



LOFOTEN ISLANDS - SAILING AND CLIMBING

# LOFOTEN ISLANDS

## CLIMBING AND SAILING

SUMMER · 2023



### IMPERIAL COLLEGE LONDON

Sponsored by Imperial Exploration Board, Old Centralians Trust,  
Royal College Science Association, and the Jeremy Willson Charitable Trust



In the summer of 2023 we, a handful of Imperial students and alumni, set our sights on the beautiful fjords and mountains of Lofoten, Norway.

We planned an expedition with two objectives: to explore challenging climbing opportunities on long multi-pitch trad routes, and to adopt sailing as a low-carbon travel approach. The expedition was purposefully designed to prioritise these goals, offering an ideal platform for skill development in climbing, sailing, safety and logistics.

This report provides an account of the planning and successful execution of our remarkable journey to combine climbing and sailing adventures in Lofoten. We are grateful to the funding bodies who made this possible, notably the Imperial Exploration Board, Old Centralians' Trust, Jeremy Willson Charitable Trust, and the Royal College of Science Association.



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# 1 OVERVIEW

Introduction to trip objectives and itinerary.

The Lofoten Islands are an archipelago of islands composed of volcanic rocks (gneiss and granite) in the northwest coast of Norway (located 1198 km north east of the Faroe Islands), north of the Arctic Circle. They belong to the county of Nordland and consist of 7 main islands, separated by a series of fjords and the Norwegian Sea. As one of the most distant parts of Norway, with a unique scenery of dramatic mountains, beaches, fjords and untouched land, sailing provides an attractive means of travel there and for getting around. There are easier-access single-pitch sport and trad crags as well as more remote islands, long multi-pitch trad routes, ridge traverses, crack climbing and slabs.

The mild climate (maintained by the Gulf Stream) combined with the midnight sun, makes June to August the perfect window to attempt a variety of climbing objectives. However, even if faced with less favourable weather, there are plenty of other activities such as surfing, hiking or whale watching.



Photos, from top: Sailing around Henningsvær; Luke, Rory, Gus and Viet tacking



Photo: Rory seconding a pitch on 'Vestpillaren Direct' (N6)

## OBJECTIVES

### MULTI-PITCH TRAD

- Develop skills to safely navigate day long multi-pitch routes
- Learn rescue techniques to help in case of incident while climbing
- Climb Nordryggen - an alpine style ridge with 12 pitches, scrambling and walking

### SINGLE PITCH TRAD

- Build up confidence on lead to push individual grades
- Develop slab and crack climbing technique

### SAILING

- Gain skills for competent crewing of yacht including sailing, navigation and mooring
- Develop competency for day and night passages



ITINERARY

**DAY 1**  
Fly from Heathrow to Bodø

**DAY 2**  
Access boat  
Buy food for trip  
Overnight sail to anchorage near Paradiset

**DAY 3**  
Single-pitch climbing in Paradiset

**DAY 4**  
Morning sail to Djupfjord anchorage  
Multi-pitch climbing and Nordryggen alpine ridge  
overnight climb

**DAY 5**  
Sail around Djupfjord  
Sail to Svolvær marina

**DAY 6**  
Multi-pitch climbing in Svolvær

**DAY 7**  
Rest day  
Sail to Paradiset anchorage  
Visit aquarium

**DAY 8**  
Single-pitch climbing in Paradiset

**DAY 9**  
Sail to Djupfjord anchorage  
Multi-pitch climbing in Djupfjord area

**DAY 10**  
Multi-pitch climbing in Djupfjord area (the Priest)  
Sail to Henningsvær marina

**DAY 11**  
Multi-pitch climbing in Djupfjord area  
Sail to Djupfjord anchorage

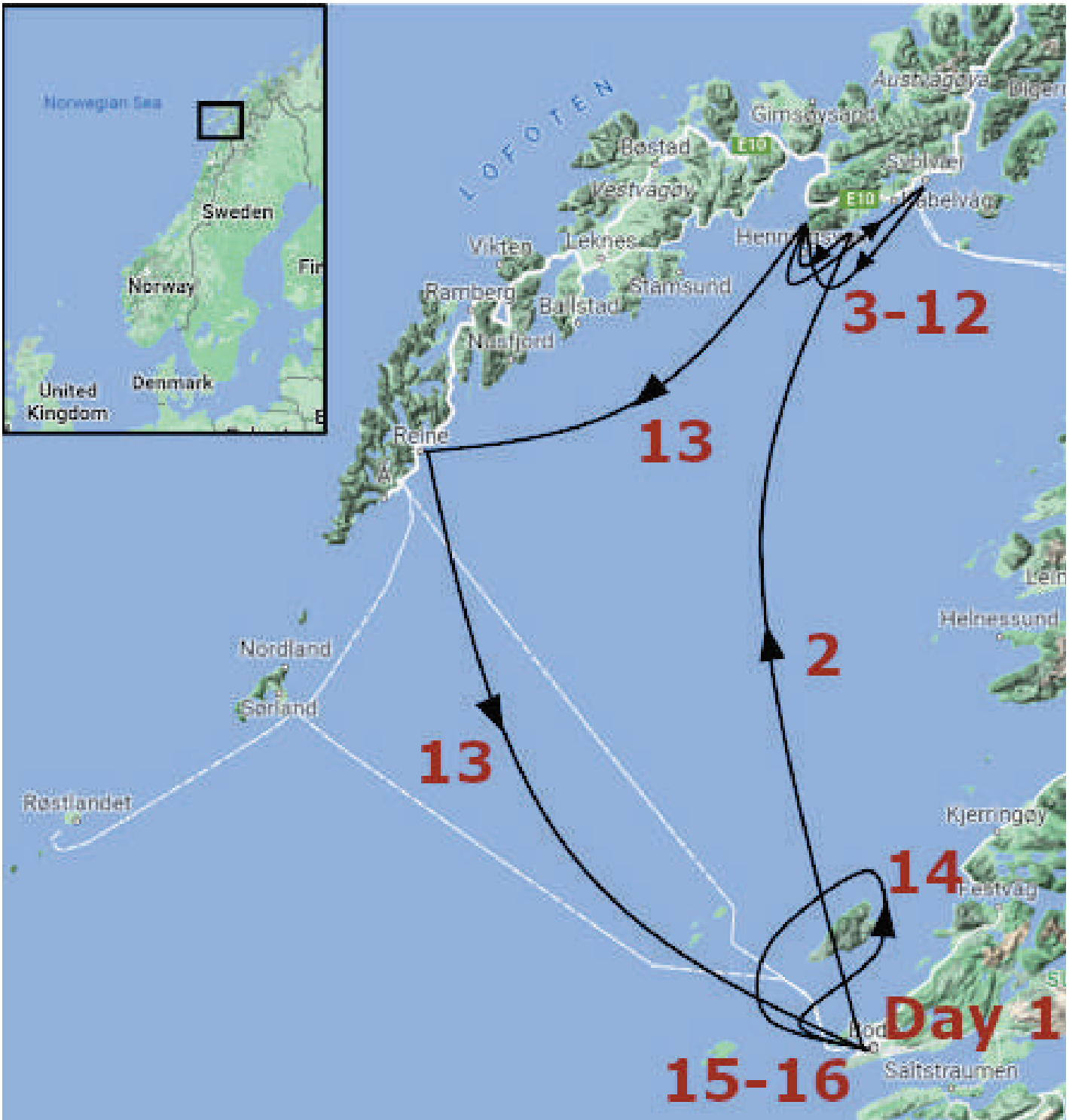
**DAY 12**  
Multi-pitch climbing in Djupfjord area

**DAY 13**  
Single-pitch climbing in Djupfjord area  
Sail to Reine marina  
Overnight sail to Bodø

**DAY 14**  
Visit to Saltstraumen  
Sail around Landegode island

**DAY 15**  
Hand back boat

**DAY 16**  
Fly from Bodø to Heathrow



Map of the sailing route starting and ending at Bodø



# EXPEDITION LEADER COSIMA GRAEF

- Age: 22
- 2nd Year PhD Student (AI for Healthcare)
- Trad: HVS. Sport: 6b+. Scottish Winter: Grade II. Trad/Alpine multi-pitch up to 500m in Alaska, Chamonix, Canada, Wales, Norway.
- Alumnus of Alaska 2022 expedition.
- Experience bolting sport routes and remote climbing.



# KATERINA FOKA SANDOVAL

- Age: 25
- MSc Sustainable Energy Futures Graduate 2022
- Trad: E1. Sport: 7a+. Trad/Sport multi-pitch up to 400m in Wales, France, Switzerland, Mexico, Spain.
- Sailing: Coastal sailing in France, 2-month transatlantic crossing from Gran Canaria to St Maarten and through Cape Verde.



# MIGUEL BOLAND

- Age: 29
- 3rd Year PhD Student (Mathematics)
- Trad: E3. Sport: 7a. Trad/Alpine multi-pitch in Alaska, Chamonix, Wales, Canada.
- Sailing: 7-day sail from Azore Islands to Portugal. Dinghy sailing.
- Alumnus of Alaska 2022 expedition.
- Experience bolting sport routes and remote climbing.



# RORY ROSE

- Age: 23
- Materials Science PhD Alumni
- Trad: E2. Sport: 6c/7a. Multi-pitch: Sport and trad lead.
- Sailing: Lots of competition sailing in dinghies and sport boats. Recently, Etchells Youth Academy. Some cruising experience including day skipper qualification (2017).
- RYA first aid qualified. RYA Power Boat Level 2 (inc ICC)



# ROWEN LEE

- Age: 29
- MSc Computing Graduate 2022
- Trad: HVS. Sport: 6b+
- Hiked to the summit of Mount Kinabalu, the highest peak in Borneo. Extensive indoor climbing training experience: onsite level 7a (sport), V5 (boulder)



# LUKE CHEESEMAN

- Age: 29
- 3rd Year PhD Student (Computing)
- Trad: HVS. Sport: 6a+. Multi-pitch: Sport and trad lead in Spain and Wales up to 250m.
- Hiking, climbing and more adventures inside and outside the EU. Once attempted to ice climb a tree, bolted a route on it instead.





# VIET PHAM NGOC

- Age: 28
- 3rd Year PhD Student (Computing)
- Trad: HVS. Sport: 6c. Multi-pitch: Sport and trad in France, Greece and Wales.
- Multiple treks across the UK.



# GIL RIBEIRO

- Age:21
- 4th Year MEng Aeronautics with Spacecraft Engineering
- Trad: HVS. Scottish Winter: grade I lead, grade IV second.
- Previous planning and execution of a week-long solo hike in Scotland, amongst others. RYA Competent Crew.



# GUS COX

- Age: 22
- MEng Design Engineering Alumni 2023
- Sailing: Sailing for 18 years. Experienced UK based delivery skipper, specialising in the South coast (Falmouth - Ipswich). Have raced yachts for the past 9 years, on inshore and offshore basis, with multiple cross channel races.





3  
LOGBOOK

Diary of events throughout the trip, including detailed information on routes and summits.

ARRIVAL

Day 1 - Friday 21st July

We all arrived at Gatwick, each lugging somewhere between 20-30 kg of gear, clothes and books. After nearly a year of preparation, setting off on this trip felt unreal, excitement and nerves bubbled within the team. Luke was immediately stopped at security for attempting to smuggle juggling balls inside a hiel bottle. Thankfully, the staff were merciful and, after a brief questioning, they let him through (as well as Gus and his CO2 canister).

We flew to Bodø, via Oslo, without issue and were greeted by the midnight sun upon our arrival. As we walked to our Airbnb, we enjoyed our first smell of the sea. Even 30 kg of luggage couldn't weigh us down ... emotionally speaking.

PASSAGE

Day 2 - Saturday 22nd July

Waking up, we were motivated out of bed by the smell of Gus and Rory's pancakes. We fuelled up and began a day of preparation for the overnight passage to Lofoten. We walked into the eerily quiet town, explored the marina, and circled back to the house for lunch once we realised our boat was in a different marina.

With many tasks to get done, we split up. Some bought food and fishing gear for the days to follow, others attended the boat owner's induction. Meanwhile, Viet went into hiding to make our team appear to be only 8. For what would a sailing voyage be without a stowaway? We were introduced to our home and transport for the next two weeks, Muligheten. It looked beautiful and spacious, but little did we know the struggles that the leaky water tanks and faulty anchor would cause - but at that moment, we were delighted.





