Whale Sharks of Donsol March 1 to 15, 2008

Report of Flag Expedition

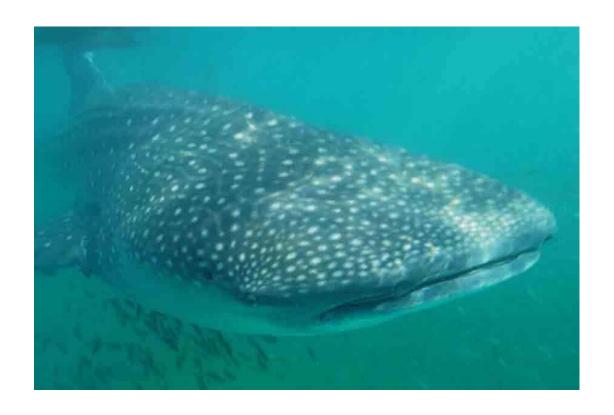


Submitted by Marie Levine, FN'90

Expedition Team: Paul Anes, Traudel Koller-Anes, Jennifer V. Schmidt, Ph.D, Robin Ernst and Marie Levine, Expedition Leader

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Whale Sharks of Donsol Expedition Team (left to right) Trudy Anes, Captain Paul Anes, Robin Ernst, Flag #100, Jennifer Schmidt & Marie Levine

HISTORY OF FLAG #100				
YEAR	NAME	TITLE OF EXPEDITION		
1939	Leon Mandel	Field Museum Caribbean Expedition		
1940	Leon Mandel	Mandel-Galapagos Expedition of Field Museum		
1997	Peter Kintgen	Conconi-Jest on the Equator Worldwide		
1998	Jayne Wallace	Wallace-Austin Waorani Project '98		
2004	Richard Gantt	Search for Early Sealers		
2007	Julianne Chase	Documenting Ecological Changes in the		
2008		Galapagos Since Darwin's Visit		
2007	John T. Kelley	NOAA 1871 Whaling Fleet Archaeology Survey		
2008	Marie C. Levine	Whale Sharks of Donsol		

Whale Sharks of Donsol Expedition Team



Jennifer V. Schmidt, Ph.D., molecular biologist. Assistant Professor at University of Illinois at Chicago, she is head of the Shark Research Institute Whale Shark DNA Study.

Robin Ernst, molecular biologist. While working at Princeton University, Robin was the first person to ID whale shark DNA

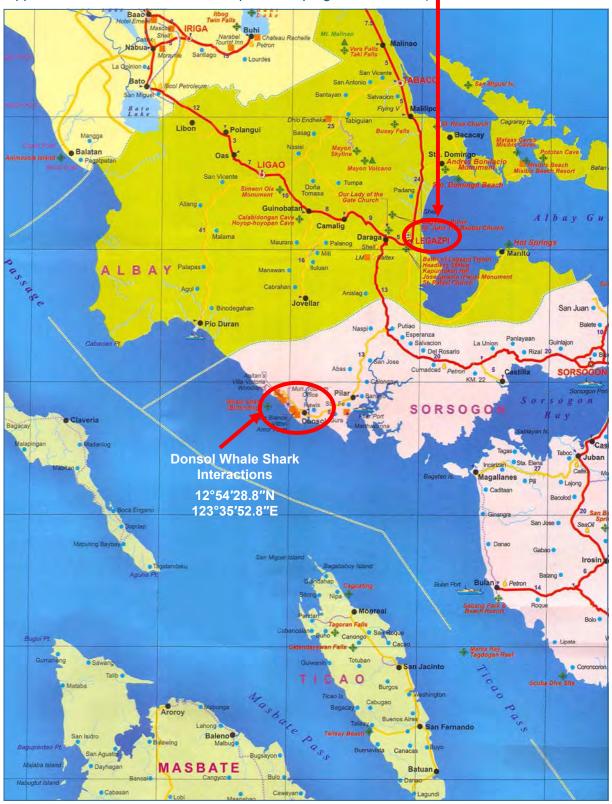


Trudy Anes travels the world from Siberia to India photographing solar eclipses and is an expert diver.

Captain Paul Anes, owner of San Dieto Shark Diving Expeditions, Inc. He has worked with white sharks & whale sharks for more than a decade.

The team flew from Manila to Legaspi.

Then took a bus to Donsol (The Philippines are mountainous with appreciate even more what our troops were up against in WW II.)



