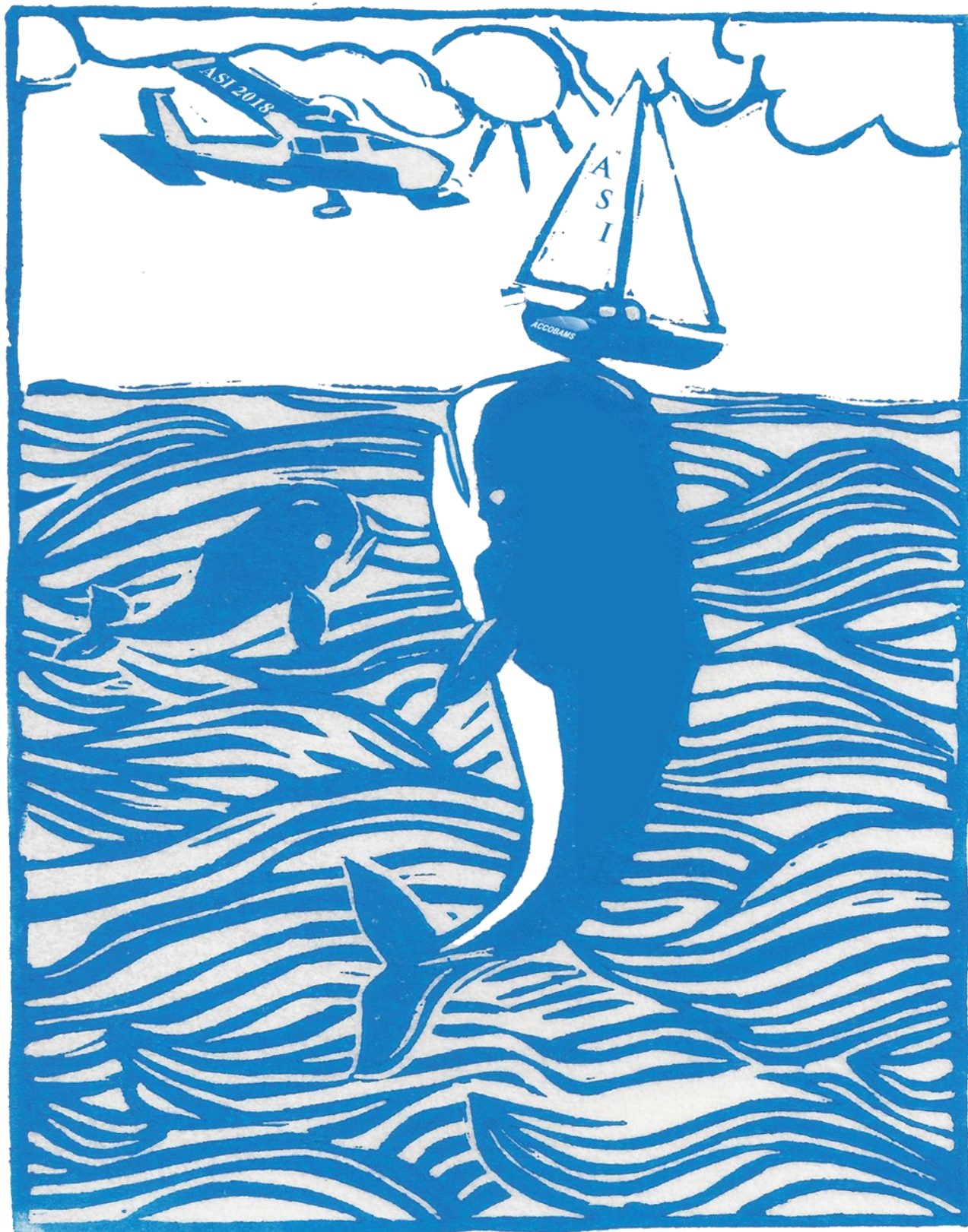




# FIN S

ASI - SPECIAL EDITION

November 2019







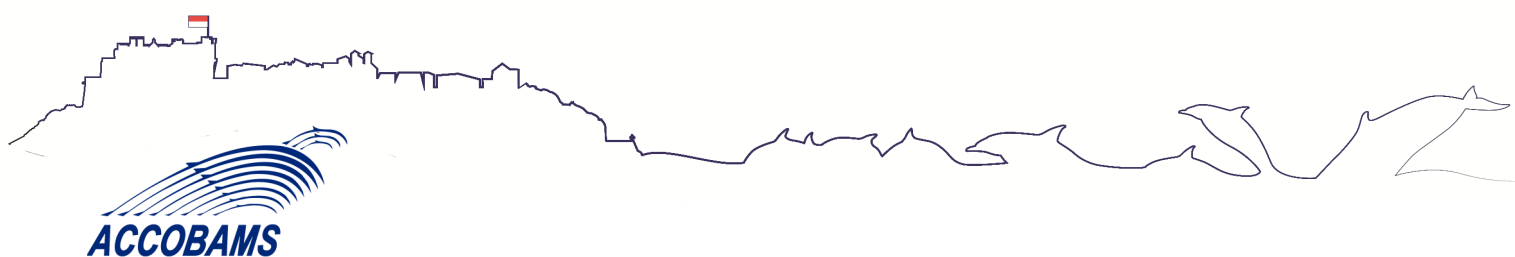
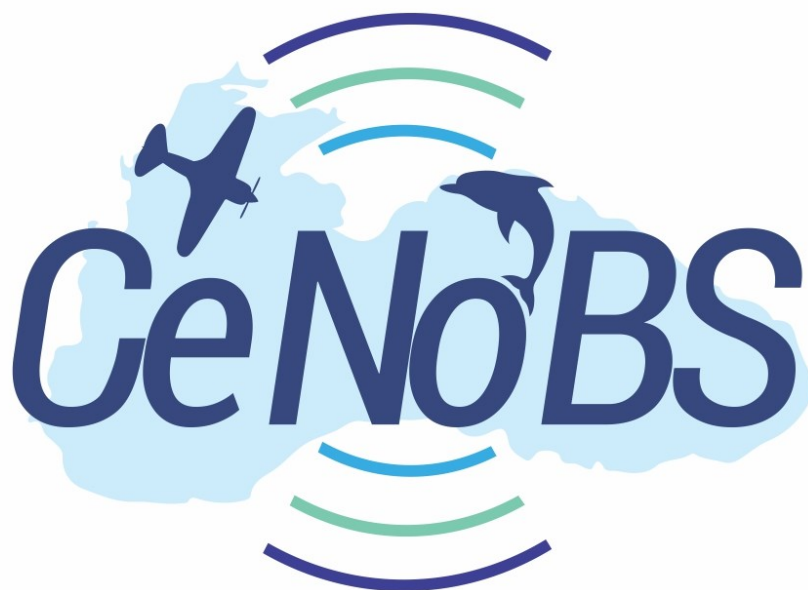
# FINs

ASI - SPECIAL EDITION

November 2019



ACCOBAMS  
SURVEY  
INITIATIVE





# WORD OF THE PERMANENT SECRETARIAT

## The ACCOBAMS Survey Initiative: an unprecedented international effort towards cetacean conservation

In 2004, the ACCOBAMS Scientific Committee identified the need to undertake a cetacean survey within the whole Agreement Area to address gaps in knowledge on the abundance and distribution of cetacean populations, in order to assess cetacean conservation status and improve conservation measures.



The “ACCOBAMS Survey Initiative” (ASI), a multi million - euro project, was finally developed in 2014, thanks to the strategic efforts of the ACCOBAMS Permanent Secretariat and the contribution of the Scientific Committee.

It was then implemented and coordinated by the Permanent Secretariat, with the support of a Steering Committee composed of the Regional Activity Center for Specially Protected Areas (UNEP/MAP- SPA/RAC), the Mediterranean Cooperation Center of the Mediterranean Sea of IUCN, the French Agency for Biodiversity, the Italian Institute for the Protection of the Environment and Research and the PELAGIS Observatory of the University of La Rochelle in France. This initiative had the support of all riparian countries and substantial financial support from the MAVA Foundation, the Prince Albert II of Monaco Foundation, the International Fund for Animal Welfare, the Ministry of Ecological Transition of Spain, the French Agency for Biodiversity, the Italian Ministry for the Protection of the Environment, the Territory and the Sea and the Government of the Principality of Monaco.



The ACCOBAMS Survey Initiative was formally launched during the 6<sup>th</sup> Meeting of Parties to ACCOBAMS in November 2016, at the Agreement’s 20<sup>th</sup> Anniversary.

**Photo:** Launching of the ASI Mediterranean campaign in Malaga, June 8<sup>th</sup> 2018, at the occasion of the entry of the R/V Song of the Whale in the Mediterranean Sea.

From left to right: H.E. M. Xavier Sticker (Former Chair of ACCOBAMS), Mrs. Florence Descroix-Comanducci (ACCOBAMS Executive Secretary) and H.E. M. Jean-Luc Van Klaveren (Ambassador in Spain of the Principality Monaco, country hosting the ACCOBAMS Permanent Secretariat).



In summer 2018, the ASI campaign survey teams conducted the first ever large-scale Mediterranean Sea survey of marine megafauna, marine litter and underwater noise. For this effort, 20 countries and 30 partner organisations were involved, 8 planes and 6 boats were mobilised, over 100 scientists relayed to collect observation data, 55 000 km were surveyed from the air and 22 000 km were surveyed by the vessel Song of the Whale alone. This effort was completed in summer 2019 with the boat surveys over Syrian and Egyptian waters .

In summer 2019, the ASI survey campaign continued in the Black Sea with ACCOBAMS support and funding from the European Commission through the CeNoBs project which aims to assess the environmental status of the Black Sea as part of the EU-MSFD implementation.

More than 7,000 km were surveyed by 8 scientists in 2 planes over the waters of Romania, Bulgaria, Ukraine, Turkey and Georgia. Furthermore, a collaboration was developed by the Permanent Secretariat with Russian Institutes and with the support of the UNDP - EMBLAS+ project, to undertake a complementary aerial survey over Russian waters, to complete the Black Sea picture.



The ASI is historic due to the size, scale, number of countries involved in the effort. This initiative is also unique due to the resources it mobilized, the extent of collaboration it represented, but also the remarkable capacity-building effort that it supported. The whole region is now benefiting from a real task force of experts, able to apply regionally harmonized monitoring protocols and data analysis tools, adapted from internationally recognized methodologies.

While representing a significant organisational challenge with a variety of situations to address, both the Mediterranean and the Black Sea surveys are a resounding success.



**The ASI results will provide a valuable baseline to monitor changes in cetacean populations and will be useful for effective future conservation efforts in the global context of biodiversity erosion and environmental changes.**

# COORDINATING THE ACCOBAMS SURVEY INITIATIVE

## WHAT AN HONOR AND WHAT A BURDEN...

*By Simone PANIGADA - ASI Scientific Coordinator  
Tethys Research Institute*

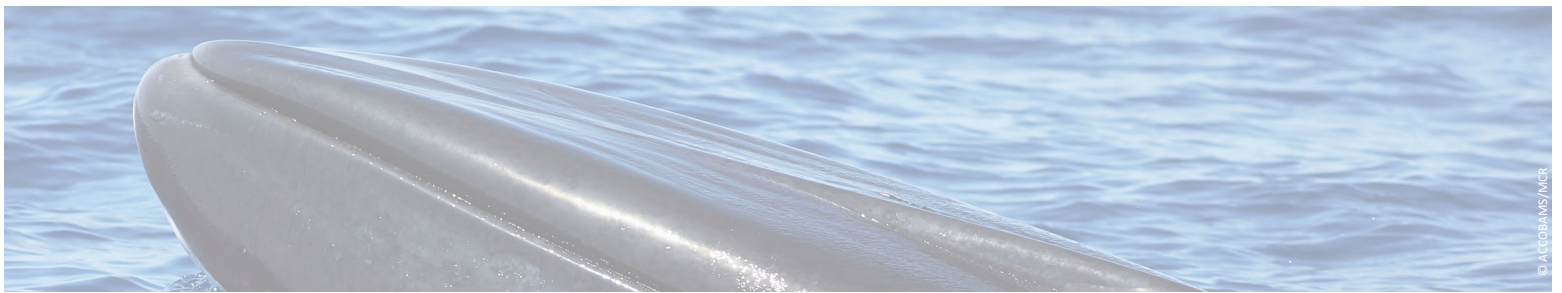
Robust baseline information on parameters such as cetacean abundance and density is necessary to inform conservation actions, and to implement and evaluate the efficacy of any measures currently in place. This is particularly true in the Mediterranean and Black Seas, where several of the cetacean populations occurring in the Region are threatened by human activities and maintaining good conservation status requires effective actions. This is also the reason why the ACCOBAMS proposed a synoptic survey of the entire ACCOBAMS Region (ASI - ACCOBAMS Survey Initiative).

