

**A report to the commissioners office, South Georgia Government, on completion of the
BBC Natural History Unit filming expedition to Zavodovski Island
January - February 2015.**

Expedition permit number: EPD/2014/006

Introduction

The aim of our expedition was to document the landscape of Zavodovski Island and the behaviour of its resident chinstrap penguin colony for the forthcoming BBC documentary series, working title '*One Planet*'.

Filming was carried out in January 2015 and consisted of a crew of 3 from the BBC Natural History Unit (two cameramen and one director) and two field assistants. We were supported by motor yacht Golden Fleece and her captain, Jerome Poncet and 2 boat crew.

Zavodovski is a challenging island to access, partly due to its remoteness and also the nature of its terrain, rocky cliffs and exposure to extremes of wind and weather. Since access is complex, and was not guaranteed on a daily basis, the filming party camped ashore and were equipped to be self-sufficient while the boat party remained on standby beside the island.

In total, the shore party spent 14 days on the island. Natural history filming was only possible on 7 of these days due to weather. However, long day lengths, and having two camera operators, meant that sufficient material could be gathered to complete the story successfully.

Expedition objectives

One Planet follows in the footsteps of series such as Living Planet, Planet Earth and Frozen Planet, in focusing on the way that the different habitats on earth shape the lives of the animals that live there.

Zavodovski island has an iconic landscape: its volcano, Mount Curry, is active and is continuously smoking; and it houses the largest chinstrap penguin colony in the world with an estimated 650,000-700,000 pairs. Due to its inaccessibility, and remoteness, filming has only ever been attempted once previously (BBC Blue Planet, 2002) - indeed, few of the South Sandwich Islands have ever been filmed for television.

The aim of this trip was to focus on the behaviour of chinstrap penguins, from the challenges of getting onto the island, finding their mate within a vast colony, and chick feeding / rearing. The backdrop was the impressive volcano, which has an almost constant plume and small ice cap. The challenges and experiences 'behind the scenes' of the crew as they undertook this expedition was also filmed, both on the journey to the island, and on the island itself.

Filming was carried out using state of the art cameras (Arri Amira and Red Dragon), a DJI Ronin gyro-stabilised rig and – under permit from GSGSSI – UAV drone to capture aerial images of the island and the colony. A separate filming report has been submitted to the office of the Commissioner as requested by the terms of the Media Permit.

One Planet is due to broadcast in autumn 2016, and the accompanying 'behind the scenes' story is planned to feature as the last 10 minutes of the '*Islands*' episode.

Personnel

The entire team consisted of 8 people, 5 of whom camped ashore: Elizabeth White (Director/Producer) is an experienced member of staff at the BBC Natural History Unit and has worked in Antarctica previously while filming the series, *Frozen Planet* and as a scientific researcher.

Max Hug Williams and Pete McCowan are regular BBC Natural History Unit cameramen. Both have degrees in animal biology and have many years of experience filming wildlife behaviour in remote locations.