WHALE SHARKS OF DONSOL

It looked like a constellation ascending from the depths – bright shimmering stars rising to meet us. As it neared, we could see that the "stars" were white spots on the back of the huge shark. It was the giant fish we'd come to see, the whale shark, *Rhincodon typus*, known locally as Butanding. We would swim with nine more whale sharks that day, 14 on the next, and then we stopped counting. This was Donsol, a sanctuary for whale sharks in the Philippines.

We'd come to Donsol to learn from these villagers. We hoped to learn the nuts and bolts of putting together a community-based whale shark ecotourism program, and these people had proved they knew how to do it. Years ago, whale sharks were hunted



The sharks start arriving in November, their numbers peak March and April, and they leave the area in late June.

seasonally in the Philippines, fishermen selling the fresh and dried meat locally and the fins to Asian traders. The rest of the year they gathered seashells, sea urchins and seaweed to augment their income. By 1997, demand for whale shark fins had increased dramatically, and the numbers of whale sharks in the area were fast declining. One of the few fishing villages that decided to protect whale sharks was Donsol in Sorsogon Province on the southwestern shore of Luzon.

"The publicity we gave to the senseless slaughter of whale sharks in the 1990s just hit a chord and people of Donsol reacted," remembers underwater filmmaker Carina Escudero. "Villagers even managed to free two whale sharks that had been tied by their tails to coconut trees as they floundered in shallow water off a local beach. You can still see them today off Donsol. They are easy to identify as they still have the rope around their tails. We call them Big Lucky and Little Lucky."

Donsol set about developing whale shark ecotourism as a community project and petitioned the government to protect the giant fish. On March 25, 1998, President Ramos signed a directive prohibiting the killing of whale sharks and manta rays in Philippine territorial waters. Unfortunately, the penalties were minimal (USD \$125) and poaching was rampant. Filmosa, a Manila-based fishing company headed by Robert Chang, simply increased the payment for each whale shark carcass, factored the fines in their cost of doing business, raised their prices, and placed orders for the upcoming season.

But the people of Donsol persisted; each year their enterprise grew and flourished, and revenues from whale shark tourism filtered through the entire community. In 2007, almost 11,000 tourists visited Donsol, up from around 900 in 1998, and the annual revenues from whale shark ecotourism infused P12 million into the local economy.

"The attitudes of the local people towards conservation rather than killing has been quite extraordinary," said Escudero at dinner on our last night in the Philippines. "They can see the value in protecting these magnificent creatures." Although most visitors to Donsol are from the Philippines, there is has been a steady increase of international tourists from all over the world who come to swim with the whale sharks.

Today, houses in Donsol are painted with whale sharks, as are fences, buses and even the tuk-tuks. Gift shops and concessions cater to whale shark tourism by offering T-shirts, pendants and trinkets, and some rent snorkeling equipment. Donsol's three hotels are situated in a coconut plantation alongside each other on the bay and the Visitor Center is situated on the grounds of Vitton Hotel.

How does the operation work? First, visitors register at the Visitor Center and pay a one-time small fee. The cost of a day with the sharks is 2,500 Php (cash only; they are not able to accept credit cards).

Then the visitors watch a video about whale sharks which also explains the procedures to be followed.

Next, the visitor is issued a boarding pass, meets their Butanding Information Officer (BIO) and boards their assigned boat. The village's fishing boats are numbered and rotated so that each boat has its turn bringing tourists to the whale sharks. All boats and crews undergo training on interactions with the sharks and each boat is assigned a BIO.

Only six divers are allowed on a boat, and only one boat at a time may have snorkelers in the water interacting with a shark. Boats flying a yellow flag indicate a researcher is onboard and are given preference in interactions. Data are gathered and posted at the Tourist Center for visitors to peruse.

A mangrove swamp was replanted at the mouth of the Donsol River to flush more nutrients into the bay and provide food for the plankton that the whale sharks feed upon. The people of Donsol also developed optional excursions for tourists, such as snorkeling on a nearby reef, birding and river trips at dusk to see the "firefly trees" where thousands of fireflies congregate in the topmost branches of a single tree until it is an almost solid flame of bioluminescence. Two-day trips are also available to the Mayon Volcano.

Unfortunately, we were too early for Donsol's annual Butanding Festival with its floats of whale sharks, turtles and manta rays. This year, the Festival will take place April 28 through May 15. The festival organizers asked us to return next year and host a film night during the Festival.

