THE DESCENT MISSION

CORPORATE SOCIAL RESPONSIBILITY (CSR) CAMPAIGN

June - September 2021

GARMIN®

LARGE MARINE VERTEBRATES RESEARCH INSTITUTE PHILIPPINES

Prepared by

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In collaboration with

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GARMIN

LEARN EXPLORE RECORD

In 2021, GARMIN partnered with Large Marine Vertebrates Research Institute Philippines (LAMAVE) to design a campaign that would unite all Garmin divers across Asia to take actions to protect the ocean together. These divers hailed from the Philippines, Indonesia, Korea, Thailand, Malaysia, Singapore, Hong Kong, Vietnam and Taiwan.

The result was a two-part campaign series called 'The Descent Mission'. The CSR campaign aimed at inspiring a collective effort from both prominent diving personalities and regular scuba divers. It highlighted the use of Citizen Science for marine research while hinging on LAMAVE's expertise in marine conservation.

Participants also had the opportunity to learn more about marine ecology and LAMAVE research methods.

All funds raised from the campaign were donated to LAMAVE.

> *Garmin and LAMAVE share the same ethos that science-based technology, people and knowledge is key. We believe that great things happen when we can work together.*
>
> - Mr. Scoppen Lin, Director, Garmin Asia.

Bringing Garmin technology to the field to support marine conservation

GARMIN provided our LAMAVE research team with watch-style dive computers from the Descent Mk2 series.

Our researchers have been using GARMIN technology since 2010 to record the GPS location of marine megafauna encounters in the Coral Triangle. To date, we have recorded more than 10,000 encounters of whale sharks, manta rays, turtles, cetaceans and sharks using handheld GPS GARMIN devices. These GPS data points allow our team to map the distribution of these encounters. Collectively, this information can help us identify key areas for these species, detect seasonal shifts and help the design of management tools.

Adding the Mk2 series to our research gear means our researchers in the field have access to GPS technology and several other functions at the touch of a button - not only streamlining our work but also allowing our researchers to collect more in-water data points, such as temperature, depth and time, all in one place.

THE DESCENT MISSION

The Descent Mission had two distinct parts:

PART 1: #DIVEFORPURPOSE

The #DiveForPurpose charity campaign brought together well-known diving influencers across Asia to take action and to support LAMAVE and marine conservation. With the goal of sustainability, GARMIN gave DESCENT MK2 SERIES watch-style dive computers to the influencers in exchange for donating their DESCENT MK1 to the charity auction. All funds raised went to LAMAVE's marine conservation projects.

