

HENDERSON EXPEDITION 2024
THE IMPOSSIBLE CLEANUP

by



*The Quest to Restore Earth's Most
Polluted Sanctuary*



A UNESCO WORLD HERITAGE SITE KNOWN AS THE WORLD'S MOST POLLUTED PLACE ON EARTH

A 2015 analysis (published in 2017) found that in the South Pacific, one of the Pitcairn archipelago's four islands, Henderson, has more than **18 tonnes of plastic on its beaches**: "the highest density of plastic debris recorded anywhere in the world".

The 38km² island has over 38 million pieces of plastic upon its shores. Conservative estimates suggest that 3,500-13,500 new plastic items wash up on Henderson each day.

One of its beaches, the 2km long East Beach, is polluted by 30 million plastic items.



AN IMPOSSIBLE CLEANUP

 PLASTIC
ODYSSEY

THE IMPOSSIBLE
CLEANUP



AN IMPOSSIBLE CLEANUP THE FIRST ATTEMPT - 2019

In 2019, an expedition attempted to clean up the island. 6 tonnes of rubbish were collected but the expedition was unable to remove the big bags due to the impassable coral reef.



AN IMPOSSIBLE CLEANUP THE CORAL REEF CHALLENGE

One major challenge in waste removal on Henderson Island is crossing the coral reef, made difficult by adverse weather. The last expedition had to land on a distant beach and traverse through jungle and shoreline to reach the polluted East Beach, as using a boat to cross the reef and extract waste was not feasible.



ABOUT THE 2024 HENDERSON ISLAND EXPEDITION



ABOUT PLASTIC ODYSSEY

Plastic Odyssey is an international expedition dedicated to addressing the pressing issue of plastic pollution in our oceans. Our mission is driven by the urgent need to protect marine ecosystems and raise global awareness about the devastating impact of plastic waste. Our multifaceted approach involves demonstrating innovative methods to transform collected plastic into valuable materials.

KEY FIGURES

-  3 years
-  40 000 nautical miles
-  30 countries



THE PLASTIC ODYSSEY VESSEL

An expedition vessel fitted with a full scale recycling workshop



TECHNICAL CHARACTERISTICS OF THE VESSEL

Length: 128 feet

Gross Tonnage: 464 UMS

Crew: 8

Width: 31 feet

Engines: 736 kW

Technical and Scientific Personnel: 12

MAKING THE IMPOSSIBLE POSSIBLE



OUR GOALS

- Build an **international coalition** to complete the beach cleanup work that was conducted on Henderson Island in 2019, namely removing the waste that was previous collected, removing new waste, and **closing the loop on this plastic pollution**.
- Prove that waste can be successfully removed from Henderson Island, the world's most remote and plastic-polluted beach, and create **pathways for cleanups** in the most remote areas of the world.
- Spark global media coverage to **raise human consciousness** about the impact of single use plastics on the environment.
- Conduct a **scientific study**, building on studies from 2019 data collection.



OUTCOME MEASURES OF SUCCESS

Success for the 2024 expedition will include:

- 14000+ pounds of **2019 plastic waste removed from the island**, which currently sits in bags above the high-tide line removed.
- **Beach cleanup** run to remove new waste that has arrived since 2024.
- Plastics recycled in a **positive and useful way for Pitcairners**, using existing approaches developed by Plastic Odyssey.
- Global media and film team involved to **tell the story**.



MAKING THE IMPOSSIBLE POSSIBLE

WASTE REMOVAL STRATEGY

Team ashore: 15 people

- Transfer of waste to vessel
- Cleanup of beach via first sorting of plastic waste
- Autonomous cleanup basecamp on the island

Team onboard: 11 people

- Reception of waste removal
- Second sort of plastic waste
- Shredding and transforming of plastic waste
- Safety and watch of the ship

Fishing buoys garland

Parasail

Floating pontoon / catamaran

RIB (if good weather conditions)

MAKING THE IMPOSSIBLE POSSIBLE

1 - PARASAIL EXTRACTION



The first solution to be tested for crossing the coral reef involves an innovative parasailing approach, towed by our expedition vessel.