We stocked up on food and water, gulped down some carrot soup, and set off for an 8 hour journey, motoring the whole way as there was virtually no wind. It was an eventful passage, we saw a couple of dolphins and one tiny puffin, we mistook the depth gauges inability to measure over 100m as a precursor to running aground - in the middle of 80 km wide fjord - or the presence of some pesky seaweed, we started the engine in full reverse and wrapped the Tender's line around the rudder. Best of all, we were captivate audience to the Lofoten archipelago which slowly appeared out of the morning mist.

We did the following shifts, getting a few hours sleep here and there:

	SHIFT 1	SHIFT 2	SHIFT 3
	9PM-12AM	12AM-3AM	3AM-6AM
LEADER	Gus	Rory	Kat
SUPPORT	Viet	Gil	Cosima
	Luke	Rowen	Miguel



Photos, from top: Luke showing off his crack climbing skills at the marina; The first breakfast in Lofoten: pancakes!



Photos, from top, left: A view of the marina; Gus and Miguel taking out the tender for a first ride; On our way to board the boat.





Photos, from top: A few bags waiting to be boarded; Gus and the boat owner ironing out the last details



Photos, from top: Luke, Rowen and Gil getting ready for the night passage ahead; And we are sailing! Well, motoring.. (Viet looks happy helming while Luke looks scared of Viet's helming). Photo, next page: The Lofoten Islands revealing themselves bit by bit after our night passage.









Photos, from left: Gil showing his best profile, smiling after the long night passage; View during the passage



Photo: Cosima and Kat enjoying a well deserved nectarine, also smiling after the long night passage. Cosima showing her multitasking skills by helming at the same time.



Photo, top: Rory freeing the rudder from the tender line, come hell or high water. (couldn't find a better idiom involving water)



Photo, bottom: The Lofoten islands in the early morning following the night passage. Photo on next page: Cosima, Miguel, Rory and Rowen aboard the tender for the first day of climbing, also called "rest day". The stunning background will be that of the boat for the next 24 hours.







## PARADISET

### Day 3 - Sunday 23rd July

After seeing Nordryggen emerge from the clouds, and catching our first glimpses of Paradiiset, we decided to anchor just east of the crag. The water was a crystal-clear turquoise, allowing a direct view to the bottom of the sea, where jellyfish and starfish had made their homes.

Our original plan to rest for a day was quickly forgotten and we immediately set off for the massive granite beach walls of Paradiiset. Climbing duos for the day were formed: Kat and Gil, Cosima and Miguel, Rowen and Rory, and Luke and Viet. The groups carefully loaded racks, ropes and themselves into the tender, determined to keep everything dry. Gus dropped us off at the base of Strosvæt, cutting our approach walk from 30 minutes to 30 seconds (we were the envy of the crag).

Many of us warmed up on 'Back to Paradise' (N3+) and 'Too Wide for Paradise' (N3+), and we were happy to find the rock solid and grippy. Rory, Miguel and Kat led 'Strosvæt' (N4), a pleasant slab where micro cams were ideal (Rowen, Cosima and Gil seconded).

Luke led 'Back to Paradise' and then decided to climb 'Demonstranten' (N4) in a nearby area. However, what was supposed to be a short stroll quickly became a scrambly adventure of its own after getting lost. Luke and Viet finally managed to reach the wall and Viet led the route. Rory and Rowen (who had no issue finding the route) shortly followed.

Cosima led 'Back to Paradise' (N3+) and 'Butter Fingers' (N5), and Miguel led 'Strosvæt' (N4). The pair then went on a quest to find Dammen, expecting a 'short' walk, which unexpectedly turned into an hour of boulder hopping. They gave up on their search and returned to the boat via a pick-up by Gus.

Kat spotted and led a route to the left of 'Back to Paradise' that had no entry in the guidebook. The route had an easy start up ledges, then moved left to a dirty crack (with protection) and ended with a thin traverse below a huge, hollow flake.

We wrapped up the day happy and confident. Luke and Viet cooked delicious chicken, lettuce and yoghurt wraps for dinner, which definitely helped keep spirits up!

Ambitious plans were made for the next day, where we would all attempt 'Nordryggen' (N4+) up Vagakallen - a 943 metre peak and the tallest in the area.

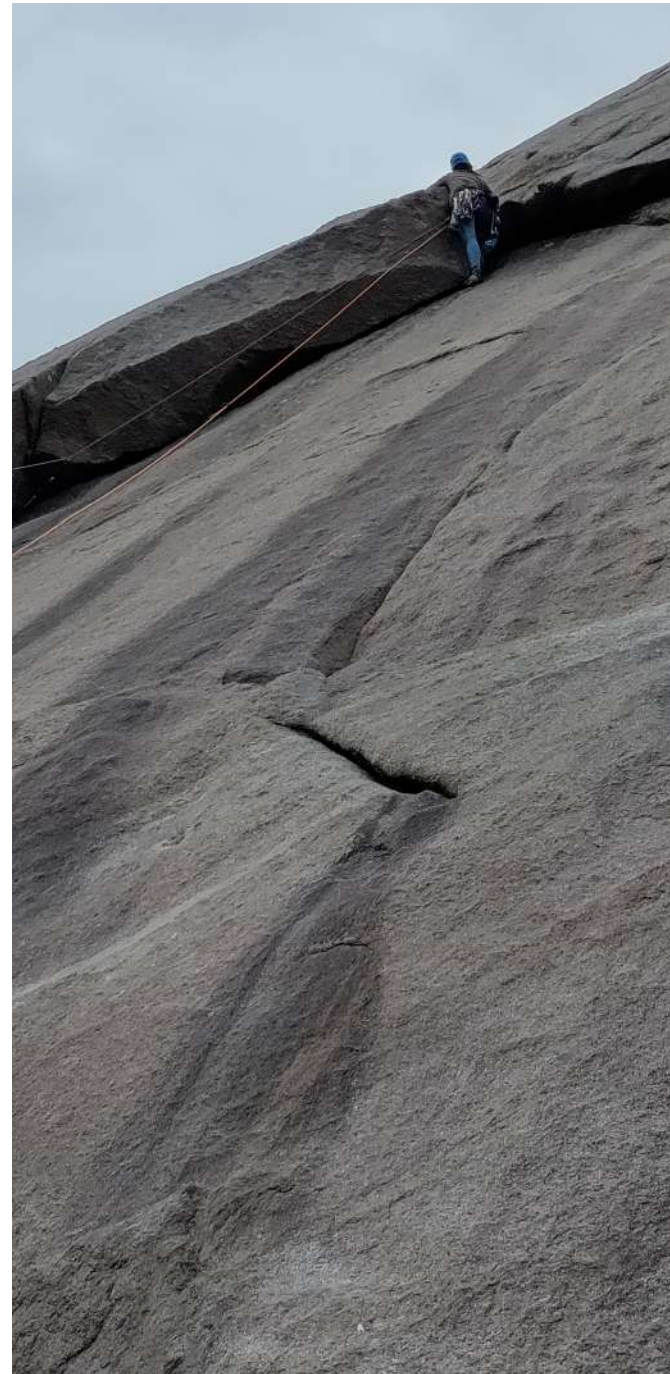


Photo: Rowen leading 'Back to Paradise'



Photos, from top: Rory watching Miguel and Viet on the boat; Rowen belaying Rory on 'Strosvæt'. Photo, next page: Rory inspecting the anchor.











Photos, from top: Gus rowing the tender in for a pickup;; Cosima finding her balance up the first climb of the trip.



Photos, from top: Viet making his way to the shore; Viet and Luke getting lost between the buttresses of Paradiset







Photos, from top: Pebble beach at Paradiset; Cosima and Miguel taking a break from a climb



Photos, from top: Gus navigating into the anchoring in Paradiset; Our beautiful boat. Photo, next page: The cloud covered summit of Norddryggen.









## THE NORDRYGGEN TRAVERSE

### N4+, 505M

Day 4 - Monday 24th July

Vagakallen was in the nearby area of Djupfjord but we wanted to get an early start on 'Nordryggen'. So, Rory and Gus arose at 6am to start the journey to our new anchorage at the base of the Presten wall in Djupfjord.

The pairs for the day were Viet and Luke, Cosima and Miguel, Rowen and Gil, and Rory and Kat. We came prepared with walkie talkies and assigned each pair a dedicated channel, and everyone a shared common channel.

The first three groups were dropped off at the start of the approach by Gus at around 8am.

They started the long approach walk to the ridge. What was estimated to be a 1-2 hour hike turned into a gruelling 3 hour approach. Along the way, they wandered through a forest and were surprised to come upon a picturesque beach where they paused for a group selfie. They scrambled up 600 metres of chossy exposed rock to reach the start of the ridgeline. The top of the approach was navigable thanks only to a smattering of hard-to-see cairns. They started to wonder if this, supposed, top-50 route would really be worth it.

Miguel and Cosima started swinging leads up Nordryggen, followed by Rowen and Gil, and then Luke and Viet. For the first few hours of the alpine scramble, the teams were veiled in clouds and were losing hope that the clouds would break. Yet, occasionally the clouds would part and the view was spectacular - mountains and sea as far as one could see. After a few pitches, the gap between the first two teams widened and so Luke, Viet, Rowen and Gil stuck together to keep up morale and aid in route finding. At around 2am, they finally reached the top of the climb where Cosima and Miguel were waiting. Cosima was fast asleep wrapped in survival blankets (her fitbit confirms that she achieved 1 hour and 5 minutes of sleep!). At the top of Nordryggen there was (and is) a ~15m wide gap to navigate, a leap

of faith that seemed endless after so long. Cosima and Miguel had set up an abseil and top-rope to cross the chasm, an option that most took. Viet, however, is not most and he leapt across the gap.

Apart from two proper pitches of climbing, one in a chimney, and the other in a crack, most of the route was an Alpine scramble over loose rock and dirt. We all agreed that top-50 was overselling it.

With the ascent behind them, the 6 started the descent at 3 am (a task which is not as simple as it sounds). They finally made it back to the boat at 8:30 am utterly fatigued, caked in dirt, unquestionably parched, and having not eaten anything in 15 hours. Gus revitalised them with a hearty serving of sausage pasta and Coke, resurrecting their energy levels.

Overall, boat to boat, the adventure took 23 hours and full advantage of the nordic summer night light.

Kat and Rory opted to climb a shorter multi-pitch before taking on the traverse. They went up 'Skåningen' (N5+), a leafy, tense and fun 3-pitch adventure which took them over 4 hours. This route was a testament to the grip of Lofoten granite and the strength of its vegetation. To discover holds and gear placement required extensive gardening of cracks with a nut key.

Afterwards, Rory and Kat set off for Nordryggen, reaching the start of the route at 3:30pm. They climbed it in alpine style and covered ground quickly, catching up to Gil and Rowen about halfway through the route. Low on energy, they made the call to press on and pass the other teams, sharing spare food and water as they went. They reached the top, jumped the gap, got lost a few times on the scree descent, and arrived at the boat at 2am.

Nordryggen proved to be a slow and long ridge, with plenty of choss and sand, with great climbing pitches dotting the day and night, thank god for the midnight sun!



Photos, from top left: Kat has finally seen the light; Gus navigating into our mooring; Kat, Cosima and Miguel excited (ignorance is bliss)







Photos, from top: Our anchorage outside Presten; Cosima, Miguel and Rowen on the approach walk to Nordryggen



Photos, from top: Ominous clouds on the approach to Nordryggen; The team looking excited on the approach with Rowen already feeling unsafe (note the helmet)







Photo: Miguel navigating the chossy and exposed scramble to the start of the route, followed by Cosima.



Photos, from top: Looking back down the approach; Luke and Viet enjoying the lake-side views before the epic.







Photos, from top: Cloudy ridges seen from Norddryggen; Gil contemplating the scramble he just finished.



Photo: Viet's original beta to climbing the chimney pitch. 10/10 creativity.





Photos, from top: Miguel high up on the crack pitch, one of two pitches with solid rock in the entire ridge; Rowen following up the scrambling pitches



Photo: Gil navigating the chimney pitch. Power screams were reported 3 pitches above this point.





Photos, from top: Cosima enjoying the view from Norddryggen; Cosima and Miguel trying to stay warm while waiting for other teams to reach the summit.



Photos, from top: Views from high on the ridge; Viet making the jump at the top of the ridge. Note the amount of slack, as he made a split-decision to attempt the jump after hesitating.