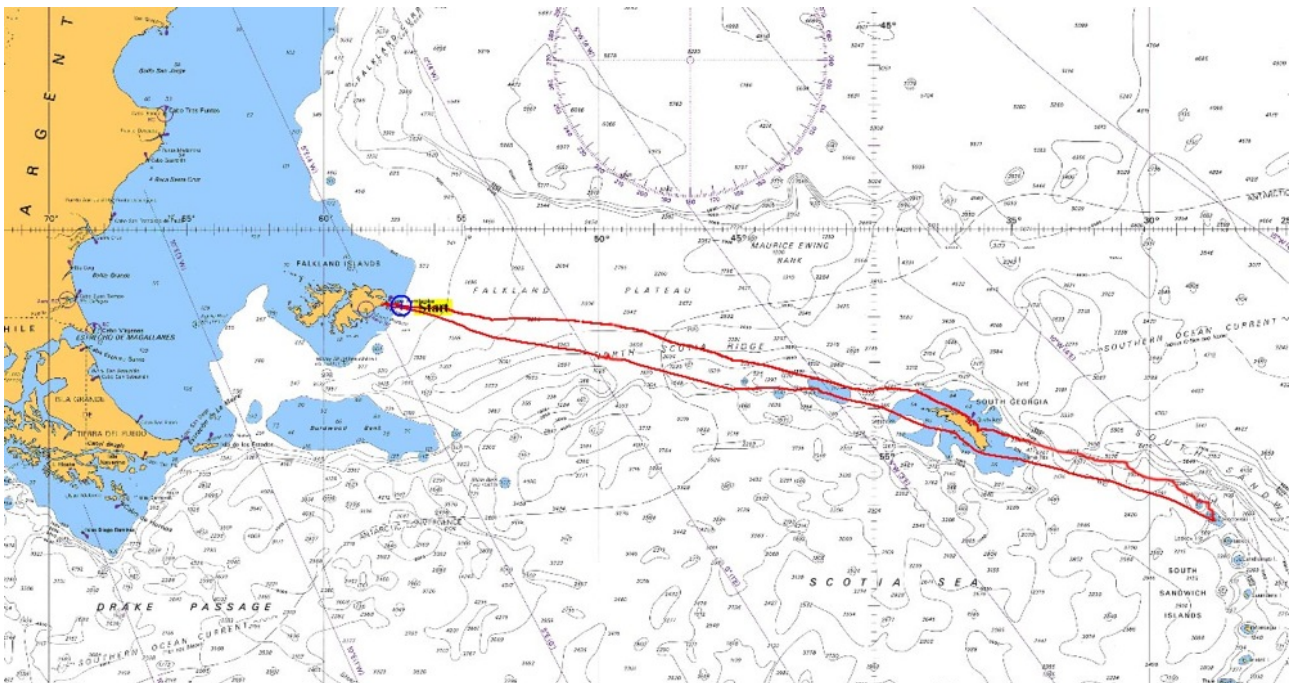
The filming team were supported by two assistants: Catrin Thomas has 12 seasons experience working with the British Antarctic Survey, including working on penguin research projects on South Georgia and the South Orkneys. Her role was to manage the camp, look after water, fuel and food supplies and support filming activity. The final team member was James Moore, a medical nurse and expert in expedition medicine. His day-to-day role was to support the filming team, but he also brought with him advanced medical knowledge and first aid skills that could have been harnessed in case of emergencies.

The boat team was headed by its captain, Jerome Poncet, who has 40 years experience of operating small yachts in this region, and supporting camera crews (*Life in the Freezer*, *Natural World*, *Extreme Animals*, *Blue Planet*, *Planet Earth*, *Frozen Planet*, *LIFE*). This was his seventh visit to Zavodovski Island, previously facilitating photographers, researchers and the BBC Blue Planet team.

Jerome was supported by experienced boat crew: Yoann Gourdet and Vanessa Alliotteu, who have worked with the Golden Fleece previously, including a visit to the South Sandwich Islands in December 2014.

Passage

Zavodovski island is some 2000 nautical miles from Stanley and took 6 days crossing to the island and 7 days back. The journey back was broken with a stop at Grytviken to sit out strong winds. We arrived at Zavodovski on the evening of January 13th and departed January 30th, returning to Stanley on Saturday 7th Feb.



Landing

Zavodovski Island has a challenging landscape, bordered by small, rugged cliffs and strong waves that batter the coastline. There are few beaches, and these are typically covered in penguins and battered by the swell, making landing almost impossible in all but the calmest of conditions.

Our designated access point was a small cliff, previously identified by Jerome, that has a set of climbable rocks leading to a sheltered gully about half way up the cliff.

From the gully, it is possible to follow, a series of channels through / over the rocky edge of the island to its interior. However, as several penguins (macaroni and chinstraps) had adopted the shelter of the gully for nests this was deemed impassable with kit. To avoid disturbance, we rigged a rope route on the North of the access point that allowed us to haul kit over the ridge and into an alleyway of large sea-washed boulders, devoid of nests, that lead to the plateau without disturbance. This point offered a very accessible route onto the island, even in moderate swell, with good footholds and points for tying on rope handholds for safety.



*Landing: (left) from a distance, the coast of Zavodovski looks impenetrable!
(right) Putting in ropes to the upper cliff, to avoid disturbing penguin nests.*

Camp

Zavodovski has little shelter and previous expeditions have experienced ferocious winds and tents shredded by gravel or entirely blown away. We quickly decided that camping on the plateau in this region was not an option, as there is zero shelter and debris / dislodged tents or filming equipment would be blown down into the penguin colony below.

