org) or [Lynn@mantas.org](mailto:Lynn@mantas.org)

For Additional Resources, visit:  
The Manta Network

[www.Save-the-Mantas.org](http://www.Save-the-Mantas.org)

On-The-Edge Magazine

[www.on-the-edge.com](http://www.on-the-edge.com)

Shark Diver, Patric Douglas

[www.SharkDiver.com](http://www.SharkDiver.com)

Whale Shark Oceanographic

Research Center

[www.WSORC.com](http://www.WSORC.com)

[whalesharks@WSORC.com](mailto:whalesharks@WSORC.com)

Ecocean

[www.ECOCEAN.org](http://www.ECOCEAN.org)

Utila Lodge

[www.UtilaLodge.com](http://www.UtilaLodge.com)

Deep Blue Resort Utila

[www.deepblueutila.com/whale\\_sharks.htm](http://www.deepblueutila.com/whale_sharks.htm)



# WSORC

## Whale Shark Encounter Guidelines

- 1 The area surrounding a Whale Shark and a boil of Bonito is called the 'CONTACT ZONE'. The 'Contact Zone' has its origin as the Whale Shark and extends 100m/300ft, creating a 200m/600ft diameter circle.
- 2 Only one (1) vessel at a time is permitted within the 'Contact Zone'. The first commercial vessel within this zone may claim 'PRIORITY' by raising the 'CONTACT ZONE FLAG' from its mast so that it is visible from 360 degrees. Vessels in queue must remain outside the "HOLDING ZONE" which is 1/4 mile (400 m) away from the vessel with priority and may not intrude on a contact zone except in an emergency.
- 3 The contact vessel must approach the Whale Shark in such a way that the sharks direction of travel is not obstructed. UNDER NO CIRCUMSTANCES ARE BOATS TO ENTER THE FEEDING AREA AT MORE THAN IDLE SPEED. Boats must stay to the side of the feeding area/boil and let the shark approach or have snorkellers swim in.
- 4 Boats must remain in neutral when Whale Sharks are within 10m/30ft or when people are in the water unless it is to maneuver in such a way to prevent harm to both.
- 5 The 'CONTACT VESSEL' must maintain a distance of at least 10m/30ft from the shark and may not exceed two (2) knots. Priority is lost when the shark dives and the boil re-appears more than 1/4 mile (400m) away or when 10 minutes have elapsed. The contact vessel must lower their flag and allow the next boat in queue to establish contact.
- 6 Only two (2) in water encounters are allowed per boat except under research circumstances. A "RESEARCH VESSEL" must fly the "WHALE SHARK RESEARCH FLAG" in addition to the 'Contact Zone Flag'.
- 7 Before attempting an encounter the Divemaster MUST read the vessels encounter brief. A maximum of eight (8) snorkellers are allowed in the water at any time and entry must be made as quietly as possible.
- 8 Snorkellers must maintain a minimum distance of 3m/9ft from the shark. NO TOUCHING, RIDING OR OBSTRUCTING THE PATH OF A WHALE SHARK IS PERMITTED.
- 9 Unless for scientific purposes no person is permitted to enter the water with SCUBA. No flash photography is allowed for any purpose.
- 10 Local Fisherman are not included in the above regulations and may continue to fish the boil without interference. To limit any disturbance to the shark please find another boil if there are already other vessels in queue.

Whale Shark & Oceanic Research Centre  
Utila, Honduras. Please visit [wsorc.com](http://wsorc.com)

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BPC Marine Biology



# Creatures of Cabilao

*Discovering the fancy faces of the Philippines*

Text and photos by Nonoy Tan

After a two-hour car ride and an hour boat travel, I finally reached my destination—Cabilao, an island paradise located near Cebu, Philippines. Before coming here, I had read exciting accounts about Cabilao Island, particularly about the stargazers and pygmy seahorses that reside in its surrounding waters. On this trip, I was determined to see these critters, at the same time discover other things that Cabilao had to offer.



A decorator crab mimicks the color and texture of its soft coral host





Completely oblivious to my presence, this white octopus continued its search for prey

The white-sand beaches and crystal blue waters immediately captivated me. As I went to shore, my gracious host Babie gave a pleasant welcome of her vacation haven called La Estrella dive resort. The ambient scene was very tranquil. Apart from the intermittent courting sounds of the birds, I could hear only the rhythms of the sea and wind. Located a few steps from shore was the native-inspired restaurant where I had an ice-cold drink offered to me by the staff. Later, I was guided to a nipa hut that would be my home for the next four days. In front of the hut was a hammock tied between two coconut trees. It was very inviting.

After settling in, I decided to comb the beach. At a distance, I could see the scuba diving facility earlier pointed to me by Babie. I headed towards its direction. Upon reaching the place, I was met by the Sea Explorers dive personnel with whom I had a chance to plan my diving itinerary for the subsequent days. I would be provided with a dedicated dive guide so I could have a lot of flexibility and time to take photographs. My

expectations were high.

### Diving adventure

The following morning, I was at the dive facility early. In no time, I was geared up and ready for the dive. Together with an expert guide, we took a shore entry into calm and clear waters. Less than ten minutes into the dive, I discovered a long-snout pipefish hidden among the seagrass. With a length of about a foot, I could easily have mistaken it for a dead tree branch. Apparently confident of its camouflage, it was unmindful of my presence as I took a few photographs. A few minutes later, my guide pointed a porcelain crab to me. I clicked the shutter several times and then continued to trail my escort.

