VIA DINARICA
Bosnia and Herzegovina
2019

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Sorcha Begley
Josephine Wouda-Kuipers
Daniel Owens
David Walter Coxon
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Aims</td>
<td>1</td>
</tr>
<tr>
<td>The Team</td>
<td>2</td>
</tr>
<tr>
<td>Itinerary</td>
<td>4</td>
</tr>
<tr>
<td>Equipment</td>
<td>6</td>
</tr>
<tr>
<td>Predicted Weather</td>
<td>7</td>
</tr>
<tr>
<td>Weather conditions on trip</td>
<td>8</td>
</tr>
<tr>
<td>Food and Water</td>
<td>8</td>
</tr>
<tr>
<td>Training</td>
<td>9</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td>10</td>
</tr>
<tr>
<td>Hospital and Medical Centre Locations</td>
<td>12</td>
</tr>
<tr>
<td>How to Handle Bears</td>
<td>12</td>
</tr>
<tr>
<td>Helicopter Evacuation Procedure</td>
<td>12</td>
</tr>
<tr>
<td>Budget</td>
<td>13</td>
</tr>
<tr>
<td>Trip Diary</td>
<td>14</td>
</tr>
<tr>
<td>Conclusion</td>
<td>19</td>
</tr>
</tbody>
</table>
Introduction

The Via Dinarica is a 1930 km mega-trail which connects the countries of the Western Balkans. The White Trail traverses Slovenia, Croatia, Bosnia & Herzegovina, Montenegro, Albania, Kosovo and Macedonia, and links the peaks along the Dinaric Alps and Shar mountain ranges – some of Europe’s least explored mountain ranges. The trail was created through collaboration between the United Nations Development Program, US Aid, the Adventure Tourism Association and many small local mountaineering clubs with the aim of peacebuilding and boosting local economies.

We hiked approximately 230km of the Bosnia and Herzegovina section for 3 weeks, from 1st July to 21st July 2019 starting from the Croatian border and finishing in the capital of the country, Sarajevo. We chose the Bosnia and Herzegovina Dinaric Alps section of the Via Dinarica White Trail because wild camping is legal in this nation (but not in countries further North) and there was a decreased risk of landmines and terrorism than in countries further South. It is also heralded as one of the most beautiful sections of the trail.

Aims

1. To complete the expedition safely.
2. To hike the Bosnia and Herzegovina section of the Via Dinarica White Trail, camping each night.
3. To promote the Exploration Board, particularly to female students, by acting as role models and writing articles for Imperial College publications (e.g. the multi-page articles written by leader Niamh French for the IC Reporter and student newspaper Felix after the Crete E4 2018 expedition).
4. To gain confidence and practical skills in long-distance hiking and camping.
5. To support the peace-building and economy-boosting aims of the United Nations Development Program project that lead to the development of the trail.
6. To experience and document the reality of a misrepresented country and culture 24 years post-conflict, challenging biases and encouraging further exploration by Imperial College members and the wider community.
7. To contribute to improving and maintaining UK-Bosnian relationships in person, acting as respectable ambassadors to Imperial College and the UK.
The Team

Niamh French
Leader and Navigation
BSc Geology, 3rd Year

Experience
- September 2018: 4-week hiking expedition across Crete, partially funded by the Exploration Board. Gained experience bivvying, rationing food and water, cooking outdoors, navigating, dealing with first aid issues and making decisions about whether to continue hiking in adverse conditions.

- June-July 2018: 6 weeks of independent geological mapping in Sicily. Worked outdoors for 5-7 hours per day in <32°C heat. Gained experience in careful navigation using GPS and paper maps, rationing water, dealing with first aid issues when far from help and maintaining focus whilst dealing with complicated decisions outdoors.

- July-September 2017: Approx. 10 day-hikes in Nicaragua, mostly unmarked trails without paths, sometimes carrying construction equipment. I lived in basic accommodation for 3 months with limited water, food and electricity in the forest.

- Many hikes in the Mourne Mountains in Northern Ireland, including camping trips.

Sorcha Begley
Logistics and Journalist
MEng Chemical Engineering, 4th Year

Experience
- July 2018: 1 week camping and surfing in the south of France.

- July-September 2016: Led a 2-month voluntary trip of 6 Imperial students to rural Tanzania. Worked outdoors managing the construction of a 55,000L rainwater harvesting tank in ~30°C heat, alongside teaching a construction course for household scale rainwater harvesting jars. Followed by a weeklong camping safari in the Serengeti and the Ngorongoro Crater.