Building and/or reinforcing national capacities represented a significant part of the ASI. Three dedicated training workshops were conducted with the objective to present, discuss and adapt data collection protocols to and with the cruise leaders and observers, benefitting from theoretical and practical sessions. The ultimate result was a shared and standardized protocol and software to be used for all surveys present and future, in order to ensure the compatibility of the collected data.



Data collection was concentrated during the summer of 2018 for the Mediterranean Sea, to facilitate a synoptic coverage of the whole Mediterranean Sea in the same time window. About 10 different planes and 3 different research boats were used, with almost 100 scientists and researchers involved. Aerial surveys were complemented by ship-based visual and acoustic surveys, to collect data on deep diving species, such as beaked and sperm whales and to survey waters where it was not possible to use dedicated airplanes due to national restrictions. Egyptian and Syrian waters have been surveyed by dedicated vessels in 2019; the data will be integrated with the 2018 ones, in order to provide a robust picture of the entire Mediterranean Sea.





I was “brave” enough to apply for the position of Scientific Coordinator for the ACCOBAMS Survey Initiative: a large-scale survey aiming to cover for the first time the entire Mediterranean and Black Sea basins, to collect robust information of cetaceans, birds and large vertebrates, including human presence and marine debris. All this looked very sexy and appealing on paper and neither me nor the ACCOBAMS Permanent Secretariat were completely aware of the difficulties and different levels of trouble we were going to face for several months.

At the same time, we were not aware of the success, degree of satisfaction and proudness that such a huge effort would have produced, in terms of results, conservation implications and personal relationships. Starting from the preliminary and preparatory meetings, we had the privilege to work with a variety of persons who were strongly motivated by the same goal: make the ASI a success and make sure that such an effort would represent a conservation improvement for all the cetaceans population of the ACCOBAMS area.



We met friends and colleagues in different occasions and we started planning all the technical, logistical, scientific and administrative aspects we were expecting to encounter during the different phases of this effort. Every occasion was good to talk about the survey design, the data collection protocols, the research permits, the planes to be used, the observers, the training and capacity building components, just to mention some of the topics we were addressing at the same time.

These preliminary phases lasted several months and culminated with the training workshop in Cuers, France, in May 2018, where all the aerial teams and pilots for the Mediterranean Sea were present. A similar training targeting visual and acoustic effort from research vessels was organized a few weeks later in Samos, Greece, for the vessel observers. This was when we realized that everything was ready and soon after the Cuers meeting the first planes were ready to take off and go around the Mediterranean Sea collecting data on dolphins, whales, marine birds, turtles, tunas, moon fish, sharks, sword fish, giant devil rays...



This was also when our mobile phone, thanks to several WhatsApp dedicated groups we created, started to ring and beep 7 days a week, at every hour. The communications became rather hectic and every day we were involved with all kinds of issues to be solved at the very last minutes, ranging from difficulties with the planes, software or hardware issues, permit authorisations or personal issues.



Only a very dedicated team work and the commitment of so many people could have made this possible and now, over one year after the start of the field-work, we can toast to a great success and laugh about the different stories we have heard and dealt with.

The Black Sea was surveyed by two airplanes in June 2019, after a training for aerial observers for the Black Sea component, which took place in June 2019 in Tulcea, Romania. The effort benefited from the Mediterranean experience and covered waters from Ukraine, Romania, Bulgaria, Turkey and Georgia.

A precious and heavy amount of scientific evidence has been collected; now it is time to concretely use the collected data and make sure the effort and resources will be used to actively and powerfully contribute to the conservation of the species we have been assessing, both in the Mediterranean and Black Seas. The results will enable us to join forces and effort to make our voice stronger and louder, to reduce human impacts, to reduce the presence of marine debris and pollution in the water and to engage for better place-based conservation and threat mitigation in the entire ACCOBAMS area.



***Last but not least, we should soon start planning the next ASI campaign, as this takes time and effort and we need to have a time series that will allow the assessment of population trends over the next decades.***



# R/V SONG OF THE WHALE & TEAM ASSIST WITH THE MEDITERRANEAN BASIN WIDE ASI TWENTY-FIVE YEARS AFTER STUDYING WHALES OF THE LIGURIAN SEA

By MCR Team

The Song of the Whale team has been engaged in the conservation of whales and dolphins in the Mediterranean Sea for many years and first worked in the region in 1994. In collaboration with local groups, including Simone at Tethys, the team undertook studies of sperm whale and fin whales in the Ligurian Sea, which became the first High Seas whale sanctuary. At the invitation of the ACCOBAMS Secretariat, the team subsequently returned to the Mediterranean Sea to undertake surveys for sperm whales in areas which had received little survey effort – the Ionian Sea and Strait of Sicily in 2003, the SW Mediterranean Basin in 2004, the Eastern Basin in 2007, and the Aegean Sea and Levantine Basin in 2013. These projects provided valuable baseline data to assist with the planning of the vessel aspects of the basin wide survey, the ASI, which took place in summer 2018.

So, in 2017, MCR was delighted to become a key partner of the ASI project, to support and assist the ACCOBAMS Secretariat for the implementation of the ASI vessel-based survey component, in particular with aspects related to planning, logistics, vessel requirements and survey equipment needs, survey methodology, training for participants, survey implementation, data management and analysis.

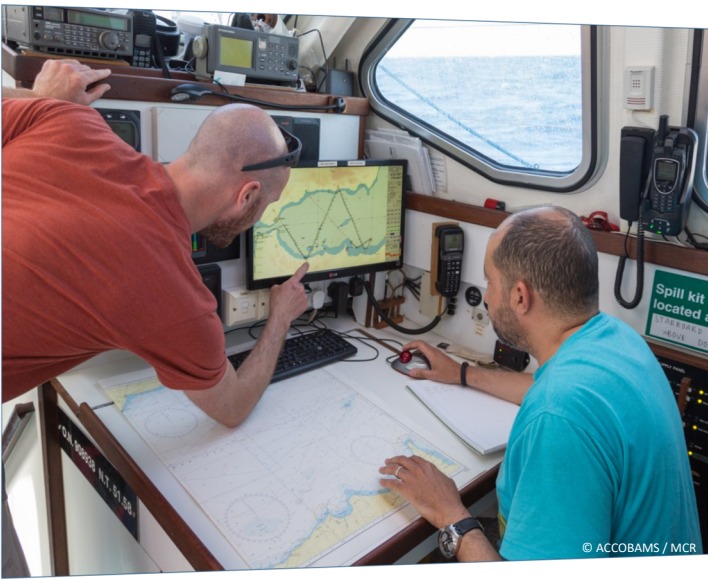
Several different research boats were used to survey the Mediterranean Sea concurrently with the aerial survey effort. In some regions, both aerial and vessel surveys were possible, but in other areas, including Egyptian, Libyan, Lebanese, Syrian and Moroccan waters, only vessel-based surveys were possible. Acoustic surveys are particularly important for monitoring deep diving species, such as sperm and beaked whales, which tend to spend most of the time underwater and are therefore less likely to be spotted by aerial teams.

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Between 28<sup>th</sup> May and 29<sup>th</sup> September, R/V Song of the Whale and team surveyed almost 22,000 km of Mediterranean track in the western and eastern basins. Approximately 14,449 km (66 %) was “on track”, i.e. following pre-determined survey transects with 24-hour acoustic effort (and visual effort during daylight hours when weather conditions were appropriate). The team and vessel also assisted with port events during the summer, including Malaga (Spain) on World Ocean’s Day, Monaco and Monastir (Tunisia). Thirty-one participants from 10 different countries throughout the

region were hosted on board Song of the Whale during the ASI. The participants worked alongside the full-time team on Song of the Whale for one or two survey legs, learning the theory and practise required to undertake acoustic and visual surveys.

Vessel surveys conducted during the ASI were either joint acoustic-visual (considered high priority in those areas without aerial surveys) or visual-only (for vessels surveying national coastal waters of Lebanon, for example, and in areas where hydrophones were not permitted). Sightings of cetaceans, turtles, sharks and rays were collected, as well as data on marine debris. The vessels towed hydrophone arrays capable of detecting all cetacean species, including the infrasonic calls of fin whales and the ultrasonic clicks of beaked whales. The track of the vessel, direction of travel and a range of environmental variables (wind direction, wave height, etc.) were recorded on specialist logging software (Logger).



A dedicated training workshop was held in Samos, Greece, to present, discuss, present and adapt data collection protocols for boat-based visual and acoustic surveys. During the one-week training course, researchers from Syria, Lebanon, Libya and Egypt were trained as potential cruise leaders, in order to be able to conduct independent surveys in their home countries, applying the same shared and standardised protocols. Data logging software, sightings protocols, organisation of watch rotas, as well as acoustic methodology were discussed and adapted to the different needs. The workshop included two days out at sea to test the survey protocol, distance estimation for each sighting and the data collection software Logger 2000; extensive trouble-shooting sessions were dedicated to address potential issues during field work and to make sure each participant was confident in solving and handling specific situations.



Although detailed analysis is still ongoing, the initial results of the R/V Song of the Whale surveys reveal that:

- Small/medium sized odontocetes were detected acoustically throughout the study area with the largest aggregations in the contiguous Atlantic waters (up to 40 individuals). Heading east, smaller groups were more usual.
- Preliminary analysis suggests that 18 acoustic detections of beaked whales were recorded, in small groups (<4 animals), as has previously been reported in the Mediterranean.
- A Cuvier's beaked whale was sighted off the Atlantic coast of Morocco, apparently the first documented sighting in Atlantic waters off Morocco. Additional individuals were also detected acoustically in the region. Beaked whale clicks were also detected for the first time in Libyan waters.
- Fin whales were encountered within the typical range (Balearic Sea, Gulf of Lion and Ligurian Sea).
- Sperm whales were widely encountered in deep waters of the western basin. A sperm whale was detected off Libya – only the second documented encounter with a living whale in Libyan waters; the first encounter was documented by the Song of the Whale team in 2007. Strandings have been previously reported from Libya and Egypt.
- Rough-toothed dolphins were sighted in Greek waters, a relatively unusual encounter.

Throughout the project we enjoyed working alongside keen participants from a wide range of countries and cultures. This was particularly evident at meal times when we were often treated to traditional national cuisine made with love on the high seas. We learnt a great deal about life in the Mediterranean, with our participants acting as local guides to events both on land and below the surface.



***We hope that in turn we were able to share our research expertise and inspire ongoing efforts to conserve marine mammals in our most precious marine habitats. The ASI project provides a rare opportunity for diverse groups to work closely together to achieve our common aims.***



# THOUGHTS FROM OUR EXPERT VINCENT RIDOUX

*Pelagis Observatory*



“During the ACCOBAMS survey initiative (ASI), I have not flown in person over the Mediterranean to census cetaceans, seabirds, and all other large animals that can be spotted from the air. Neither have I sailed at its surface towing a hydrophone to detect their presence at depth. Instead, I have participated to the ASI remotely. I contributed to various preparatory workshops or events in Tunis, Monaco, Málaga and elsewhere, as well as to the steering committee meetings, the training session for aerial observers that took place at Cuers airfield and constituted the

starting point of the field work and finally the restitution workshop scheduled in Istanbul.

