

The Dugong Shepherds , the last hope for dugong existence in Thailand

by [Tom Potisit](#) on Tuesday, January 31, 2012 at 6:30pm

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Part I : Reunion

“If nature were not beautiful, it would not be worth knowing and if nature were not worth knowing , life would not be worth living “

Henri Poincare



The simple statement above has driven me to take a great interest in nature and animals over the past years. I have seen many parts of the world and I have realized that nature is one of the most precious things that we should look after and hold on tight before it is too late.



Once again we have volunteered to conduct the flight survey to study the population of the endangered marine animals in the Andaman sea in collaboration with the Phuket Marine Biology Center. This is the 4th consecutive year that we have been working closely with them on the annual marine animals conservation flight survey.

Sunday 22nd 2012

A beautiful Sunday morning in Phuket when most of us are still sleeping but a few busy bees are getting very busy to head down to Trang Province, where the Dugong Shepherds will be based for the next 7 days. Me and Flying Ed will be bringing in the Tecnam, taking off from the Phuket Airpark in Pa Klok district, Phuket heading south flying over Krabi and landing at Trang Airport. 8:00 AM we had picked up Dear, our newest member who just joined the PMBC a few months ago and he is hoping to become an expert in the Dolphin-ology. Dear was waiting for us at the pick up point and will drop us off at the airpark, then drive the support vehicle down to Trang.

9:00 AM we have arrived at the Phuket Airpark, one of the most beautiful airparks in Thailand, due to our early schedule most things around the airpark are still asleep including the numerous numbers of the cows and buffaloes in the area, hence why Phuket Airpark is also known as the Flying Buffalo Airport.

After getting everything ready, engine and plane safety check-up, me and Flying Ed were ready for the take-off. We will be flying over Phuket passing Koh Yao Yai and Phi Phi Island before heading toward Koh Lanta into the mainland of Trang. This is the first time in a year that I will be flying with Flying Ed in the Tecnam.

I was feeling totally fine, I still remember a few years back when we first started helping with the project, I was quite nervous flying in a small plane, especially flying over the ocean in a small plane, sometimes is not that pleasant, but after our Global Expedition for the World's Greatest King where we had flown to 36 cities around the world to celebrate the King of Thailand 84th Birthday, nothing seems to be able to scare me no more.



9:30 AM We took off from Phuket Airpark, I was very excited to be seeing the marine biologists and the volunteer pilots again, not to mention to see the animals and wishfully they are still living happily in their very own habitats.

Dugongs or Manatees is a large marine mammal which often known as seacow

The dugong is heavily dependent on seagrasses for subsistence and is thus restricted to the coastal habitats where they grow, with the largest dugong concentrations typically occurring in wide, shallow, protected areas

Over the years we have reports of dugongs sightings in many provinces in the South of Thailand such as Trang, Krabi, Phuket and Chumporn. Though they are scattered in many provinces but the number of this beautiful and gentle creature is still at risk .

The dugong has been hunted for thousands of years for its meat and oil. Traditional hunting has great cultural significance throughout its range.

The dugong's current distribution is reduced, and many populations are close to extinction.

A few minutes after we took off from Phuket we were flying over Koh Yao Yai , an island between Phuket and Phi Phi where we had report of finding dugong here and I have closely swam with dugong and a few dolphins here before.

Captain Ed took total control of the plane while I am looking out for any signs of dugong activities such as the ‘feeding trail’ or the muddy area where dugongs are feeding on seagrass, theirs only source of food

We were circling around for a few minutes in the area where I have found them before , and there it was , a big fat dugong stuffing its face with seagrass not so far from the nearby fishing village



I didn't waste my time, I picked up my camera and started shooting away

I was so happy to still able to see the animals here , as Koh Yao started to have more development and gearing up for tourism , it raises a lot of worries for me for the marine animals in the area, not only for the dugongs but also for the dolphins and many sea turtles that come here to feed and find its mate.