PART 2: #EVERYDIVECOUNTS

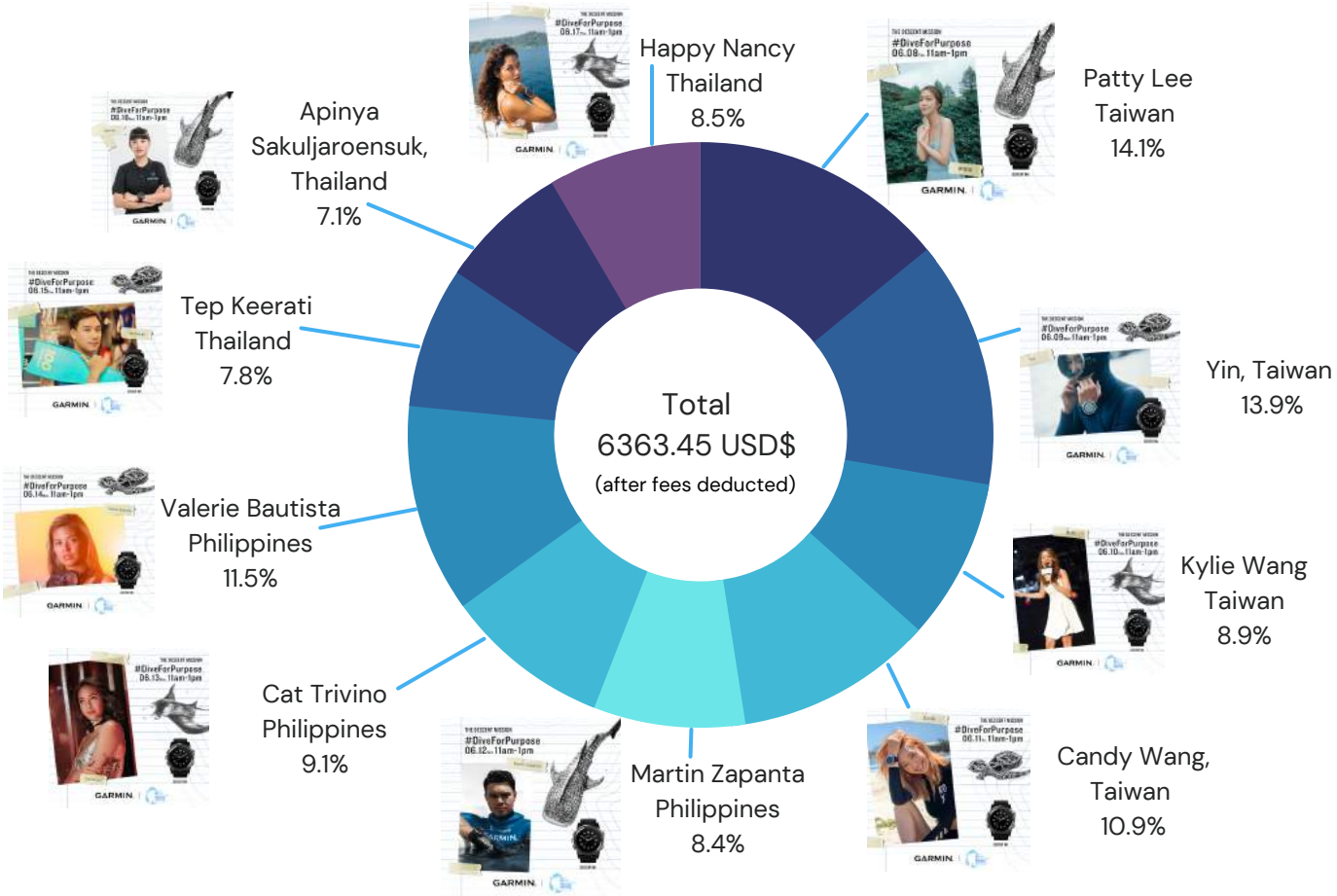
More than a photo competition, the #EveryDiveCounts Underwater Photo Contest asked participants to submit their photographs of marine animals to contribute to conservation research. This was done by uploading observations to a dedicated project ('The Descent Mission') on the citizen science platform iNaturalist.

CITIZEN SCIENCE: THE COLLECTION & ANALYSIS OF DATA RELATING TO THE NATURAL WORLD BY MEMBERS OF THE GENERAL PUBLIC AS PART OF A COLLABORATIVE PROJECT WITH SCIENTISTS

PART 1: #DiveForPurpose Charity Campaign

Between the 8th and 17th of June 2021, 10 influencers across Asia hosted an online relay charity auction. Each auctioned off their DESCENT MK1, with all funds raised donated to LAMAVE. Collectively, they raised 6,658 USD (6,363.45 USD after transaction and exchange fees).

Figure 1. Breakdown of funds raised by each influencer:



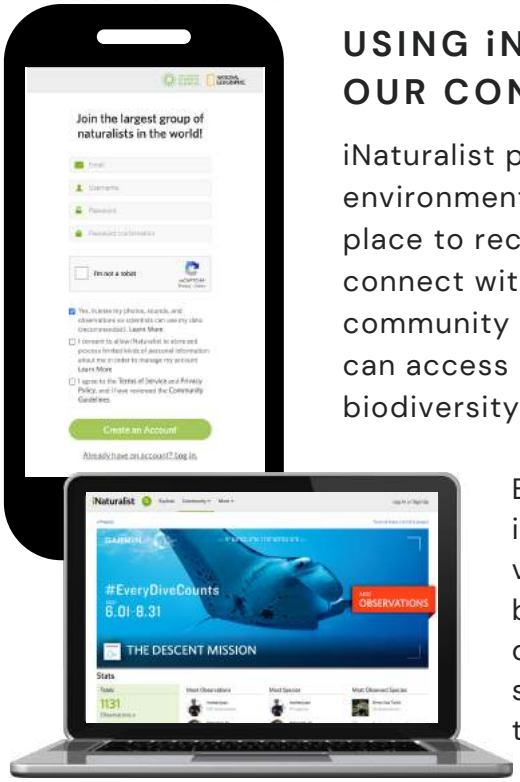
PART 2: #EveryDiveCounts Underwater Photo Contest

The #EveryDiveCounts Underwater Photo Contest invited participants to contribute to marine conservation research by reporting observations of marine animals and uploading their photographs to the iNaturalist citizen science platform. iNaturalist provides a place to record and organise nature findings as well as connects nature enthusiasts and promotes awareness of local biodiversity. To qualify, participants were required to identify the species (assisted by the iNaturalist community), date and GPS location of their marine encounter. They were also encouraged to explore entries submitted by other participants.