Very early in this long process, I had the feeling that we were all contributing to something really unique. Was it because of the size and remoteness of the study area? Certainly not, previous surveys conducted across the north Pacific or around the Antarctic have been covering much larger areas and the semi-enclosed nature of the Mediterranean Sea makes it more accessible than most other regions of the world ocean. Was it because of its higher species richness and abundance? With only ten cetacean species living permanently in the basin and the oligotrophic nature of most Mediterranean pelagic ecosystems we cannot really compare with the diversity found in the tropics and the abundance found at higher latitudes. Was it because of the scientific and technological challenges?

No again; we wisely decided to use well established tools and methodologies so that our results would be robust and constitute as strong a reference in time as possible for future research, conservation projects and monitoring programmes. So, what is the basis of the ASI project uniqueness?

That is its human dimension. The Mediterranean Sea has been a major cross-road for human movements for thousands of years and still is it. A long history of commercial and cultural exchanges and also conflicts have shaped the populations living around the basin, resulting in the Mediterranean people being so close yet so diverse. Given this context, it is a remarkable achievement that twenty countries agreed to join their efforts under ACCOBAMS’ umbrella to census marine megafauna for the sake of marine conservation. Every observer, every scientist, every manager, every stakeholder, every funder, every authority, every country involved in the ASI project with all their variety, sometime opposition, of views, opinions and priorities made it happen, allowing a very consistent project to be conducted for the benefit of marine life and ecosystems in their shared and beloved Mediterranean Sea. They all must be warmly acknowledged for this unique achievement.”





# ASI Stories from the air...





# ASI, ACCOBAMS SURVEY INITIATIVE....

## *OR ALL TOGETHER THROUGH SCIENCE AND INVOLVEMENT*

By Léa DAVID - ASI Team Leader  
EcoOcéan Institut



“The eastern Mediterranean Sea is a complex but rich area in terms of countries, authorisations and people. Our brave team with the aircraft, the pilot and the leader was effectively supported by at least 6 observers from 5 nationalities on board and at least 1 person at land in each country overflown.

The survey in that part of the Mediterranean was really a challenge, accomplished by all strength and will, patience and diplomacy gathered. Many thanks to all people involved at sea and at land !

If few cetaceans have been observed, marine litter was as everywhere the main item sighted. But, as professionals and observers, we also tested and noted the baklava and coffee everywhere. For sure this mission will have tightened the links between all these scientists passionate about the sea, whatever their nationality, and made us feel the sensation of working together for a common goal. And here "mare nostrum" makes sense !”



© Léa David/EcoOcéan Institut/ASI ACCOBAMS/2018

*The shadow of our aircraft, so tiny over the wide and often empty sea*

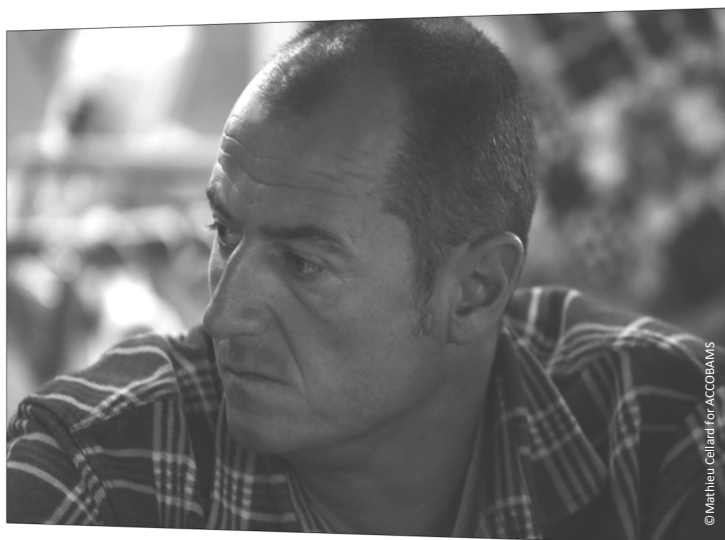


“We flew between Sicily, Malta and Tunisia. It was a great adventure filled with twists and turns: material problems, endless waiting for flight authorizations .... But luckily I was able to count on a great team of French and Tunisian solidarity observers and on many people on land (the team of the Permanent Secretariat of ACCOBAMS, Pelagis and the Scientific Coordinator) who all worked to ensure that the mission happens at the best.

Thank you for this beautiful human adventure, and for all these beautiful sightings of turtles, cetaceans .... Having worked together to improve our knowledge and ability to protect better our beautiful Mediterranean was a pleasure.”

**By Nathalie DI-MÉGLIO - ASI Team Leader  
EcoOcéan Institut**

“I had the privilege to participate in the ASI as crew leader for the team originally meant to be dedicated to the Aegean Sea. By the time it was our time to get started, we were asked to concentrate efforts in the Ionian Sea, because our colleagues using the plane before us could not complete it and because the situation was a bit unclear still, from an administrative point of view, to be able to run the aerial surveys across the Aegean. Despite this new and somehow uncertain scenario, we were eager and enthusiastic to start flying above Ionian waters and to contribute in the best possible way to this great initiative. Throughout the month we dedicated to the ASI, there were some frustrating moments due to some uncertainties regarding our flight permits which, together with rapidly changing weather conditions, were not exactly helping to keep our spirits high. I was lucky to share this experience with crewmembers Manel Gazo, Popi Gikopoulou and with pilots Cédric Renouard and Thibault Deffontis. This experience would have been much more difficult without their commitment and great attitude to get the job done. Colleagues from ACCOBAMS were great in providing support when needed.



The best part of this adventure was without a shadow of a doubt to feel that we were all part of a BIG team. A team spread across all the Mediterranean Sea, including a large number of people from different countries and cultures, but sharing the same passion and determination to make the ACCOBAMS Survey Initiative a true success. I am looking forward to hear the results obtained in 2018 and to participate in an ASI II, whenever it takes place; hopefully soon!”

**By Joan Gonzalvo - ASI Team Leader  
Tethys Research Institute**



# WHAT FABULOUS TIME WE HAD!

By Draško HOLCER - ASI Team Adriatic Leader  
Blue World Institute



“When I was invited to lead the ACCOBAMS ASI aerial survey team for the Adriatic and the Tyrrhenian Sea, I accepted it immediately. Of course, I did, who wouldn't! I had the privilege of doing aerial surveys of the Adriatic previously with a group of funny and experienced people. Hence I knew what to expect, or so I thought! The transects planned for my team were numerous, but I was sure we could do it! All we needed was good weather. After our joint ASI workshop in Cuers, we were ready.

Carla, Jure, Tilen, Francesco the pilot and myself - Team Adriatic.

The start day was set to June 18<sup>th</sup>, 2018, and the team was eager to get the first flight! We agreed that the best location to start would be from Slovenia. An aerial survey largely depends on the weather conditions and as the start date was approaching, I was starting to worry. The forecast was not good at all! There was rain, storms and wind for as long as the forecast predicted. The first “executive” decision was made – we are cancelling the start. The team was disappointed. I felt slightly shattered but coming storms proved me right. Our plane and pilot were “confiscated” by another team who had better luck – “Call us when you get some good weather so we will send you the plane and the pilot!” they said laughing! Rough start! After two weeks of delaying and waiting, the forecast was good, and we took off on July 3<sup>rd</sup>!

Finally, we were all set. The survey went smoothly. Loggerhead turtles everywhere! Some bottlenose dolphins too, but turtles were omnipresent. Almost half of the Adriatic was done. We were happy as we were getting up to speed with lost time but then again, some bad weather was coming. After a few days, we were back in the air and reaching Dubrovnik. Everyone is getting ready to finally see some cetaceans other than bottlenose dolphins. And there they were - Cuviers beaked whales, Risso's dolphins and striped dolphins right where we were expecting them – the offshore south Adriatic. The plane is full of happy people that forgot their tiredness and all of the plastic they were reporting before!

In a snap we were in Bari and already reaching the last day of the Adriatic survey – but the weather was changing again, and the wind was picking up. We racked our brains on how to escape the wind, made a little twist in the flight plan and reached the finish of the transect almost to the minute before the wind started to pick up!

But, before the end I saw four hammerhead sharks near the Albanian coast!





That was something new for me so I could hardly believe it. It would be interesting to hear the recording of my mumbling and stuttering before I finally said “hammerheads, four”. Amazing! Now we only had to get back to Bari, refuel and take off to the other side of the Apennine Peninsula to get to the Tyrrhenian!

Almost two weeks of bad weather again, the wind was finally coming down and we were back in the air! In the middle of the Tyrrhenian sea we had a fantastic sighting of a solitary sperm whale. My/our first sperm whale! We are circling, photographing! The spirit in the plane is back! We landed in Cagliari on Sardinia, what an experience! The next day we started early as we were planning a double shift in order not to lose good weather. We were flying along the coast of Sardinia to reach our first transect. If we only knew how magnificent it is, we would have found a way to get there and wait for the good weather there! Sightings of dolphins, sea turtles, and plastic, plastic, plastic, plastic, plastic...

After refuelling in Corsica, we headed for the last transect of the day and we were back on Italian mainland. Early in the morning we were preparing for the last flight of the survey! As we reached the end of the transects, there was a large group of striped dolphins jumping off the track. We started the circle-back and logged in the last data. Well, the survey was over. We headed back “home” to Pontecagnano. Francesco landed with tail wind slightly shaking the plane, and that was it!

### **The end! After 27 days of sunny June and over 50 hours of flying, the aerial survey of 2018 was successfully finished.**



As I said, I have accepted to be the team leader without hesitation. And as much as I was confident, I knew what lies ahead, every day spent on the survey proved me wrong. But would I change my decision – no way. As much as collecting data on plastic that was everywhere in the sea was a nuisance, there were incredible encounters of Cuvier’s beaked whales, a sperm whale, fin whales, giant devil rays, sharks and of course Risso’s, bottlenose

and striped dolphins that made hours of flying in a small plane under scorching sun, extreme heat and incredible noise worthwhile. Sea turtles were too many, so they were almost as annoying as plastic!

Joking aside, apart from my own amazement with all the life I was privileged to see from the plane, knowing that we participated in something as big and important as ASI and contributing to cetacean and other marine species conservation in the entire Mediterranean gave our work another meaning. Friendship, laughs, singing, hospitality of people and beauty of all the places we landed to and visited were huge bonuses, while writing this short article made me realise what fabulous time we had during this survey! That is why I will conclude with what my team was often saying when we were happy in the plane as a form of thanking for the opportunity and the experience – Viva ACCOBAMS! I think we all still feel the same.”



“I am a Mediterranean person. And I love the Mediterranean Sea. A small body of water almost completely surrounded by land that for centuries has been the navel of the universe. A small body of water that for centuries has been crossed in all possible directions by peoples with different cultures, languages, traditions, religions and colours. A small body of water that has shaped the modern world as we know it today and that still plays a fundamental role in the lives of millions of people. The history of the Mediterranean is the history of each one of us, the story of a continuous fruitful meeting that unites peoples and places.

But the Mediterranean is not just places, people with their activities. The Mediterranean is also a sea of extraordinary beauty, and with over 17,000 species it is a hot spot of marine biodiversity with an enormous complexity of flora and fauna and one of the bodies of water with the highest number of endemic species. One can only be in love with the Mediterranean, and this is why, every single time I am asked to join a research expedition in its waters, I just can't say no. It doesn't matter how many sperm whales I have been lucky to observe, every new one is like the first one and the excitement is like the first time. But all that glitters is not gold. In fact, we are well aware that the Mediterranean Sea with its species and habitats is under heavy pressure and it has attracted the concern of scientists and conservationists worldwide. Sadly, the list of Mediterranean species threatened by human activities and to a lesser extend by natural processes is quite long and, to date, our knowledge about what are the main reasons which led those species into such a bad condition is still quite limited. When I go out at sea I find it extremely enjoyable, a real pleasure. But what also prompts me to keep doing what I do is knowing that in some way the ours spent searching and observing whales and dolphins will contribute towards increasing our knowledge about them and to understand what could possibly affect them in order to protect them.