The Marine Biology Center's aim is not only to conserve the wildlife but also to educate the locals and how to live harmoniously with each other, they often go on field trips to meet the locals and give the information about the marine animals and often they would get important information back from the locals about sightings and where about are they

We were flying around for about 15 minutes where I also spotted a few large sea turtles swimming happily in the bay where I also called the dolphin bay, after making sure we have covered the area we started making our way to Trang passing Phi Phi Don Island which is stunning from the air at this time of the day



10:00 AM We slowly approaching Trang airport where the familiar faces from PMBC, Khun Mark, Phaothep Cherdasukjai and Khun Sumen Parnpum , the marine biologists who have been working with us are already waiting for our arrival



Mark is a young marine biologist who is following in the footsteps of his mentor , Dr.Kanchana Adulayanukosol , the expert in Dugong study who is also known as the “Dugong Mother” in many countries , she has been dedicating her career studying this creature and Mark saw her on a national television one day and he was inspired and driven by her passion , he knew exactly that he wanted to become the Dugong expert one day

With the passion and strong intention to save the animal, nothing is impossible in this world, Mark has become an expert in the field and he still have a lot he wants to achieve to help conserving the animals

After a short resting and refueling on the ground , we started planning the 1st survey flight where Mark and Captain Ed will be flying together covering Tablibong Island area where seagrass is abundant there



Dugongs need to eat lots of seagrass so they keep moving and are usually not permanently resident in one small location. This is why aerial survey becomes a big player in Dugong population study. Dugongs can travel several hundred kilometers in a few days as they feed from place to place. Our seagrass meadows are probably only one stop among many for dugongs that live in the area.

Captain Ed went up to the tower to say hello to the Tower Air Traffic Controller , Khun Aeh who has been very helpful , helping us all the way from Phuket to land safely at Trang Airport

11:30 AM , we did the plane safety check and geared up the Dugong Shepherds , both of them will have to wear the emergency life jacket throughout every mission flights , better be safe than sorry kids, especially we have to remove the doors from the aircraft to be able to spot the animals from the plane , it is quite scary flying without doors at any height.



The task is pretty simple but not that simple , the pilot will be responsible for flying in transect pattern to cover a predetermined survey area which could range up to several hundreds square kilometers and must be flown with an accuracy of plus/minus five degrees at a height of no more than 500 feet. This is very precise flying, and requires a lot of skill and concentration.

The Dugong spotter in the passenger seat will be responsible for recording the locations of the animals using the GPS marker on the GPS device, take the photos of the animals and record the amount of animal and the behaviors into a handheld voice recording device, all these tasks have to be done within seconds otherwise we might miss a chance to identify other animals along the way

The plane slowly leaving Trang Airport leaving me and Khun Sumen behind for the supporting task , refueling the fuel tanks for the next flight when then return. We use plastic container to transport fuel from a nearby gas station and refuel the plane by hand at the airport after every flight

2.30 hrs later , the plane arrived back at Trang Aiport , Mark slowly stepped out of the plane with a smile on his face, I knew that it was a good sign , he was very happy to see 38 dugongs, 7 dolphins and 11 turtles in total and Flying Ed was very excited to see so many animals in the area as well

The team started to put everything back in its place, the doors , the fuel and the ropes to tie the plane down to the ground incase of storm or any unexpected circumstances.



With years of working together, this whole process was done in less than 15 minutes, we could not have asked for a better teamwork and team players

Meanwhile in Krabi, another team of volunteer and pilots are also conducting a flight survey with support from South Wings Aviation led by Captain Narongpol “Pete” Sakchareon who has been the voluntary pilot with the program for the past 2 years. Captain Pete is flying in his newly purchased Tecnam for his business. He is flying with his fellow pilot Captain Pratchaya “Bank” Suwanphatthana and the marine biologists from PMBC. They are responsible for covering Krabi province area and will soon join us here in Trang on 25th before heading down to cover Satun and the further south of Trang province.

The long day has come to an end, we were quite exhausted but very happy to be back working together and sharing this unusual experience together once a year, it is not chemistry , it is destiny.

Part II : Tusks and Tasks

After a good night sleep , the team are ready for a new day. Today we have planned to do a longer flight which will cover most of Talibong and Mook island where Dugongs are normally found, dead or alive.



The plane was refueled since yesterday right after the team had landed , so we only had to perform safety check and gear up the team. 9:45 AM They were up in the air , as usual the ground team will go get the fuel ready for when they come back.