Interaction with the whale sharks is regulated by the local department of tourism (DOT) office, and WWF guidelines are generally observed to protect the sharks. Rules include limiting the



number of swimmers per boat to six, no scuba diving, and remaining at least three meters from the sharks. In practice, many of these rules are broken on a daily basis, particularly when a shark moves from one boat to the next resulting in as many as 12 snorkelers with the shark. Most sharks are touched at least once during every interaction, accidentally by brushing with the fins, or deliberately.

But Donsol is continually working to improve the quality of whale shark interactions, and workshops are held periodically to improve the operation. Initially, we planned to go to Donsol first, gather data and then go to Puerto Gallera to work on a template for

community-based whale shark interactions that would be useful in Tanzania. All three of the hotels in Donsol were fully-booked during the first week of March and so we rearranged our schedule. On reaching Donsol, we learned that the hotels had been full because of a series of whale shark workshops with government officials that were aimed at improving the interactions. The key people attending the workshop stayed on to work with us, and our objective was greatly facilitated by the work they had done the previous week.

There are no records of any scientist ever witnessing whale sharks mating, and so it was of particular interest that two of the BIOs claim to have witnessed whale sharks mating in Donsol Bay. At present it is anecdotal information, but several BIOs now carry underwater cameras and are hoping to visually document a mating.

In recent years the number of male sharks visiting Donsol have out-numbered female sharks by 20:1. The females that are seen are generally large mature adults in the 7m ~ 9m range. Increasing numbers of sharks show propeller marks on their backs. Anecdotal evidence from local fishermen suggests that prop strikes are from fishing boats in the off-season, rather than from tourist boats in the main February-June tourist season.

In 2006, five whale sharks were found dead within 30 miles of Donsol. They had all been shot at close range. One shark had 13 bullet wounds to the head. The locals blame this on commercial fishermen from Masbate, claiming they shoot the sharks when they are caught in their nets. Every night we saw the lights of dozens of fishing boats from Masbate; they hover at the boundary of Sorsogon's waters. Mantas, which are also protected in the Philippines, are sold in local markets in the Sorsogon area, and we saw thresher sharks in the market in Donsol.

A dead whale shark provides a one-time monetary gain, whereas a live whale shark generates a continuing revenue stream to a fishing village. Donsol's prosperity has not gone unnoticed; other areas in the Philippines are now offering whale shark interactions. Success breeds imitation, and for whale sharks that is a 'good thing'.





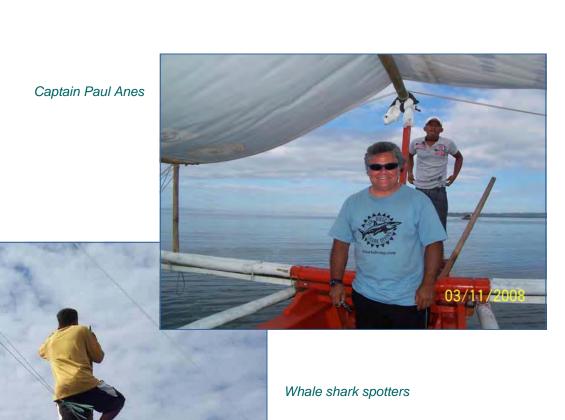
Visitors begin boarding the boats at Donsol at 09h00.



The boats (bancas) are very stable.

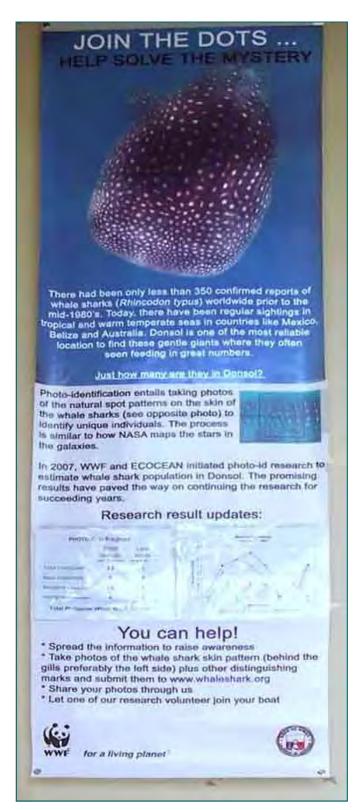
Elson Aca, a researcher and BIO (Butanding Information Officer)