When I was informed that finally, after years of planning, the ACCOBAMS Survey Initiative had received the final thumb up and that field work was going to start soon in the following few months, I couldn't have been happier. And my excitement was even higher when I was offered to participate into the field work as one of the Team Leaders for the aerial survey component of the monitoring. I have been lucky enough to carry out quite a few aerial surveys during the last decade in the Mediterranean, primarily across the seas surrounding the Italian Peninsula, and in the northeaster North Atlantic for the SCANS III programme. And, honestly, it doesn't matter where you are, which

species you think you are going to spot, how cold or warm or noisy the aircraft might be, there is only one thing I can say about aerial survey: they are cool, very cool! Imagine being seated with a couple more people in a small roller coaster car with wings moving at 180 kilometres per hour just 150 meters above the sea with your head sticking out in a bubble window try to spot cetaceans, birds, reptiles and what not. It doesn't get any better than that. So, when I was asked to participate to the ASI, aerial surveys in the Mediterranean Sea, I could just say YES!







All in all, it has been for me a fantastic experience from begin to end. Clearly there have been some lows and highs during the four weeks the rest of the team and I have spend flying around. The frustration for the bad weather sometimes forcing us to seat in a hotel room for what felt like endless days. The frustration for the redundant and excessive bureaucracy in some airports causing the loss of precious hours of flight.

The stress of flying for hours without knowing for sure if in the destination airport they actually had the right fuel for the aircraft despite long hours spent at the phone to figure it out. In some airports, the frustration and the great surprise to know that mathematics has become an opinion rather than a fact with one plus one totalling three at the fuel pump. These are just very general and minor examples of issues that I guess almost every team has been experiencing during the ASI field work. Very minor at the least thinking about them now, but they look unsurmountable there and then when you are standing for ours in an office being asked the same questions over and over again and without seeing the blink of a light at the end of the tunnel, just thinking that the whole day was wasted. And definitely minor when compared to the huge tasks that people organising the entire Initiative had to go through. I am not surprised it took years to solve or at least reduce all the logistical, political and bureaucratic hick-ups that happen along the way. And I am pretty sure there were quite a few.

So, did these glitches make me regret my choice to be part of the ASI crew? Not for a single second! I loved being part of the ASI and feel extremely lucky and proud to have been invited to join the Initiative and possibly having helped to put the basis for future similar work. From the training phase to the moment we all went home I have been working with long time friend and colleagues consolidating our relationship and learning from new people with whom to share the same passion and the same goals. The ASI is not the first example of such large-scale synoptic surveys but I guess that the inherent and intimate complexity of the Mediterranean Sea make the ASI a unique case worldwide. The ASI also is an extraordinary achievement with the potential to greatly improve our knowledge on the cetacean's fauna and in general the biodiversity of the Mediterranean and to contribute towards their persistence. My hope is therefore that the ASI will become a successful programme to be replicated in the future, perhaps with less glitches, but with the same spirit, sheer commitment and persistence, bringing together people, ideas and robust science."



**By Nino Pierantonio - ASI Team Leader**  
**Tethys Research Institute**



“I have been working on cetaceans since mid 80s. In this long period I have travelled around the world and have had the opportunity to have exceptional experiences in the oceans and even in the most remote and pristine areas.

Despite the beauty of these areas, I am fully convinced that the Mare nostrum, the Mediterranean Sea, remains one of the most exciting places in the world because different Nations, people, cultures, climate and the unusual biodiversity.

When I started working with cetaceans, I sent my friends an image representing my workplace: that was the SEA of my research station in Croatia.

The Mediterranean Sea as a semi-closed basin suffers from numerous threats; these present are posing at risk conservation status of cetaceans as well as other biodiversity elements. I am committed to working for the conservation of cetaceans and for managing conflicts between cetaceans and humans.

In such activities, one of the most important elements which need to be achieved are: **how many and where are they?** The ACCOBAMS survey initiative is the only action on a Mediterranean scale to adequately answer these two questions.

It has been a long and strenuous process that started several years ago, involving people with different roles and skills. It was a huge work that also implicated diplomacy to cover, mitigate and resolve the political aspects related to the different areas under national jurisdiction and related logistical constrains.

I was willing to participate in both the preparatory work and the flight operations as a member of the steering committee and team leader; this has been a privilege to works towards cetaceans conservation.

Flight operations are sometimes strenuous activities; several hours in a small, hot and noisy place with the obligation to be really concentrated is a daily duty. But the work is not limited to the flight, and other commitments are planned before and after the flight. Despite all these charges, the awareness that I was involved in something coordinated on a Mediterranean scale, therefore concrete and essential for knowledge, allowed fatigue to be easily tolerated. Work is easy when you're lucky to do what you like. The ASI has achieved unprecedented results for cetaceans and other biodiversity elements that will be the milestone for further investigations and future activities that are even a legal obligation for European countries.

I like to take the opportunity to thanks ACCOBAMS Secretariat and the Scientific coordinator for the effort provided and all the people that have been with me in the plane as well as the Pilot.”

**By Giancarlo Lauriano - ASI Team Leader**  
**ISPRA**





“Being part of cetacean aerial survey is a great experience mixing lots of emotions – hope, expectation, frustration, tedium... I was on aerial survey some years ago as observer but ASI offered me the chance to act also as Cruise leader – demanding position requiring solving diverse challenges from booking rooms to negotiating flight clearance with local airport authorities. If that was all more or less clear in the ToR and Field protocol a flat tire during landing wasn't. Especially if that happened at a rather inappropriate time – just when forecast was promising August meltemi winds that dominated Aegean in that month will take a short break!

While combating frustration we had to find a solution and thanks to technician from local aero-club and quick reaction by air company's manager who jumped on a flight to bring a spare tire the problem was fixed and survey continued to a successful end 3 days later.”

**By Dimitar Popov - ASI Team Leader  
Green Balkans**

“I think the organization scheme has been a total success. In my case, whenever I need advice or an answer to any question about the software, the protocol, the money... etc, it has been solved in a very short time. Congratulations to all!



I must say that I am totally happy with the excellent team I have had for this survey. I would like to highlight the essential role of our Algerian observer Souad Lamouti, she is a very professional biologist and has been the true cruise leader in Algeria. She was always willing to learn and help. She was dealing with all the authorities at the airport in Alger and Oran. I would highly recommend her to be involved in future surveys. I also have had the luck to work with Monica in other projects, ship and aerial

surveys, and I must say that is a very professional biologist, with a high involvement in the project, helping me a lot not only in her duties but also in others. Having her in my team makes me feel more supported. Finally, the military assigned to our team, Tahar, was a very kind person and always was willing to help to finish our mission. In resume, I would go with my team to wherever to fly again.

There was not an specific success story. Discovering how Souad was able to solve every problem was the best success story. If I had to highlight one of it, it would be how she was able to send a fuel tank to Oran only for us. Amazing!

It has been an honour and a pleasure to be part of the ASI project. I have been working in Mediterranean and Atlantic waters during the last 20 years, and I have been witness of several attempts to carry out a survey like this in the Mediterranean, and to be able to be part of it, finally, with this wonderful team, is a great feeling. I have experienced so many things during this survey in different countries... that the only thing I have to say is “Thank you” and see you in the next ASI survey”.

**By Tonio Vasquez - ASI Team Leader  
ALNILAM**



“In my point of view ASI was a wonderful and unforgettable experience. I would be ready to relive every moment !!!”

« Je tiens à remercier l'ACCOBAMS ainsi que l'ensemble des experts qui ont organisé la campagne ASI 2018. C'était une expérience formidable sur tous les plans.

Personnellement j'ai survolé l'Alboran et la zone atlantique. J'étais impressionnée par le nombre élevé de dauphins au niveau du détroit.

Les moments les plus difficiles étaient les longues attentes du retour des bonnes conditions météorologiques afin de pouvoir poursuivre observations. »

**ALL THE BEST !**

**By Dr. Imane TAI**

**Chargée de la coordination du Réseau de Suivi des Echouages**

“As a young Greek marine mammal conservationist, being part of the team that covered the first and last block, from both the air and the sea, the Hellenic Trench - the hotspot for cetaceans in the eastern Mediterranean- which is currently facing the most unprecedented threat of oil and gas exploration, was a particularly unique experience and feeling. A feeling marked by the achievement of a historical milestone in marine mammal research in the Mediterranean. Such large scale initiatives, despite the fact that are critical, as they significantly contribute to increase our understanding and face key marine conservation challenges, are still seriously lacking in our field.

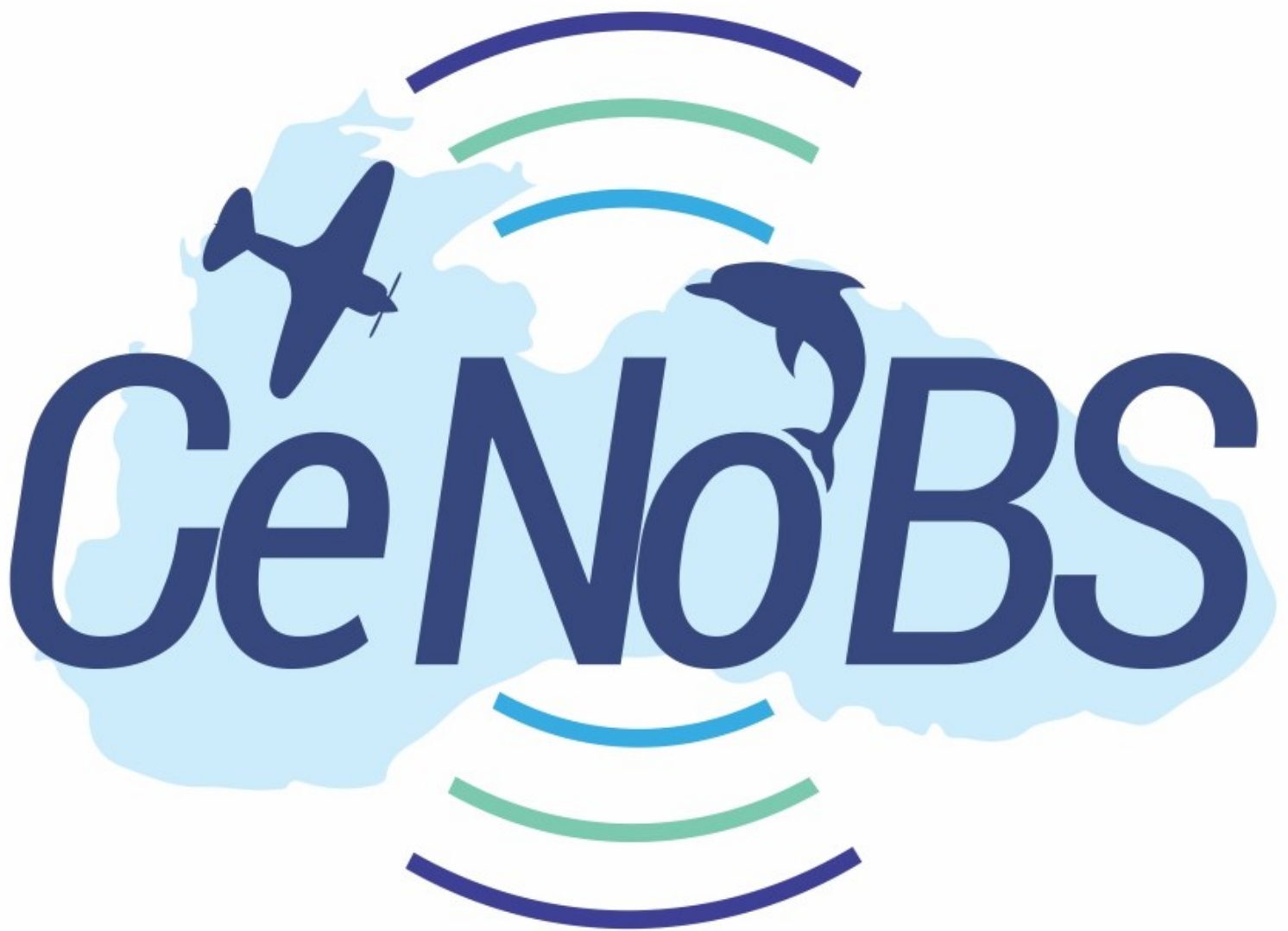
The ASI was the real and vivid demonstration of the potential we as a marine mammal community have to take our work a step forward; to think and become active on a different level and at a regional scale. This can only be implemented by truly passionate and dedicated professionals. Thank you to the ACCOBAMS Secretariat, the ASI funders and all the project partners and individuals who were part of this journey. This accomplishment makes me more optimistic about our future as a community and about our joint efforts to save our seas.”