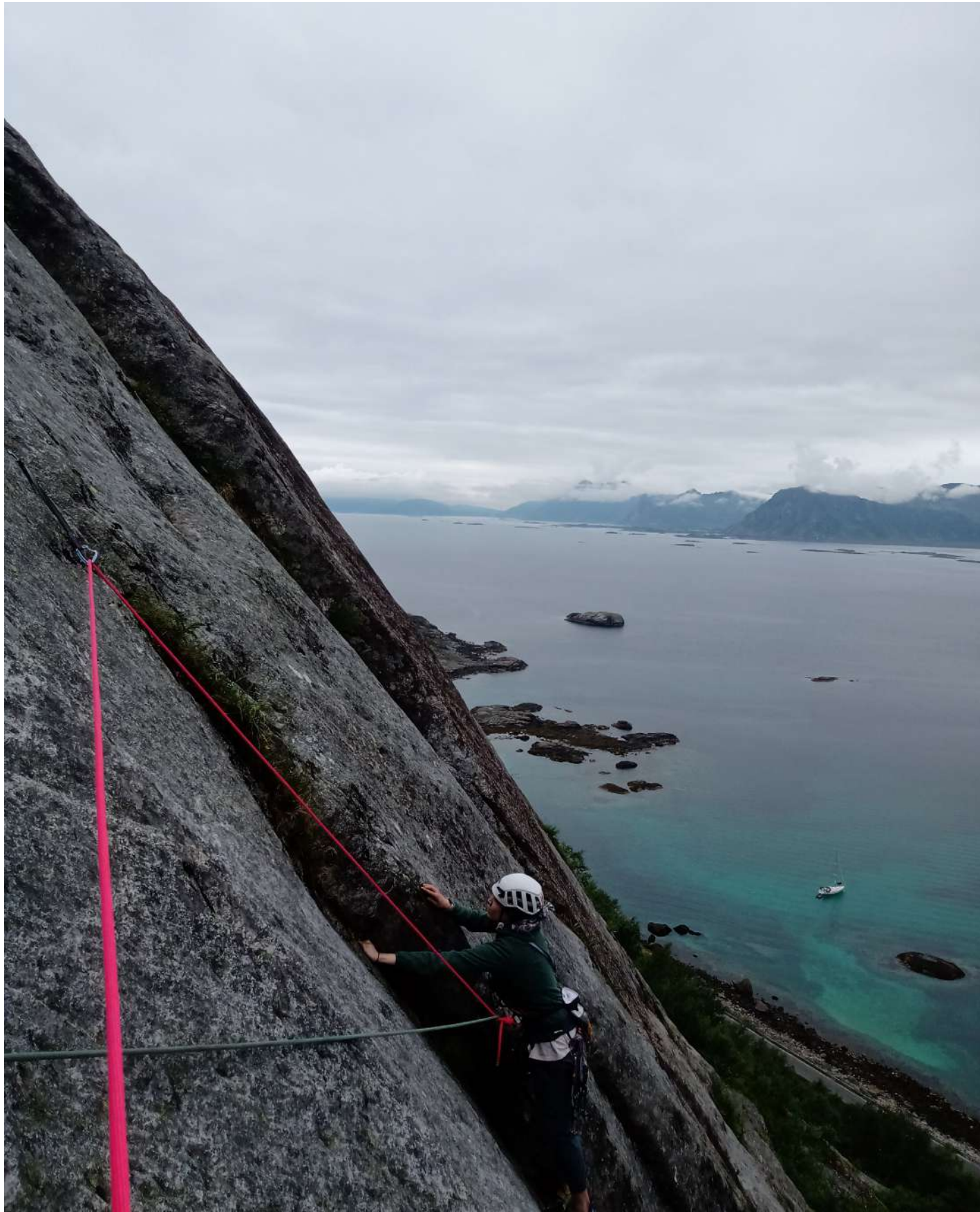


Photo: Kat on the 3-pitch route, Skåningen.



Photos, from top left: Rory enjoying a break before taking on the Nordryggen ridge; Rory celebrating summitting Nordryggen; Kat on the final pitches of Nordryggen.



# HENNINGSVÆR AND SVOLVÆR

Day 5 - Tuesday 25th July

The water tank was dangerously low and the batteries too, so we needed to head to Henningsvær to replenish them. This meant we slept until only midday, when the wind started to pick up (a paltry 4 hours of sleep for some).

The sail around Henningsvær was picturesque. Yet, our yacht's glamour was tarnished by a rather unglamorous incident: one of our toilets spilled waste water onto the floor. It's amusing how yachts are often associated with luxury, yet the numerous less-than-luxurious aspects (like having to stash toilet paper in plastic bags or dealing with overflowing toilets) tend to go unmentioned.

Henningsvær had an impressive canal which formed the high street of the town. The guest pontoons were

sadly full, so we sent Rory and Luke off to speak to somebody in town. The rest of us sailed back out and looked for another marina, but not before watching Rory and Luke provide a show for the local restaurant's clientele. The duo failed to start the engine of the Tender and drifted along the marina (it turns out the engine works better when there is fuel flowing). They had no luck finding anything in town and returned to the yacht. In the meantime, the others had checked the map, made a few phone calls, and found that the closest harbour with free births was in Svolvær. So we motored and sailed our way over.

Upon our arrival at the Svolvær marina, we were welcomed by the harbour master, a character who exuded a rugged charm, speaking to us with a cigarette dangling from his lips and sporting a formidable beard. We took some very expensive, but very warm, 7 minute showers and ate tuna egg salad with rice for dinner.

Photo: Gus, Miguel, Viet and Cosima enjoying the sun after their epic on Nordryggen



Photos: Sailing around on our 'rest' day and making use of ropes to travel horizontally for a change... Photo, next page: Gil, Viet and Kat sailing











Photos, from top: Gus takes his power stance to assert his captain status; Gil and Kat in matching outfits enjoying the wind



Photos, from top: Our beautiful bathroom view; Viet ringing harbours to find us a berth for the night







Photos, from top: Gus relaxing in the sun; Luke and Rory prepare to find a berth



Photos, from top: Rory making the best of the weather; Miguel realises he hasn't thought through his staring contest with Rory. Photo, next page: Gil has some alone time as the sun 'sets'











Photos, from top: Miguel is weary after long days and little sleep; The sailing compass.



Photos: Sailing around Lofoten with Gil at the Helm.





# THE GOAT

Day 6 - Wednesday 26th July

We arose at around 8 am and deliberately took our time preparing, determined not to repeat the mistake of clustering like we did on Norddryggen. Our goal for the day was to ascend the iconic Svolvær pillar, famously known as “the Goat”. To reach this towering rock formation, we had to walk through a cemetery (spooky) and up a hiking path with stunning views of the mostly floating town. The hiking path was built by Nepalese Sherpas and dubbed ‘The Devil’s Staircase’. We soon saw why. Our legs were already sore and climbing up big rock steps under the sweltering sun was not easy. Still, we overtook most of the many (many, many, many...) hikers and tourists also going up them.

Rory led ‘1910 Ruta’ (N4+) on the North side of the pillar and Rowen and Gus followed. Gus happily jammed his way up and was only flustered by the abseil. He lowered off in the wrong direction and was stranded away from the path. He managed to regain climbable ground through the sacrifice of a young tree and the

aid of a friendly local guide. Rowen accidentally stole/took someone’s ab tat. Rory later led up ‘Forsida’ (N5+) followed by Rowen.

Cosima and Luke alternated leads up the same route, as did Gil and Viet. Everyone comfortably made their way up a great route. The day was only soured a little by a rude local guide on route (not the kind one who had assisted in Gus’ rescue).

Kat and Miguel swung leads on ‘Forsida’ on the South side of the pillar, an enjoyable and memorable line with finger cracks, slabs and a surprising offwidth.

Both routes shared the same busy summit, and queueing to finish and abseil was a bit uncomfortable whilst sitting in a harness and/or straddling an arrête.

Bewildered that routes didn’t have to take 23 hours, we capitalised on the ample time we had in the day. We visited the town and stocked up on food and water cans. The evening had us trying the recommended local snacks of cinnamon wraps, brown cheese and dried cod, it was a bit hit-and-miss.

Photo: Everyone a bit sweaty from the staircase.



Photos: Rory, Rowen and Gus making their way up the 1910 Ruta.







Photo: Kat climbing 'Forsida' in Svoelvær



Photos, from top left: Luke on the '1910 Ruta'; Rowen and Gus waiting to abseil from the top of the pinnacle; View of 'The Goat' - the summit of 'Forsida' and the '1910 Ruta'



# THE AQUARIUM

Day 7 - Thursday 27th July

We would spend only one night in Svolvær and in the morning headed over to the local aquarium. We set sail (although, in truth, it was mostly motoring) for the aquarium and to watch the seals and otters being fed. It was very endearing, and we spent an hour looking at the local sea life, before returning to the boat for a satisfying lunch and afternoon nap.

Our original plan had included an afternoon climbing at Paradiset. However, as fate would have it, we all succumbed to a shared bout of sleepiness which led to a very long nap instead. Eventually, Kat, Luke, and Gus ventured into town to buy some fresh fruit; whilst, Gil, Miguel, and Cosima set off for an afternoon of fishing.



Photos, from top: Approach to the Aquarium's dock; Happy seals; Miguel, Cosima and FBI agent Rowen pretending to be tourists

Photos, from top: The seal feeding time; The aquarium





Photos, from top: Viet threatening to club Norwegian fish; Gil and Miguel showing off their catches



Photo: The boat anchored near the aquarium





Photos, from the top: Rowen hiding from the sun; Gus working on his tan



Photos, from top: Kat freezing in the sun; Brunost (brown cheese) on rye crackers - a Norwegian snack



## PARADISET 2.0

### Day 8 - Friday 28th July

A day out in Paradiset! With everyone ferried over to the crag via the Tender, people started on their day's plan.

Cosima and Miguel headed back to the central crag, where Cosima led 'Living in Paradise' (N5+). Gil and Miguel then headed further inland to send 'Svenske Diedret' (N6+). Cosima and Rowen hiked across the crag towards the Boulders area in search of 'Sva Magen' (N5-), but ended up on some scary scrambling terrain and were delayed.

Rory and Kat spent the morning teaching Gus how to place trad gear and build anchors. Gus set off for his first lead with Rory belaying and Kat on a rope, closely following him and providing commentary. He did so well he was put on to 'Too Wide for Paradise' (N3) and broke it into 3 parts for his first multi-pitch! Rory and Kat joined Gil and Miguel and attempted the Svenske Diedret (a route they're keen to come back and try again). They then returned to climb 'Living in Paradise'. Kat established the first "boat-up" ascent, followed by Rory, Miguel and Gil. Kat may have belayed them or may have been distracted by a jellyfish.

Luke and Viet explored 'The Boulders' area of Paradiset, where they climbed the slabby multipitch 'Sva Magen' (N5-), Viet successfully tackled 'Jesus' (N6-), and Luke led the crack 'Venstre Risset' (N4+) and thin finger crack 'Krabbe' (N5). They were later joined by Cosima and Rowen, who also climbed 'Venstre Risset', after finally managing to find and climb 'Sva Magen'.

After a great day out, we all made our way back to the yacht using the Gus ferry services.

Viet and Luke began cooking burritos but somehow ended up serving chilli with sides, it was delicious nonetheless.



Photo: Rory at the top of 'Living in Paradise' with Kat and Gus belaying from the dinghy



Photos, from top: Cosima leading up the crack in 'Living in Paradise'; The dinghy attached to rocks to ensure we could get back to the boat. Photo, next page: Gus leading his first trad route - not bad for a sailor!