BOCKY COME

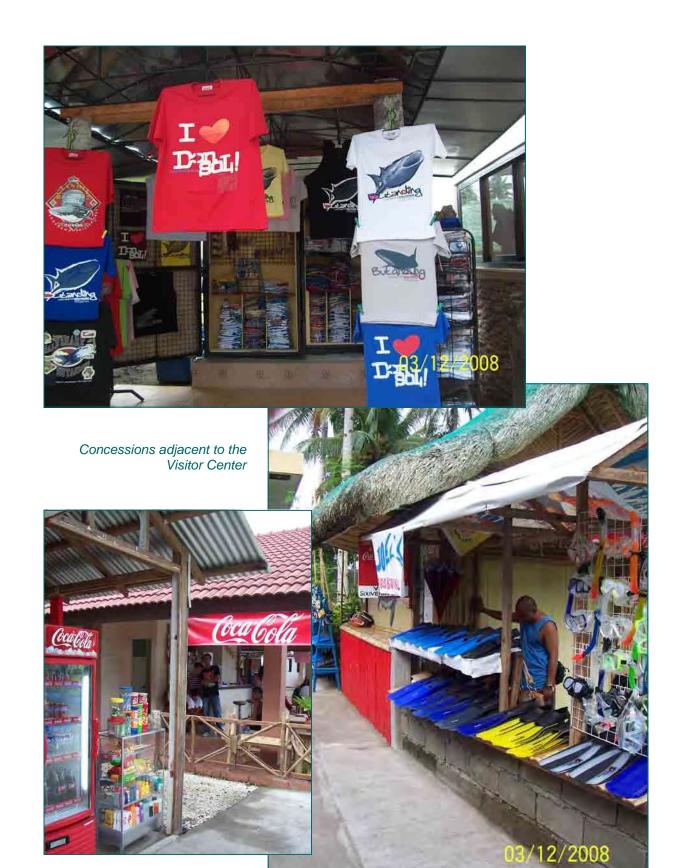




On Donsol Bay



Research results are posted in the Visitor Center.



All three hotels in Donsol are located next to each other in a coconut plantation. We stayed Vitton Beach Resort, adjacent to the Visitor Center.





Typical Philippine metal bus

VITTON BEACH RESORT

Trudy rides a tuk-tuk into town

The expedition provided an opportunity to meet up with old friends. . .

The expedition team consisted of individuals from the Shark Research Institute (SRI). SRI has been studying & tagging whale sharks since 1993 and has a long history of working with DOT, researchers and conservationists throughout the Philippines.

In 1995, Marilyn Baldo of DOT sent SRI photographs of a "baby whale shark with no spots" that stranded in the Philippines, and we identified the shark as a rare megamouth shark, Megachasma pelagios.

In 1997 and 1998, we worked with DOT, WWF and local conservation organizations, provided data to the government, and tags to researchers, and materials for a whale shark museum in Misamis Oriental, Mindanao.

At CITES CoP12 in 2002 we worked alongside delegates from the Philippines and India in a successful effort to place the species on CITES Appendix II.



Moonyeen Alava. We worked side-byside in the trenches at CITES 2002 in Santiago, Chile, to get whale sharks listed on Appendix II.



On January 6, 2003, this megamouth shark was caught in Tablon, Cagayan de Oro City, Philippines. The shark had become entangled in a gill net and brought to shore by fishermen who butchered the shark after it died. These photos were sent to SRI for identification by Dr. Edward Yasay of the Philippine Bureau of Fisheries and Aquatic Resources Regional Office 10.

One of three species of giant filterfeeding sharks, megamouth sharks only became known to science in 1976. This was the 18th specimen of the species to be recorded.



Angela Quiros, ISLA Biodiversity Conservation.

Jennifer & I met Angela at the 1st International Whale Shark Conference in Perth.



Filmmaker Carina Escudero and Arnel Apinchay, former head of WWF Philippines. AA & I had communicated via email for more than a decade about whale sharks.

... And make new friends



Peter Liisberg (left), owner of Scandinavian Divers & Allen Nash (right) of LeGalleon Dive resort in Puerto Gallera observe one of the blacktip reef pups.