Process:

1. The Plastic Odyssey vessel remains adrift beyond the coral reef.
2. On the beach, a parasail is set up and launched into the air with the assistance of two personnel.
3. Big bags of waste are securely attached to the parasail.
4. As the boat's winch pulls on the parasail, the parasail is elevated, allowing the big bags to effortlessly soar over the reef.
5. Once over the vessel, the bags are safely deposited onto the upper deck of the boat for further processing.

MAKING THE IMPOSSIBLE POSSIBLE 1 - PARASAIL EXTRACTION - DETAILS



In collaboration with



Two parasails will be onboard to cover full weather & wind conditions:

- Low-wind Parasail 550 XXXTREME
- 34.5 Highwind XXXTREME Parasail

MAKING THE IMPOSSIBLE POSSIBLE 2 - FISHING BUOY GARLAND



Fishing buoys will be tied together to form a garland which will be towed from the ship.

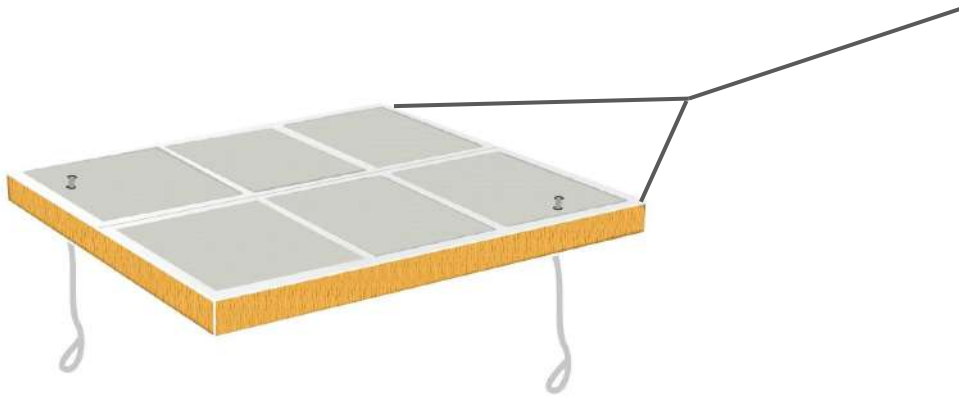
Hundreds of pieces of fishing gear were collected during the 2019 expedition



Type of plastic collected:
PP fishing buoys and ropes

MAKING THE IMPOSSIBLE POSSIBLE

3 - FLOATING PONTOON



A floating pontoon will be towed directly by a winch on board Plastic Odyssey vessel.

Process:

1. The Plastic Odyssey vessel remains adrift beyond the coral reef.
2. Through a combined towline+ mini-drone approach, a cable is set up between the vessel and the cliff.
3. The sled is conveyed thanks to the cable.
4. Big bags are securely attached to the sled and transported up to the vessel, then lifted aboard through the vessel's crane.

MAKING THE IMPOSSIBLE POSSIBLE

4 - SMALL BOAT/RIB LANDINGS



In case of adequate weather and wave conditions, a RIB landing could be tested.

Process (only in good weather conditions):

1. The Plastic Odyssey vessel remains adrift beyond the coral reef.
2. Based on past visits to Henderson Island by the Pitcairn Community, the Plastic Odyssey RIB could land directly on East beach.
3. Waste would be removed by RIB up to Plastic Odyssey vessel.
4. Big bags are safely lifted and deposited onto the upper deck of the boat for further processing, thanks to the ship's crane.

