



## Press Release

# ***The Ocean Mapping Expedition* arrives in Australia** **Noisy, plastic-ridden oceans**

The Swiss expedition that departed Seville in April 2015 on board the ketch *Fleur de Passion* for a four-year voyage around the world (2015-2019) in the wake of Ferdinand Magellan arrived in Brisbane on Monday 14 November 2016 after a 7-month Pacific crossing.

From Chile to Australia, the largest Swiss sailing boat (33m) continued its work of noise and micro-plastic pollution mapping in an endeavour to enhance our knowledge of humanity's impact on the oceans and raise awareness of the related environmental issues.

500 years after Magellan and 60 years after the documentary "The Silent World", there is no escaping one dramatic fact: the oceans have become terribly noisy and the wake of the Portuguese navigator is littered with plastic debris! And if that were all...

**Geneva/Brisbane, 18 November 2016** - Nineteen months almost to the day after departing Seville on 13 April 2015, *The Ocean Mapping Expedition* arrived as scheduled in Australia on Monday 14 November 2016 after a seven-month Pacific crossing. The 33m ketch, *Fleur de Passion*, the largest sailing boat flying the Swiss flag and the standard bearer of the expedition – moored in the heart of Brisbane, capital of the State of Queensland for a few days of festivities designed to mark this highly symbolic stage of its voyage along the route taken by Ferdinand Magellan, some 500 years after the first ever circumnavigation of the earth. It is also an apt occasion to celebrate the reaching of the halfway point in the circumnavigation and all that has so far been accomplished under this four-year project (2015-2019) encompassing scientific, socio-educational and cultural programmes designed to enhance our knowledge of humanity's impact on the oceans and raise awareness of the related environmental and sustainable development issues.

The expedition will pause for four months in Australia, long enough to undertake the usual annual maintenance that the boat requires – with its wooden hull and steel structure – and wait out the hurricane season in this part of the world. It will again set sail in April 2017 heading north along the Great Barrier Reef to Townsville and Cairns, then continuing to the Solomon Islands, Indonesia and finally Cebu in the Philippines, where it is scheduled to arrive by the end of 2017.

## **Our present-day "spices"**

Since the launch of *The Ocean Mapping Expedition* with the support of the Canton and City of Geneva, it has been possible under the first two scientific programmes being

conducted on board to collect a first generation of data, unprecedented in nature and geographical reach. Our present-day "spices" are a reference to the Spice Islands which the Portuguese navigator set out to find in 1519 on behalf of the Spanish Crown.

"Setting out in Magellan's wake somehow rekindles the spirit of the great explorations and discoveries of centuries past, which still captivate our imagination," explains Pietro Godenzi, President of *Fondation Pacifique*, the Geneva non-profit recognized as being of public utility, which is spearheading the expedition. "But we must be careful to avoid the trap of fantasy and idealization. Neither are we attempting to re-enact a chapter of human history that belongs to the past. And in this regard, the fact of calling at ports in Australia, where Magellan never set foot, is clear evidence that our intention is different. While emulating Magellan's westward journey in search of islands with spices more valuable than gold, our idea is, rather, to ask ourselves which are our contemporary "spice islands", what riches we will we be seeking, whether material or spiritual riches."

Nineteen months into our expedition, we must acknowledge that over the centuries the oceans have become... noisy and plastic-ridden! This is in addition to other scourges afflicting them and by extension, mankind as well. We must also recognize that it is past time to reconsider humanity's relationship with this vital environment.

### **A very noisy "silent world"**

Under the programme *20,000 Sounds under the Sea*, focused on noise pollution in the oceans and conceived and implemented in partnership with the Applied Bioacoustics Laboratory (LAB) of the Polytechnic University of Catalonia in Barcelona, several thousand hours of submarine recordings have been made using two hydrophones on board *Fleur de Passion*: one that is always being towed along when the boat is in motion, the other activated when it is moored. Sixty years after "The Silent World", the documentary by Jacques Cousteau and Louis Malle released to cinemas in 1956, the aim is to document the phenomenon of noise pollution, which has risen exponentially owing to human activity for over a century now, and its impacts on the marine environment. Far from being silent, the oceans have become extremely noisy for the animals that inhabit it. The effects of this phenomenon are still very little known but potentially disastrous for the entire marine ecosystem and hence for humanity.

"There is practically not an ocean left that has not been or will not be affected in the near future by marine noise pollution," explains biologist and engineer Dr. Michel André, Director of LAB. Monitoring this situation and reporting back in real-time to the general public from on board *Fleur de Passion* is one of the main aims of *20,000 Sounds under the Seas*. Getting to know the issues relating to this major problem is the only way of joining efforts and restoring the oceans' vital acoustic balance," adds André, who, incidentally, is a 2002 recipient of the Rolex Award for Enterprise.

