



Henderson Island Expedition

June 2019



Overview

Overarching objectives of the expedition:

- A) Study the plastic pollution on Henderson Island and raise awareness of the waste in the context of the global problem of ocean plastics;**
- B) Study and raise awareness of the Henderson marine environment - promoting the Pitcairn Island Marine Reserve and the benefits of large, fully protected marine protected areas.**

A 2015 analysis (published in 2017) found that one of the Pitcairn archipelago's four islands, Henderson, has >18 tonnes of plastic on its beaches: "the highest density of plastic debris recorded anywhere in the world". The 38km² island has >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 2 km long East Beach, is polluted by 30 million plastic items.

The 2015 work served as a reminder that the long-term protection of large areas of ocean needs to be partnered by science and messaging capable of changing attitudes towards the way we live, consume, and discard on land.

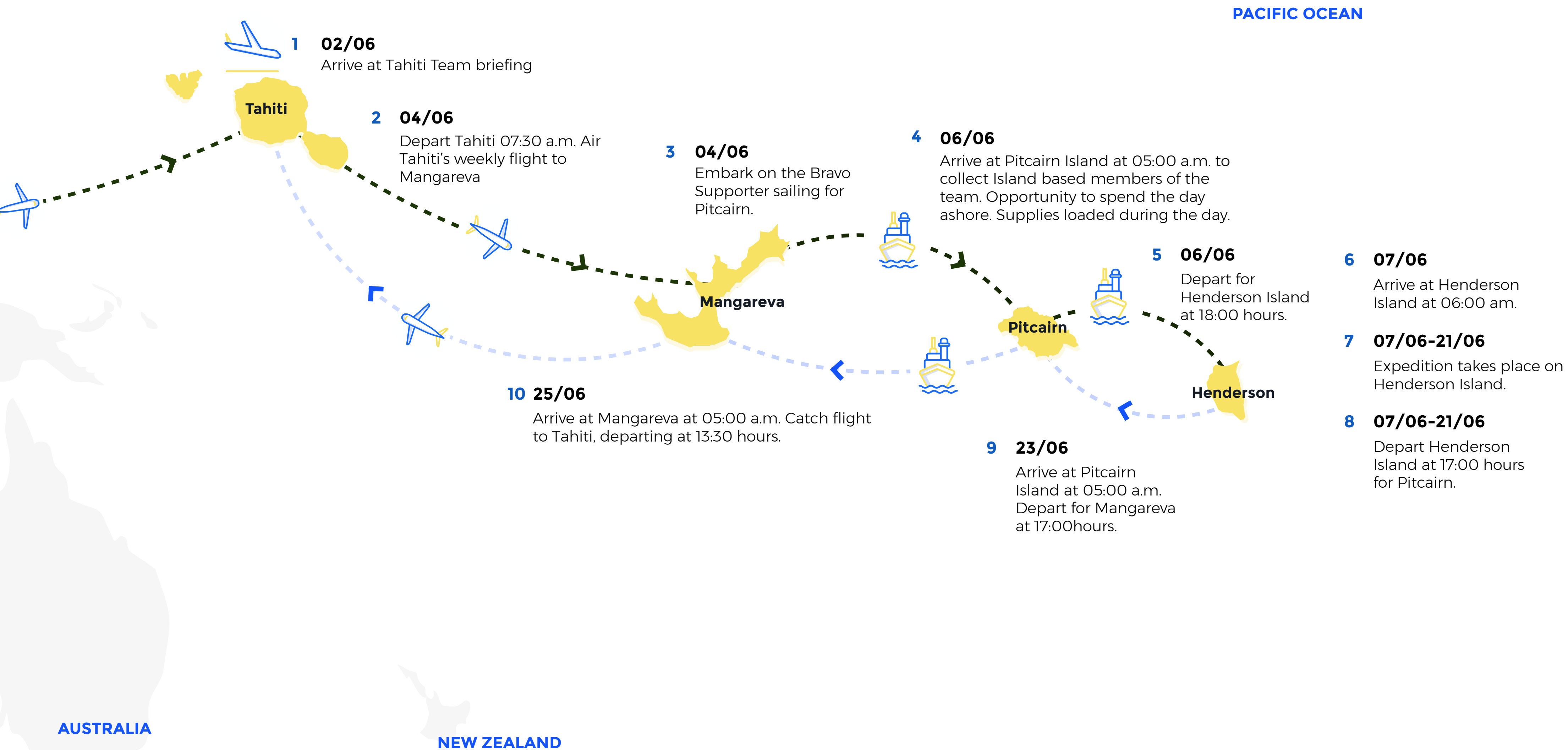
The Pitcairn Island Council has sanctioned an expedition to Henderson in June 2019 which provides an opportunity for key Pitcairn and ocean stakeholders to effectively communicate the source, scale, range and impacts of ocean debris on Henderson and the Pacific Ocean through on-site science, art and media.