1:45 AM , 4 hours later we are back at the Airport waiting for the team to land , I could spot the little yellow plane in the sky about 5 km away, after they landed safety at the apron , Mark has told me he had spotted around 33 dugongs , 2 dolphins and around 45 sea turtles today, not bad , but the number of the dugongs is still far from the highest number we have counted last year , it was 135 dugongs in one flight.





Where are they ? What happened to them ? 2 big questions that have been floating in my head since yesterday , I am hoping that they are swimming happily in the deeper water, not served as a specialty in the restaurants somewhere

PMBC has often got reports of the dugongs being hunted for meat and many parts of their body as ordered by restaurants , pharmacies and simply people with misconceived belief that parts of dead animals will fix their sexual dysfunction problem, I am so sorry to hear about your problems folk but I swear , the eyelash of dugong will not fix your problem

Dugong tusks and bones are used as ornaments, jewelry, amulets and talismans. In some countries, the price for dugong tusks is very expensive, increasing the hunting for trade. It's interesting to see how, in some cultures, dugong is considered a symbol of bad luck and for this reason not commonly hunted, except on special occasions. Other cultures, mainly in the past, worshipped dugongs as the holder of supernatural power and hunted only for important tribal ceremonies.

Many fishermen torture the dugongs after capturing them just to collect the tears as believed that the tears of dugongs are Love potion , the tusks of the dugongs will enhance their sexual performance, and the meat of dugong could value up to 10,000 baht per kilogram

All these sensitive ancient beliefs make it really difficult for the biologists to convince them to save them rather that hunt them, especially the price for their meat is quite high which automatically make dugongs a swimming ATM machine

As mentioned before that the marine biologists are not only trying to stop the dugongs killing but also trying to educate the locals about the misbeliefs in dugongs, but this process takes sometime



After the usual routine of putting things back in places and refueling the plane ,we headed back to the hotel and discussed the flight, one big problem that we are facing now is the new equipment we introduced into the survey this year. We are trying to capture most of the animals in its location using the GoPro camera, a tiny camera that could be attached to the bar under the wing , in the 4 hours flight , the camera captured more than 6,000 photos but we could only find one animal in 1 photo.

There are many factors that prevent us capturing good images of the animals , the glare from the sun and the angle of the camera.

One solution that we agreed on , is to readjust the angle of the camera away from the sun to avoid the glare, we will try it again tomorrow on the 3rd flight .

Part III : Like Humans Like Dugongs

Day 3 of the dugong survey , the Dugong Shepherds are still in good spirit , today I will take turn as the dugong spotter flying with Captain Ed in the pilot seat. We had a safety

check and readjusted the GoPro camera as discussed last night flowed by a quick brief before taking off at the airport about the survey area and the methods that we will be implementing , we have chosen to take off around 10:30 and will be surveying around Mook and Talibong island for 4 hours during the high tide period

The dugongs usually come to feed during the high tide time because seagrass is usually located along the coastline and difficult for the dugongs to feed on it safely without getting stuck on the coastline on the low tide.



One thing we don't know yet about this animal is where do they go to sleep at night, as it is already hard spotting them during the day at the certain time, trying to find them at night is virtually impossible.

After we have taken off , it took us around 15 minutes from the airport to reach the coastline where we began the mission , I was praying that we would find a lot of animals today and more than last year

A few minutes flying away from the coastline, appeared a large dugong swimming happily feeding itself on the seagrass at the bottom of the ocean, he/she was massive and I was excitedly happy to see my 1st animal of the day . Around the same area I have also spotted many sea turtles swimming near the surface but once they see us flying over them, they dove down to the deeper area.

The spotter has to be quite experienced in identifying the animals, because in the area we often find a large number of dolphins who look almost identical to the dugong from the air, with only knowledge and experiences will help to distinguish the differences between these two mammals