There were three winning categories: Best of Descent Mission, Best of Region and Best of LAMAVE Mission. Best of Descent Mission and Best of Region competition winners were chosen based on the amount of information they provided with their photo submission (25%) and on their photography skills (75%). The best of LAMAVE Mission category was selected by the LAMAVE team based on the value of the photo for scientific research, observations shared, animal behaviour, status on the IUCN Red List and best environmental practices of the photographer. All winners received a Mk2i Dive Computer and T1 from GARMIN.

> *"As conservationists who use both scuba diving and freediving to study marine animals, we understand how valuable information from the diving community is and how important it is to work together to protect the marine environment. We are thrilled to be collaborating with Garmin to encourage divers to report marine biodiversity across Asia as well as utilize the amazing technology that Garmin continues to develop. To date, our team have recorded over 10,000 encounters with marine megafauna using Garmin technology and we can't wait to see the impact this campaign will have on reporting marine wildlife across the region."*
>
> – Jessica Labaja, President, LAMAVE.

iNaturalist



USING iNATURALIST TO ENHANCE OUR CONSERVATION IMPACT

iNaturalist promotes exploration of local environments and biodiversity by providing a place to record and organise nature findings, connect with nature enthusiasts and build community awareness. Researchers worldwide can access iNaturalist to investigate species biodiversity.

By sharing their photos on iNaturalist, divers contributed valuable data to help researchers better understand the presence, distribution, and critical habitats for some of the most globally threatened marine species.

1 PROJECT

83 MEMBERS*

1825 OBSERVATIONS*

638 SPECIES*

22 COUNTRIES

Figure 2: Locations of observations, revealing 'diving hotspots'

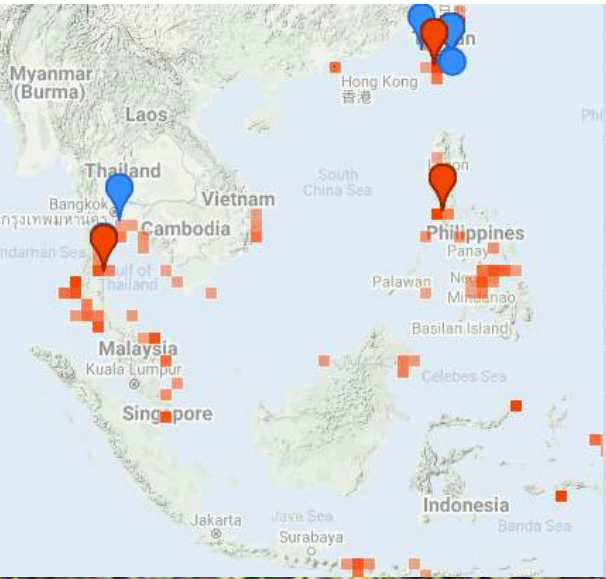
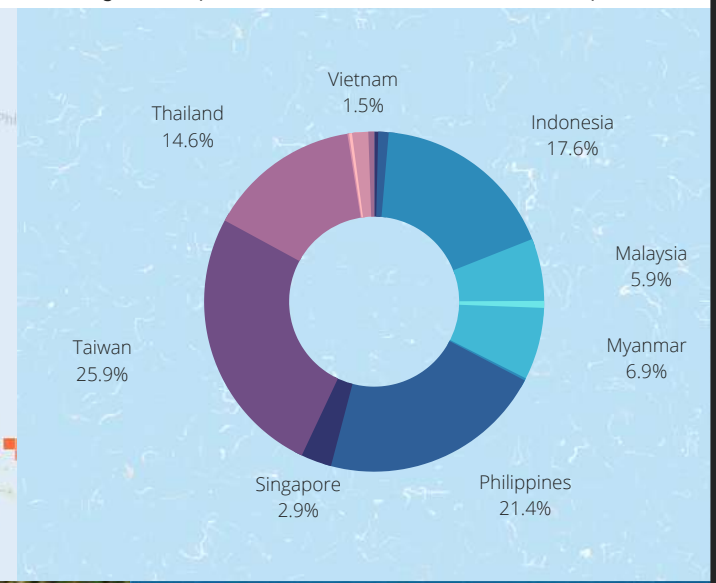
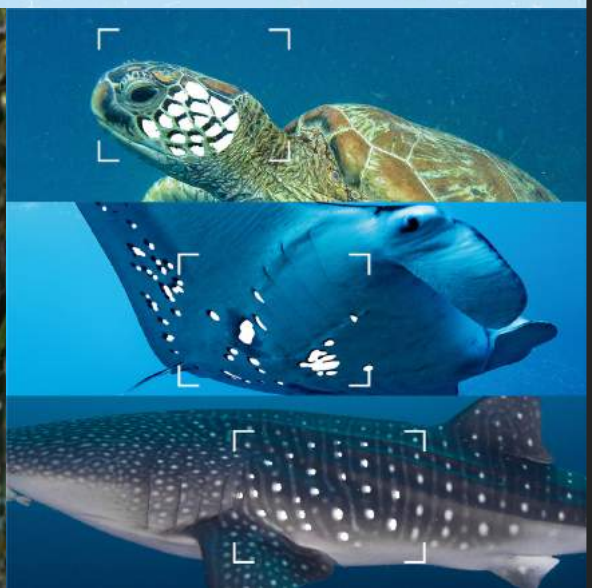