Photos, from top: Gil, Gus, Rory and Miguel on top of 'Living in Paradise'; Gil seconding 'Living in Paradise'

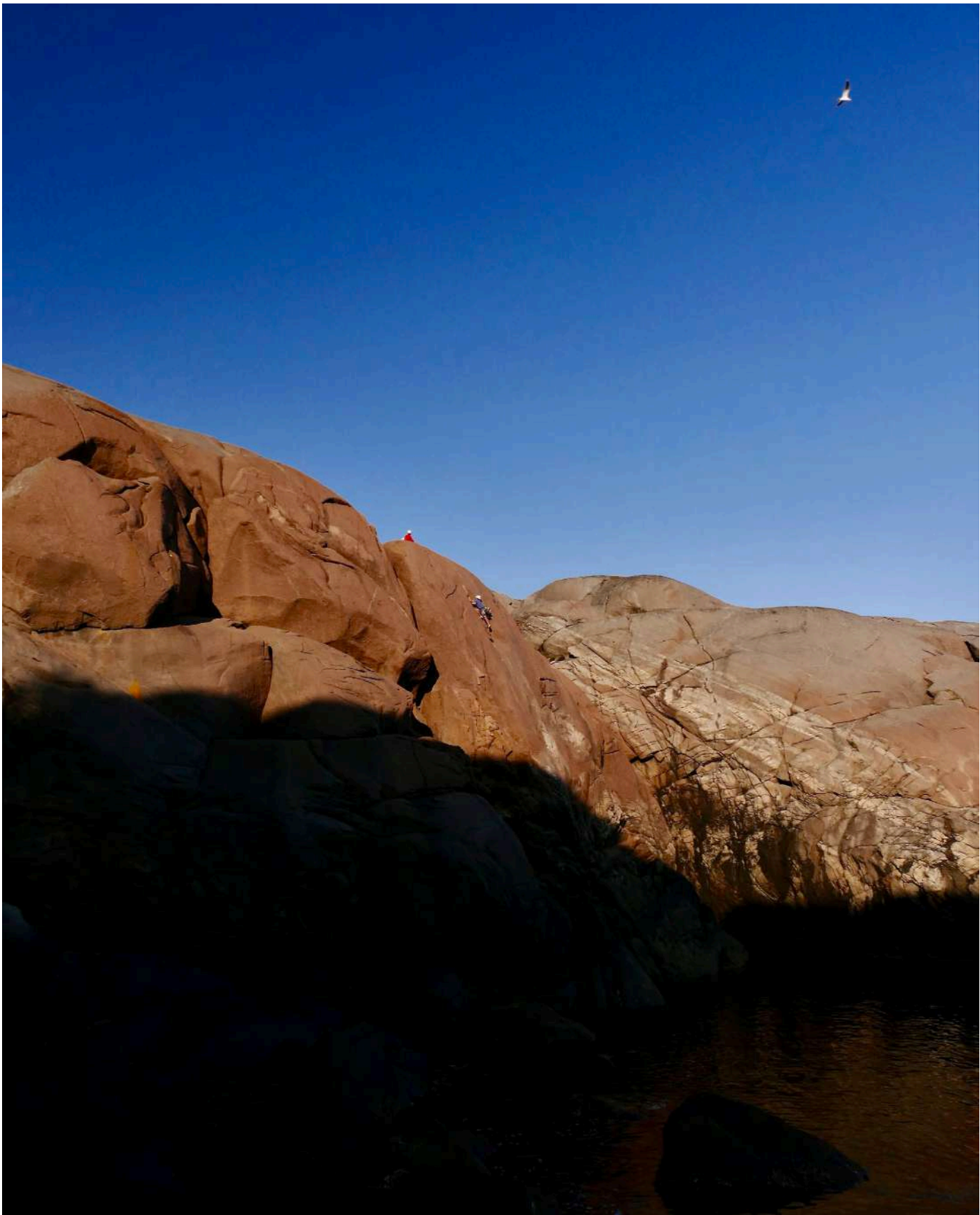
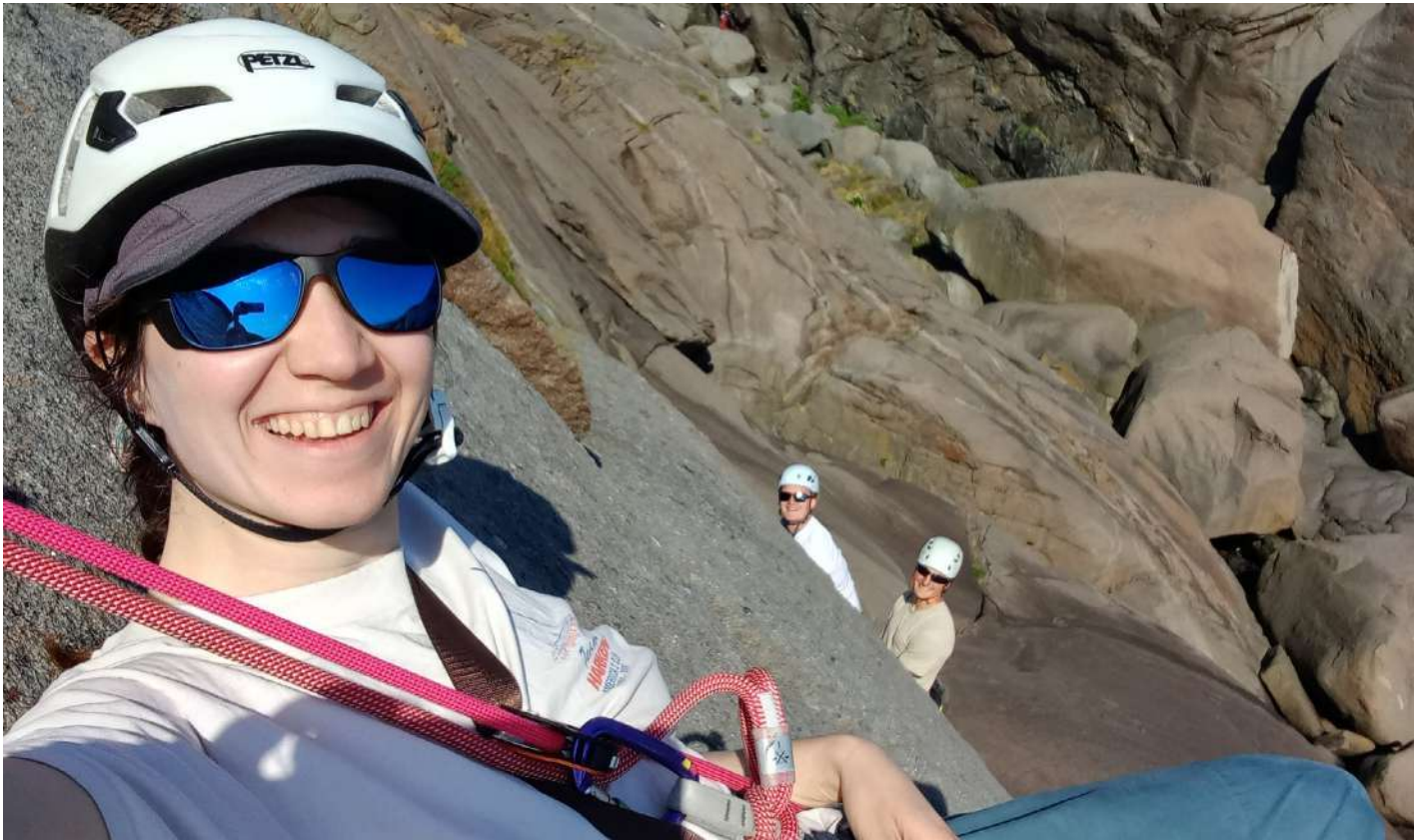


Photo: Mars or Paradieset?





Photos, from top left: Rory leading 'Svenske Diedret' (n6+); Rory belaying Kat up 'Living in Paradise'; Kat supervising Gus's first outdoor lead



Photos, from top: Rory and Kat at the top of 'Svenske Diedret'; Life inside the boat



DJUPFJORD  
MULTIPITCHING

Day 9 - Saturday 29th July

The plan for the day was to head over and climb in Pianokrakken in Djupfjord. So we first spent the morning sailing over from Paradiset.

Cosima and Miguel headed to climb 'Gollum' (N5) in the 'Gandalf' area. Luke and Kat swung leads up 'Applecake Arete' (N5+). Luke led the first pitch which involved some route finding to avoid the route to the right. Kat then led the second pitch up a clean thin crack. The way down was a memorable free hanging abseil. Rory and Rowen first climbed 'Lys og skygge' (N5+), and then 'Applecake Arete'. Rowen was leading the final pitch of 'Applecake Arete' when she fell (not once, but twice) after placing her last protection (a microcam) a body-length away. This was accompanied by the customary scream (on both falls). Thankfully the microcam was bomber and remained in place and intact during the fall (Rowen and her sanity are also well).



Photos, from top: Kat abseiling down 'Applecake Arete'; Miguel getting picked up by Gus via dinghy; Gus and Kat comparing photography skills

Photos, from top: Miguel and Cosima after their multipitch; Viet with his two bodyguards. Photo, next page: Happy sail.







# BIG DAY OUT VS. RESTFUL SIGHTSEEING

Day 10 - Sunday 30th July

Miguel and Rory headed up the 'Vestpillaren Direct' (N6), an ultra-classic route which snakes up Presten for 470m. The route is composed of 12 pitches, amongst which are intermingled 4 hard sections at N6-/N6. Following some time waiting for an earlier team to head up the route (6am wasn't early enough!) the pair swung leads and managed to link the two short easy pitches. This allowed them to split the harder N6 pitches between them and overtake a slow team ahead of them (with their kind permission). Miguel's upset stomach failed to prevent the team from finishing the ascent, thanks in part to Rory's spare 'wag bag', which was used while on lead to permit Miguel some privacy (and Rory some safety). No further details of this incident will be shared. The N6 pitches were passed without too much trouble, albeit Miguel dropped his smallest microcam mid-crux. The

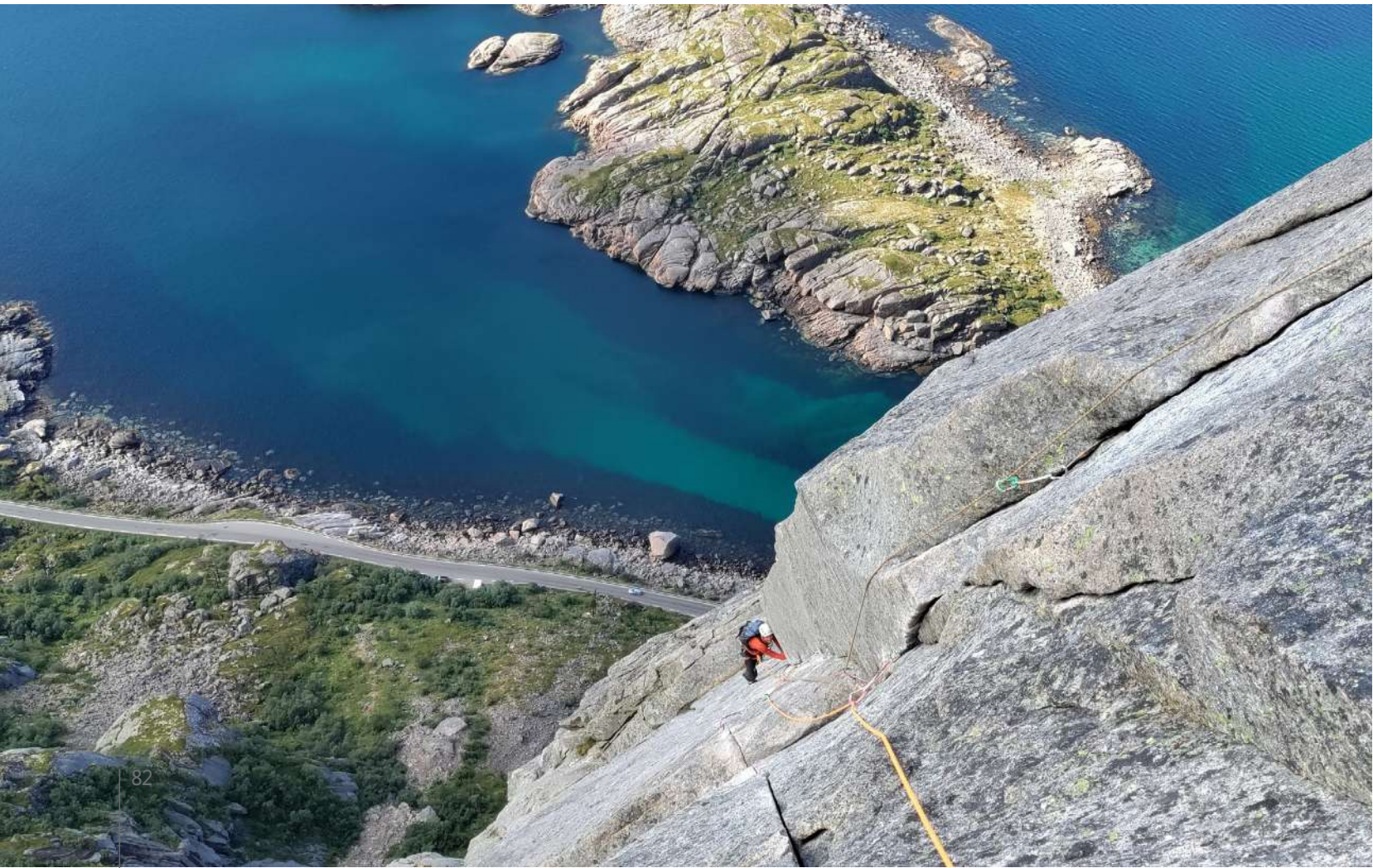
Photo: Rory seconding up the 2nd n6 pitch on Vestpillaren Direct.

pair climbed swiftly, and managed to finish the climb and descent in under 7hr, making the ascent a highlight of the trip for both climbers.