Upon reaching 80 feet, I noticed a magnificent red sea fan stretching out to the open sea. Upon closer inspection, I detected a red spider crab slowly moving across its branches. The crustacean had overly long and thin legs; it looked like a spider. After taking several shots, I realized that this dive was becoming photographically intense.

## Cabilao

Subsequently, my guide led me towards an adjacent sea fan. He aimed his finger to a pair of red pygmy seahorses. One was a third of an inch in size, while the other was even smaller! They easily blended with the color and texture of the tiny coral branches; their camouflage was perfect I had to keep my eyes glued on them in order not to lose them from my sight. At one time,

I made the mistake of glancing at my camera controls and consequently lost sight of the pair. I spent several minutes searching the same coral while the seahorses remained motionless. Completely delighted at finding them again, I took their images until my film was almost exhausted. It was time to head back to shore.

On my return journey, the sight of

a two-inch Pegasus seamoth darting across the sand caught my attention. It had a long snout and a scaly body, but looked nonetheless beautiful. Just as I had used my last film exposure, another seamoth emerged into the scene. This new seamoth was larger and had an alluring mint green body color. Too bad, I did not have any film left in the camera. Nonetheless, I was determined to go



Closer inspection of soft corals reveals a variety of residents such as the porcelain crab



# features



## Cabilao

LEFT: A brown leaf fish poses for a portrait

TOP RIGHT: Sea moth

BOTTOM RIGHT: This star-gazer waited underneath the sand for an ambush



back later in the evening. In the meantime, the hammock in front of my hut was waiting for me. As a result, I spent the rest of the day in dreamland (sleeping).

### Night diving

By nightfall, I was well rested and ready

for another dive. Armed with a flashlight, I was soon underwater. Crabs, prawns, eels stalked the reef for food. Particularly interesting was a stargazer that laid motionless underneath the sand waiting for unsuspecting prey. As I took a mug shot of this monster in disguise, another





Spider crab on a sea fan





# fact file

## Cabilao, Philippines



**History:** The Philippine Islands became a Spanish colony during the 16th century; they were ceded to the US in 1898 following the Spanish-American War. The islands attained their independence in 1946 after Japanese occupation in World War II. The 21-year rule of Ferdinand MARCOS ended in 1986, when a widespread popular rebellion forced him into exile. In 1992, the US closed its last military bases on the islands. The Philippines has had a series of electoral presidential transitions since the removal of MARCOS. The government continues to struggle with armed Muslim insurgencies in the south.

**Government:** Republic  
**Capital:** Manila  
**Currency:** Philippine peso (PHP) per US dollar - 56; per Euro - 70.

**Geography:** Southeastern Asia, archipelago between the Philippine Sea and the South China Sea, east of Vietnam, mostly mountains with narrow to extensive coastal lowlands; **Coastline:** 36,289 km; **Elevation:** lowest point: Philippine Sea 0 m; highest point: Mount Apo 2,954 m **Agriculture:** rice, coconuts, corn, sugarcane, bananas, pineapples, mangoes, pork, eggs, beef, fish **Natural resources:** timber, petroleum, nickel, cobalt, silver, gold, salt, copper.

**Climate:** Tropical marine; northeast monsoon (November to April); southwest monsoon (May to October).

**Environmental issues:** Uncontrolled deforestation especially in watershed areas; soil erosion; air and water pollution in major

urban centers; coral reef degradation; increasing pollution of coastal mangrove swamps that are important fish breeding grounds.

**Population:** 86,241,697. Percent of population below poverty line: 40%, Ethnic groups: Christian Malay 91.5%, Muslim Malay 4%, Chinese 1.5%, other 3%. Religions: Roman Catholic 83%, Protestant 9%, Muslim 5%, Buddhist and other 3%; **Language:** Filipino & English

**Medical/Decompression chambers:** Cebu City Recompression Chamber Camp Lapu-Lapu Lahug / Doctor Memerto Ortega. (032) 310-709 or (032) 312-325 / (032) 746-652 loc. 2625

**Dive Travel:** The best time to visit the Philippines is during the period from November to June. Precipitation is lowest during April and May. Temperatures are cooler during December to February (26- 27°) and warmer between March and May (29°).

**Web sites:** Sea Explorers Dive Center [www.sea-explorers.com](http://www.sea-explorers.com) El Dorado Beach Resort [www.eldoradobeachresort.com](http://www.eldoradobeachresort.com) La Estrella Resort [www.laestrella.ph](http://www.laestrella.ph) Philippines Department of Tourism [www.wowphilippines.com.ph](http://www.wowphilippines.com.ph)

**Dive info:** [www.starfish.ch](http://www.starfish.ch)



A pigmy seahorse uses its ingenious camouflage to disappear in the matching patterns of the corals it inhabits

stargazer suddenly jumped out of the sand beside me. Curiously, it exposed itself for a few seconds before digging back into the sand. Other critters showed up as well, such as the brown leaf fish that posed while I took a portrait photograph. After a few minutes, an octopus appeared. This nocturnal predator was oblivious to my presence as it prowled the reef while using its tentacles to poke inside rock crevices in search of prey. I followed the octopus for several minutes until I spotted a soft red coral. Upon closer inspection, I discovered a thorny little crab crawling across the stems. Its red and white coloration, and spiny body mimicked its soft coral host. Unless it had moved, I would not have noticed it.