Figure 3: Top countries where observations were reported:





*At the time of competition closure on August 31 2021

1,825 OBSERVATIONS 638 SPECIES

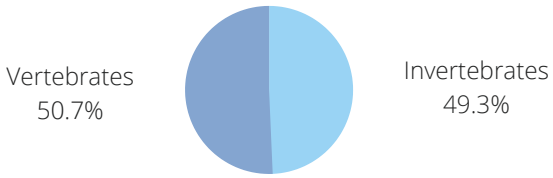


Figure 4: Almost 50% split between vertebrates and invertebrate observations.

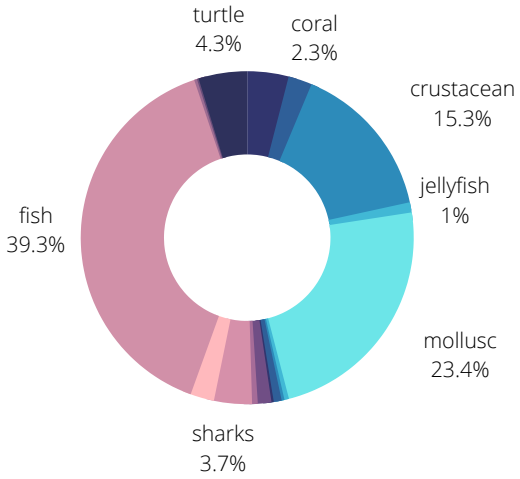
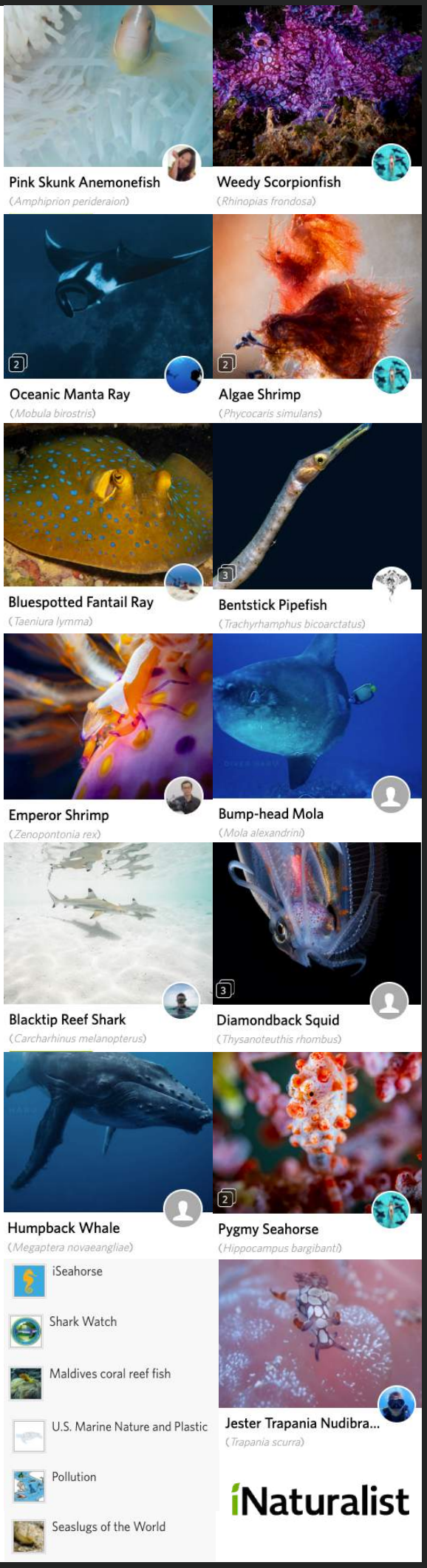


Figure 5: Top types of animals observed

Regarding marine megafauna, of the 638 different marine species observed, 22 were species of sharks and rays, 17 of which are classified as a threatened species. Observed was also 2 of the 7 species of marine turtles, both also classified as threatened. 80% (63 out of 78) of these marine turtle observations are suitable to be used to identify individuals through photo-identification (Photo-ID). This is a non-invasive technique that utilizes the unique biological patterns on the animals to distinguish one individual from another without the need for capturing or handling. This enables researchers to monitor individuals and to determine population status, local and regional connectivity, and habitat patterns. Collectively, this data can help recommend and support conservation policies.