Viet and Kat swung leads on the 'Ant Line' and its extension, under an increasingly unbearable heat. Kat wiggled through creative chimneys and Viet did an excellent job at climbing cracks despite his long standing claim as one of his allergies.

Gus, Cosima, Luke, Rowen and Gil sailed to Henningsvær for some well-earned rest, resupplying and coffee.

The team re-united in Henningsvær, and enjoyed some live music and food at the Norwegian Climbing Cafe.

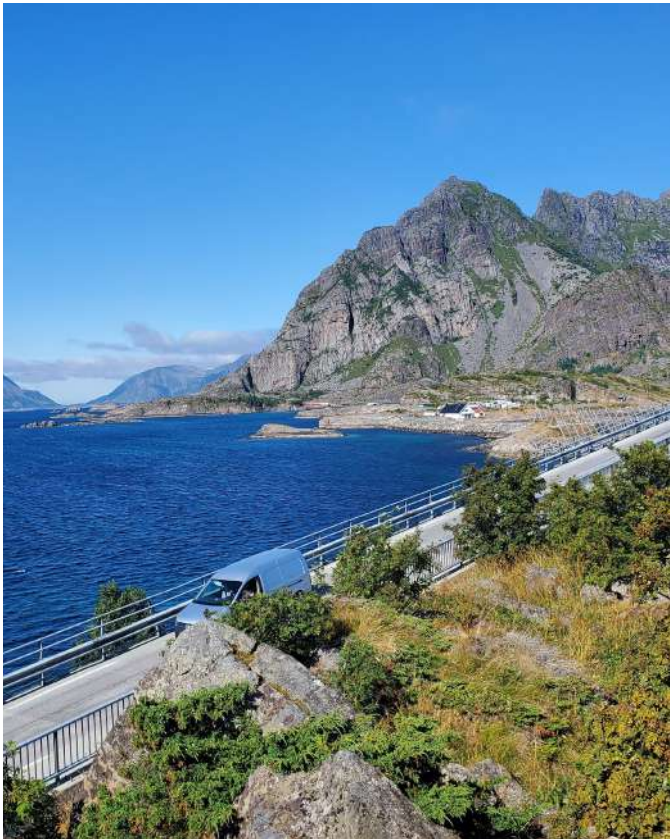


Photos, from top left: Viet avoiding the crack on Ant line (N5+); Luke, Gil, Rowen and Gus: would-be vikings; Somewhere in Henningsvær; The ugly and the beast. Photo, next page: Miguel on the second to last pitch of Vestpillaren direct









Photos, from top left: Miguel leads a crux pitch of Vestpillaren Direct; Somewhere near the top of Ant Pillar Extension (N5+) with the magnificent sea as a backdrop; Walking along the road between Henningsvær and Pianokrakken.



Photos, from top: The calming atmosphere of Henningsvær's marina; Luke, Gil, Cosima and Gus enjoying a Norwegian breakfast



# HITCHHIKING CLIMBERS

Day 11 - Monday 31st July

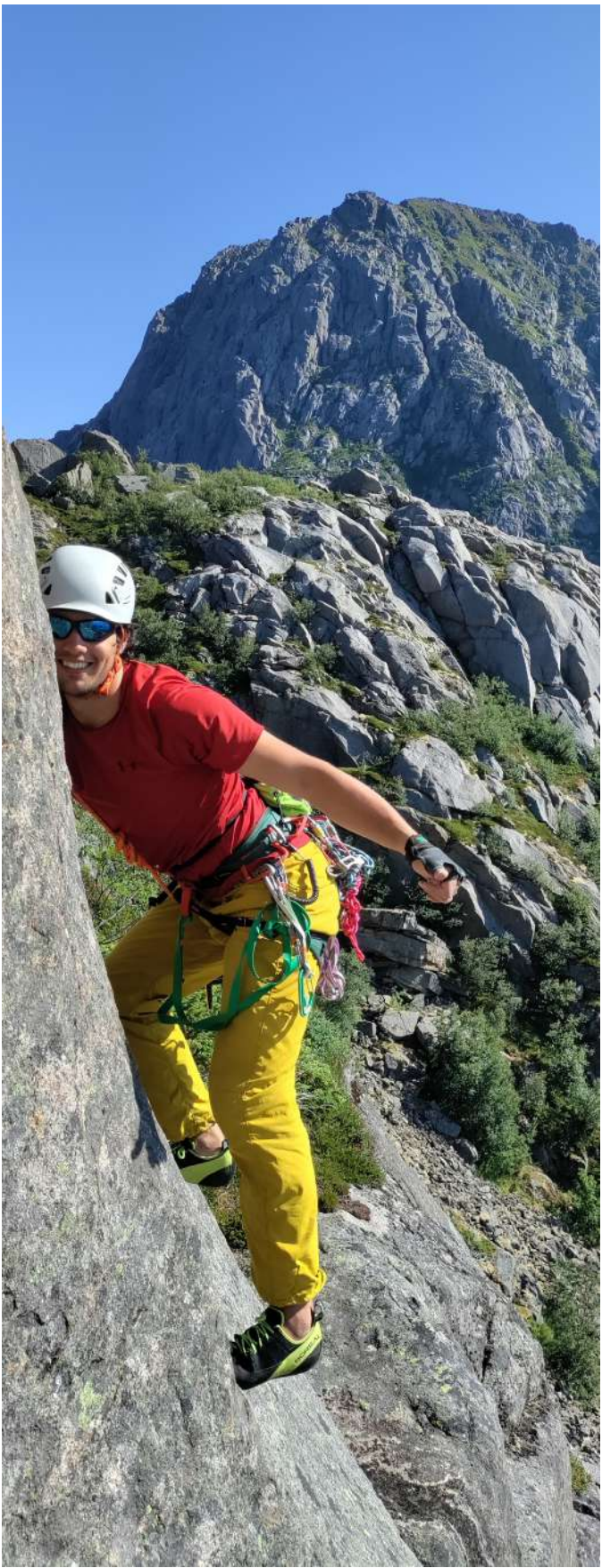
More short multi-pitches in Djupfjord Area. Cosima and Rory swung leads up ‘Solens Sønner’ (N6), an amazing 4-pitch route with perfect friction slabs (albeit, a little run out...) and finger cracks. They then climbed the 3-pitch route, ‘Dagens Rett’ (N6-), which included an ant infested crack lead by Rory (ouch), and a bold roof lead by Cosima. The pair hitchhiked back to Henningsvær with a friendly couple who were heading into town for the festival.

Miguel, Luke and Gil swung leads on the ‘Ant Line’ (N5+), but decided against doing the extension due to the heat, opting to swim in the lake in Djupfjord instead, and hitched a ride back to Henningsvær in a vintage VW van.

Rowen, Viet and Kat remained in Henningsvær and visited the marina, fish-drying racks and the iconic island football pitch



Photos, from top: Cosima leading a finger-crack slab on Solens Sonner; View across Djupfjord from Solen Sonner



Photos, from top left: Luke leading up a pitch on 'Ant line'; Gil on 'Ant line'; Cosima seconding up Solen Sonner





Photos, from top: Kat practising her navigation skills; Gus contemplating if sharing a boat with 8 smelly climbers was such a smart idea...



Photos, from top left: Kat exploring Henningsvær; The sunset from Henningsvær marina; Gus looking fabulous and posing for his next Tinder profile. Photo, next page: Cosima abseiling down Solen Sonner







PARTNER EXCHANGE

Day 12 - Tuesday 1st August

We were unable to hitchhike to the crag, Henningsvær must've partied too hard the night before at the festival to be up in time for us.

A logistical circus would ensue, the teams began as Luke + Miguel + Rowen, Kat + Rory, Cosima + Viet but, come lunch time, we planned to meet up and exchange to Luke + Rowen, Miguel + Rory + Cosima, Kat + Viet ... some of this went to plan .

Cosima and Viet had an adventure on the three star route 'Lys og skygge'. Kat and Rory climbed 'Tromsøekspresen' (N6).

Luke, Miguel and Rowen climbed the three star 'Solens Sonner', starting far too low and adding an extra pitch. Miguel took on the tricky downclimb, traverse then finger crack pitch and Luke took on the first pitch (and a bit), and slabby run-out third and fourth pitches. They ended up taking a bit longer than expected.

Kat and Viet met up and went over to climb 'Solen Sonner' after the previous team, but were led astray by their bags and also started the route in the wrong place. Viet did an excellent job on slab (typically another one of his allergies). A few more Norwegian friends were also found on route.

Cosima and Rory joined up and Rory gathered his gumption and flashed the three star technical 'Tapir' (N7-). Miguel and Luke head over to meet them and Miguel would soon be on Rory's heels also attempting the lead. Cosima and Luke got the send as well on top rope. A great effort. Back on the boat, we made plans for an early start to squeeze more climbing into our final day (we had sadly decided that the climbs in the west were too risky without aid climbing knowledge).



Photo: Miguel leading up 'Tapir' (n7-)



Photos, from top left: Cosima and Viet topping out on 'Lys og skygge'; The view across the lake towards Pianokrakken; Luke and Rowen near the top of 'Solens Sonner'.





Photos, from top left: Miguel and Luke enjoying a snack on Solen Sonner, while Rowen catches up below; Miguel's all-natural bio-degreable anchor found in a bush halfway down Solen Sonner; Luke found all his courage to cruise up the run-out slabs of the top pitches.

Photos, from top: A very cozy Granny Ro-ro taking a sip of beer after a long day climbing; A view of the nearby islands.



## THE FINAL CLIMBS AND A STORM

### Day 13 - Wednesday 2nd August

The early start was indeed early. Kat and Viet had their eye on the burly 'Madelene' (N7-) (perfect for Viet), but even after a mega effort later it wasn't to be, both the climber and the gear were spent. A small black Totem cam was broken and it was later suggested to have been the result of a passive placement.

Rory and Gus climbed 'Angermanland' (N5). Luke was convinced he could lead 'Blaklokka' (N6-) and wanted to try. The climber was tired and without skin and the climb was pumpy. Yet, after some shouting, resting and arguing, it went.

The climbing was done and now we had to sail to Reine in the West. A fuel stop was required on route, and whilst we stood on the pontoon, Muligheten happily sipping away on the very necessary diesel, we learnt how the children of Lofoten passed the time. Child after child streamed out of the town on their boats, circling one another, daring to collide but dodging away at the last moment. It made our childhoods spent in dark rooms with games consoles seem a little tame.

We cruised along to Reine, spotting the climbs of the west on the colossal coastal mountains as we went - they looked epic. We briefly explored the town and started on shopping and dinner. The storm we had been monitoring for the last couple of days, and from which we had planned to shelter in Reine, was threatening to be a major feature of our return journey. We decided we would get ahead of it, and with dinner barely cooked let alone consumed, we set off for Bodø. We would do an overnight sail with shifts.

Things started okay, if not a bit choppy, but the winds picked up throughout the night, peaking at 40 knots, so we had our little handkerchief out to keep things as calm as could be, but the Bimini was serving as a fairly effective sail. Gus and Rory put in a heroic overnight effort - considering where else we could find harbour sooner, helming the boat, and getting us into Bodø by midday the next day. Despite feeling sick and exhausted,

everyone made a valiant effort by taking shifts sailing and caring for each other.



Photo: Last food shop of the trip by dinghy



Photo: Luke attempting his n6-, belayed by Miguel. Photo, next page: Luke on the same route with our boat in the background.









Photos, from top: Kat, Rory, Gus, Gil and Viet enjoying the sail before the storm; Rory monkeying around on the mast



Photos, from top: Miguel reflecting on the trip; Viet, Gil and Rowen having a giggle. Photo, next page: A different kind of view!