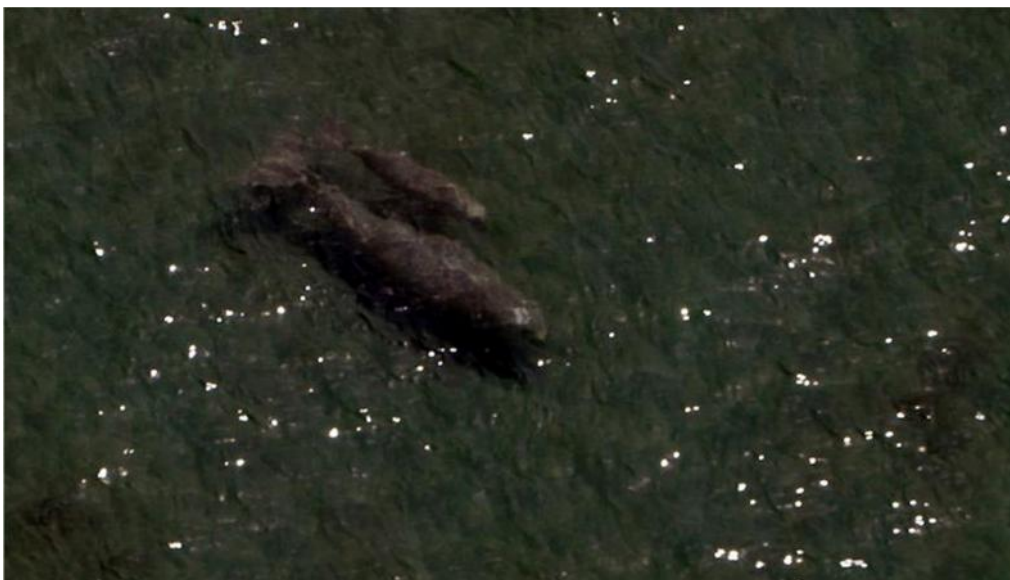


Dugongs have similar adaptations to whales and dolphins. They look rather like rotund grey-brown dolphins with a fish-like shape, flippers and tails and grow up to three metres long and weigh up to 400kg. Their skin is thick and smooth, with the nostrils near the front of the head enabling them to breathe with most of the body beneath the surface. Unlike other mammals, dugongs cannot hold their breath under water for very long.

Dugongs have no dorsal fin. Their mouths are large, and the upper lip is covered in bristles which are used to find and grasp seagrass. Dugongs' ears and eyes are found on the side of the head, and their movements slow and graceful.

After seeing the animals I have to record the positions into the handheld GPS device , record the voice memo and take identification photos , these are the skills I have developed working on the project in the past 4 years

Over the 4 hours flight , I have spotted many dugongs, some alone, some in group and some mating. The most impressive image I have tattooed in my heart is the image of mother dugong swimming closely by her calf, protecting her baby from harm and making sure to keep her baby safe



The mother dugong gives birth in shallow waters, usually to a single calf. The calf clings to the mother's back as she grazes. She suckles her baby for up to 18 months. The juvenile might stay with her for another year after that. It is almost impossible for the baby to survive if its mother dies. Dugongs reproduce slowly, taking 9-10 years to reach sexual maturity and give birth only every 3-7 years. They can live up to 70 years.



In the past few years I have spotted a few mother dugong with two babies swimming by her side, one is the older baby and the younger one, 3 generations together. That is a good sign for the biologists to know that they are well and reproducing happily, but this year we hardly see a case like that. We are not quite sure if they are migrating somewhere else due to the food resources are more abundant somewhere else or simply the number of dugongs has decreased dramatically



The greatest threat to dugongs is the loss of their habitat. As a result of increased siltation and nutrients from human activities such as dumping of dredge wastes, urbanisation, industry and agriculture, seagrass beds are diminishing.

Nets are also a threat to dugongs who can become entangled and drown in certain types of fishing mesh nets. In some locations fishing nets are restricted in order to establish dugong protection areas.

Most of the areas where dugongs are feeding are "No-Hunting Zone" but often we see many fishing boats fishing illegally and Dugongs and many marine mammals are often caught in the nets and drown eventually



The highlight of the day was seeing a massive group of dolphins hunting together not so far of Talibong island, at first I was not sure what were they, I didn't think that there would be so many dolphins swimming together as a large group as they were

I asked Captain Ed through the mic on the headphone to circle around while I tried to take the images of the dolphins for the Mark to analyze the data and the exact amount of them, unfortunately the sun was in the way, it was shining strongly over the water

surface creating glare which made it difficult for me to capture a good image, I just hoped that I have got one that is just good enough