As I explored the reef, I realized that the underwater night scene was full of life. I was already awed by the large

amount of activity in the reef. Again, I ended the dive with great anticipation that the succeeding days will be as enchanting. I was not disappointed.

For three more days, I savored the sights underneath the waters of Cabilao – beyond doubt, a paradise for critter shutterbugs. Cabilao is best dived and experienced with the warmth and hospitality of La Estrella Resort ([www.laestrella.ph](http://www.laestrella.ph)) and Sea Explorers Philippines ([www.sea-explorers.com](http://www.sea-explorers.com)). For additional information about diving the Philippine islands check out the Philippines Department of Tourism website ([www.wowphilippines.com.ph](http://www.wowphilippines.com.ph)). ■

*In our next issue, we will visit the mystical and magical Philippine island of Dauin with dive writer and award winning underwater photographer, Nonoy Tan.*



## Exploring U-boats in Ireland

Text by Jim Tierney  
Underwater pictures by 10barpics  
Historical Pictures by www.uboat.net

# U89

**A long awaited dive trip to Malin at last came and went all too quickly, but with great success. On the dive, visibility was 25-30 meters with sea conditions prime. On board a fast 8 meter rib, we got out to the dive site within an hour. For October, water temperature was good, and the air was fresh and crisp. The targeted wreck for the day was the U-89. The U-89 was a relic from “the war that would end all wars” but at last was not. Now laying 25 miles off Malin Head, time stands still for this very impressive war machine. Rammed and sunk by HMS Roxburgh, all lives were lost on board the U-89.**

Crawling with life, the U-89 is now patrolled by large cod, pollock and, of course, conger. Its 60 meters boasts life everywhere.

For the last four years, both my dive buddy and I have been diving with Buddy Inspirations. We agreed that this was our most memorable dive. Using a 19-60 trimix, all was very sober at 60m. Our bottom time was a little under 30 minutes, and our total run-time was 85 minutes. Decompression was carried out with VR3's. Bail out tables were planed with V-Planner.

### Loaded

Armed with only a video camera, I was no match for the very impressive arsenal on board the U-89. Deck guns were located both bow and stern. Torpedoes were left in storage never to be used again.

It is quite easy to see why the U-boat packs terrorised the seas. A period named by the U-boat fleet as the happy



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days, it was a time during which they were sinking vessels at their ease. Enemy ships with no radar or sonar were very vulnerable. U-boats would surface in well-known shipping lanes, select a target, shoot and be on their merry way.

Unfortunately for the U-89, the vessel popped up 200 yards in front of the cruiser HMS Roxburgh, which with out hesita-



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ABOVE: Stern gun  
LEFT: Natural light at  
60 meters



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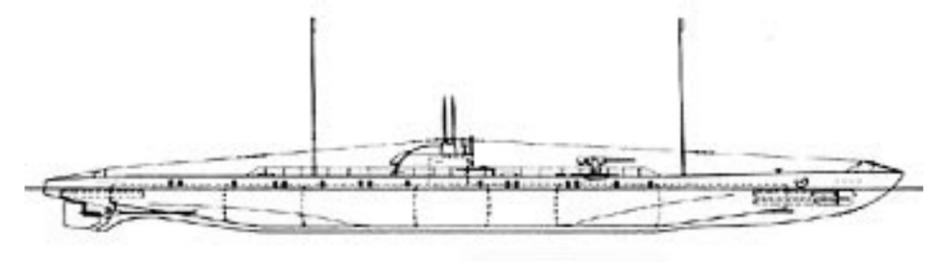
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ABOVE LEFT TO RIGHT: Bow gun with conning tower; Two views of bow torpedo hatches; Hydrofoil stripped from its outer skin

LEFT: U-Boat Crew 1918. Men who trained with and grieved the loss of the U-89  
INSET: Mark of U89

RIGHT: Diagram of U89



U89 in action

tion, rammed *U-89's* conning tower. Soon after, explosions were heard. German voices were also heard amongst the waves. *U-89* was sunk with the loss of all their lives. So, out of respect for the dead, the only souvenirs I took were in the format of pictures to share with all. The rest was left to the memory of the many souls lost regardless of personal beliefs about the war – who was right and who was wrong.