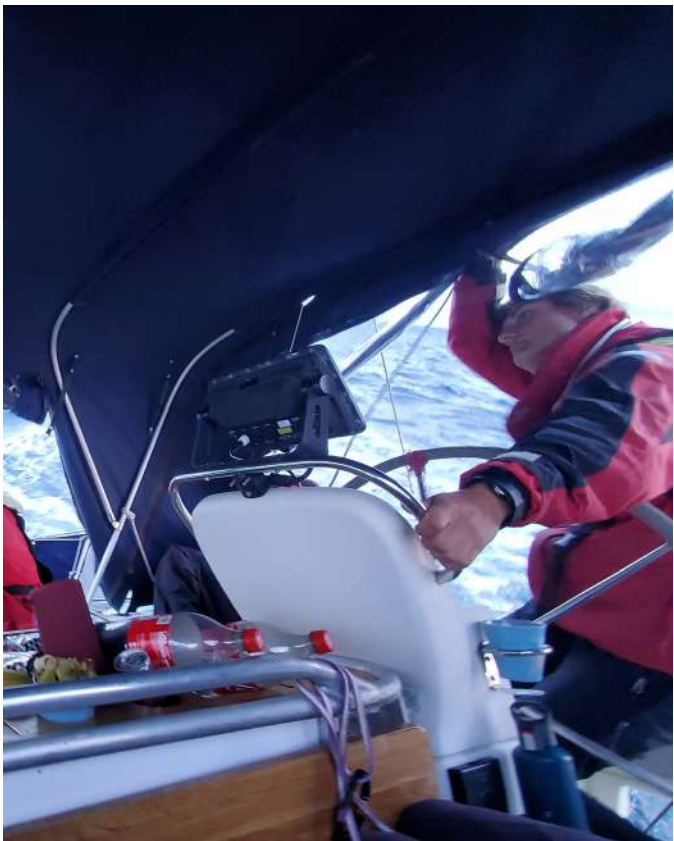




BACK IN BODØ

Day 14 - Thursday 3rd August

We got into Bodø around midday, got the boat into a reasonable state and then we all got some sleep. Luke and Viet went off to the store to get supplies and made pancakes, served with bacon and berries, for us all to recover. Continuing with our restful day, we sat back and watched 'My name is nobody' in the evening. Perhaps restful was the wrong word, a truly absurd movie that elevated Rory and Gus' blood pressure.



Photos: Gus (top) and Rory (bottom) helming the boat safely before the storm; Luke sorting out the vast pile of trad gear



Photo: Rory protecting his tin of mackerel - there was never a more romantic couple!



# SALTSTRAUMEN AND THE LAST SAIL

Day 15 - Friday 4th August

After a well deserved rest, the team visited Bodø. We made a short stop at a Norwegian bakery for some delicious pastries and sandwiches. We then continued on to our destination, the Salstraumen, which required a 30 minute bus.

Once we arrived at our destination, we marvelled at the sight of the strong current, which then became the venue for Poohstick races. This involved everyone throwing a stick into the current, and whoever's stick reached the bridge first, won. We relaxed on the bank and ate our delicious sandwiches, reflecting on this incredible place and then decided to go back to Bodø.

For some reason the bus service back to Bodø was very sparse and terminated early in the day. This combined with the vast number of people from a visiting cruise ship made the return journey trickier than expected. After what appeared to be a long time and a few buses filling up before we could even get to the door, we decided to hitchhike our way back. Although it took a total of 6 cars to bring the full group back to the boat, the struggle was minimal.

The team decided to go for one last sail in the evening, circling around the island of Landegode. We probably should have caught the theme of our Norwegian adventures by this point but nevermind. What was supposed to be a short sail, no longer than a couple of hours, turned into a demanding 6 hour sail with great winds, albeit slightly stormy seas. Plans to anchor and have dinner watching the sunset had to be scrapped due to weather conditions, making the journey one large push back to the marina. Viet and Rowen, who had booked hotel rooms, were not keen on the idea of anchoring on the island for the night.



Photo, from left to right: Gus, Gil, Miguel, Cosima, Rory, Rowen, Viet, Luke and Kat at Saltstraumen





Photos, from top: Gil enjoying the view; Viet, Gil and Luke having lunch at Saltstraumen



Photos, from top: Gus and Kat in front of the bridge; Views of Salstraumen. Next page: The final sail of the trip.









Photos: Views from our final sail around Landegode with a rainbow visible through the clouds



Photos: Gus at helm with the team watching the sunset



## CLEANING UP

Day 16 - Saturday 5th August

We spent the morning cleaning up the boat before handing it over to its owner. We realised that we had a lot of leftover food, and so hauled it along with our belongings back to the Airbnb, the same Airbnb which we had spent our first night in.

We spent the afternoon writing and sending postcards to our friends and family. We also took advantage of the huge living space in the Airbnb to organise our climbing gear. Then we watched some TV together like one big happy family.

For dinner, we cooked leftover food from the expedition, which included an unreasonably spicy salad (in the chef's defence, there were no other options for salad dressing except for olive oil with chilli in it). Everyone was knackered but content and looking forward to having a restful night's sleep.

## GOODBYE, AND UNTIL NEXT TIME!

Day 17 - Sunday 6th August

There was no option more fitting than pancakes for a final group breakfast, just like we had for our first breakfast in Norway (but we had a lot of bread to finish and so made french toast instead). We packed up and made our way to the airport. Thankfully, we had a smooth journey home despite multiple transits. After collecting our luggage at Heathrow, we exchanged our goodbye hugs and parted ways.

Photo, from left to right: Miguel, Rory, Gus, Cosima, Rowen, Luke, Viet, Gil and Kat on the boat - what a team!









4

LOGISTICS

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Training, travel arrangements, funding, insurance, communication, medical arrangements.

TRAVEL ARRANGEMENTS

The team flew together from London Heathrow to Bodø (via Oslo). A spare day was arranged to facilitate arriving / departing from the expedition, where the team stayed in an AirBnB in Bodø. The team travelled by boat for the rest of the expedition, alternating between safe moorings and harbours depending on the need for fuel, electricity and water. A small tender allowed the team to travel between the boat and the mainland.

PERMITS / PERMISSIONS

No permits were required for the expedition. All members had a visa-free entry / previous visas to enter Norway. Ocean fishing does not require a permit in Lofoten.

INSURANCE

We engaged the services of Snowcard, with Max Adventure as our level of cover. Thankfully, we didn't need them (although being covered did give us some peace of mind).

TRAINING FOR THE EXPEDITION

Peak District - 27-29th January 2023

Our first trip out as a team! We drove up to peaks on Friday evening, the car loaded with racks and ropes for some trad, arriving at a little bunk house in Hathersage late into the night (we learnt we needed to be a bit quicker out the door with shorter breaks on the drive). This trip was a refresher experience for some, an opportunity to push grades for others, and an adventure for all. We climbed in Rivelin Edge for the first day, and Froggatt Edge for the second, ticking some great routes.



Alice practices building anchors



The team plans the first day



Luke follows Rory's misadventure up Valkyrie

Swanage - 10-12th February 2023

Swanage, Dorset, was the next destination. A weekend of sea cliff climbing had everyone excited but a little intimidated. What we were not expecting was how much faff we would create: deciding on racks; bringing only a single static rope for abseiling; abseiling over the edge without shoes, without ropes, without head torches, without reading the guidebook that was now 15m above us (a guidebook that turned out to be out-of-date). Definitely an experience from which we learned to be organised. Nonetheless, we got in a couple of great days of climbing which included: face climbing; slippery and wet chimney climbing; and Rowen's first multi-pitch! - which included an exciting traverse. All with the sea crashing imposingly beneath us. Plus, Kat's first adventure driving in the UK - an event some passengers called more noteworthy than the climbing.



The team takes a break from abseiling off the cliffs



Kat follows Viet's lead of Via Christina above the maelstrom

Westway - 17-19th March and 31st-2nd April 2023

The weather turned sour and waylaid our next couple of trips. We used this as an opportunity to practise rope and rescue skills: belaying from above, tying off a climber, escaping the belay, returning to the belay, lowering a climber on guide mode belay. Some of this proved trickier than the guides made out and would require a few weeks of practice and experimentation to get right. Also, as if Westway were our secret benefactor, the gym had just set their first crack climbing route - so we still managed to get in some expedition appropriate climbing.



Luke and Viet discuss escaping the belay



Crackfest - 25th March 2023

A crack climbing festival? Perfect! The wideboyz took over Sheffield climbing gym for a crack climbing only festival. So, of course, the team made the journey to get stuck in and climb. The density and variety of crack problems was incredible and rapidly helped unlock and refine crack techniques.



Cosima, Luke, Rowen and Kat jam, span, and squirm their way up boulders

North Wales - 28th March - 1st May 2023

The long weekend was the perfect opportunity to get further afield. The team and friends made their way over to Wales to get on to some longer multi-pitch routes. With the weather looking a bit questionable, the shorter routes on Tryfan and Little Tryfan played host to practising multi-pitch techniques and adventure. With the weather looking very questionable, and feeling a bit wet, the team spent the next couple of days exploring the slate quarries of Gwynedd and limestone Castle Inn quarry - a mix of trad and sport.



Rory leads Looning the Tube



Walking into the slate quarries of Gwynedd

North Wales - 26-29th May 2023

Back out to Wales for another long weekend, another long drive, and bunk beds in a little church in Bethesda. The weekend started with the revelation of a forgotten helmet and harness that required an early morning visit to a store. Undeterred, the team scrambled around Tryfan and had a great time climbing longer multi-pitches and ticking off long desired classics. A busy weekend for the mountain rescue team, who were out aiding a few unfortunate scramblers, made things a little tense and consequences seem more real. The weather was stunning all weekend, perfect for ending the days with a swim in the lake. The trip was wrapped up with a few short multi-pitches in Tremadog before heading back to London - itching for the next climb.



Rory, normally leader of the nonsense, can stand Kat's no more



Alice, Luke and Cosima walk down the hill, daydreaming about a swim

Millstone - 9-11th June 2023

The team rouses from their sleep, tired after a night in a hut accompanied by a guest who screams in their sleep and another who is unphased by their own 4:00am alarms. Things continue a little frustratingly when we arrive at the crag car park, locked with no explanation and a group of confused locals (some locked inside). But, we're in Millstone, we've got a brand new team member (Gil), and it's the first time we're focussing on crack climbing outdoors, so the excitement means our spirits are barely dampened. We got great mileage out of newly acquired crack gloves and there was a lot of trying hard - we even found a little crag swag. The sun was intense and without shelter, nor enough water, we retreated early each day to the river.



Gil embraced by the team as the catch of the day



Miguel begins his climb up Great Portland Street



Wye Valley - 30th June - 2th July 2023

The last weekend-trip before the expedition. We wanted more multi-pitch practice so we went over to Wintours Leap in the Wye Valley. The valley was looking beautiful, the path to the hostel in the valley was looking hostile - something we did not look forward to each day. We got plenty of mileage on some highly rated routes, some so pegged up we questioned whether it should be considered sport climbing. A couple of minor injuries that needed resting in the team meant there was an element of practising rope skills: with anchors constructed, we learnt and experimented with switching between ascending a rope and abseiling down (in case one misses their anchor on an abseil, or ends up hanging in free space). It was also this weekend that we became experts in solving crosswords.



Cosima abseiling down a rope



Gil and Viet ascending up a rope

Sailing - 21-23rd April 2023

We headed down to Portsmouth for a team sail - for some the first sail ever. We made a calm, mostly windless, overnight passage to Portland; a lot of snacks, tea and music were consumed. We experienced what it was like to be on a boat, imagining our - slightly smaller - boat in Norway filled with all of us and all our climbing gear. The expedition was beginning to feel tangible and exciting, and maybe a bit cramped. We rested in Portland, chatted, played games, and found a few boulders to climb on the coast. The wind picked up, and with it came the opportunity to sail out and back to Lulworth cove for dinner. With their first experience with sailing, some also got their first experience with sea-sickness and with the heeling of the boat. We sailed to Portsmouth the next morning and most of the team wearily, but with a smile, made their way home.



Gus effortlessly skips his team of climbers



A Greek dinner in Lulworth Cove

Sailing - 16-18th June 2023

Gus, Kat and Cosima went on another sail, following an almost identical trajectory as the team's sail 2 months prior. Except this time, there was almost no wind... As a trade off for the lack of wind, much swimming and sunbathing was achieved and no one got sea-sick.



Kat taking the wheel; Cosima and Kat doing a team building exercise by wearing matching outfits.



FIRST AID

Many of the group needed to complete their outdoor first aid qualification. We attended a weekend course in Camberley run by Will4Adventure. An excellent course filled with information and roleplay delivered by course leader Lizzy. Most of us went home and expanded our first aid kits and survival gear.