The initiative also provides the team an opportunity to study and showcase the beauty and ambition of the Pitcairn Island Marine Reserve





Timings



MEXICO

PERU

PACIFIC OCEAN

AUSTRALIA

NEW ZEALAND



Vessel

MV Bravo Supporter

The Government of Pitcairn Islands' chartered freighter, Bravo Supporter, will provide transport and a base for the expedition team.



Main Particulars

LOA: 51 meters

Breath: 11.2 meters

Draft Loaded: 4.8 meters

GT: 1109 ton

NT: 333 ton

DWT: 856 ton

Crew: 5

Passengers: 12

Cruising Speed: 10 knots

Max Speed: 12 knots

Fuel: 770 m³

Main Engine: Deutz 2459 hp



Flag, class & safety

Flag: Gibraltar

Port of Reg: Gibraltar

Class: RINA (IACS Class)

IMO no: 9165944

Call Sign: ZDJY7

RINA no: 92740

6x 25-Man Life Raft

Year Built: 1998

Place Built: Norway

Last Refit: Jan 2019, Ozata Shipyard





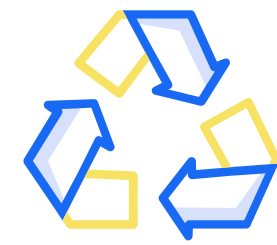
Deliverables



01. Research

**Jennifer Lavers, Alex Bond,
Simeon Archer-Rand**

Plastic accumulation rates, provenance, mass, type, microplastics, impact on birds, bathymetry, biodiversity and habitat mapping will be studied. Research to be published in peer reviewed journals.



02. Clean up

**Brett Howell, James Beard,
Johnny Briggs, Jay Warren, Robin
Shackell**

Beach clean-up of 2km East Beach. Will generate additional scientific data. Will superficially clear the beach and will collect an estimated 10 tonnes of waste.



03. Re-use

**Pitcairn Island Community and/
or commercial partnership**

85% of waste collected is estimated to be rigid plastics. The feasibility of recycling the plastics via use on Pitcairn Island or commercial partnerships is being explored.



04. Communications

**Mandy Barker, Andrea Vance, Iain
McGregor, Jon Slayer, Luke Hosty**

Outputs include new material from world renowned artist Mandy Barker. Documentary episodes and articles. Videos and imagery of the biodiversity of Henderson. Google Streetview. A potential partnership with ZSL to leave time-lapse cameras on the beach to show return of plastics is being confirmed.



Team



Robin Shackell
Deputy Governor of Pitcairn. British Consul General Auckland.

Responsible for day to day governance issues on the Pitcairn Islands; liaising and coordinating with the Administrator of Pitcairn; and working with the Mayor and Council of the Pitcairn Islands; management and oversight of the Auckland based Pitcairn Island Office. As British Consul General in Auckland and Dean of the Consular Corp, working to help deliver NZ political objectives and promoting UK interests and values at a senior level.

TEAM LEADER

- Lead the expedition
- Co-ordinate the activities of the various teams.
- Manage the RIB operation in coordination with the Captain, teams and RIB operator.
- Ensure that risks are properly captured, assessed and mitigated.
- Provide medical back-up as a qualified PHEC certificate holder.



Jennifer Lavers
University of Tasmania

[Research Scientist](#) at the Institute for Marine and Antarctic Studies. She is a marine eco-toxicologist with expertise in tropical and temperate seabird ecology, plastic pollution (marine debris), invasive species management, and fisheries by-catch. Undertook the only extensive analysis of plastic pollution on Henderson in 2015.

HEAD OF SCIENCE TEAM

- Calculation of accumulation rates of plastic pollution
- Provenance analysis
- Litter survey on beach with items recorded by mass, number, GPS etc (see below 'bulk clean-up)
- Micro-plastics analysis using bulk core samples
- Impact of plastics on Henderson Island hermit crabs
- Profiling plastic-associated chemicals, ongoing collaboration between Lavers and International Pellet Watch



Alex Bond
Natural History Museum UK

[Conservation biologist](#) with a focus on the marine environment and island biology. Interests include seabirds, marine debris, invasive species, and globally threatened or extinct species

SCIENCE TEAM

- Assessment of chemical pollution in blood samples from Murphy's Petrel and Masked Booby
- Collection for the museum of rats, but also of abandoned eggs, skeletons, and possibly skins
- Avian natural history, including Murphy's Petrel & Crake courtship/song



Simeon Archer-Rand

CEFAS (UK Government affiliated)

Simeon works with UK Government's Blue Belt Programme helping the UK Overseas Territories develop and manage their marine protected areas. Simeon will be focussing on the subtidal habitats around Henderson, mapping the seabed and sampling areas for microplastics.

SCIENCE TEAM

- Intertidal and subtidal sampling of microplastics
- Bathymetry analysis
- Biodiversity and Habitat Mapping



Brett Howell

Howell Conservation Fund

Brett has over 15 years of experience working with environmental and business leaders to find solutions to problems such as marine pollution. He works to provide catalytic funding to conservation organizations working on scalable, market-based solutions to environmental issues in oceans and lakes and their surrounding terrestrial environments.