- Many hikes near my home in the South-west Coast of Ireland, including frequent hikes up the two highest peaks in the country.

Hobbies
- Keen interest in Nature photography – both landscapes and wildlife
David Walter Coxon
Treasurer, Health and Safety
MEng Mechanical Engineering, 4th Year

Experience
- September 2017: Climbed Mt. Kilimanjaro (5895m). The climb lasted 6 days and £1500 was raised in aid of Hope for Children. Gained experience camping.

- 2013-2015: Completed all three Duke of Edinburgh awards. During my gold award we wild camped one night and had to initiate emergency measures when a teammate was injured. I gained experience cooking outdoors, navigating using a map and compass, and how to react in an emergency.

- Have been on many day hikes throughout the UK

Josephine Wouda Kuipers
Training
MEng Mechanical Engineering, 3rd Year

Experience
- August 2018: Hiking in Lanzarote, for multiple days with distances ranging from 10 to 25 km.

- June 2018: Hiking in Tuscany, Italy for two days, with each journey ~24km.

- December 2016: Hiking in Kalaw, Myanmar for two days, each journey ~24km

- June 2015: 2 weeks development aid in Ghana, including building a computer facility, paving walkways and connecting with local students

- March 2013: 2 weeks development aid in Sri Lanka, including building fences around the school and connecting with the local children and parents

Daniel Owens
Equipment
MEng Mechanical Engineering, 4th Year

Experience
- 2014: Hiked to the peak of Mt. Snowdon (1085m)