Kat is rescued from choking on a life threatening nerf dart



FOOD

We had initially budgeted for a total of £1296 for food at £3 per meal assuming 3 meals a day, for 9 people, for 16 days. We spent £1,367.05 in the end, which is ~£3.16 per meal. (this doesn't include personal costs such as cafes, bakeries and drinks).

Overall, we estimated fairly well.

ACCOMMODATION

For the first and last nights, the team rented an Airbnb in Bodø, allowing rest after/before the flight. Moreover, it was the only place where we would have enough space to comfortably sort gear, for both climbing and sailing, which was rather useful and the beginning and end of the expedition. For the remainder of the expedition, the team stayed in the cabins in the boat, with some of us sleeping outside in hammocks, allowing for more space below deck.

COMMUNICATION

Further research previous to the expedition indicated there would be strong 4G cover in all the areas planned to be explored. Nonetheless, each team carried a back-up emergency device, Garmin Inreach Minis, allowing calls for help regardless of network coverage. Furthermore, a satellite phone was kept in the boat, with an updated SIM plan, ready if necessary. Lastly, communication between members of a climbing pair and between teams on the same area was done via hand-held radio devices, Motorola Talkabout T82 Extreme. These proved to be reliable and with enough coverage for the task at hand.

MEDICAL ARRANGEMENTS

See appendix for list of first aid kit contents.



5  
IMPACT

Environmental and social impact assessments.

TRANSPORT

- A European destination was selected to reduce the environmental impact of travel, especially given the two weeks duration of the expedition.

WASTE MANAGEMENT

To minimise environmental impact throughout the trip, the following consumables and waste management protocols were implemented:

- Filtered/tap water used in place of bottled water wherever possible.
- In line with Lofoten National Park's Leave No Trace ethics, human facilities were used and if none were available in the area, human waste was disposed using 'wag bags'.
- Aimed to minimise food packaging and non-recyclable waste, although options were sometimes limited due to small port supermarkets.
- Waste was stored on the vessel until it could be appropriately disposed of at a recycling and waste

- management centre.
- Ocean friendly consumables, such as soap and sunscreen, were used to minimise damage to aquatic life.

DOCKING RESTRICTIONS

Due to the potential environmental impacts of docking, only signposted docking areas were used throughout the trip, to ensure minimal sediment disturbance and disruption to sensitive communities.

BIRD NESTING AND ACCESS RESTRICTIONS

At the time of this expedition, no widely available information regarding nesting birds and the bird nesting season could be found online or in the climbing guidebook which covers the mountainous areas of interest. As such, climbers and hikers are advised to seek guidance from local sources and to use their own intuition when selecting routes to cause minimal disturbance to any birds. We did not encounter any bird nests, or birds near climbing routes.

MISCELLANEOUS

- Used and second-hand gear was used for the trip as much as possible, sourcing equipment from the exploration board, Imperial College Mountaineering Club, Imperial College Yachting Club and 2nd hand sale sites/forums.
- Locally produced food, goods and services were preferentially used to ensure economic reinvestment, and to minimise logistical costs and impact.
- Interactions with the local animal population was avoided.
- Leave No Trace ethics were adopted wherever possible.



A seal from the Aquarium we visited

CARBON EMISSIONS

The greatest source of greenhouse gas emissions were the return flights to Bodø . The second is related to fuel consumption which we tried to mitigate by optimising our itineraries to reduce the use of diesel as much as safety allowed. All emission factors originate from the ADEME Carbon Database.

ITEM	EMISSIONS - CO2 EQ
Marine diesel oil	0.15
Gas cooking	0.01
Flights	9.3
Gear	0.22
Food	0.001
Water	0.0001
TOTAL	9.6811



# 6 CONCLUSIONS

Conclusions and recommendations for future similar expeditions.

As this expedition has concluded, we take the opportunity to reflect on this journey. It is certain that the memories of exhilarating sailing, world-class climbing on solid (when not crumbling) granite and living on a boat (with limited holding capacity) for two weeks, all in the breathtaking backdrop of the Lofoten Islands will stay with us. Yet, more than just memories, this expedition and its careful planning has provided us with an invaluable set of skills.

Each one of us is now a more competent sailor and trad climber thanks to the numerous hours spent sailing, climbing and practising specific techniques. In addition to these technical skills, the challenges we faced have enriched us with a resilience and adaptability that we will undoubtedly benefit from. Moreover, the bonds we have formed during this journey, forged upon the mutual trust that we had for each other, will be long lasting.

This expedition and its preparation have also been rich in lessons. We share the most useful ones for groups wishing to embark on similar expeditions.

- Because we had almost a training week-end per month and had to rent a car each time, we realised that it would have been less expensive to buy a used car at the start and then sell it.
- These regular training week-ends were instrumental to the group's cohesion as we learnt to live together, climb together and hence trust each other.
- The week-ends were also a good way to learn self-rescue techniques as they allowed us to discuss and benefit from each other's experience.
- The use of walkie talkies definitely removed a lot of faff during multi-pitch climbs as the leader and second were regularly out of voice range and the rope drag was such that rope signals did not work. They were also very useful to communicate between teams to coordinate and with the boat to arrange pick-up.
- Climbing gear and boat do not cohabitate nicely. We discovered that it is important to stow the gear properly during passages otherwise some metal bits might swing into some wooden bits with results akin to a game of "paper-scissors".

All in all, this expedition has met the objectives that we set when we started planning for it both in terms of climbing and sailing. Beyond just ticking a checklist of goals, it has allowed us to do what we love while exploring the magnificent Lofoten Islands in a way that is quite uncommon but also more sustainable. This Lofoten Islands climbing and sailing expedition can undoubtedly be described as a once-in-a-lifetime experience.





## 7

## ACKNOWLEDGEMENTS

Thanking those who contributed to making the trip happen.

First and foremost, we would like to extend a massive thank you to the Exploration board for providing us with funding, support, equipment, and believing in the success of our expedition. On the board, we'd like to express our gratitude to Dr. Lorraine Craig, especially for promptly addressing any of our questions, as well as Philip Power and Chris Green. We are also deeply thankful to the Royal College of Science Association and the Old Centralians Trust for their generous support and funding.

Additionally, we would like to extend our appreciation to the Jeremy Willson Charitable Trust for their invaluable financial support. The Jeremy Willson Charitable Trust (JWCT) is a charity set up in tribute to and memory of Jeremy Willson.

We must also give a major thank you to all the mentors that the team has had over the years, who have imparted the necessary skills to us. Namely, the Imperial College Mountaineering Club and Imperial College Yacht Club, whose knowledge and resources were indispensable for the success of our expedition. A special thanks goes to Alice Josset, who played a pivotal role in planning and training for the initial stages of the expedition with us, and who consistently brought a positive spirit to our training weekends.

Imperial College  
London





8

APPENDIX

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Risk assessment and emergency action plan,  
equipment list, finances.

EQUIPMENT LIST

GALLEY SUPPLIES

Matches and lighter	Can opener	Bottle opener
Corkscrew	Dishes	Containers
Cooking Utensils	Eating utensils	Trash bags
Aluminium foil	Dish towels	Dish soap sponge
Paper towels		

INDIVIDUAL

Offshore jacket + salopettes	Thermal Layers	Life jacket
Sea boots	Warm Hat	Sun Hat
Sailing Knife	Pocket/Head Torch	T-Shirts
Sunglasses (polarised)	Other shoes	Travel Clothes
Swim Clothes	Towels	Toothbrush
Wallet/Money	Passport/Travel Documentation	Mobile Phone/Charger
Books	Toiletries	Sleeping Bags
Pillow	Blankets	Water Bottles
20-25L dry bag	Gloves	

NAVIGATION/  
COMMUNICATION

Log book	Hand-bearing compass	Lights for hand-bearing compass
Tide tables	Eraser	Pencil
Dividers	Plotting ruler	Big bold protractor
Knotstick	Lead line	7x50 binoculars
Charts for appropriate areas	Coast Pilot	Tide current tables for areas
Tide current charts for areas	Nautical Almanac	Calculator with trig functions
Sextant	Cruising guide to appropriate area	Dutton on Navigation and Piloting
Book of knots	Arrival/departure checklists	

CLIMBING

Harness	Helmets	Climbing Ropes
Carabiners	Tape	Quickdraws
Belay Devices	Climbing Shoes	Guide Book / Topo
Belay Glasses	Nuts	Hexes
Cams	Clip Sticks	Slings
Chalk	Rock radios	

SAFETY

Rigging knives	Garmin Inreach Minis	Lifesling and tackle
Safety harnesses	Harness tethers	Jacklines
Radar reflector	Hauling gear	Ascenders
Scanner set for channels 13, 14, and 16	Portable VHF radio	Boat/Sail repair kit
Handheld spotlight and chargers	Flare kit (minimum required): 2 x red hand flare 2 x orange hand smoke 2 x red parachute flare	

FINANCES

FUNDING SOURCES

Funding was acquired from various sources as follows:

SOURCE	VALUE, GBP
Imperial College Exploration Board	6000
Old Centralians’ Trust	3750
Royal College of Science Administration	500

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Gil: cgilbr@gmail.com

Rowen: rowen.rouen.lee@gmail.com

Gus: gus.a.cox.130@gmail.com

Item	Cost (£)
Boat hire + fees	6401.38
Boat fees	616.98
Boat damage	139.73
Boat/tender fuel	186.94
Navionics map	29.99
Flights	3,950.82
Satellite phones	104.98
in-reach + zoleo subscription	120.00
Fishing gear	36.74
Marina fees	176.47
Aquarium entry	70.65
Currency exchange (of boat deposit)	342.86
Airbnb (Bodo)	431.26
Insurance	830.78
Showers / Laundry / Dryer	34.08
Food	1367.05
Toilet bags	15
Scooter hire	12.73
Bus tickets	54.38
Water jerrycans	24.38
Emergency abseil equipment (ab tat)	48.9
First aid course	672
Total	15668.1



SAFETY

Risk assessment and emergency action plan.



OFFSHORE SAILING RISKS

General management of risk: two members of the team hold RYA Day Skipper qualifications. The lead skipper had an Offshore Yachtmaster qualification prior to the expedition. All team members had valid outdoor first aid qualifications.

HEALTH RISKS ONBOARD THE BOAT

HAZARDS	EFFECTS	CONTROLS/ACTIONS NEEDED	LIKELIHOOD-SEVERITY	RISK FACTOR
Man overboard	<ul style="list-style-type: none"><li>• Risk of drowning</li><li>• Hypothermia</li><li>• Impact injury</li></ul>	<ul style="list-style-type: none"><li>• Follow safe practice when moving around the yacht above deck at all times.</li><li>• Implement and practice man overboard rescue</li></ul>	2-5	10
Drowning	<ul style="list-style-type: none"><li>• Brain damage</li><li>• Death</li></ul>	<ul style="list-style-type: none"><li>• Ensure buoyancy aids fitted and worn at all times while at sea</li><li>• Supervision of all members of the team by skipper</li><li>• Establish swimming ability prior to departure, discuss risks of open water</li></ul>	1-10	10
Bad weather	<ul style="list-style-type: none"><li>• Difficulty in navigation</li><li>• Unstable sailing conditions</li><li>• Increased risk of man overboard</li><li>• Increased risk of hypothermia above deck</li></ul>	<ul style="list-style-type: none"><li>• Research seasonal weather prior to departure</li><li>• Keep log of weather forecast and update every 6 hours</li><li>• Use barometer with ship log to document rapid changes in pressure indicating storm likelihood</li><li>• Note nearest 'safe-haven' locations for each passage plan</li><li>• If caught in bad weather, employ rigorous use of manual and GPS chart plotter navigation techniques</li></ul>	6-4	24
Hypothermia	<ul style="list-style-type: none"><li>• Loss of sensation</li><li>• Death</li></ul>	<ul style="list-style-type: none"><li>• Prepare sufficient clothing</li><li>• Maintain team awareness of conditions</li><li>• Rotate above deck team to mitigate risk to individual members</li></ul>	3-5	15
HAZARDS	EFFECTS	CONTROLS/ACTIONS NEEDED	LIKELIHOOD-SEVERITY	RISK FACTOR
Dehydration	<ul style="list-style-type: none"><li>• Sickness</li><li>• Death</li></ul>	<ul style="list-style-type: none"><li>• Frequent water breaks when above deck or in the sun</li><li>• Ensure water purification working while onboard the boat</li></ul>	4-4	16