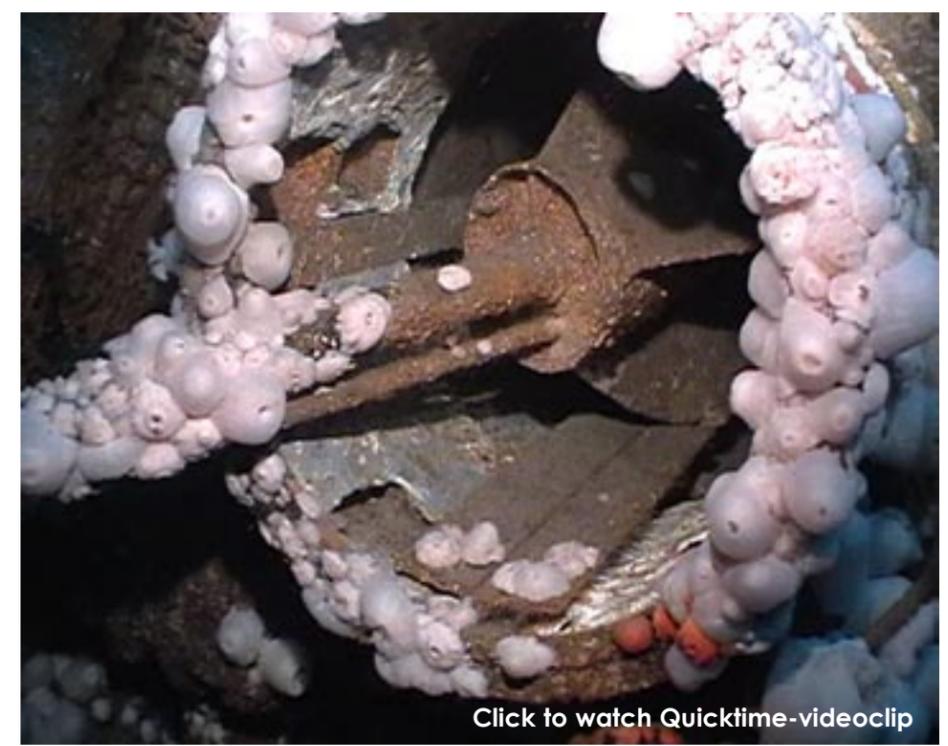
### Close quarters

Most of us have seen the film *Das Boot* and can picture how claustrophobic and cramped it was on board the vessel. As big and impressive as the *U-89* was, it was still daunting to look inside a hatch and imagine that men used to sleep, work and fight in those conditions and sometimes sur-

vive. They knew their chances for survival were low. Even if you did survive a battle and make it to the surface, it was most likely instant execution for you. One was most likely shot in the water. Such instances have been reported after the sinking of the *Lusitania*. No doubt the action was revenge for the sinking of the *Lusitania* by a comrade U-boat, *U-20*.

### Inside history

As I investigated further into the U-boats' history and talked to islanders with memories of the past from the South and West coasts of Ireland, I learned how U-boats and Allied boats would come to the islands to trade for provisions. In doing so, unwritten rules of war were made where momentary cease fires occurred in



Aft torpedo tube with torpedo remains

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## U89

TOP RIGHT: Gear-laden diver ascending after an adventurous dive  
CENTER RIGHT: Natural light at 60 m  
BOTTOM RIGHT: Natural light at 60 m

BELOW: Conger on guard duty mid ship. Torpedos were propelled by petrol or alcohol steam generators

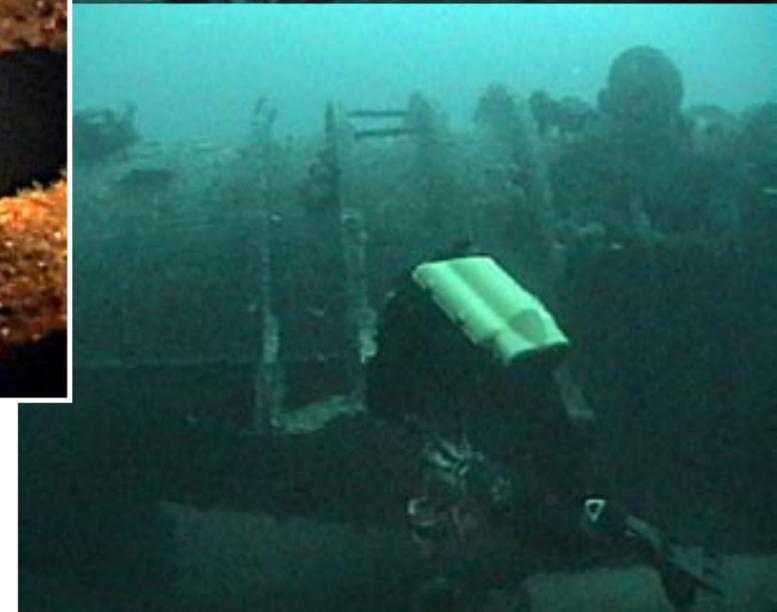
INSET: Torpedoes in storage room



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Natural light at 60 meters

order for both sides to gain supplies.

Sir Roger David Casement (1864-1916), the British traitor and Irish nationalist hero who was hanged by the British in mid-1916 for his part in working with Germany and Irish nationalists in planning the Dublin Easter Rising of 1916 came back from Germany in a U-boat after arranging armaments for the 1916 Rising. There is no doubt that U-boats played a part in Irish history.

These wrecks are our underwater

museums and should be treated with respect. *U-89* offers layers of U-boat history to view. Open in some areas. Intact and in good condition in other areas. Don't forget that this is a vessel that has been in the open sea for nearly a century. Peering at the wreck's cross-section, it is as if you can see different levels of construction. (Take notes and build your own).