A UNIQUE EXPERIMENT

Blacktip reef sharks, *Carcharhinus melanopterus*, were once abundant in Puerto Gallera but none have been seen for the past 12 years. Peter Liisberg became concerned that the loss of sharks in the area was having a negative effect on the marine ecosystem, and he decided to re-seed the area with sharks.

Peter built this 3,000-gallon shark tank in the lobby of his resort about 200 feet from the water's edge. Next, he stocked it with blacktip reef shark pups that he purchased in Manila. For the past six weeks he fed each pup twice a week: shrimp, mussels and about 25 small baitfish. Within the week the pups will be placed in a large pen fastened to the rock wall of the nearby cove, remaining there until they reach a length of three feet. Then the sharks will be released in the shallows. Peter hopes some of the sharks will remain in the area. He plans to seed the inshore waters with 400 to 450 sharks.

Peter is not a marine biologist and is self-taught in shark husbandry. He loves sharks, spotted a problem, and is working to correct it.

... And gather memories



... of friendly people

. . .rice paddies



the ever-present aroma of burning coconuts

... And pick up some new recycling tips





T-shirts and baseball caps on posts serve as scarecrows in this rice paddy Reflective video tape strung between the posts shimmers in the sunlight and aids in repelling birds.



Comfortable outdoor furniture made from Goodyear tires at Legaspi airport

Procedural Guidelines for **Butanding Interaction Officers**

AT THE VISITOR CENTER A.

Before departure, check if the following have been accomplished:

- 6 Forms/waivers have been filled-out and signed by all persons in the group that has been assigned to you. Read/collect the information forms. These forms will tell you about the swimming/snorkeling/diving experience of your guests.
- Group has been issued research materials.
- Group has watched the briefing video at the Visitor Center.
- Lunch arrangements have been made.
- Each guest has all the required equipment (if not, help arrange for rental equipment).

EQUIPMENT CHECKLIST:

For interactors

mask, snorkel & fins (required)

buoyancy or snorkelling vest, skin suit (recommended)

For BIO/BANCA :

1 set mask, snorkel, fins (for BIO)

* recommended not required aboard

vife vests: each boat must carry 1 for every person on the boat

1 life ring with 50 ft, line

first aid kit.

<> 2 oars

trapal

ladder

flags (white, red, yellow & green)

trash bag/container

fresh drinking water for boat crew & BIO

<> lunch/food for crew large plastic bags*

 filled-up fresh water container (for comera rinsing)* cooler filled with ice / drinks / water (for sale)*

⇔ GP5 unit*

radio/recall system equipment*

B. ON THE BOAT

EQUIPMENT

Designate the following areas on the boat:

WET AREA (near the bow of the boat): for snorkeling gear & freshwater rinsing bin

DRY AREA (middle to stern area of the boat): for dry bags, food, etc. SPECIAL EQUIPMENT: Some visitors may bring cameras & other special equipment that you may not be familiar with. Ask your guests for instructions on handling & storage of these items.

BRIEFING

On the way out of the river, give a briefing:

- ♦ Introduce yourself & the boat crew to your group & let each introduce himself.
- Give a boat orientation: Identify designated wet & dry areas, rinsing bin, location of life jackets/ life ring.
- ♦ Go over the day's plan (discuss schedule, lunch, beach visits, etc.).
- ♦ Go over the research material & make any necessary job assignments (recorder/observer, etc.).
- Remind guests to wear sun-protection (sun block, lotion, hats, etc.).
- Ask non-swimmers to don life jackets.
- ♦ Signals:
 - -Emergency recall repeated banging sounds
 - -Signal using 1 or 2 hands when interaction ends signifying boat pick-up
 - -Distress waving arms on surface
 - -`Not OK' signal

BUTANDING INTERACTION DRY-RUN / SAFETY DRILL

(to be conducted at least 1 km from shore)

Every interactor must don all equipment and perform skills satisfactorily.

- PART 1 (demonstration by BIO):
 Have the spotter point to an "imaginary butanding". Then, the BIO demonstrates the following: proper no-splash entry, outrigger-grab-&-push-head-under maneuver, swimming 10 m. away from boat, swimming around the boat keeping 10 m. distance, proper way of boarding
- PART 2: All interactors must do the drill together.
- BIO makes an assessment of his guests' water ability.

Reminders for no-splash entry:

- Make sure that the engine is in NEUTRAL prior to entry.
- Wait for the BIO's `GO' signal before entering the water.
- During entry: The person sitting closest to stern must enter first.