**By Amalia ALBERINI - WWF Greece**



And then, in the Black Sea ..



# WHY IS THE CeNoBS PROJECT SO IMPORTANT IN CETACEAN MONITORING AND CONSERVATION?



Cetacean conservation and monitoring are part of Mare Nostrum NGO's activity and line of expertise since the very beginning. Therefore, CeNoBS project experience and the aerial survey in which 2 members of Mare Nostrum took part is a real help in collecting essential data on the matter.

“Supporting the implementation of the Marine Strategy for the Black Sea by creating a regional cetacean monitoring system (D1) and noise monitoring (D11) for GES implementation”, also known as CeNoBS, is one of the most important projects regarding cetacean conservation and monitoring rolled in the Black Sea region.

CeNoBS is a 24-month project co-funded by the European Union. Which brought together several European partners and non-Eu countries, coordinated by the NGO Mare Nostrum (Romania) and aims to improve the implementation of the second cycle of the framework directive for two key descriptors: Descriptor 1 - marine mammals / cetaceans and Descriptor 11 - noise in the Black Sea by achieving greater coherence in determining, assessing and achieving Good Environmental Status (GES).

The proposed activities will complement the lack of background data on the distribution / abundance of cetacean populations and the incidence of by-catches.

The main objectives are:

- the assessment of the D1 criteria for cetaceans and the setting of threshold values
- evaluating and supporting the development of D11 monitoring in the Black Sea
- strengthening coordination between the Black Sea region by disseminating project activities, outputs and results.

One of the most important activities in the project was the largest cetacean aerial survey in the Black Sea, conducted over the Black Sea waters in Romania, Bulgaria, Ukraine, Turkey and Georgia. Eight specialists from 4 European countries, divided into 2 teams, travelled over 12,000 km in 19 days in two Cessna Skymaster "Push Pull" aircraft of Action Air Environment. A team started from Ukraine and the other one from Turkey, collecting data on cetaceans but not only. To address the migratory character of these species, they simultaneously flew over the waters of Ukraine, Romania, Bulgaria, Turkey and Georgia.

The coordinators of the two teams were our colleague Marian Paiu and Dimitar Popov (Green Balkans NGO), Bulgaria. Their mission was to ensure that this unique activity in the history of the Black Sea Cetacean monitoring is successfully completed.





## WHAT WAS THE WORKING METHOD?

The line transect distance sampling method has been used for the survey. This method is based on a statistical approach: data are collected by observers on board of aircrafts following specific transects designed to ensure an equal coverage and representation of the study area. This approach is used in several other large-scale surveys (SCANS initiative – Small Cetaceans in the European Atlantic waters and North Sea – and more recently during the Mediterranean surveys conducted by ACCOBAMS in 2018 within the framework of the ACCOBAMS Survey Initiative project), and it is globally recognized as the best approach to assess distribution, density and abundance of cetacean species in the ACCOBAMS area.



The data collection protocols and the survey design have been prepared by the Scientific Coordinator, Dr. Simone Panigada, in close collaboration and consultation with scientists from Mare Nostrum and project partners.

In the more than 7,000 km of transect lines surveyed, the teams collected data on Cetaceans as well as fish, birds (Descriptor 1 Biodiversity) and Marine litter (Descriptor 10), descriptors used in defining the Good Environment Status (GES), main objective of the Marine Strategy Framework Directive.

Sixty linear transects were covered across the perimeters of the five mentioned countries, and an innovative software was used to collect data efficiently. SAMMOA is the name of the software, dedicated to aerial observation missions of marine megafauna developed by Observatoire PELAGIS (La Rochelle - CNRS, France). The software allows real-time visual observations, GPS positioning, and simultaneous audio recording, which greatly helps in the data validation process.



# PRELIMINARY DATA AFTER 19 DAYS OF AERIAL MONITORING

After the aerial survey, the team began working on the data collected, so that we have a large set of recordings related to the presence of cetaceans in the Black Sea and the above-mentioned additional items.

Data analysis is currently ongoing, but the results are more than relevant, as you can see below:

| Species            | Number of sightings | Species            | Number of individuals |
|--------------------|---------------------|--------------------|-----------------------|
| Bottlenose dolphin | 121                 | Bottlenose dolphin | 339                   |
| Common dolphin     | 716                 | Common dolphin     | 1751                  |
| Delphinid sp.      | 33                  | Delphinid sp.      | 55                    |
| Harbour porpoise   | 885                 | Harbour porpoise   | 1524                  |
| Total              | 1755                | Total              | 3669                  |

The data were collected by two teams, as we said before. *”Two planes were employed during the survey, one starting from Ukraine in the North-West portion of the Black Sea and a second one surveying Turkish and Georgian waters, from east to west. A third plane is currently undertaking an aerial survey in the Russian waters and their data will be added to CeNoBS results. It was a great honour and achievement to act as a team leader and I think that CeNoBS is one of the projects that really matter in finding solutions for cetacean conservation”*, says Marian Paiu.

What we should mention regarding the CeNoBS project is that before the aerial survey took place, a dedicated training workshop was organized in Tulcea, Romania. During the workshop, the teams involved in the aerial monitoring attended both theoretical and practical lessons, in order to get prepared for the field activities. Specific sessions were dedicated to data logging software SAMMOA and species identification, with effort towards a multi-species approach:” *During the workshop, all the data collection protocols were presented and discussed, in order to facilitate the standardized and shared approach. Data collection instruments were also presented and explained to participants, together with a practical demonstration to each Team Leader individually.*

## WHAT FOLLOWS?

After the specialists will process all the data collected after the aerial survey, an online workshop will be held in the next couple of weeks with the survey coordinator, the survey team leaders and observers to streamline the process for data analysis following a participative approach.



# ! BEST MOMENTS VS WORST MOMENTS !

Being a part of a great and ambitious multi-European project is never easy. Even if you are trained to solve different issues that you may come across on the field, the real challenge is to surpass them without affecting the team workflow. This is what happened in CeNoBS project, where multi-disciplinary teams from 4 European countries had an ambitious mission: increasing team efficiency on field. The CeNoBS aerial survey experience remains on of the most memorable experiences concerning the specialist involved. This project could be a historic cooperation effort, involving experts from Italy and France, as well as the support of ACCOBAMS - the Permanent Secretariat of the Agreement on the Conservation of Cetaceans in the Black Sea, the Mediterranean Sea and the adjacent Atlantic area.



The expedition was not easy for any of the members of the two observing teams. Even if things went according to the plan in some regions, in others, several issues complicated the mission implementation. For example, when the teams arrived in Ukraine, they found out that they can't land at the refueling technical airport, which prevented them from continuing the mission: *"The worst moment was the thunderstorm near the Tendra in Ukraine which prevented us to go east. Ironically, we could not reach that area by boat during all the field season due to the same reason: in total, we had four attempts, and each of them failed because of sudden unexpectable storm! At the other pole, I think the greatest*

*success story is finding huge calving aggregations of harbour porpoises in Bulgaria (I guess the largest porpoise aggregations spotted in the western Black Sea for the last 30 years or more!)"*, says Pavel GOL'DIN, one of the specialists in the two aerial survey teams.

Another example of a great aerial survey challenge was Georgia, where national procedures required to have a soldier on board, which affected the maximum authorized safe take-off. Among other things, the teams encountered multiple problems with the closed access in military or airport areas: *"The feeling of uncertainty while waiting stressfully for all types of official permits was probably the worst moments. As cetologists working in the Black Sea area, we all have been dreaming about conducting such an extensive survey for years.*

*Finally, to be able to do that, simultaneously and with the participation of many expert institutions from different countries, has written a success story for us. Hopefully, it will eventually benefit the Black Sea cetaceans"*, mentioned Arda M. TONAY, CeNoBS team member.





The success of this expedition is also due to the availability of the national authorities, who have offered their support to solve all problems on the ground: "Being part of cetacean aerial survey is a great experience mixing lots of emotions – hope, expectation, frustration, tedium. - Uncertain weather and low turbidity makes aerial surveys even a stronger test. Leaving aside politics and environment, we had also different cultures to gulp and digest as in the Eastern part the question "When will the fuel truck be here?" usually brought the answer "Inşallah" (if God wills). All that was counterbalanced by the fact we had local guy in the team – "priceless" as a popular ad was radiating for many years! Bizarre geopolitics were well portrayed by the obligation in Georgia to have military official onboard of the ultralight aircraft we were using. Luckily the provisionally assigned heavyweight was replaced by a lightweight person allowing successful completion of that leg of the adventure", says Dimitar POPOV, team leader in the CeNoBS aerial survey.

As a conclusion on the importance of the project, Mare Nostrum specialist and CeNoBS team leader Marian PAIU states that :

"Since the beggining, when I started working on cetaceans, in 2010 , I keep having the same major question, how many cetaceans are in the Black Sea? And sure I was not the only one as I was finding out with with each encounter of a scientist working in this field. This was the trigger to push us on working to find out answers to this major conservation related question. And here we are in 2019 completing the CeNoBS cetacean aerial survey in the waters of Ukraine, Romania, Bulgaria, Turkey and Georgia. The link between CeNoBS and Russian researchers, developed by the ACCOBAMS Secretariat, in order to cover also respective waters will increase the confidence of results. I can say that is an historical moment which we are blessed to leave. Probably would have not be possible without European Commission and ACCOBAMS Secretariat financial support and common interest."



To put it in a nutshell, the CeNoBS aerial survey experience was one of the most memorable experiences for all team members: eight specialists from four European countries.

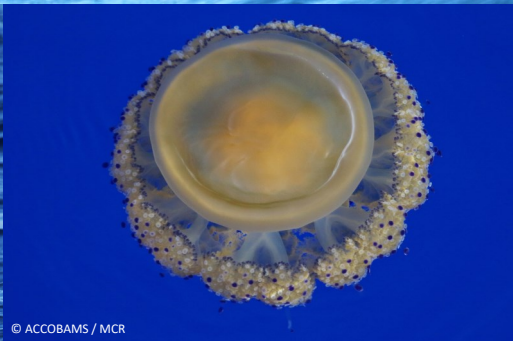
"To fly like a bird and to swim with the dolphins are probably the two most desirable excitements among humans. The enchanting feeling of freedom, absoluteness and total dominion over the sky and the sea. And being part of ASI we had the opportunity to experience both at once. Starting with great fear from flying, suddenly blown away by the whirlwind of so many other emotions, now I can tell this is the only thing to bring you closer to the perfection, and is already favourite of mine. Thank you ACCOBAMS for allowing me to be part of this historical event!"

By Galina - aerial survey observed during CeNoBS





# ASI Stories from the sea...





« Ma participation à la campagne ASI est une expérience inoubliable à bord du navire de recherche “Song of the Whale” sur tous les plans.