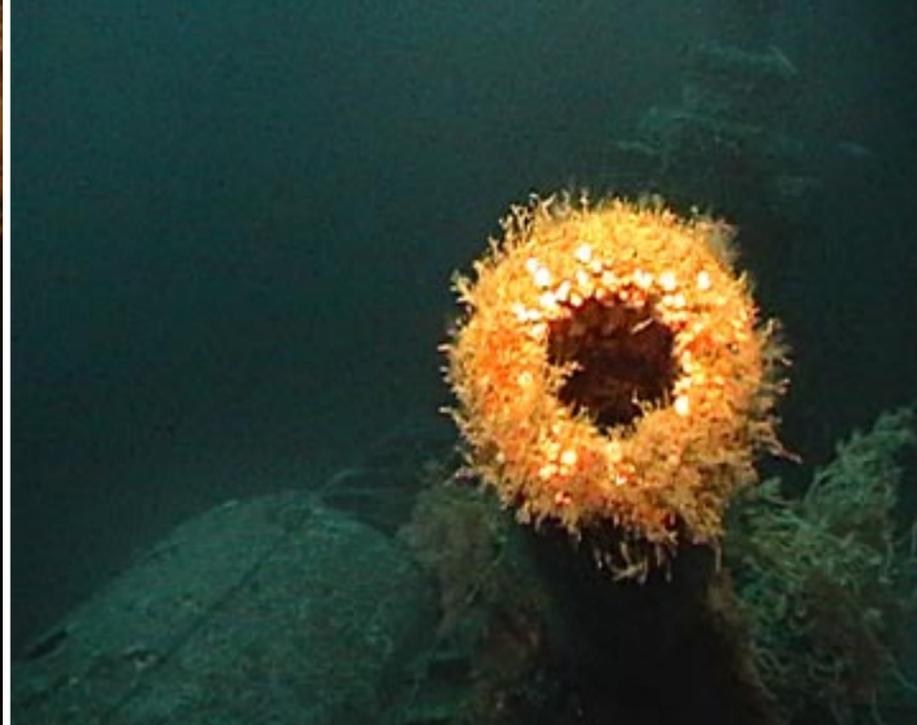
There were plenty more U-boats operating around Malin and all the

coastal waters of Ireland at this time. The vessels, *U-30*, *U-43*, *U-44*, *U-57*, *U-60* and the *U-64*, helped sink the *Justicia*. The vessels, *U-68*, *U-70*, *U-73*, *U-79* and the *U-80*, laid mines in Lough Swilly and caused the sinking of the *Laurentic*.

The vessels, *U-94*, *U-95*, *U-107* and the *U-45*, lie offshore near Donegal. *UB-82* lies off Rathlin Island. *UB-85* lies in Belfast Lough. *U-110* lies off Malin

Head. *U-124*, which also helped sink the *Justicia*, lies off the north coast of Donegal. *UC-42* and *UC-44* were sunk offshore at Cobh Co Cork. *UB-65* lies





ABOVE LEFT: Torpedo  
ABOVE RIGHT: Gun  
CENTER: Torpedo



ABOVE: Good-bye natural light

near the Fastnet Rock. *U-68* and *UC-29* are located off the Coast of Kerry. *U-83* lies offshore at Bullrock, Co Cork.

And that's just the list for WWI. There are many more U-boats off the coast of Ireland from WWII with the highest number of wrecks off the coast of Malin identified by Operation Deadlight ([www.operationdeadlight.co.uk](http://www.operationdeadlight.co.uk)), an expedition which was the first attempt by technical divers to survey and identify the wrecks of German U-Boats scuttled by the Allied forces



Click to watch Quicktime-videoclip

after WWII in the waters north of Ireland. It was a scuttling of 42 plus U-boats. So, the next time you get in the water, it might not be a shark stalking you but a U-boat instead.

## Malin matters

Malin offers excellent visibility. Relaxed atmosphere. Diving for all

occasions, not just deep wrecks. There are shallow wrecks and all the scenic diving you could want.

The dive operator we choose with 100% satisfaction was Dive North ([www.divenorth.com](http://www.divenorth.com)). Thanks to our host and guide, Geoff, we will be back for more.

But this was not the first time I have been to Donegal. I have

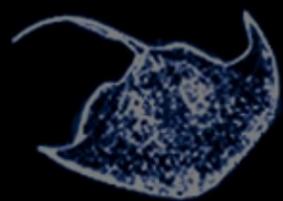
had the pleasure of diving the *Laurentic* as part of the crew of Teilifis na Gaeilge (TnaG), Ireland's Irish language TV channel, and I dived the *Audacious*, through the courtesy of the Inishowen and Derry Sub Aqua Clubs. I shall be back for more.

Malin also seems to be becoming a very popular destination for technical diving courses of all disciplines under the guidance of

Gary Fox who comes to Malin to get good diving and pass on his experience through training and courses ([www.diveaction.co.uk](http://www.diveaction.co.uk)). ■

For more information, visit: [www.10barpics.com](http://www.10barpics.com) [www.uboot.net](http://www.uboot.net)





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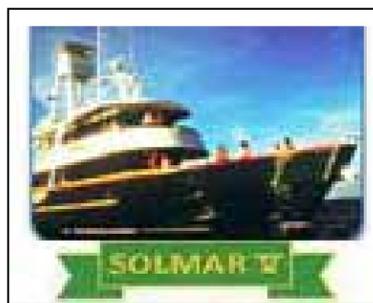
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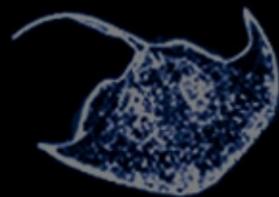
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Detail of "Opah", moonfish  
Silver and copper  
36 cm x 12 cm £250