## Magellan's "plastic-ridden" wake

Over 19 months, the *Micromégas* programme on plastic pollution, in partnership with the Oceaneye Association in Geneva, has made possible 87 samplings of surface water (of which 49 during the Pacific crossing), the subsequent analysis of the samples for their micro-plastic content and the gradual mapping of this, yet another worldwide scourge. These analyses are being conducted continuously at the Central Environmental Laboratory of the Swiss Federal Institute of Technology Lausanne (EPFL) and are beginning to reveal the almost systematic presence of these micro-particles in surface water around the globe. "Current studies show disparities in terms of proportion between different geographical regions, but the presence of plastic is so systematic that we could well have rechristened our expedition "in the plastic wake of Magellan", says biologist Pietro Godenzi with some irony.

Pascal Hagmann, Director of Oceaneye, welcomes the fact that "thanks to the surface water sampling done in 2016 as part of *The Ocean Mapping Expedition*, we now have samples from Patagonia to Australia, in other words along a line spanning the entire Pacific Ocean from Chile to New Caledonia, including Polynesia, the Cook Islands, Samoa, Tonga and Fiji. This is particularly interesting for two reasons: first, to our knowledge, no data exist on micro-plastic pollution in the region of Patagonia and the Chilean coast, and the outcomes of our analyses will therefore be entirely new. Second, only one transect has ever been sampled in the South Pacific. Thus, *The Ocean Mapping Expedition* is only the second to undertake sampling in this region, and this will make it possible, for the first time, to make comparisons and gauge the trend in this regard."

The director of the Geneva-based association continues: "Digital waste concentration prediction models would seem to indicate that *Fleur de Passion's* path ran through an accumulation zone. Although we are currently unable to produce figures to support this, the ongoing laboratory analyses are showing impressive concentrations in certain samples from this region."

"We thank *Fondation Pacifique* for enabling us to conduct these samplings as part of the expedition and we underline the fact that this work will be even more crucial in 2017. The fact is that South-East Asia, including China and India, account for roughly half the world's population. By some estimates, the Philippine Sea, the South China Sea, the Celebes Sea, the Gulf of Thailand as well as the Strait of Malacca are among the world's most polluted regions, yet no data exist about them. We are therefore counting on *The Ocean Mapping Expedition* to undertake dense and methodical sampling that will enable us to offer the first assessment of pollution in these regions," adds Pascal Hagmann.

## Over 1000 visitors on board

At the principal ports of call, visits by the public to the boat have allowed for extensive dissemination of these issues to the public at large and more specifically to young generations. From Seville to Brisbane, including Rabat, Buenos Aires, Valdivia as well as Tahiti, over 1,000 children, teenagers and students have been on board to discover the

various facets of the expedition, and perhaps be inspired to go on to take up professions related to the environment.

"In the same way that we ourselves were inspired by illustrious predecessors in launching our project to circumnavigate the earth in Magellan's wake, we would like to think that it is potentially just as inspiring, that it can fire imaginations and spawn new oceanographers, marine biologists or quite simply citizens who are aware and committed," says Pietro Godenzi, "including in Australia over the coming months, when many activities will be organized in conjunction with local institutions."

### **Australia, intermediate outcome before a new departure**

"This call at Brisbane is highly symbolic for a variety of reasons," explains Pietro Godenzi. "First it marks the end of the Pacific crossing and the realization of a long-standing dream of ours, that someday *Fleur de Passion* could set out in pursuit of its peaceful destiny in an exercise that reflects the interplay between the name of the ocean we have just crossed, and that of our Foundation and the values it espouses, including a certain idea of living together, cultivating the utopia represented by pacifism, in today's world where it is so sorely needed."

"It also marks the completion of the first half of our voyage around the world in the wake of Magellan and we are filled with pride and joy at the progress made," he adds. "All that now remains is for us to complete the second half in order to be back in Seville by August 2019 as planned."

Furthermore, this stopover is taking place in Australia, a country that is highly sensitive to environmental issues, especially to global warming and the acidification of the oceans, with the dramatic consequences currently being witnessed for coral reefs in general and the Great Barrier Reef in particular. "Our initiative is therefore meeting with a very positive echo in the country and offers an especially welcome sounding board for the range of environmental issues that must be tackled as a matter of urgency. Calling at Brisbane is therefore as much an outcome as a look forward to setting out again for the remainder of the expedition, with new scientific projects in addition to those already in progress regarding noise and plastic pollution," he concludes. Several projects are now being discussed with Australian scientific partners for possible joint study programmes starting in 2017, specifically on the Great Barrier Reef, thanks to the potential offered by *Fleur de Passion* as a logistical platform.