Personnellement croiser un cétacé en toute liberté dans son milieu naturel est toujours un moment fort et inoubliable aussi que le suivi acoustique des mammifères marins par écoute.

Notre phase a coïncidé avec deux choses :

1. la période du Ramadan est un mois sacré dans le calendrier musulman.
2. Conditions météorologiques défavorables

Malgré le jeûne et l'état de la mer, les beaux moments qu'on a passés ensemble demeureront gravés dans la mémoire, toutes ces plaisanteries, ces rires et la sympathie (le travail aussi) ne peuvent être oubliés.

J'aimerais remercier vivement l'équipe de “Song of the Whale” pour leurs qualités professionnelles, humain et pour leur bienveillance et l'intérêt qu'ils accordent au bon déroulement de la campagne de prospection dans la région.

Je suis redevable à tous les intervenants qui ont organisé ASI Campagne de l'été 2018 qui œuvrent pour le développement de la coopération en matière de recherche dans la région. »

*By Said AIT TALEB - INRH/ TANGER*



« L'expérience à bord du navire Song Of the Whale était tout simplement inoubliable. C'était la première fois que je monte à bord d'un voilier. Pour ne rien vous cacher, c'était un peu difficile au début et surtout que ça coïncidait avec le mois sacré de Ramadan mais grâce à l'équipe à bord, et plus spécialement son chef Oliver, qui ont fait de leur mieux pour nous faciliter la tâche tout au long de la mission. Leur convivialité, simplicité et leur aptitude à partager leur savoir nous ont été d'un grand appui.

Bien sûr je n'oublierais jamais tous les bons moments qu'on a passé sur ce petit joyau le SOTW et les moments de joie lorsque les dauphins venaient sautiller autour du bateau. Que de meilleurs souvenirs de cette expérience inoubliable.

Mille merci à l'ACCOBAMS et à tous les membres de l'équipe à bord. »

*By Badreddine MEKYASSI - INRH/AGADIR*



# HOW I SPENT ONE WHOLE MONTH LISTENING TO THE SONG OF THE WHALE...

By Jelena POPOVIC



During the whole experience my enthusiasm didn't cease, and how could it, when every day was different and full of things I never saw or felt before. Sea state changed from mirror-like to an almost - swallowing - us (near the end of the trip we were caught up in a storm while our sales were still on – we were too busy admiring it that we forgot about the effect it could have had on us. I was on the A frame, doing my watch, but actually peeking behind me, at the wave made of clouds that was getting bigger – closer to us every time I would turn behind.

When it was finally above us, I was sure the boat will turn over or the sails will break. Sudden fast wind and rain made my body shake and my heart pound, but I was too distracted to care about that because this storm was the most beautiful wild thing I have ever been a part of). Every sunrise and sunset was different, painted with every possible color one can imagine. In the night Milky Way would light up the sky, while sea algae produced the light around the boat. There was this unique feeling I had while swimming and snorkeling in the middle of Blue, sometimes with rays swimming around. Occasionally, while endlessly counting pieces of plastic, we would see sea turtles - small islands with its fish passengers below. Then riding with the dolphins – the first time one made eye contact with me I thought I was going to explode with excitement and appreciation. And the whales, divine whales – in their proximity everything in me become calm and peaceful while my senses sharpened in an attempt to comprehend them fully as souls and creatures now already so distinct from us that we have so much to learn from, and still we let them struggle to coexist on Earth with us.

Difficult times, like those days spent in bed because every movement was nauseating, or some short homesick periods, all of that was easily forgotten in the constant presence of British humor, amazing stories from all over the world told by the crew members – beautiful souls that already have seen and done a lot for the world we live in. Dots on the map I made inside my head, with highlights in the cities I never visited before, and some I wanted to see again. We ate good food, dreamt dreams in a huge hammock, and above all of this I lived lives from the books I never had time to finish before.

When you are in presence of people like those, you learn a lot and you become aware of how much more there is to find out. So, with the inspiration I gained from them and the animals I have seen and listened to, I cleared spaces in my head that are now waiting to be filled up with new understandings and pieces of this huge net that connects everything and every being.

***All in all, I am thankful forever and beyond  
for the days I have spent on the Song of the Whale !***

The participation in the ASI campaign is an unforgettable experience on all fronts. Personally, it was the first time that I have been part of a job of this magnitude. The enumeration and counting of mammals in the open sea is just interesting. The feelings I felt after the appearance of the first animal cannot be described by words. Also listening to the sounds of dolphins and other species was fascinating.

We shared many moments of joy and especially of fear because of the climatic conditions which accompanied the phase of the team of Morocco. The night where the sail of the boat fell, marked us forever and I take this opportunity to thank the crew of SONG OF THE WHALE for the safety training.

**Thanks !**

*By Sid'Ahmed BAIBBAT*



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J'ai eu l'honneur de participer à ce noble travail et de contribuer un peu au succès de cette expérience qui a été pour moi le plus beau souvenir de ma carrière dans ce domaine et ma participation a été un amour de ce travail. Des moments se sont mêlés à la saveur de la mer et à l'apparence et à l'écoute des plus beaux sons des différents dauphins et baleines.

***By Mohammed BOUAICHA - Président de la Commission de la Pêche, de l'Agriculture et du Tourisme  
Assemblée Populaire de la Wilaya de TIPAZA- Algérie***



# MY ASI EXPERIENCE !

By Souad LAMOUTI - CNRDPA

Every researcher in marine science and nature lovers wish to meet whales and dolphins; the ACCOBAMS SURVEY INITIATIVE (ASI) is a great opportunity to approach these animals to contribute to their knowledge's conservation and protection. It is probably the first or one of the rare surveys involving almost all Mediterranean countries at the same time for a same scientific objective. The two parts of the survey are important, both the aerial and the boat, as the aerial can cover quickly a big area and in the boat acoustics allows detecting the presence of the animals even if we can't see them and you feel near the animals sharing a part of their word.



Passionate by marine research, having previous experiences at sea and works related with cetaceans studies, my colleagues (Rabah SELMANI, Mhamed LAID, Abdelmadjid GHERDIS, Mohammed BOUAICHA) and me did not hesitate a moment to join the adventure, all were ready and exited to go for the survey. Thanks to the efforts of the ACCOBAMS secretariat, we had the opportunity to be a part of this historical adventure representing our country (Algeria) and research center (CNRDPA).

This experience was as amazing as expected. We liked the fact that everybody in the boat was involved in the watch activities and all other duties. This survey was a great experience for all of us, meeting so kind and interesting people (Richard Mc LANAGHAN, Conor RYAN, Jonny REID, Matt JERRAM and Brian MORRISON), sharing magical moments with them.

During the day times, these moments were observing dolphins (striped, common and Rissos), pilot whales, beaked whales, sea turtles, swordfish and Bluefin tuna schools. During the nights, the sky was full of stars and the sea full of bioluminescent species.

The 18<sup>th</sup> of June was « the Day » thanks to the professionalism, experience and determination of the marine research and conservation team, we saw and heard the huge mythical animal which are sperm whales, *Physeter macrocephalus* Linnaeus, 1758 considered as Endangered in the IUCN red list and it was offshore Algiers “alive, just in front of home”.

From the early morning, Rabah was exited to hear the sperm whales clicks, Johnny and Conor trying to localise them acoustically. Then it was the moment to swap places, but LAID still holding binoculars, shouted that he saw something; He had spotted a blow, then Conor confirmed that it was two sperm whales. After a moment Richard steered towards the blow, there was silence on deck; everybody had the eyes well opened seeking for a cue: blow or a part of body, suddenly a blow, two animals then a third one, and a fourth. The ultimate magical moment was when Richard said one is fluking, and we saw the tail flukes of an individual then the same for the second individual.

***Thank you again to the SOTW team and the ACCOBAMS Secretariat for these, two weeks of very fruitful experience, that we would be happy to renew.***

# SONG OF THE WHALE, THE AMAZING EXPERIENCE !!

By Rabah SELMANI - CNRDPA

My emotions started when I was chosen to be a part of the Algerian team representing CNRDPA. I can tell you that it was one of the best days in my life, observing cetaceans in their environment was a dream, we shared great moments on board with the song of the whale team, working side by side with such professional team was a pleasure; I learned a lot with them. The best moment was when we saw the magical sperm whale; it was like my whole life looking for this moment.

It was the 18<sup>th</sup> of June, the silence was everywhere, hearing their clicks, we knew that they were close to us, but where? Somewhere in the deep blue, they were connecting to each other. My colleague saw a blow then the animals appeared, WOOOOOOW!!!, they are here I saw the sperm whale in front of my eyes for the first time I can't tell you how I felt like, I just know that it's an amazing feeling .

***Thank you team of song of the whale, thank you ACCOBAMS for this opportunity, hope we will work together again because it was a great experience that you don't want it to ends ...***





# SENTIMENTS D'UN CAPITAINE DE BATEAU DE PÊCHE IMPLIQUÉ DANS L'ASI...

By M'hamed Laid



Je suis capitaine de pêche sur un navire de recherches scientifiques en Algérie. Invité à participer, en qualité d'observateur, dans le cadre de l'ASI pour une période allant du 08/06 au 22/06/2018, c'est avec plaisir que j'ai répondu favorablement à cette invitation en embarquant sur le navire "Song of the Whale", chargé de l'accomplissement des cette campagne .

En ce qui me concerne personnellement ma participation à cette campagne s'est avérée très positive et très enrichissante, en premier lieu en m'ayant permis d'observer et de prendre connaissance de visu d'un autre aspect du monde marin, très différent dans lequel j'ai évolué jusqu'à présent.

Les multiples tâches quotidiennes permettant un fonctionnement dans les meilleures conditions du navire, sont attribuées à l'ensemble de la composante de l'équipage dans une sorte de "TURN OVER" permettant d'éviter la naissance d'une éventuelle lassitude pouvant être générée par une répétition d'une tâche précise pour chacun.

Cette attractivité m'a permis a maintes reprises d'être désigné pour occuper le poste de vigie afin de signaler et de noter toute éventuelle apparition visuelle de cétacés ou autres espèces .



Mes multiples observations ont très largement contribuées à l'enrichissement de mes connaissances sur le comportement et la vie des cachalots, des dauphins et autres espèces. Le jaillissement du jet d'eau généré par le souffle d'un cachalot est un instant sublime suscitant en moi un effet me donnant la chaire de poule.

La vivacité émanant de ces magnifiques et extraordinaires créatures m'oblige à réfléchir et à me demander comment et pourquoi certaines personnes peuvent par cupidité, les chasser et les tuer. En conclusion de mon modeste et assez bref exposé, permettez moi de vous affirmer que ma participation à cette campagne restera à jamais gravé dans ma mémoire et de ce fait je ne pourrais aucunement remercier suffisamment et pleinement tous ceux qui ont d'une façon ou d'une autre, contribués à l'invitation me permettant d'y participer.

# HOPES AND OPTIMISM FOR THE DEEP DIVERS OF THE HELLENIC TRENCH

## ASI SURVEY BLOCK 22 – THE HELLENIC TRENCH, GREECE

By Dr. Alexandros Frantzis - Pelagos Cetacean Research Institute

Once more sailing along the Hellenic Trench; once more sailing with our good friends and colleagues of MCR, in order to study whales and dolphins. However, this time it is very special: we are covering pelagic waters of the Hellenic Trench in the framework of a huge international effort made by hundreds of scientists and people dedicated in the conservation of cetaceans. All these people, coming from many different nations and many different fields have joined forces to serve the goal of setting a baseline of abundance for all cetacean species in the Mediterranean and Black Sea. This is ASI, the ACCOBAMS Survey Initiative; an idea that was put on the table some 20 years ago, just after the birth of this important Agreement and now, close to completion, is the immense task of surveying, by both air and sea, the entire Mediterranean Sea.



Rough toothed dolphins were encountered by the team in Ionian waters on the first day of the Greek survey leg, much to Alexandros's delight!