Observations from The Descent Mission Project were also utilized and added to a range of other scientific projects on iNaturalist.

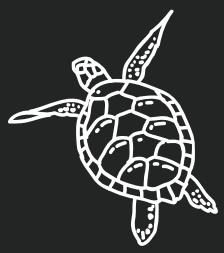


Impact

Marine Megafauna

Observations of marine megafauna submitted to the Descent Mission Project were further analysed by LAMAVE researchers. Here's what they uncovered:

From 'The Descent Mission' Project:



44 photos of green turtles 80% (35 photos) can be used for photo- ID.

34 photos of hawksbill turtles, 82% (28 photos) can be used for photo-ID.

17 photos of oceanic manta rays, 24% (4 photos) can be used for photo-ID.

10 photos of reef manta rays, 50% (5 photos) can be used for photo-ID.

Analysis by LAMAVE researchers revealed:

Green Turtles

- 2 new individuals added to the Philippine National Population Catalog
- 7 encounters of turtles already existing in the Philippine National Turtle Catalog

Hawksbill Turtles

- 2 new individuals were added to the Philippine National Population Catalog
- 2 encounters of turtles already existing in the Philippine National Turtle Catalog

Sharing Data

Turtle observations from the Gulf of Thailand were shared with Aow Thai Marine Ecology Center (ATMEC) who are managing a local population catalogue. Of the 9 turtle observations, 8 had usable IDs. 6 of these were resights of individuals already identified while two encounters were potentially new individuals.

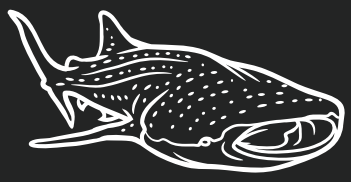
Manta Rays

A total of 9 manta rays (4 oceanic and 5 reef) from Thailand, Indonesia and the Maldives were added to 'Manta Matcher' a global population catalog for these species.

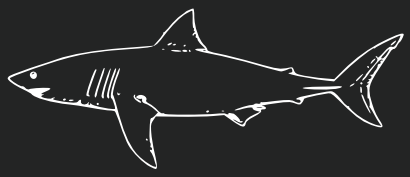
Impact

Marine Megafauna

From 'The Descent Mission' Project:



31 photos of whale sharks
77% (24 photos) can be used for photo-ID.

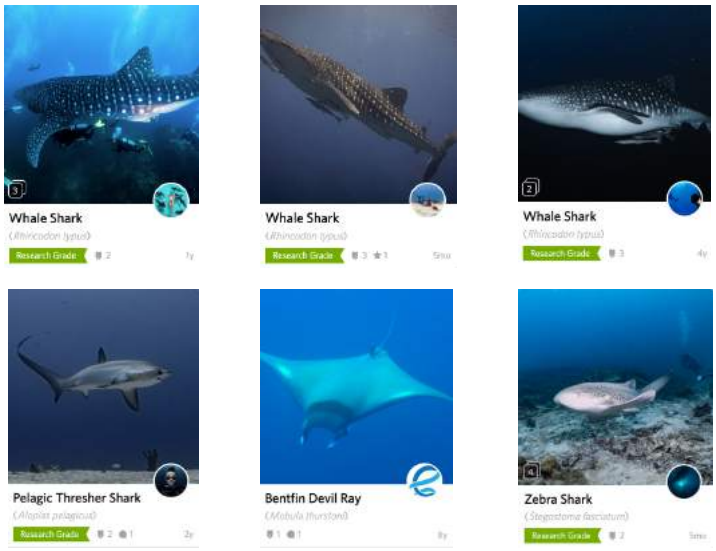


15 species of sharks and rays were observed in Southeast Asian waters – 10 of which are listed as threatened, including pelagic thresher sharks (*Alopias pelagicus*), Zebra Sharks (*Stegostoma fasciatum*), and Bentfin Devil Rays (*Mobula thurstoni*).