TURNING A PROBLEM INTO AN OPPORTUNITY



TURNING A PROBLEM INTO AN OPPORTUNITY TRANSFORMING WASTES INTO FURNITURE FOR PITCAIRNERS

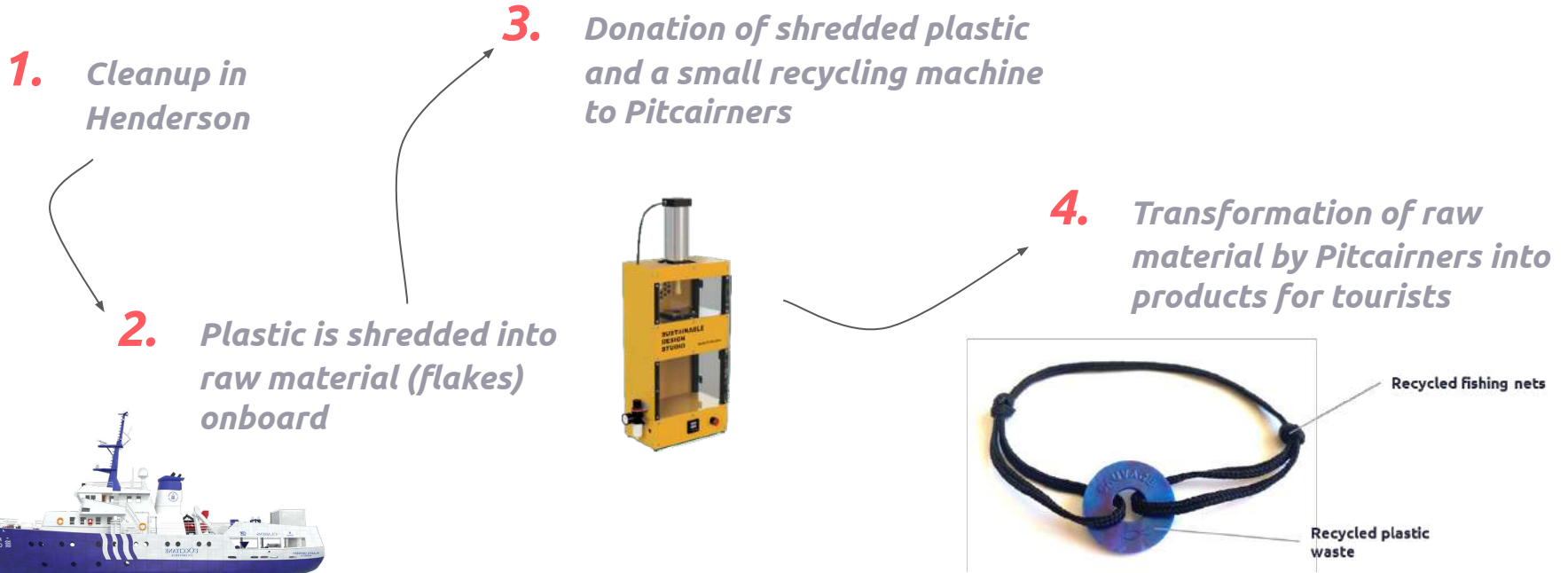
The majority of plastic wastes collected will be shredded and extruded to make plastic lumbers and build furniture for Pitcairn community. This process will be done directly onboard MV Plastic Odyssey thanks to its recycling workshop.



TURNING A PROBLEM INTO AN OPPORTUNITY

HELPING PITCAIRNERS TRANSFORMING WASTE INTO A SOURCE OF INCOME

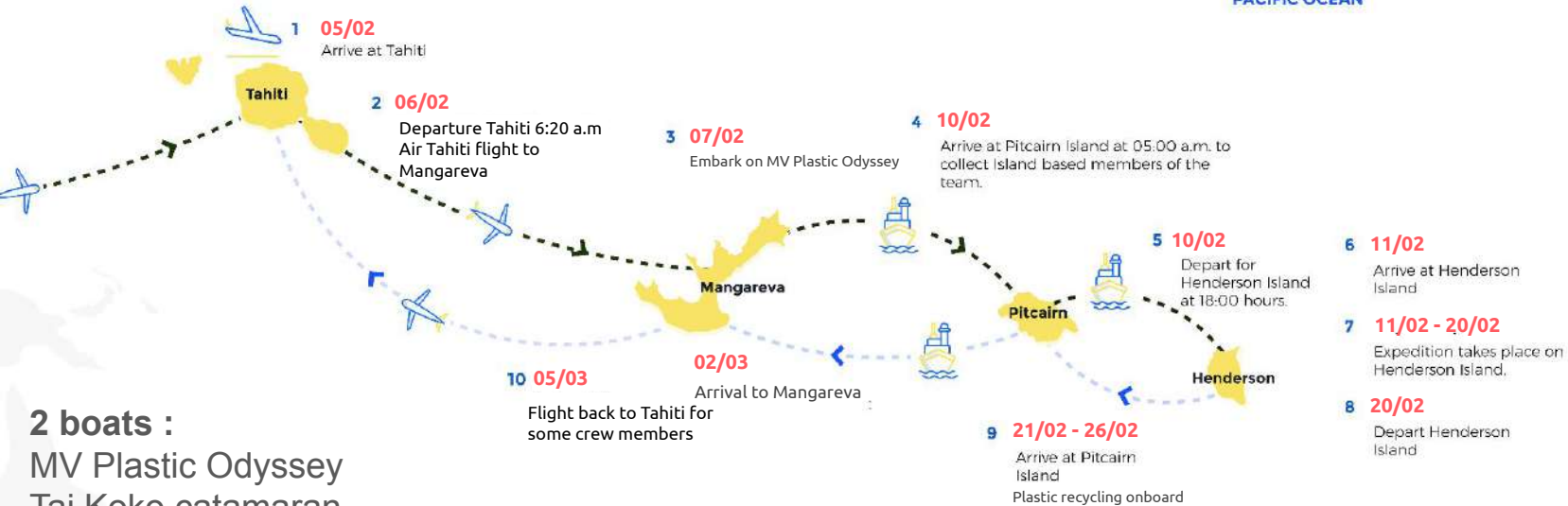
The rest of the waste will be transformed into raw material and given to Pitcairners together with a machine to process it and become a source of revenue. We will spend approximately a week on Pitcairn Island following the cleanup at Henderson Island to teach the community about the process.