Our survey here, along the Hellenic Trench, has as its target a group of species, the so called “deep-divers”: the sperm whales and the Cuvier’s beaked whales that are the world champions in diving to the abyss at 2000 or even 3000 meters, in search of their prey: the meso- and bathypelagic squids.

The Hellenic Trench is the core area of their habitat in the Eastern Mediterranean basin. This is why since 2017 the Hellenic Trench has been designated as an IMMA (globally Important Marine Mammal Area).

This is also why since its early years, ACCOBAMS proposed the Hellenic Trench to become a MPA for cetaceans. Only last year just two small pieces of it became part of the NATURA 2000 Network, but this seems too little to us, if we wish these amazing

animals to go on living at our doorstep, just a couple of kilometers away from the Greek coasts.

At least five military exercises using sonar have taken place along the Hellenic Trench since 1996 resulting in the death of at least 45 Cuvier’s beaked whales. Seismic surveys have also started here during the last decade, creating occasionally a noise nightmare for cetaceans that already suffer constantly from ship noise due to the heavy marine traffic.

The floating rubbish and plastic that we are documenting throughout the ASI survey are often swallowed by deep-diving whale species along the Hellenic Trench, mistakenly taken as squids as they sink to great depths.



A striped dolphin bow-rides in front of a huge ship transiting the Elafonisos Strait; this is one of the busiest shipping thoroughfares in the Mediterranean Sea. This area is of particular interest to us given the risk of ship strike to sperm whales here.



About 60% of the stomach contents of sperm whales, beaked whales and Risso's dolphins that were analyzed in Greece were found to contain large plastic items! One young sperm whale died because of plastic ingestion, having in its stomach more than 100 of plastic items. Stuff we are using daily: plastic wrapping of ice tea cans, biscuits, construction materials, plastic bags from souvlaki restaurants, garbage plastic bags, plastic fishing nets..., all things originating from our plastic civilization were found in the stomach of that whale!

However, the most significant threat by far for the sperm whales of the Hellenic Trench is ship strikes. Throughout this survey we are seeing cargo ships, RO-RO ferries, tankers and all kinds of large vessels moving fast along the 1000 m contour of the Hellenic Trench, which coincides with the peak of sperm whale density along here. At least one sperm whale strands every year in Greece with clear propeller scars on its body. Probably many more are hit, but their carcasses never reach the coast. Considering that the total number of sperm whales using the Hellenic Trench is no more than 250, their loss due to ship strikes is likely unsustainable. This is sad, but from another point of view it gives some hope, because it could become a positive conservation paradigm. The solution to the problem is much easier than what we might have thought.

A published study that was recently completed by PELAGOS Cetacean Research Institute and IFAW showed that if the ship traffic is sent some 10 km further offshore along the Hellenic Trench that will dramatically reduce the ship strike risk. The delay of large vessels crossing the area would be on average only 10 minutes for trips lasting 2 or more days. A relevant proposal to be submitted by the Greek competent authorities to IMO (International Maritime Organization) is being discussed with them. After two decades of efforts for the sperm whales of the Hellenic Trench, we are finally close to creating a positive example of conservation success, and we won't stop until the sperm whales feel the difference.



This sperm whale was detected in the middle of a shipping thoroughfare. The team had to wait until a tug towing a new ferry passed over the target whale before approaching it! It was very distinctively marked and turned to be a male known by Pelagos Cetacean Research Institute since June 2009.

During the first night's dinner, before starting this survey, I shared with all members of the crew my wish-list regarding the sightings we would make along the Hellenic Trench. First in my list was a dolphin species that I adore. This species had been observed only once in the middle of the Ionian Sea between Greece and Italy. I wanted to see rough-toothed dolphins much closer to the Greek coasts this time, to confirm the presence of a population unit of this elusive species in the Ionian Sea. The chance of observing them during this survey was probably less than one in a thousand, but it happened during the very first day of the survey while I was in the watch! I am so happy about it!

I don't know what are the chances in succeeding to conserve the Mediterranean's whales and dolphins, but I am certain that if we really want this to happen, this will come true against all odds. There are many dedicated good people out there, with good will, with knowledge and scientific tools and above all with a strong wish to preserve our environment, our unique home that still looks like a paradise in the open seas.

# MY BLOG ...

By Almokhtar SAIED - ACCOBAMS Libyan National Focal Point



In 2007, Song of the Whale visited Tripoli as part of a previous survey investigating the presence of sperm whales in the eastern basin. As part of the outreach and awareness programme, I visited the boat and met the crew. Together with my colleagues, I helped arrange the stay of the boat in Libya and assisted with a number of visits by dignitaries, members of the public and school groups. I even had the chance to show the team some of Libya's historical monuments including Leptus Magna. This experience inspired me and gave me hope that one day I could visit Song of the Whale as a member of the research team.

After eleven years, Song of the Whale has returned to the Eastern Basin and along with my two colleagues from EGA, Salih Diryag and Mustafa Almntasiri, I have finally had the opportunity to help survey our Libyan waters. It is a dream come true for all of us to be part of ACCOBAMS' historic research programme, particularly as many regions in the east have historically received less survey effort.

Although our team at EGA have compiled several years of data describing the marine mammals that have stranded along our coastline, understanding the distribution of whales and dolphins at sea is essential to provide them with adequate protection. This is particularly true in the distant offshore waters where our knowledge is most limited, despite the presence of a busy shipping corridor formed by large vessels passing through the Mediterranean Sea at high speeds. We hope that the ACCOBAMS Survey Initiative will provide the baseline data required to protect our local populations of cetaceans.

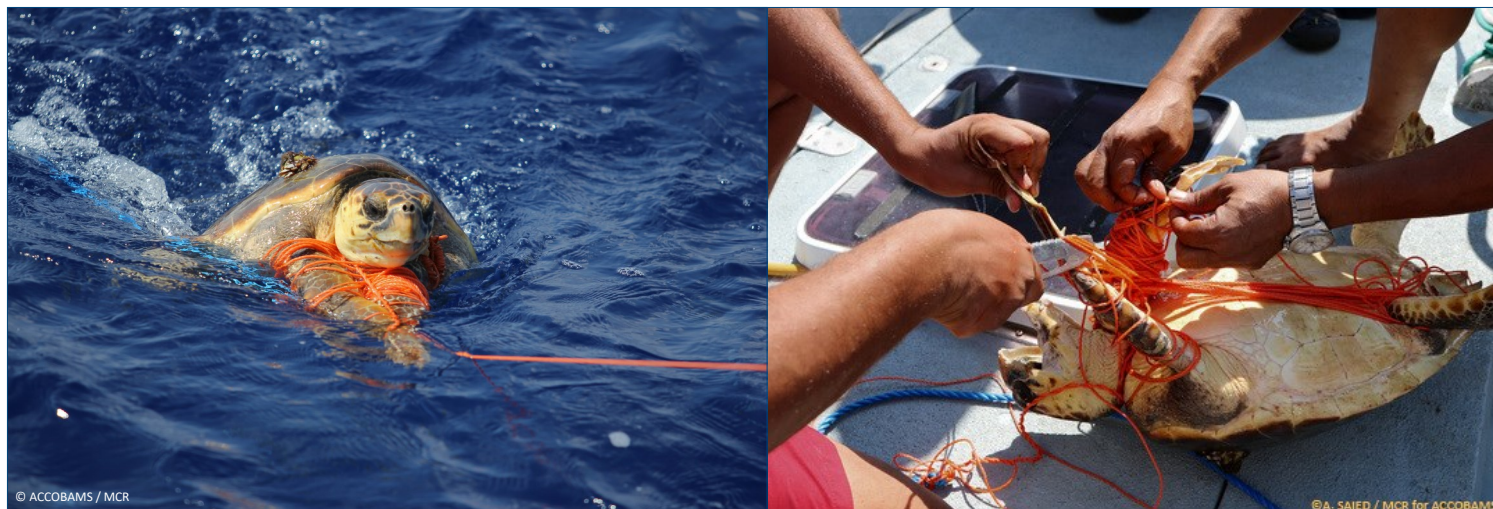
Although the trip started from Crete in quite rough conditions, the sea soon settled down as we headed south to Libyan waters. We soon found a rhythm to life on board Song of the Whale and enjoyed working alongside the rest of the Song of the Whale team. Over the course of the following two weeks at sea, we saw striped dolphins and bottlenose dolphins. We additionally heard the loud clicks of sperm whales near the Herodotus Seamount; for many of us on board, this was the first time we had heard the loudest creature on the planet.

Although we were not able to hear the ultrasonic clicks of beaked whales, we were able to see their characteristic forms on the survey computers using the specialised software on board. Again, a first for many of us on board.





Unfortunately, we also encountered a juvenile loggerhead turtle entangled in a fish aggregating device left drifting on the high seas. Despite the turtle's flippers being tightly bound together by a plastic rope, we were able to cut it free and release it back in to the wild. We hope it is recovering well.



After two weeks at sea, mostly out of sight of land, we were pleased to see the coastline appearing of Tunisia on the horizon early on the last morning. After negotiating the numerous fish farms on the approach to Monastir, we tie up in the marina and our greeted by our colleagues from Association Notre Grand Bleu. Our survey has incorporated 1500 nautical miles of survey effort and we feel proud to have contributed to such an important project. In the process, we have also learnt many things and made new friends. We are hoping we will be able to continue using the research techniques we have learnt on board in our own future work. We would like to extend our thanks to ACCOBAMS, the Song of the Whale team and Association Notre Grand Bleu and hope to be involved in more successful collaborative projects such as this in the future.



# UPDATES FROM R/V SONG OF THE WHALE SURVEYING ASI BLOCKS 25 AND 26, OFFSHORE OF LIBYA

*By Judith Matz - IFAW trainee  
Marine programme - EU office*



Sunset on the Mediterranean off the Libyan coast. We are on the tenth of many transects, navigating from east to west in a zig-zag pattern, and it is also the tenth day of our journey, in which we survey the waters off Libya for marine megafauna.

So far, most of the time, our encounters with the local fauna have been limited to shearwaters, migrating songbirds and lots of moths and butterflies, but we also spotted some striped dolphins and heard

much, much more. That's because there is a hydrophone trailing off the back of the boat on a 400-meter-long cable, and thanks to the advances of technology, we can look at and listen to the sounds it is recording on computer monitors and headphones.

Everybody on the vessel is participating in all tasks (to varying extents): we are a mixed team of sailors, scientists, students, campaigners, from as far afield as Ireland, Libya, Spain and Germany. At all times, one person is at the helm, one is stationed at the computer, staring at data and listening to sounds, and as long as it's light out and the wave height is not unreasonable, two people are stationed on the elevated A frame on the back deck, looking out over the sea on both sides of the boat to spot cetacean activity (but reporting mostly sightings of plastic debris).

The other day, we tracked striped dolphins and took photos of them leaping, possibly because they were trying to rid themselves of the remoras attached to them. Every now and then, the maraca-like chatter of dolphins zooms in and out of our acoustic range, and yesterday, my heart rate went up when I heard enthusiastic dolphin whistles during my two minutes of listening. A few days ago, we even tracked a submerged sperm whale whose metronome-like clicks we had picked up as it was diving deep on its hunt for squid, but alas, it got dark and so the visual search was called off.

Most of the time, we can hear the whispering of the water and the faint sound of our vessel making its way through it. Occasionally, a vessel passes by in the distance and we pick up the hum of their engine or the "woosh woosh" of the cavitation of their propeller: air bubbles building and loudly bursting due to pressure differences around the propeller blades.



After ten days, everybody has settled well into their tasks and even the rookies have figured out which lines to pull, or at least which lines not to pull. Every seven or eight hours, your number is up and you're back on deck, day or night. We joke and tease, we fix what's broken or work around it, we praise the dinner that a different crew member is cooking every night, and in case of boredom or confusion, the on-board scientist is happy to imitate any underwater sound we might encounter for our clarification or amusement. Even the complaints about the toilet smell have ceased now that everybody has understood the vacuum flushing system. It's strange to think that our trip will be over in a few days' time in the Tunisian port of Monastir.