HEAD OF BEACH CLEAN-UP TEAM

- Macro-debris survey (bulk clean-up) which will generate additional scientific data (e.g. number of items, mass, GPS coordinates). After two weeks, the clean-up would also have, superficially, cleared a significant area of the beach of large items of waste. The resultant 'clear' beach would be recorded via time-lapse cameras (to be installed and left on the island) over subsequent months and years.
- It is estimated that the clean-up will generate approximately 10 tonnes of waste (85% of which will be rigid plastics).



Johnny Briggs

Pew Trusts

Part of the Pew Bertarelli Ocean Legacy Project. Worked closely with the Pitcairn Community as the Pitcairn Island Marine Reserve moved from concept to implementation. Continues to frequently liaise with Pitcairn community.

EXPEDITION COORDINATOR AND BEACH CLEAN-UP TEAM

- Working with the UK FCO and Pitcairn Island Council to help coordinate the expedition
- Will support any activities during the expedition which require assistance including the clean-up, MPA science and communications.



James Beard

Valpak

[Recycling Services Manager](#) at Valpak, a leading environmental compliance and consulting organisation providing a range of services to UK businesses. Leads the company's recycling division. Valpak have kindly offered to part sponsor the expedition.

BEACH CLEAN-UP TEAM

- Work with Brett on the clean-up but will also play a key role in communicating the findings of the expedition when back in the UK working with clients and colleagues on a daily basis



Mandy Barker

National Geographic Society Grant for Research & Exploration 2018

International award-winning [photographer](#) whose work involving marine plastic debris has received global recognition. Working with scientists she aims to raise awareness about plastic pollution in the world's oceans whilst highlighting the harmful affect on marine life and ultimately ourselves.

ARTIST/PHOTOGRAPHER

- Image series - Create a new series of work based on the plastic found on Henderson;
- Work to impact an international audience though exhibitions and media via publications, magazines, print media etc.



Andrea Vance

Stuff

Andrea Vance is a senior journalist who has reported for many years on environmental issues. She has travelled to the sub-Antarctic Antipodes and Auckland islands to film and produce news features and stories for New Zealand's state broadcaster, TVNZ.

COMMUNICATIONS - DOCUMENTARY AND ARTICLES

- Andrea proposes to produce a series of documentary episodes and accompanying long-form articles, on the voyage, expedition and science for Stuff, NZ's most viewed news website.
- Stuff is a subsidiary of Australia's Fairfax Media (now merging with Nine) - this combined with Vance and Iain's extensive media contacts across the UK, open-up the possibility for further syndication.



Iain McGregor

Stuff

Iain has been a photojournalist for 22 years and has documented the early melt of sea ice in Antarctica, human trafficking in South East Asia, and the life of isolated tribes in Papua New Guinea. He has been recognised many times as one of New Zealand's leading photojournalists. He was 2016 NZ Geographic photographer of the year, 2016 Canon media awards videographer of the year and the 2018 NZ Press photographer of the year.

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Jon Slayer

Force Blue

Jon is a [talented film maker](#), enthusiastic environmentalist and habitual adventurer with extensive underwater and terrestrial filming experience. Jon has travelled to Pitcairn before to carry out conservation assignments.

COMMUNICATIONS - FOCUS ON MPA AND THE NATURAL ENVIRONMENT

- Generate film on the Pitcairn Island Marine Reserve and Henderson marine wildlife, to raise awareness of the marine protected area and the need to protect the ocean. Filming capability includes aerial (drones), terrestrial and underwater in video and 360 video (Virtual Reality) and video production after the trip.
- Street View - For google
- Photography - still image capture aerial, terrestrial and underwater for use in promotional content.



Luke Hosty

Goosi Creative

[Luke](#) has harnessed his combined experience in multiple creative fields including free diving and military career, to embark on a career in documentary filming. Recently rounded off his education at the London MET Film School, studying Film Production and Documentary Filming

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Jay Warren

Member of the Pitcairn Island Community

The Pitcairn Island community designated one of the largest no-take marine protected areas in the world in 2016 and takes an active ongoing interest in its environment.

KEY AREA

- Key area of work is to provide local context for communications teams, to manage transportation via zodiacs and to support the beach clean up team

Supporters

The expedition is being supported by generous assistance from Valpak; Architectural & Community Planning Inc; The Zoological Society of London; The Pew Trusts; Blue Belt Programme (UK Government); Schwab Charitable; Toughsheet Environmental; Force Blue; Pitcairn Island Council; Pitcairn Island Government; Howell Conservation Fund; Commonwealth Clean Oceans Alliance; BMAS Agency



Mandy Barker

Examples of the work of Mandy Barker, an international award-winning photographer whose work involving marine plastic debris has received global recognition. Working with scientists she aims to raise awareness about plastic pollution in the world's oceans whilst highlighting the harmful effect on marine life and ultimately ourselves.