2024 EXPEDITION



TIMING: FEBRUARY - MARCH 2024



2 boats :
MV Plastic Odyssey
Tai Koko catamaran

26 expedition members

THE TEAM ON THE ISLAND (1/2)

Expedition leadership team:



Simon BERNARD

Plastic Odyssey Co-founder,
2024 Henderson Expedition Leader
The Explorers Club MI '23



Alexandre DECHELOTTE

Plastic Odyssey Co-founder
2024 Henderson Expedition
Communications Leader



Morgane KERDONCUFF

2024 Henderson Expedition
Preparation Leader



Brett HOWELL

Howell Conservation Fund (HCF)
Executive Director & Founder
2019 & 2024 Henderson Expedition
Conservation and Science Leader
The Explorers Club MN '12

THE TEAM ON THE ISLAND (2/2)



Hanna DIJKSTRA
PhD, Plastic Pollution Scientist



Timothée Cook
PhD, Marine Biologist



Valentin PROULT
French Media Man



Olivier LOSËR
Photographer



Pierre de PARSCAU
French Movie maker



Marc ANDRIEUX
Accident and emergency doctor



Ricky RHODES
US Film Director

THE TEAM ON BOARD (13)



Yoann LONG*
Captain 1 of M/V Plastic
Odyssey



Franck LEGRAS
Captain 2 of M/V Plastic
Odyssey



Tristan BROUDIC
Chief Mate of M/V Plastic
Odyssey



Tanguy LESQUER
Second Mate



Simon GOURET
Chief Mechanical



Jonathan GALA BI
Second Mechanical



Baptiste LOMENECH*
Recycling Expert



Maxime THIROUIN*
Recycling Engineer



Désiré MAYA
Sailor



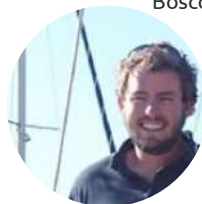
Patrick AWATE
Bosco of M/V Plastic
Odyssey



Pamphile PEUDENNIER
Sailor



Aodren BRONSART
Cook



Titouan FAFOURNOUX
Skipper of Tai Koko Sailing Vessel

MEDIA CONTENT

FOLLOW THE EXPEDITION LIVE



1 Dedicated web platform
Gathering all the expedition content, a press area, stories and scientific articles



Social Media Content

Follow the expedition story LIVE

- Live sessions & Q&As
- Content shared on a daily basis

@PlasticOdyssey



A tailored green science app
Made available on App Store & Google Play
To follow the plastic debris collection and classification



Documentary film

and TV reports
Coverage of the expedition by a dedicated crew of filmmaker and reporters - Long term contents including a CANAL+ Documentary Series and an American version of a short film



Media coverage
Exclusive content reserved for our media partners including picture reports, videos and articles



Raising Awareness Campaigns
Building and spreading global awareness campaigns using content produced during the expedition

V. OUR PARTNERS

2024 HENDERSON EXPEDITION

OFFICIAL SUPPLIERS



V. OUR PARTNERS

2022-2025 PLASTIC ODYSSEY PARTNERS

The Plastic Odyssey expedition is made possible by its long-standing partners, who support the 30 stopovers around the world made by this unique laboratory ship.



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In collaboration with



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