Instead, we located a clear area south of the large colony between Pungent and Stench Points, that was tucked between the edge cliffs and the plateau. This offered some shelter from the interior side and had enough flat ground clear of fixed rocks to allow for the pitching of tents and a small cooking area. The area we chose was bisected by a small penguin highway leading to a gap in the cliff, but since most 'commuter' activity occurred around dawn, and we spent very little time hanging around beside the tents, penguins and humans rarely crossed.

In general, the camp location was ideal – downpours of gravel were occasionally 'dumped' on the up-slope tents during strong gusts of wind, while those on the edges were subject to drenching with sea spray under certain wind/ wave conditions. Indeed it quickly became clear why the ground was clear of penguin nests, as it became a veritable quagmire of muddy run off and sea spray at times, but since we were there for just 2 weeks, this was bearable and infinitely safer than being exposed to the, often ferocious, gravel-laden gusts on the plateau.



(Top) newly-erected tents and (bottom) after first snow fall

Weather

Zavodovski experiences extremes of weather as it lies right in the passage of oceanic depressions.

We were fortunate to arrive in clear, dry conditions with relatively little swell for getting kit and camping equipment ashore. Within 24-hours, the wind turned and the Golden Fleece was forced to relocate to the crater side of the island. Thus followed several days of Easterly winds and swell, which battered the coastline – a spectacular sight with penguins ‘surfing’ waves and being thrown high into the air - but rain and snow offered little option for filming. During this period, it would have been impossible to transfer to and from the boat in all but the most extreme emergency situation, but we had anticipated this could occur and had enough supplies of fuel, food and water to be self-sufficient. Eventually the low passed and we enjoyed a mix of sun, snow and wind from then on, and the Golden Fleece was able to anchor beside us.

On some days, wind speeds were very high with big gusts from the West, across the volcano. Venturing onto the plateau was hard work, as regular gusts could knock you to your knees with scatterings of flying gravel – ski goggles were essential.

We also enjoyed several days with incredible light winds (less than 5 knots) where we were able to fly the UAV easily, and in full sunshine.

At the end of our stay, there was a prolonged period of South-Easterly swell, with very large waves at long intervals – likely the result of storm out to sea. Although winds were very light at Zavodovski, and conditions should have been ideal for the zodiac to come ashore to the landing site, we experienced around 3 days of waiting for the swell to settle until it was safe to transfer people, kit and camp site back to the boat. Fortunately a window of opportunity opened up on the Friday afternoon and we were able to decamp everything from the island before the wind picked up again and debarkation would have been impossible.

In total we were able to film natural history footage on all, or part, of 7 of our days at shore, which – with two cameramen filming and long hours of daylight (dusk was 11pm) – was just enough to cover the sequence. Behind the scenes filming was carried out in all weather conditions, to fairly represent what the crew and penguins were dealing with.

Details of filming activities completed have been submitted to GSGSSI, as requested in the media permit.

Safety plan

A detailed safety plan and risk assessment was carried out prior to departing the UK, that covered transit at sea, landing on the island, camping in a remote location and emergency evacuation options should the situation necessitate. Briefly these areas included:

1. Experience:

Jerome Poncet was our guide to the island, using his and his crews previous knowledge of the island to dictate the landing site, monitor weather conditions and determine when resupply to the island was made.

Catrin Thomas brought 12 years of field assisting experience to the camp, ensuring that sufficient emergency provisions were brought, monitor food and water and liaising with the boat crew to ensure comfort and safety ashore at all times. Catrin is also a qualified climber and took charge of rope access points – putting in safety lines for crew to use when landing on / leaving the island and getting filming equipment ashore.

All crew are experienced at working in remote locations and in basic first aid – comprehensive first aid / medical experience was provided by James Moore, who is a trained nurse and expedition medic.

2. Medical:

Before leaving, all members of the shore party completed an ENG 1 medical assessment to ensure their fitness, and were issued with a BBC 'drugs pack' containing antibiotics and medicines that could be used if required. The BBC also has a hot line to BEGA medical emergency providers and their trained team of doctors on call 24/7.