# Sam MacDonald

Text by Gunild Pak Symes  
Photos by Lighthouse Photography

**A move to the remote northern Scottish province of Orkney sparked a love of the sea, fishing and diving for the increasingly known metals artist, Sam MacDonald. Made up of 70 islands, Orkney, which also has a rich cultural and historical heritage, is a haven for diving, fishing and outdoor enthusiasts. Sam has taken inspiration from his beautiful and magical surroundings to inform his work of marine life forms and textural surfaces.**

Originally from Lewis, Sam began to study and contemplate the sculptural form of fish after taking up fishing. From the glint of scales to the skeletal structure, Sam cap-

tures the textural and fleeting forms of fish in various metals of copper, lead, pewter and gold leaf. He finds the dimension of time in his work by utilizing the concept of fossilization. By studying the impressions of sea life left in split rocks millions of years old, Sam fashions prehistory and ancient memory in his sculptures with masterful manipulation and distressing of metal materials.

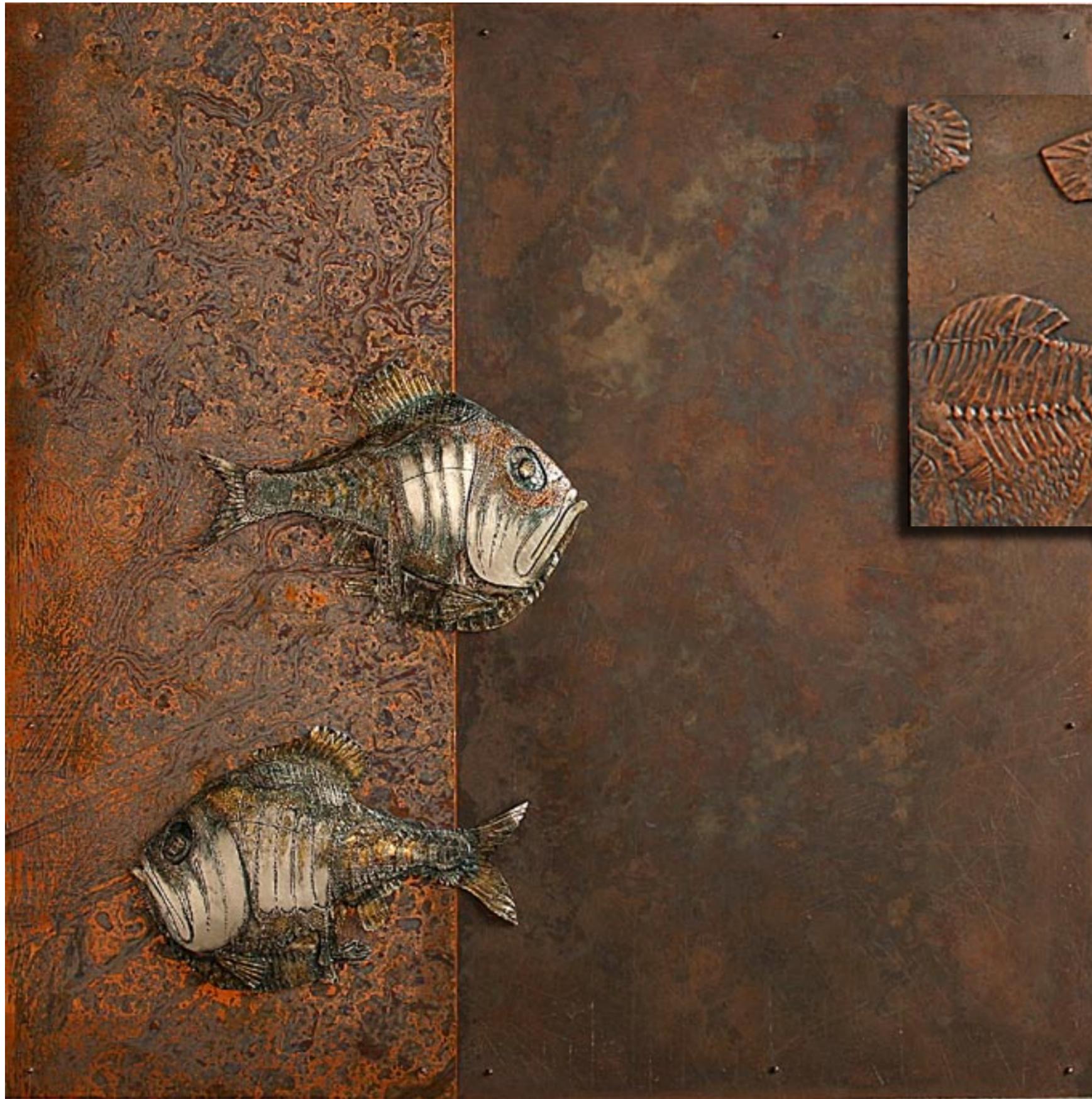
He often leaves out visual information of fish forms, offering only clues to the subject, thereby creating a sense of mystery to the image. He says that the mind's eye will often fill in missing visual information in a way that gives the viewer a more full and rounded experience of the artwork.