Trips and falls above deck	<ul style="list-style-type: none"><li>Increased risk of man overboard</li><li>Loss of consciousness</li><li>Sprains</li><li>Fractures</li><li>Other injuries</li></ul>	<ul style="list-style-type: none"><li>Ensure adequate footwear worn at all times above deck</li><li>Keep cockpit and deck clear of equipment and personal items</li><li>Maintain three points of contact with the vessel while moving above or below deck</li></ul>	6-3	18
Impact with solid objects	<ul style="list-style-type: none"><li>Increased risk of man overboard</li><li>Loss of consciousness</li><li>Head injuries</li></ul>	<ul style="list-style-type: none"><li>Ensure team members have full understanding of boom-related hazards</li><li>Keep members within cockpit boundary as much as possible while under sail</li><li>Exercise care in access and egress areas</li><li>Competent use of sails and rope work above deck through qualification and theory practice</li></ul>	4-4	16
In relation to use of windlass / winches	<ul style="list-style-type: none"><li>Trapping fingers / toes / limbs in hauling mechanism</li><li>Loss of fingers, toes, nails or bruising / breakage of other body parts</li></ul>	<ul style="list-style-type: none"><li>Exercise correct rope handling technique when operating winches, windlass and handles</li><li>Keep area clear of stray rope hazards</li><li>Communicate effectively and monitor surroundings for hazards</li></ul>	3-4	12

LOGISTICAL RISKS ONBOARD THE SHIP

HAZARDS	EFFECTS	CONTROLS/ACTIONS NEEDED	LIKELIHOOD-SEVERITY	RISK FACTOR
Collision with other vessels	<ul style="list-style-type: none"><li>Permanent damage to vessel</li><li>Threat to human life</li><li>End of expedition</li></ul>	<ul style="list-style-type: none"><li>Ensure a watch for other vessels at all times</li><li>When passing close to other vessels, employ proper fending off techniques</li><li>Maintain contact with nearby vessels at times of risk</li><li>If contact does occur, assess situation, limit further risks and notify the relevant authorities as soon as possible</li></ul>	3-7	21

Collision with land	<ul style="list-style-type: none"><li>Permanent damage to vessel</li><li>Threat to human life</li><li>End of expedition</li></ul>	<ul style="list-style-type: none"><li>Ensure a watch for land is kept at all times</li><li>When passing close to shore, employ proper fending off techniques</li><li>Keep constant watch of depth metre</li><li>Plot adequate and safe routes around reefs and shallow underwater features</li><li>If contact does occur, assess situation, limit further risks and notify the relevant authorities as soon as possible</li></ul>	2-8	16
Handling vessel under engine	<ul style="list-style-type: none"><li>Damage to engine</li><li>Damage to propeller/keep</li></ul>	<ul style="list-style-type: none"><li>Conduct regular checks of engine each morning</li><li>Never exceed vessel's maximum engine RPM</li><li>Keep watch and avoid areas with floating debris</li></ul>	1-5	5
Handling vessel under sail	<ul style="list-style-type: none"><li>Damage to sail</li><li>Damage to onboard equipment</li></ul>	<ul style="list-style-type: none"><li>Adhere to the directions of the skipper and safe sailing practices established through training and previous experience</li><li>Understand the limitations of the vessel before departing</li><li>Use the sailing forecasts and other tools available to make a safe judgement of sailing conditions</li><li>Ensure the deck is kept tidy at all times for effective and safe equipment management</li></ul>	2-5	10



Quayside moorings	<ul style="list-style-type: none"><li>• Collisions with land or vessels</li><li>• Injury to team members</li></ul>	<ul style="list-style-type: none"><li>• Ensure team members properly briefed on geo / hydrological features of the mooring area before approach</li><li>• Allocate roles and communicate with members of the team</li><li>• Communicate with staff / people onshore as needed</li></ul>	4-2	8
Loss of equipment overboard	<ul style="list-style-type: none"><li>• High costs of replacement</li></ul>	<ul style="list-style-type: none"><li>• Tie down equipment before being left unattended</li><li>• Keep valuable below deck at all times if possible</li></ul>	4-2	8
Anchorage	<ul style="list-style-type: none"><li>• Dragging of anchor at an unstable mooring</li><li>• Collisions with other vessels or the shoreline</li></ul>	<ul style="list-style-type: none"><li>• Employ similar prevention methods to quayside moorings</li><li>• Once anchored, exercise observation techniques to identify possible dragging</li><li>• Be aware of risks that may arise from changes in conditions over time</li><li>• Maintain constant watch of vessel</li><li>• Use an anchor alarm app, where a GPS sends an alert if the vessel has moved outside a pre-specified radius (length of chain)</li></ul>	4-3	12
Improper dinghy management	<ul style="list-style-type: none"><li>• Loss of dinghy</li><li>• Loss of outboard engine</li><li>• Risk of solid objects impacted when untethered</li></ul>	<ul style="list-style-type: none"><li>• Only use dinghy in periods of calm weather</li><li>• Ensure outboard and dinghy are fully tethered down when under sail</li></ul>	4-2	8

ROCK CLIMBING / OUTDOOR ACTIVITIES RISKS

HAZARDS	EFFECTS	CONTROLS/ACTIONS NEEDED	LIKELIHOOD-SEVERITY	RISK FACTOR
Loss of direction	<ul style="list-style-type: none"><li>• Unplanned exposure</li></ul>	<ul style="list-style-type: none"><li>• Prepare adequate equipment</li><li>• Frequently check climbing map</li><li>• Ensure all members aware of the route and capable of navigation</li></ul>	3-4	12
Exhaustion / Fatigue / Dehydration / Sickness / Hypothermia / Heatstroke	<ul style="list-style-type: none"><li>• Lower core body temperature</li><li>• Sickness</li><li>• Death</li></ul>	<ul style="list-style-type: none"><li>• Frequent, adequate rests catering to weakest member of the group</li><li>• Carry sufficient water, food, emergency shelter to account for unplanned exposure</li><li>• Wear adequate clothing</li></ul>	2-5	10
Bad weather	<ul style="list-style-type: none"><li>• Difficulty in navigation</li><li>• Unsuitable climbing / hiking conditions</li></ul>	<ul style="list-style-type: none"><li>• Refer to map / evacuate plan as needed</li></ul>	3-4	12
Trips / falls	<ul style="list-style-type: none"><li>• Sprains, twists, fractured limbs</li><li>• Other injuries</li></ul>	<ul style="list-style-type: none"><li>• Assess injury and provide first aid</li><li>• Follow evacuation plan as needed</li></ul>	5-4	20
Group separation	<ul style="list-style-type: none"><li>• Delays</li><li>• Increased likelihood of injury</li></ul>	<ul style="list-style-type: none"><li>• All members should be able to navigate route and carry equipment to survive</li><li>• All members carry personal first aid kit</li></ul>	5-2	10
Hit by falling object	<ul style="list-style-type: none"><li>• Shock</li><li>• Serious injury</li><li>• Death</li></ul>	<ul style="list-style-type: none"><li>• Maintain awareness of surroundings and climbing conditions</li><li>• Wear correct safety equipment, prepare to raise alarm if required</li><li>• Ensure all members have adequate knowledge of self-rescue procedures.</li></ul>	3-7	21



Free fall from height	<ul style="list-style-type: none"><li>Shock</li><li>Serious injury</li><li>Death</li></ul>	<ul style="list-style-type: none"><li>Ensure team members stay attached to rope / anchor at all times</li><li>Inspect equipment for faults / defects prior to climbing</li><li>Ensure equipment correctly fitted and worn</li></ul>	1-7	7
Roped fall from height	<ul style="list-style-type: none"><li>Sprains, twists, fractures</li><li>Other injuries</li></ul>	<ul style="list-style-type: none"><li>Ensure all members trained to cope with roped falls when lead climbing and belaying.</li><li>Ensure equipment correctly fitted and worn</li></ul>	4-3	12
Trips / slips	<ul style="list-style-type: none"><li>Sprains, twists, fractures</li><li>Other injuries</li></ul>	<ul style="list-style-type: none"><li>Keep equipment and ropes tidy</li></ul>	6-3	18
Equipment failues	<ul style="list-style-type: none"><li>Un-roped falls from height</li></ul>	<ul style="list-style-type: none"><li>Follow team inspection procedures before beginning a climb</li></ul>	1-8	8
Hair catching in equipment	<ul style="list-style-type: none"><li>Scalp injuries</li></ul>	<ul style="list-style-type: none"><li>Tie back loose hair, cut if deemed necessary</li></ul>	1-8	8
Rope burn	<ul style="list-style-type: none"><li>Blistering of skin in hands, affect ability to climb</li></ul>	<ul style="list-style-type: none"><li>Use correct rope handling technique, gloves if necessary</li></ul>	2-4	8
Incorrect climbing / belaying technique	<ul style="list-style-type: none"><li>Increased probability of harmful fall</li></ul>	<ul style="list-style-type: none"><li>Ensure all team members trained and practise together prior to expedition</li></ul>	2-4	8
Poor rock condition	<ul style="list-style-type: none"><li>Rock fall</li><li>Risks of slip</li></ul>	<ul style="list-style-type: none"><li>Only climb route in best possible condition</li><li>Be aware of changing conditions and make safe judgements adequately</li></ul>	3-4	12
Shoreline directed swell	<ul style="list-style-type: none"><li>Impact injury with rocks whilst approaching routes in dinghy</li><li>Loss of consciousness</li><li>Drowning</li></ul>	<ul style="list-style-type: none"><li>Assess safety of procedure due to weather conditions before approaching rocks.</li><li>Identify route location before attempting landing</li><li>Setup safety line to avoid man-overboard issues.</li></ul>	1-9	9

ACCIDENT AND EVACUATION PLAN

The Norwegian Search and Rescue Service (SAR) is a set of services directed by a joint coordinating organisation responsible for all types of rescue operations (sea, land and air). These services are performed through a cooperative effort involving government agencies, voluntary organisations and private enterprise. SAR operations are managed by the Northern Norway Joint Rescue Coordination Centre (JRCC) and facilitated by helicopters and satellite systems.

LOCATION	PLAN OF ACTION
En-route to/from airport	<ul style="list-style-type: none"><li>Emergency calls can be made to 112 (police forces) or 113 (ambulance services).</li><li>Provide first aid until the arrival of local help.</li><li>Contact insurance 24h emergency medical assistance (with Snowcard insurance, Allianz Assistance +44 (0) 208 603 9693).</li></ul>
At sea	<ul style="list-style-type: none"><li>Emergency calls can be made via an emergency transmitter, maritime VHF channel 16. SAR provides sea rescues using helicopters if necessary.</li><li>Transmit emergency beacons, which the JRCC can pick up from American GPS and Galileo satellites.</li><li>Provide first aid until arrival of local help</li><li>Evaluate current sailing situation, reroute to nearest safe haven in case of emergency</li></ul>
On climbing routes	<ul style="list-style-type: none"><li>Emergency calls can be made to 112 (police forces) or 113 (ambulance services).</li><li>Contact boat using short wave radios and relay situation in case additional help is needed.</li><li>Provide essential first aid.</li><li>Abseil down route / climb up remaining pitches if necessary / possible.</li></ul>
Walking to and back from climbing areas	<ul style="list-style-type: none"><li>Emergency calls can be made to 112 (police forces) or 113 (ambulance services).</li><li>Contact boat using short wave radios and relay situation in case additional help is needed.</li><li>Provide essential first aid, transport casualty to nearest hospital (Lofoten Nordlandssykehuset Hf) if necessary.</li></ul>

MEDICAL SUPPLIES

Based on RYA medical first aid list.

TYPE	CONTENTS
Equipment	<ul style="list-style-type: none"><li>Gloves, thermal protective aid, triangular bandages, supporting (crepe) bandages, tough cut shears, tweezers, resuscitation pocket mask, tourniquet / israeli bandage, emergency blanket, thermometer, scissors</li></ul>
Medications	<ul style="list-style-type: none"><li>Sun cream, sea sickness tablets, paracetamol, ibuprofen, aspirin, antihistamine cream / tablets, indigestion tablets, lmodium (or alternative diarrhoea remedy), rehydration salts, EpiPen and medication relative to the crew needs e.g. asthma treatment, nut allergies</li></ul>
Wounds	<ul style="list-style-type: none"><li>Plasters, wound dressings, antiseptic wipes, cling film, eye dressing, surgical tape, finger tape</li></ul>



Photo captions