Analysis by LAMAVE researchers revealed:

Whale Sharks

- 22 new individuals uploaded to the global whale shark library from Thailand, Malaysia and the Philippines
- 1 resight of an individual already identified in the Philippines
- 1 encounter in Thailand had already been uploaded to the catalog by another person



"The Descent Mission not only raised significant funds for our (LAMAVE) marine conservation projects, but the #EveryDiveCounts underwater photo competition also brought together divers from 22 different countries who submitted over 1,800 encounters with marine wildlife and identified over 600 species! Over 140 of these encounters were with whale sharks, marine turtles and manta rays, which our team is now running against national and international databases – an example of how citizen science data can contribute to research and conservation efforts on endangered species."

- Lorraine Aplasca, LAMAVE Project Leader

THANK YOU TO OUR AMAZING JUDGES WHO REVIEWED OVER 1,800 OBSERVATIONS!

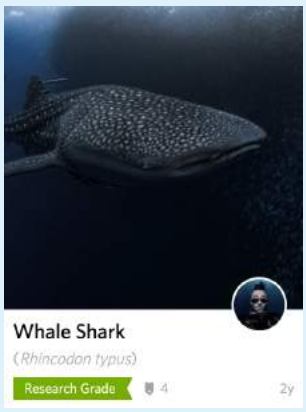
Competition Winners

Observations were judged by professional UW photographers, marine conservation scientists & professional divers based on both its photographic merit and scientific contribution (including information on time, depth, water temperature, animal behaviour, sex and group size). A Best of LAMAVE Mission was selected based on the value of the photo for scientific research, supplementary information shared, status of the animal on the IUCN Red List and observance of interaction best practices.