Sam is



Fiona MacDonald

Detail of "Herring Hook"  
Pewter copper and gold leaf  
160 cm x 50 cm x 2 cm £5000



"Born in a Storm"  
Pewter, copper and gold leaf  
40 cm x 40 cm £780



Detail of "Slimehead Composition"  
Brass, ferracotta and copper  
58 x 58 cm £500



"Turbot"  
Ferracotta and copper  
53 cm x 54 cm £550





"Velvet and Gold"  
Silver, copper, brass and gold leaf  
58 cm x 122 cm £1100

interested not only in the beauty of the sea, but also in its more terrible aspects and its predatory side. He finds inspiration in the the exposed beauty of a skeletal structure in, for example, the remains of a fish. He sees the beauty in its "dead eyes". Beauty and meaning can often be found in what many would call ugly.

Sam often works in lead. He says that since it is an ugly and poisonous metal, "there is a feeling of alche-



"Sandeels"  
Pewter, lead, copper and gold leaf  
58 cm x 122 cm £1500

my when crafting something of value from a supposedly dead material". He also works with gold leaf to accentuate the flash of scales that can be seen in nature when a school of fish changes direction.

Ecology is a great concern to Sam as he questions what will be left of the world's natural treasures in the future and what fossilized remains of our present time will be left for future generations to contemplate.



"Slime Head Bed"  
Lead and copper  
25 cm x 48 cm £1600

These concerns are often expressed in his artwork where both a texture of the natural world of today and the timeless experience of the prehistoric past co-exist. ■

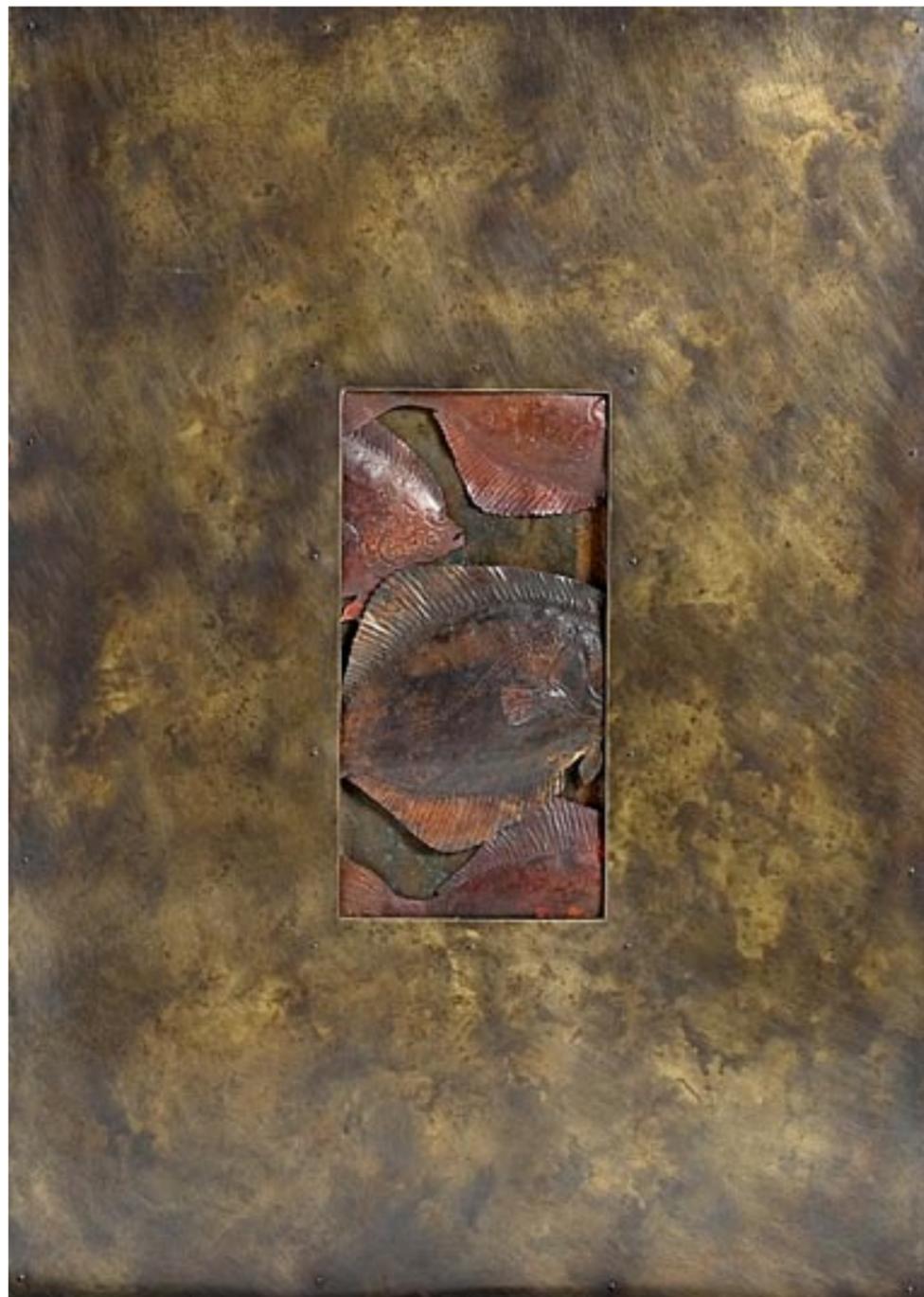
Sam has exhibited his work widely and has a two year waiting list on commissions from patrons all over the world. For more information or to contact the artist, visit his web site at: [www.sam-macdonald.co.uk](http://www.sam-macdonald.co.uk)