Along the way to the mission areas , we have spotted many dugongs scattered all over the places, some swim alone, some in pair and only a few in groups

Captain Ed was working hard, flying accurately due to the transect lines we have planned is not an easy task, we want to cover the areas as much as possible but at the same time we also need the accurate data of where about they are and also the photos to prove their existence

On the way back to Trang Airport , the wind started to pick up and we had to fly a little bit higher to avoid any windy business which could be dangerous to us and the plane



Mark ,P'Sumen and Dear were already waiting for our return on the ground , once we landed I have told Mark about the Dolphins and he was pretty excited to see the pictures, I was just finger-crossing that some of the photos will show the sign of them

Part IV :Dugongs 'R' US

After going through the photos and data I have handed to Mark yesterday , he told me that the group of the mysterious fish I saw was definitely dolphins and there must be over 50 of them !!

I have noticed that they are swimming together around the floating fishing nets where they could feed effortlessly on the fish caught in between the nets, the dolphins are the smartest marine animals , they could communicate with each other through their call and body language. They don't often get caught easily in between the nets , unlike sea turtles and dugongs , who are not as advanced as the Flippers , they often get caught and drown in between the nets in just minutes



Today the supporting team from South Wing Aviation will join us in the late afternoon after their mission flight in Krabi, Khun Santi arrived first by car and the pilots came arrived later around 4:30 PM. It was great to see Captain Pete again, and meet Captain Bank for the first time. It is also rewarding to see that we are getting more helping hands as the research grows.

Captain Pete has told me that they have been spotting almost 20 dugongs in Krabi area, which is a very good news, in the past years we have only spotted a little more than 10 animals in the area. Mark was definitely happy to hear this good news.

We are wondering that some of the dugongs are migrating north to find more source of food ,Seagrass , the only source of food for them.

The seagrass meadows of Talibong Island, Trang, which are the largest seagrass areas in Thailand's Andaman coast providing buffet grounds to a large dugong population

At this point you might be wondering why Dugong Study is so important to us humans , over the years the biologists have acknowledge that their well-being of dugongs depends on environment health, recognizing the dugongs existence mean that we still have a healthy environment , the ocean that is , also our main resource of food



Having dugongs also help to indicate how lush and fertile the marine area is .A lot of sea animals and creatures live and breeds in the seagrass beds, having dugongs swimming around help to protect them from other hunters such as sharks bigger other sea animals



The day after , Doctor Kongkiat Kittiwattanawong , the head of the research and a few more marine biologists from PMBC have joined us , helping out with the flight survey and making sure that we have covered most important areas.

One of the most important question and mystery we have been trying to answer is where do the dugongs go after the high tide , where do they go hide and sleep ? If we could answer this question , it would help us greatly in order to protect them

Over the 7 days flying , the highest dugongs counted was 55 , comparing to last year highest record, it was 135. We are quite worried about the decreased number of dugongs in the area , this is more than 50% of the animals we encountered last year , where did they go ? or what happened to them ?

During the survey , the water condition was not that great , it was quite turbid which made it difficult for us to spot them from the sky , and I hope and pray that was the case. I hope they are still around and living happily in the area.

But if this number is accurate , I am quite certain that in the near future , Dugongs will be only the history animal of Thailand

I am urging you to be aware of the fragile existence of creatures like the dugongs , who may one day disappear , unless we all do something even the smallest effort to help protect their environment



and...

These are the most simplest ways to help saving the endangered dugongs - don't pollute water – don't eat the dugongs

- don't buy any products made of dugong or its parts - don't drop litter (much of it ends up in our waterways)**
- don't eat what they eat (seagrass)**
- try not to leak oil from ships or boats**
- steer pleasure boats clear of seagrass (dugongs are probably eating there)**
- don't destroy their habitat-don't destroy their breeding grounds**
- create a few protection grounds where no kind of boat is allowed to go (so as to stop the dugong from being injured)**
- don't drop any kind of net in the water**
- report to the officers if you see any suspicious activities regarding dugong being hunted.**



Love nature, like you love yourself

Thank you for keeping our world beautiful

Tom Potisit



For additional images from the project ,please visit

<http://www.facebook.com/media/set/?set=a.10150610539456224.439369.626336223&type=1>