Best of Descent Mission

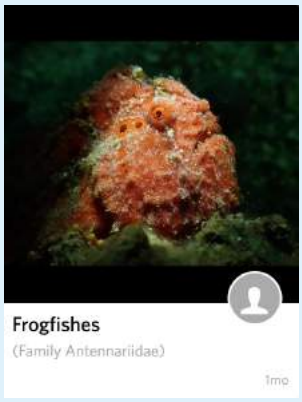
Best of Descent Mission
User: owl1031

Best of Region



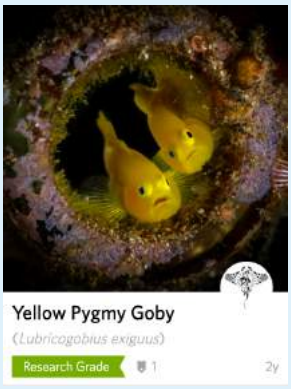
Best of Philippines
User: kevingacad

Best of Vietnam
User: thien_nguyen_images



Best of Hong Kong
User: jowieto

Best of Taiwan
User: raylee420



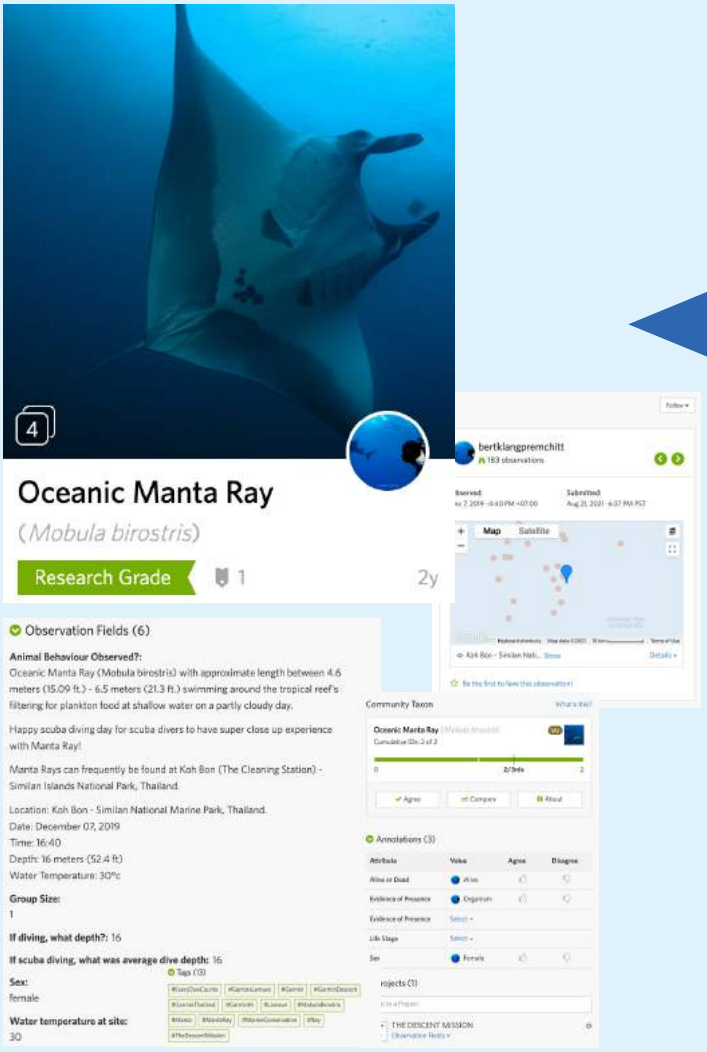
Best of Singapore
User: floodedcamera

Best of Malayisia
User: alexlichtblau

Best of Thailand
User: Bert Klangpremchitt

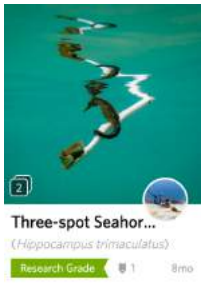
Competition Winners

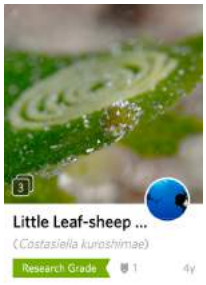
Best of LAMAVE Mission



Bert Klangpremchitt's observation of an Oceanic Manta Ray is a great example of how we hoped people would use this platform. Bert provided extra information, notes, and added tags. The main photo is a perfect identification shot and not only allows us to identify the species, but also to identify the sex and the individual animal. On further evaluation, we also discovered that Bert was the greatest contributor to the Decent Mission Project with 183 observations submitted, showing his commitment to the mission of recording biodiversity.

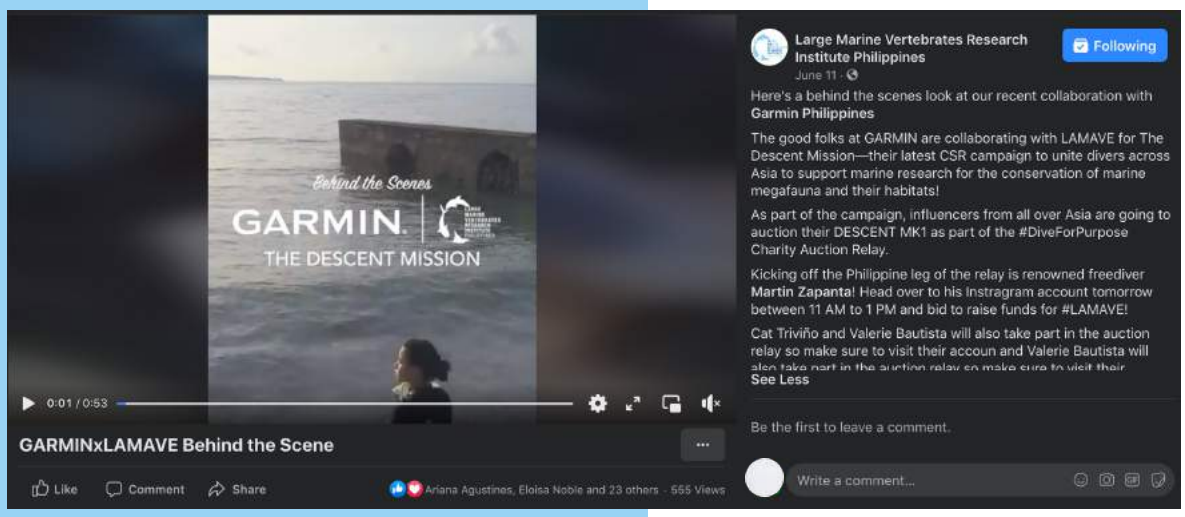
The team was amazed at the entries submitted to the Descent Mission project and the dedication of our observers, with a number of individuals contributing over 100 observations. In addition to the overall winner, LAMAVE commends and highlights the following observations, which show rare and threatened species, species from deep habitats and animals deeply affected by anthropogenic (human) pressure. The contribution of these observations through the iNaturalist portal for research, conservation and awareness is outstanding, and we encourage more divers and citizen scientists to keep submitting to this project.