On a project I've been researching for the IFAW over the summer, my attention was brought to underwater noise pollution in an investigation that was primarily focused on ship strikes and vessel speeds in the Strait of Gibraltar, the entrance to the Mediterranean from the Atlantic Ocean. Even though I'm an avid and somewhat experienced scuba diver and even though I'd like to believe that I know a little bit about the underwater world, nothing could prepare me for the barrage of noise when I put on the headphones one night while four vessels were around us on all sides.

So unbearable was the noise that I could barely make it through the two minutes of listening, and I felt incredibly relieved when I could finally take off the headphones and just enjoy the (relative) silence of the world above the surface. When I reported my shock to the permanent crew members, they commented that these noises were nothing in comparison to anthropogenic noise off the coast of Portugal or in the Strait of Gibraltar. While surveying more heavily trafficked areas, listening effort must sometimes be paused in order not to hurt the ears of the team member who is listening.

It is time that anthropogenic noise is taken seriously and effectively regulated by reducing ship speeds and implementing more efficient hull and propeller shapes for merchant and fishing vessels to keep noise to a minimum (and, while we're on the subject, reduce ship strikes at the same time).



“To be part in a project such as the ACCOBAMS Survey Initiative has been an amazing experience. The best part for me is the chance to work together with a team of specialist from different places around the Mediterranean sea and the team of Marine Conservation Research, with experience in cetaceans around the globe.

I am sure that this project will mark a before and after in the conservation status of the Mediterranean and Black Sea cetaceans, and it will be an indicator of our marine biodiversity status too. The best part for me has been the amount of cetaceans we have detected only with the passive acoustics. There is much more than we see from the surface, and now we have a much closer view of the reality in the Mediterranean sea. The worst part in this survey has been seeing every day at sea at every moment, even in the more remote areas, lots of plastic pieces.

The preliminary results of the project shows that the plastic and trash is widely distributed in every area of the Mediterranean sea, and it is the most sighted item (over 11000 items). This is a serious problem for all the marine ecosystem. I hope that this project helps to raise awareness in the population, and helps to improve the politics of plastics around the Mediterranean basin, because urgent measures are needed.”

**By Aixà MORATA**



“2 weeks in the Song of the Whale... it is hard to explain the beauty of being surrounded by at least 30 striped dolphin in the early morning, while you are trying to brush your teeth, hearing your new friends who are screaming “SIGHTING” or just listening clicks and whistles on the hydrophone were amazing. Seeing a sperm whale was my childhood dream I want to thank all the team who made this possible.

We saw three of them in the part that I participated. Seeing the blow, hearing their last breaths before their big deep dive, seeing their fluke just before their dive, photographing them for identification were more than words can explain.

As this survey organized to investigate the deep diving species such as sperm whales and fin whales, we also collected data for rubbish on the sea surface and microplastic from the water which were incredibly shocking to see that much plastic... such as all the balloons filled with helium.

I will miss these days, especially sharing the night watches with Denise Risch, which were always extreme with her. I also want to thank everybody on board especially Conor Ryan who shared their experiences with me. I wish lots of sightings and bests for Song of the Whale team for their incredible journey.”

**By İlayda Destan OZTURK - Turkish Marine Research Foundation**



# THE ASI MISSION IN LIBYA

By Ibrahim BEN AMER - Omar Mukhtar University



The Libyan team first came to the island of Samos (Greece) on 24<sup>th</sup> June 2018. Full of anticipation and excitement, the team embarked on 'Naftelos', the Archipelagos sailing vessel chartered by ACCOBAMS to carry on the survey in the Libyan waters. Each of us had their own expectations and doubts. Most of us said later that none of us were ever involved in a survey on that scale, to cover the vast and remote risky Libyan sea (the Libyan block was more than 185,000 sq.km), to be

offshore for several days in a very limited space and under very different living circumstances, to deal with the issues of the weather, equipment failure, different cultures and languages, we all had our doubts.

However, off the boat we went and the first trip within the Greek archipelagos (from Samos to Crete) negated all of our doubts. The survey team was like a family sharing the hard and the easy moments while the vessels crossed the rough Libyan sea.



Now sitting in my office and looking back at all of that, the experience and knowledge we gain during the survey, the friendship we made, the places we've visited, totally ought weight the obstacles and hardships we encountered, and I believe everyone in the team feels the same.

Our deepest gratitude to ACCOBAMS for giving us the opportunity to be part of this effort, a big thank you to all who worked hard to make the Survey Initiative see the light, and a huge thank you to Naftelos survey team, I now have a larger family than I did before 24<sup>th</sup> June.



# LES RETOMBÉES POSITIVES DE L'ASI POUR LE LIBAN

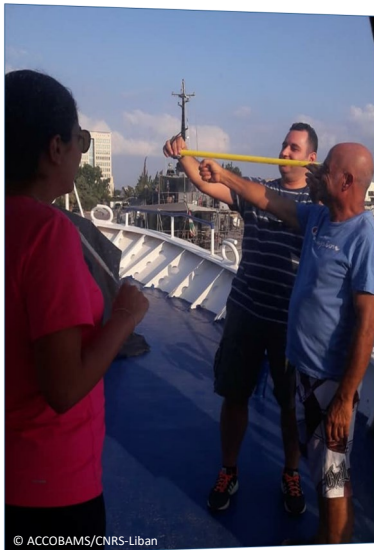
*By the National Centre for Marine Sciences CNRS - Lebanon*

L'ASI nous a présenté une opportunité pour retracer la présence, l'abondance et la distribution des cétacés dans les eaux marines libanaises et de comparer, par la suite, les données obtenues avec celles des campagnes menées entre 2009 et 2013.

L'ASI nous a été un outil pour accroître les compétences humaines pour la conservation des cétacés et ceci en faisant impliquer tous les chercheurs et techniciens de notre Centre (14 personnes) dans cette campagne qui a été accomplie à bord du bateau CANA, en 8 missions en mer, entre août et septembre 2018.



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De nouvelles méthodologies d'observation, de mesures et de traitement de données ont été appliquées durant cette campagne ASI. Une atmosphère de convivialité a régné entre les différents membres du groupe ce qui a rendu notre tâche de suivi de cétacés aisée à accomplir. En parallèle à la préparation et au suivi de cétacés de l'ASI, plusieurs activités concernées ont été réalisées :

- Un collègue du Centre, Sherif Jemaa a suivi un stage de formation à Samos (Grèce) en juin 2018 pour l'apprentissage de la technique d'observation en mer par bateau et pour l'utilisation du logiciel « Logger ». Toutes les acquisitions ont été transférées aux collègues du Centre.
- Une session de formation, qui vise à renforcer les capacités nationales sur l'utilisation de la photo-identification et à promouvoir la standardisation des méthodes et outils utilisés, a été tenue au Liban du 1 au 5 octobre 2018. Cette session a rassemblé des experts de presque tous les pays de l'aire ACCOBAMS.
- Un atelier de travail/stage sur l'analyse et le traitement des données des cétacés a été tenu au Liban du 24 au 27 juin 2019, il a réuni la Syrie, la Turquie, l'Égypte et le Liban.

Nous attendons impatiemment les résultats et le traitement des données globaux de l'ASI qui seront présentés à la septième MOP de l'ACCOBAMS en Turquie.



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***Comme on le dit souvent, nous sommes fiers d'appartenir à la génération ACCOBAMS.***



# ASI - SUCCESS STORY WITH THE SYRIAN TEAM

*By Adib SAAD - Syrian Scientific Team leader*

When we were talking in our councils and public meetings about whales and dolphins, we were exposed to many questions and inquiries - Are there in our marine waters dolphins and whales??? Therefore, the recent survey in the Syrian marine waters constituted an important public information base.

The ACCOBAMS SURVEY INITIATIVE (ASI) is a great opportunity to approach these animals to contribute to their knowledge's conservation and protection. It is one of the rare surveys involving almost all Mediterranean countries at the same time for the same scientific objectives.

Passionate by marine research, my colleagues (Abdellatif Ali, Mouina Badran, Ali Othman, Senan Dib, Ahmad Eidak, Mohannad Ahmad, Mahmoud Saleh, FreasBadour) and me did not hesitate a moment to join the adventure, all were ready and excited to go for the survey.



I had the honor and happiness of leading the scientific team on the boat during the survey period which was carried out over a full 7 days during the period 28/7 - 8/8 2019; which followed the implementation of a training course for team members for 3 days (25-27 July 2019), where I presented surveillance techniques, how to identify cetacean species, and logging data.

Thanks to the efforts of the ACCOBAMS Secretariat, we had the opportunity to be a part of this historical adventure representing our country (Syria) and Syrian Society for Aquatic Environment protection (SSAEP).

Although I have a Ph.D. from the Ecole Supérieure des Sciences Sociales in Paris on the topic of cetacean fertility and comparing it to fertility in some terrestrial mammals, including humans, after my PhD in fish biology and ecology from University Paris VI, this survey was a golden opportunity to expand field knowledge and my previous experiment in monitoring cetaceans, turtles, etc.





This experience was as amazing as expected. We liked the fact that everybody in the boat was involved in the watch activities and all other duties. This survey was a great experience for all of us; sharing magical moments with them. During the day times, at night, we had happy moments on the boat in the sea and under the moonlight we were discussing what we saw in the day and what we would do tomorrow.

Until we are drowsy, we sleep on the sound of the waves shaking the boat as a mother shaking her baby's bed to sleep, so that we wake up early in the morning with vigor and enthusiasm to continue the work. These moments were observing dolphins (striped, common and Risso's), sperm whales, beaked whales, sea turtles, and Sea Birds.

We cannot forget the captain Ahmed Omran and his two aides who were wonderful in their cooperation with the team and provide the conditions for work and sleep on the boat. Thank you again to the ACCOBAMS Secretariat for these two weeks of very fruitful experience, that we would be happy to renew.

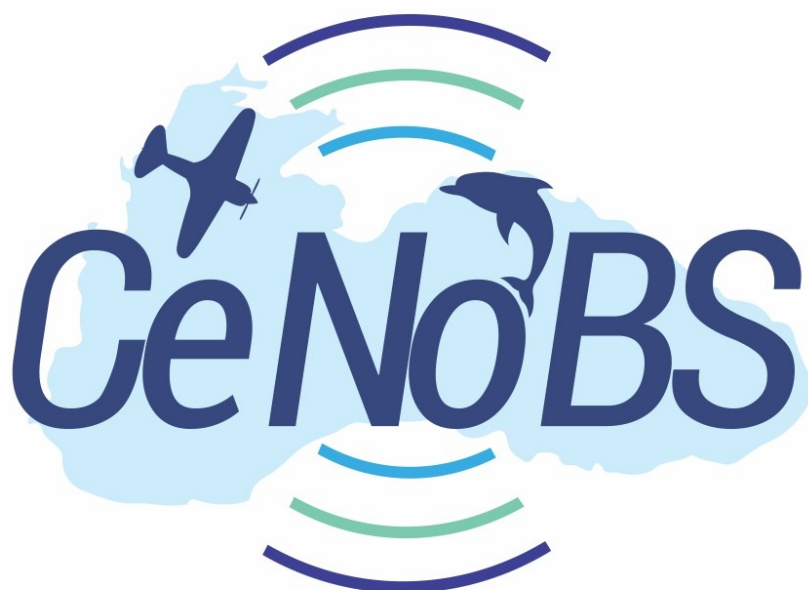






***Only a few faces among the people who took part to this adventure.  
Special thanks to Mathieu Cellard and the MCR Team for these photos.***

**The Permanent Secretariat warmly thanks all the contributors  
for this very special edition of FINS marking the  
2018-2019 *ACCOBAMS Survey Initiative* / *CeNoBs Campaigns***



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