Three comprehensive first aid / medical chests were available in case of an accident – one aboard the Golden Fleece, one carried by the BBC crew, and James brought with him an advanced medical care pack including IV painkillers, fluids etc.

Thankfully James' medical skills were not required on this trip and the expedition was completed without incident.

3. Communications:

The shore party had one VHF radio per person, which allowed us to maintain contact between team members filming away from the camp, and between boat and shore. Satellite phones (the shore party had 3 between them) and an Iridium-based email system (Iridium Go!) were used for long-range updates and weather forecast reporting when the boat was out of VHF range, and for contact back to the UK.

4. Food / fuel / camping equipment:

The shore party was put ashore with sufficient food, water and generator fuel to cover the planned 15-day stay. A further 10-days worth of emergency rations were put aside from the start, to cover the possibility that the boat may not be able to land for several days, delaying pickup.

Early in our stay, Catrin Thomas located areas of the volcano's ice cap that offered a freshwater supply in case of emergencies.

The heavy duty Terra Nova tents (heavy duty fly, snow valance and double-poled) were very capable of putting up with wind gusts and sea spray and the location chosen for the camp site was ideal and offered shelter in almost every wind direction.

5. Contingency:

We took a number of items of contingency equipment for use in emergency. None were put into effect, but did include: sling-type harnesses would allow someone to be lowered off the island and down to a zodiac in case of injury; advanced medical chest including IV drips and IV pain killers; bivvy bags and bothy bags in case tents were washed / blown away.

Our camp infrastructure and food / water / fuel depositing system worked well and there was no concern when the boat was unable to land for several days due to big seas.

Environmental Plan

Activity on the island was carried out in such a way as to minimize impact on wildlife during the course of filming, and to ensure everything was taken away from the site at the end – leaving it in the same state as when we arrived. Shore crew were briefed with the *Codes of Conduct for Visitors to South Georgia* and the *Biosecurity Protocols*. Measured taken included:

- All kit and equipment containers were vacuumed out before packing for shipment, and kit was inspected in Stanley for the presence of insect stowaways, such as earwigs. No signs of insects were found.
- Equipment was packed in waterproof, sealed pelican cases or dry bags for transfer to shore and bags were kept closed for storage on the island.
- No rodent or insect pests were observed on the Golden Fleece or her zodiac tender, which was used for transfer to the island.
- Boots were cleaned with zircon before transfer to the island and all kit leaving the island was cleaned for mud upon leaving.
- The route from the landing site onto the island was rigged with ropes to go over the rock gulleys, avoiding penguin nests and disturbance to parents / chicks.
- Tents were erected in clear ground away from aggregations of nests and not blocking any major penguin highways to the sea. We are confident that no lasting disturbance was caused to penguins on nests, nor their chicks.
- Human waste was disposed of directly into the sea.
- Food was dry / wet-pack rations so there was no risk of introduced seeds / plants.
- At the end of the expedition, all waste was removed and the area returned to the way it was upon arrival.

Filming activity necessitated operating near penguin highways and sub-colonies, but since the aim was to document natural behaviour, crews were extremely careful not to cause disturbance. Mitigations included:

- Walking slowly so as to avoid panicking the birds and keeping to the edges of sub-colonies (not passing through them).
- Using long, telephoto lenses to operate at a distance from the birds.
- Sitting tight for long periods and waiting for penguins to come to camera.
- Working with a range of birds and not targeting the same bird / nest repeatedly.
- On 3 days, weather conditions were calm enough (<5 knots) to allow UAV filming. This was carried out following recommendations by NOAA scientists who have flown surveys around penguin colonies previously and included launching the UAV away from the colony, avoiding skuas and keeping to around 30m/100' height (at this height the noise of the propellers was unnoticeable above the noise of the colony and, since it is above skua attack height, the penguins took no notice whatsoever). We found this an incredibly useful tool for documenting the size of the colony in relation to the landscape.



Zavodovski Island showing the extensive penguin colony and landing beach in the South-West of the island, filmed from UAV.

Expedition Application and processing

The application process worked well and communications with the expeditions panel were constructive. They also pointed us to others who have visited Zavodovski, which helped in gaining a broader picture of what to expect.

Summary

The expedition was a great success and important and spectacular footage was collected which will serve to inform and educate the BBC audience about this unique island and its wildlife.