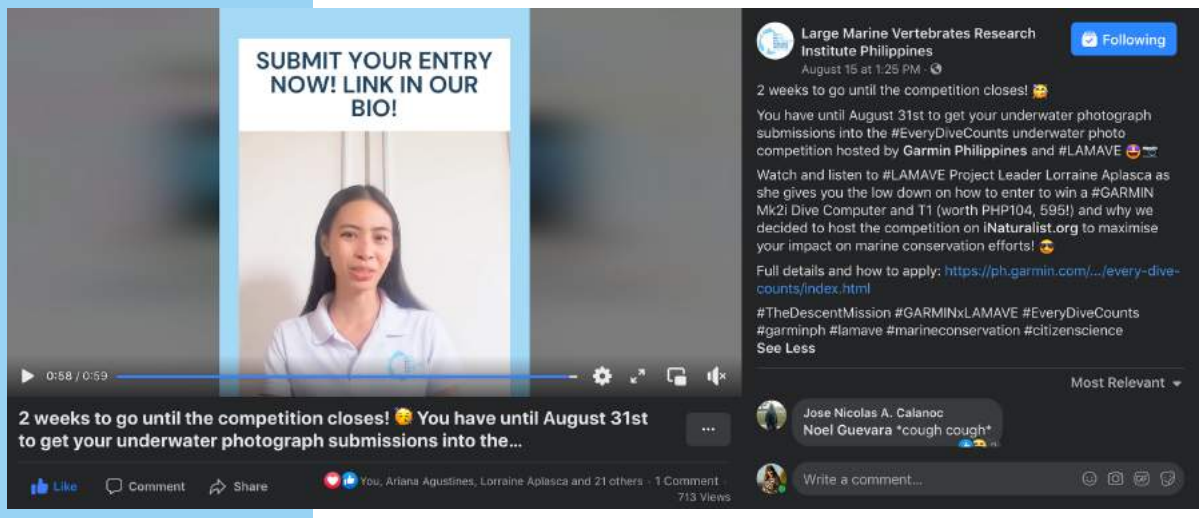
Social Engagment

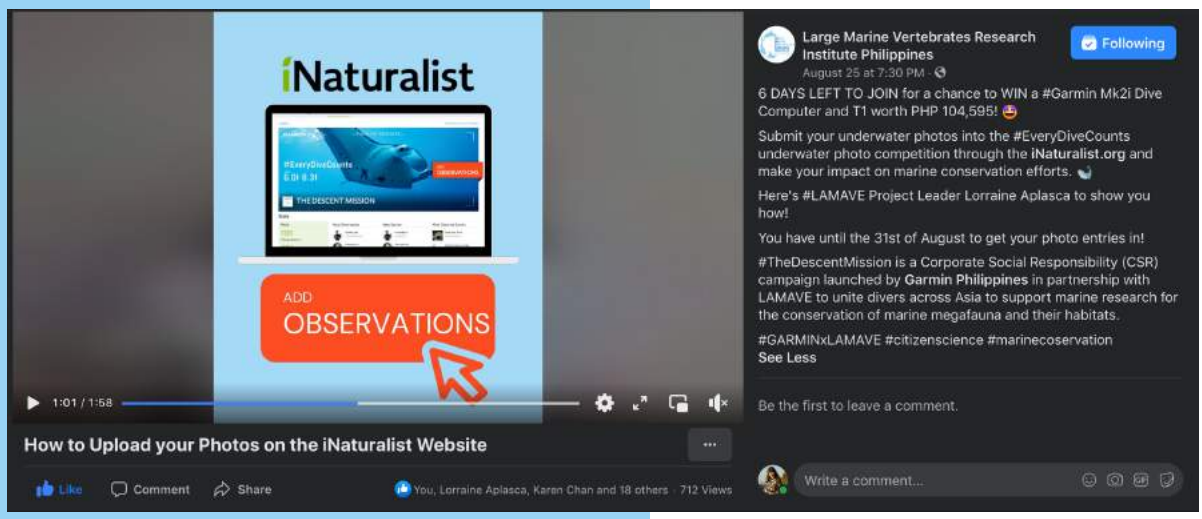
Performance of organic content on Facebook on @lamaveproject Page



Reach: 1,500
Engagement Rate: 9%

Reach: 2,400
Engagement Rate: 7%





Reach: 1,800
Engagement Rate: 9%









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Moving into the future...

GARMIN technology will continue to make an impact in LAMAVE's marine conservation sites.

LAMAVE would like to thank GARMIN for their support and commitment to marine conservation. We would also like to thank the influencers Patty Lee, Yin, Kylie Wang, Candy Wang, Martin Zapanta, Cat Trivino, Valerie Bautista, Tep Keerati, Apinya Sakuljaroensuk and Happy Nancy, and the judges Shin Arunrugstichai, Martin Zapanta, Ariana Agustines, Kohei Ueno, Nat Sumanatemeya, Kim Shung Su and Marco Chang.

Thanks to all bidders in the charity auction and to everyone who submitted observations to 'The Descent Mission' #EveryDiveCounts photo competition.

Finally LAMAVE would like to thank Alicia Cheng and Stella Tan, as well as their teams for their commitment, hard work and creativity in bringing this CSR campaign to life.