Reminders for 10m SWIM-AWAY from boat:

- BIO must be on the boat ASSESSING HIS GUESTS and ready to lend
 assistance if needed (have gear on & life ring handy).
- BIO can call out instructions and pointers for encouragement.

DEBRIEFING & PLANNING OF INTERACTIONS

BIO must designate the role of each visitor:

- Who will be participating in all interactions (usually, the stronger swimmers)
- Who will try once or twice accompanied by BIO
- Who will not enter the water
- Who fills out forms

Review code of conduct:

- Do not touch or ride the whale shark.
- 2. Do not restrict the movement of the shark or impede its natural path.
- The recommended distance from the whale shark is 3 meters from the head or body and 4 meters from the tail.
- 4. Do not undertake flash photography.
- Do not use scuba, scooters, jet skis or any other motorized underwater propulsion.
- 6. A maximum of six (6) swimmers per shark is allowed.
- 7. There must be only one boat per whale shark.

CONDUCT INTERACTION & RESEARCH

- The BIO is recommended to stay on the boat to watch guests unless someone in the water needs assistance.
- The BIO may join the swimmers' first interaction with the whale shark.
- ♦ The BIO must assist the boat operator in maintaining zone regulations.
- Interaction ends when the whale shark outswims the interactor, dives away or when the swimmer is tired.
- At the end of the interaction trip, return accomplished research forms and evaluation sheet to the Visitor Center.



Guidelines for Whale Shark Interaction Trips For Boat Operators

A. Preparing your boat

- 1. Boat should be properly registered.
- 2. Make sure your boat is in good working condition.
- 3. Boat should be clean. No fishing implements should be on the boat.
- 4. Make sure you have the following basic equipment and features :
 - ---- life vests (each boat should have 1 life vest for each person on the boat)
 - · 1 life ring with 50ft line
 - first aid kit (BIO)
 - 2 oars
 - tarpaulin
 - ladder
 - flag (white, red, & yellow)
 - trash bag/container
 - fresh drinking water for crew and BIO
 - lunch/food for crew
- 5. Other useful boat features
 - large plastic bags
 - container with fresh water
 - cooler with ice and drinks
 - Radio
 - GPS
 - Recall system equipment
- The crew should consist of the boat captain, two crew members and one/ spotter (depending on final agreement)
- 7. Wait at the designated Butanding Interaction Tours loading area

B. Receiving Visitors

- 1. Follow rotation procedure for the day
- 2. Determine the group assigned to your boat from the BIO

- 3. Each boat should be assigned a total number of ---- participants only. This may include interactors (max of 6) and non-interactors.
- 4. Before proceeding to the whale shark interaction area, the BIO will conduct a dry run and safety drill for the visitors.
- 5. Proceed to the whale shark interaction area

C. Conducting the whale shark interaction trips

ZONES

The following general zones are recommended for all boats and interactors plying the whale shark areas:

- NO ENTRY ZONE 3m around the whale shark, Boats and interactors strictly prohibited in this area.
- INTERACTION ZONE 10m from the whale shark. Boats should stay outside this zone, only interactors are allowed inside this area.
- EXCLUSIVE BOAT ZONE 100m from the no entry zone, only one boat
 is allowed to stay in this area. All other boats should stay outside. This
 area is used to approach sighted whale sharks. Navigation in this zone
 should be done with caution and excessive speed should be avoided. A
 maximum boat speed of 8 knots or less is recommended in this area. A
 minimum distance of 100m should be maintained between boats.
- STAND-BY ZONE outside the exclusive boat zone where up to a
 maximum of 2 boats can wait in line to interact with just one whale shark
 in a claimed exclusive boat zone. This zone is from 100 to 250 m away
 from the shark.
- UNRESTRICTED ZONE 250m away from the shark, no restrictions are applied in this area. All other boats looking for whale sharks can stay here.

THE FIRST VESSEL WITHIN THE EXCLUSIVE BOAT ZONE WITH ITS WHITE FLAG UP WILL BE THE FIRST TO DO THEIR INTERACTION WITH THE WHALE SHARK.

All other boats should wait or look for another whale shark in the unrestricted zone.

BUTANDING INTERACTION

PHASE I. Sighting

Search for the whale shark (spotter should share experience). Sighting is usually done 3 to 50m away from the shark depending on position of the boat, amount of sunlight (cloudiness), angle of the sun, visibility and whether parts of the animal are out of the water or not.