"Silver Darlings"  
Pewter, copper and gold leaf  
50 cm x 163 cm £1500

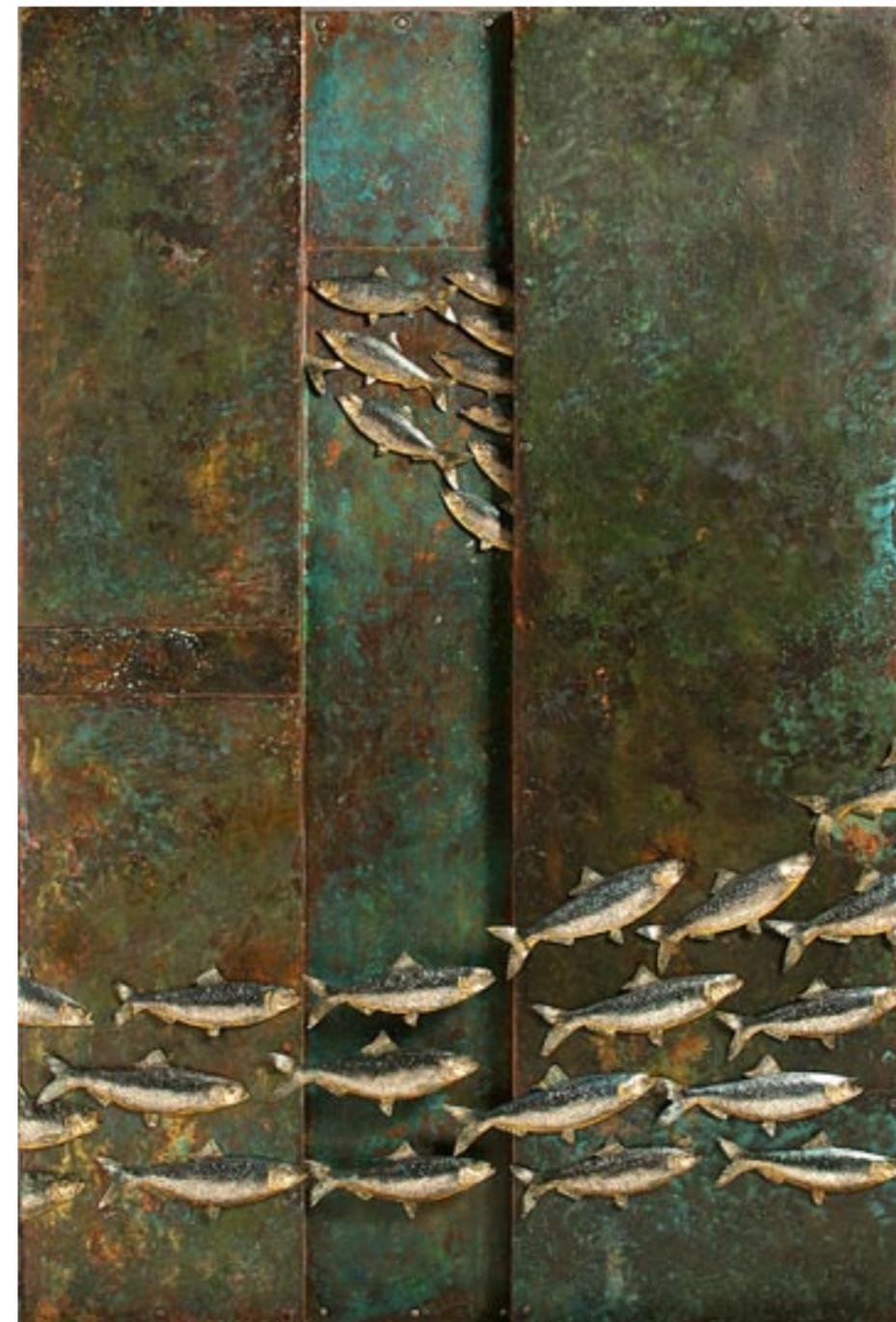




"John Dorys"  
Lead and copper  
81.5 cm x 21 cm £900



"Flounder"  
Pewter, copper and gold leaf  
50 cm x 70 cm £500



"Herring Shoal at Depth"  
Pewter, gold leaf, copper and brass  
81.5 cm x 122.5 cm £2500





TOP: "Herring Square"  
Pewter, copper and gold leaf  
20 cm x 20 cm £280

TOP: "Old Fish"  
Lead and copper  
30 cm x 30 cm £650

TOP: "Hatchet Fish"  
Silver, brass and copper  
40 cm x 40 cm £500

BOTTOM: "Oxeye"  
Lead and copper  
30 cm x 30 cm £650

BOTTOM: "Herring Square"  
Pewter, copper and gold leaf  
20 cm x 20 cm £280

BOTTOM: "Hatchet Split Frame I"  
Pewter, copper and gold leaf  
30 cm x 30 cm £350





TOP: Detail of "Hatchet on Plate"  
Pewter, copper and brass  
25 cm x 28 cm £150

LEFT: Detail of "Skate Profiles"  
Copper  
77 cm x 46 cm £700



For more information or to order art works, visit [www.sam-macdonald.co.uk](http://www.sam-macdonald.co.uk)  
e-mail: [sam@sam-macdonald.co.uk](mailto:sam@sam-macdonald.co.uk)

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