### **34 privileged young witnesses**

As privileged witnesses to the expedition and the environmental issues it addresses, a total of 34 teenagers and young adults have also spent time on board since Seville as part of the socio-educational *Youth At Sea (Jeunes en Mer)* programme being run in partnership with the Geneva-based *Association Pacifique*. Whether girls or boys, in pairs or small groups, these crew members have participated, like the others, in operations by

night or by day, including the taking of surface water samples under the *Micromégas* programme.

### 7 cartoonists "in residence"

Seven Swiss cartoonists and illustrators have been taking turns to spend time on board over the past 19 months, also as privileged witnesses though tasked with a different mission. Being "in residence" for about 10 days each under the cultural programme *In Magellan's Mirror (Dans le miroir de Magellan)*, they have been taking a colourful look at today's world, in the light of that of 500 years ago. These first designers and illustrators – Matthieu Berthod, Tom Tirabosco, Pierre Wazem, Peggy Adam, Isabelle Pralong and Ambroise Héritier – will be succeeded by others, among them the Genevan Pierre Baumgart and perhaps an Australian as well.

### 55 crew/passengers

Lastly, given that the spirit of this multidisciplinary expedition is one of experience-sharing, 55 persons from all walks of life have already spent time on board as crew members/passengers, also participating fully in operations on board, within the limits of their capabilities. These have been mostly adults, whether alone, in a group or even as a family, for an average of two weeks and sometimes longer.

"For us, it is crucially important for the expedition to be open to as many people as possible and to offer them a life-changing experience," explains Pietro Godenzi. "The boat's capacity permitting, we can therefore permanently host an average of two passengers, to which we must add all those who are able to accept our invitation to come aboard during calls at ports," he explains. This means that to varying degrees, hundreds of people altogether will have enjoyed the fruits of the expedition.

### ***Fleur de Passion*, a vessel whose ultimate destiny was... Pacific!**

Flagship of the Foundation and logistical platform of *The Ocean Mapping Expedition*, *Fleur de Passion* has a remarkable history. It was originally a *Kriegsfischkutter* (KFK), a motor boat in the Germany navy built in 1941 and used for coastal defence, mine laying and for supplying submarines. Having survived the Second World War, it was handed over to the French navy, which used it for some 30 years before disarming it in the 1970s and selling it to a private individual, who then converted it into a rigged vessel and gave it its current name. Until the mid-1990s, *Fleur de Passion* sailed the Mediterranean and the Atlantic under socio-educational and scientific programmes. In 2002 the vessel was bought by the Geneva-based *Association Pacifique*, which completely refurbished it over the six years from 2003 to 2009 with a view to prolonging its henceforth peaceful existence under the auspices of the Foundation.



## **About *Fondation Pacifique***

*Fondation Pacifique* is a Swiss non-profit based in Geneva and recognized as being of public utility. Since its establishment in 2007, it has been developing, organizing and carrying out theme-based expeditions combining scientific research programmes, and cultural, socio-educational and environmental awareness projects on its sailing ship *Fleur de Passion*, a 33-metre ketch. Its ambition is to contribute to a better understanding of humanity's impact on the oceans, and to prompt us to think about mankind's place on "planet ocean" by enabling anyone to enlist as a crew member and join in an expedition. *Fleur de Passion's* voyages take a multidisciplinary approach based on experience-sharing, and are accompanied by projects designed to communicate with the wider public, especially at ports of call. Its most important project so far, *The Ocean Mapping Expedition*, a four-year journey around the world (2015-2019) in the wake of the discoverer of the Pacific, will be an exceptional, one-of-a-kind opportunity to observe and map the state of the oceans today, echoing the spirit in which the Portuguese navigator and his crew embarked on their adventure almost 500 years ago.

## ***The Ocean Mapping Expedition***

500 years after Ferdinand Magellan, a 4-year (2015-2019) sailing voyage around the world aboard *Fleur de Passion* – a 33m ketch and the biggest sailing boat flying the Swiss flag – to observe, understand and map the state of the oceans, inspired by the expedition carried out by the discoverer of the Pacific. A package of scientific, socio-educational and cultural programmes are being undertaken in a multidisciplinary spirit of encounters and experience-sharing in order to gauge humanity's impact on the oceans and contribute to the discussion of man's place on "planet ocean".

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In partnership with



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