PHASE II. Approaching the whale shark

Upon sighting a whale shark, an assigned boat crew will raise the white flag (with something) on top of the pole. The BIO will inform the participants to prepare for the interaction. The spotter will determine the direction the whale shark is headed to.

Depending on the boat position, approach the animal slowly, maneuvering the boat until it is running parallel to the whale shark's body (either left or right side). The direction of the boat should be the same direction as the whale shark. If the boat is travelling head on with the shark, the boat should move around the shark and position itself either on the right or left side of the shark.

Do not cross the whale shark's path or run over it. Do not chase, crowd, or rush the whale shark. Allow it to make a choice to approach or to flee.

Position the boat at least 10 meters in front of the shark and go into neutral.

PHASE III. Interaction

After going into neutral, the swimmers should get off the boat immediately. The whale shark should be swimming towards your direction. Wait for the interaction activity to take place. Allow the whale shark and the swimmers to move at least 10 meters away from the boat. Restart your boat and follow swimmers cautiously while maintaining a 10 meter distance behind them.

Assist the spotter in guiding the swimmers to the direction of the whale shark.

The swimmers are allowed a maximum of 15 minutes interaction time, or as soon as the whale shark swims away (or whichever comes first). After this, your boat should give way to other boats that may be waiting in line in the stand-by zone. However, if you are the only boat in the area at any given time, you may stay with the whale shark as long as you wish to interact with it.

PHASE VI. Pick-up

Depending on where the swimmers are, they will either swim back to the boat or ask to be picked-up after the interaction. The swimmers will make a signal for pick-up and you should acknowledge it. Watch and be prepared for emergency signals.

Make sure that the engine is in neutral when swimmers are getting on board, start engine only when everyone is in the boat and has settled down.

Look for the next whale shark and go through the four phases again.

Other reminders:

- The BIO will be the team leader during the trip and the crew will be assisting him. BIO may assign assistants
- For research trips, the yellow flag should always be up for the duration of the trip.
- Follow the one boat-one shark policy.
- If there is a boat that displays a white or yellow flag, stay at least 100m away from it, look for the next available whale shark elsewhere.
- Stay away from areas where there are people swimming in the water.
- Assist the BIO in monitoring the swimmers and other needs of the passengers
- Help the swimmers get back on the boat
- Make sure that all the passengers did not leave their personal things on the boat
- Dispose of garbage accumulated on the boat in designated areas at the docking area

- Do not litter in the sea (e.g. throwing cigarette butts in the water)
- · All crew members should be sober while working

Avoid the following:

- · Speeding in the whale shark interaction area
- Shouting or talking too loud which may startle or annoy the visitors

Emergencies:

- 1. Alert BIO
- 2. Pick up person in distress immediately
- 3. Call the attention of other boats by raising the red flag (use the RED FLAG to indicate an emergency situation) if assistance is needed
- 4. If assistance from other boats is not necessary, proceed immediately to the docking area.

VISITOR'S SURVEY FORM

Name: Date: Boat: Time: BIO:

How many whale sharks did you see on your trip?

Interaction Duration Interaction Duration Duration Duration 1 4 7 7 5 8 8 6 9

BIO Excellent Good Fair Bad

Conducting a welcome swim
Introducing himself properly
Providing safety information
Giving instructions on proper water entry
Assisting you in the water
Was courteous and respectful
Did not ask you to touch the shark
Guiding you to maintain the shark safety distance
Providing information on shark biology/behaviour
Maintaining maximum number of 7 swimmers
Properly attired with ID
Discussing with you your itinerary
Introducing the boat crew properly
Handling matters of emergency
Hospitable and friendly

Visitor center

Registration proceedure Briefing video Provide receipts Video briefing area Cleanliness and orderliness Courtesy of staff Information provided

Boat

1 boat one shark policy Comfort

Noise level

? Boat engine off upon water entry Trash was disposed properly

Boat cleanliness and orderliness

Smoking on the boat

Crew assisted in interacation

Presence of life vest

Did your boat line up if several boats present

Ladder adequate

Runover the shark or block its path

How would you rate performance captain

spotter crew

General

How would you rate the interaction experience Was the time enough for you did you feel that the sharks were bothered at any part of the interaction



Mission Accomplished!