- Have been on various day-hikes across the UK

- Generally inexperienced in prolonged hiking
The expedition took place in the first three weeks of July. These expedition dates were chosen to ensure stable weather conditions with minimal rain and maximum daylight. On average, the aim was to hike 14.3 km per day, challenging group members whilst leaving time for water collection and sourcing food along the way. Rest days were strategically placed in towns along the route every few days, allowing us to interact with the local community and learn more about their culture and customs. Throughout the route we aimed to camp wherever possible, enhancing our wild-camping experience and knowledge. A lack of documented springs along stretches of the route forced us to plan a few nights in mountain huts, providing us access to wells. Wild camping sites were selected that were thought to have easily accessible water sources and shelter from the elements. The route is outlined in the figure above, the circles along the route indicate where we planned on sleeping along the route. It was hiked from west to east. Please see the table overleaf for an in-depth summary of the expedition itinerary made before the expedition.
<table>
<thead>
<tr>
<th>Day</th>
<th>Start</th>
<th>Finish</th>
<th>Distance (km)</th>
<th>Climb (m)</th>
<th>Activity</th>
<th>Water</th>
<th>Food top up</th>
<th>Accom. Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>London</td>
<td>Split</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Hostel</td>
</tr>
<tr>
<td>2</td>
<td>Orientation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Hostel</td>
</tr>
<tr>
<td>3</td>
<td>Kamensco (CR)</td>
<td>Bukova Gora</td>
<td>(Lake Busko Jezero)</td>
<td>7</td>
<td>60</td>
<td>Bus from Split to B&amp;H Border, Hiking</td>
<td>Top up in morning, town nearby camping area</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Bukova Gora (Lake Busko Jezero)</td>
<td>Mali Gradac</td>
<td>16.13</td>
<td>0</td>
<td>Hiking</td>
<td>Refill in Prisjo</td>
<td>Re-stock in Prisjo</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>5</td>
<td>Mali Gradac</td>
<td>Mrkodol</td>
<td>16.11</td>
<td>0</td>
<td>Hiking</td>
<td>Fill up along the way and in Mrkodol</td>
<td>Petrol Station in Mrkodol</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>6</td>
<td>Mrkodol</td>
<td>Spring near Orla Kuk</td>
<td>11.39</td>
<td>250</td>
<td>Hiking</td>
<td>Spring by Campsite</td>
<td>Supermarket south of Bukovica if required</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>7</td>
<td>Spring near Orla Kuk</td>
<td>Lake Blidinje Jezero</td>
<td>14.6</td>
<td>300</td>
<td>Hiking</td>
<td>Make sure we top up water before setting off as no towns/springs along the way</td>
<td>-</td>
<td>Mountain Hut</td>
</tr>
<tr>
<td>8</td>
<td>Rest Day</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Access water from hut</td>
<td>-</td>
<td>Mountain Hut</td>
</tr>
<tr>
<td>9</td>
<td>Lake Blidinje Jezero</td>
<td>Mountain Hut near Mt. Vilinac</td>
<td>13.7</td>
<td>960</td>
<td>Hiking</td>
<td>Fill up water at hut</td>
<td>Top up food in Risovac, the ski village</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>10</td>
<td>Mountain Hut near Mt. Vilinac</td>
<td>Jablanica</td>
<td>13.63</td>
<td>120</td>
<td>Hiking and finding the arch</td>
<td>Lots of water sources along route</td>
<td>-</td>
<td>Camping</td>
</tr>
<tr>
<td>11</td>
<td>Rest Day</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Lots of water sources</td>
<td>Top up in Jablanica</td>
<td>Camping</td>
</tr>
<tr>
<td>12</td>
<td>Jablanica</td>
<td>Near Mt. Has</td>
<td>10.91</td>
<td>1610</td>
<td>Hiking</td>
<td>Spring at mountain hut</td>
<td>-</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>13</td>
<td>Near Mt. Has</td>
<td>Near Mt. Taras</td>
<td>11.45</td>
<td>390</td>
<td>Hiking</td>
<td>Springs along the route</td>
<td>-</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>14</td>
<td>Near Mt. Taras</td>
<td>Jezero (Lake)</td>
<td>15.94</td>
<td>0</td>
<td>Hiking</td>
<td>Fill up at hut, if not backtrack</td>
<td>Top up food in Jezero</td>
<td>Camping</td>
</tr>
<tr>
<td>15</td>
<td>Rest Day</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Lots of water sources</td>
<td>&quot;</td>
<td>Camping</td>
</tr>
<tr>
<td>16</td>
<td>Rest Day</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Lots of water sources</td>
<td>&quot;</td>
<td>Camping</td>
</tr>
<tr>
<td>17</td>
<td>Jezero</td>
<td>Dubocani</td>
<td>15.62</td>
<td>790</td>
<td>Hiking</td>
<td>Water source on arrival</td>
<td>-</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>18</td>
<td>Dubocani</td>
<td>Vjenac</td>
<td>15.95</td>
<td>1300</td>
<td>Hiking</td>
<td>Refill Water along the way</td>
<td>Refill at town on arrival</td>
<td>Wild Camping</td>
</tr>
<tr>
<td>19</td>
<td>Vjenac</td>
<td>Umoljani</td>
<td>7.51</td>
<td>190</td>
<td>Hiking</td>
<td>Refill before leaving</td>
<td>Refill in town on arrival</td>
<td>Mountain hut</td>
</tr>
<tr>
<td>20</td>
<td>Umoljani</td>
<td>Bjelasnica ski resort</td>
<td>11.23</td>
<td>290</td>
<td>Hiking</td>
<td>Refill before leaving</td>
<td>Refill in town on arrival</td>
<td>Hostel</td>
</tr>
<tr>
<td>21</td>
<td>Bjelasnica ski resort E</td>
<td>Sarajevo</td>
<td>-</td>
<td>-</td>
<td>Taxi to capital</td>
<td>Lots of water sources</td>
<td>Lots of Food Sources</td>
<td>Hostel</td>
</tr>
<tr>
<td>22</td>
<td>Sarajevo</td>
<td>London</td>
<td>-</td>
<td>-</td>
<td>Fly out</td>
<td>Lots of water sources</td>
<td>Lots of Food Sources</td>
<td>-</td>
</tr>
</tbody>
</table>
Equipment

Group
1. Tents – 3 man and 2 man
2. Trangia, gas cartridge and matches
3. Plates/bowls
4. Cups
5. Cutlery – sporks
6. Pocket knife
7. Water filter / water chlorination tablets
8. Maps
9. Compass
10. Camera + SD cards + Batteries
11. Power bank for devices
12. Small trowel

Toiletries & First Aid
1. Bio-degradable camping soap
2. Deodorant power/ balm
3. Toothbrush/paste
4. Hairbrush
5. Face wipes (biodegradable)
6. Toilet Paper
7. Sun lotion SPF 50
8. Insect repellent + tiger balm
9. Tweezers, small nail scissors, tick remover
10. Large first aid kit & plenty of blister plasters
11. Hand disinfecting gel
12. Medication essentials - Voltarol (pain relief), Ibuprofen (painkiller & anti-inflammation), Bepanthen (wound healing)

Individual
1. Backpacks + rain covers
2. Hiking boots
3. Walking poles
4. Sleeping bags
5. Head torches
6. Dry bags
7. Whistle
8. Personal first aid kits
9. Water bladder + spare bottle

Clothing (Weather: ~25/28 -12/13 C so ~19| rain 9 days, 20mm)
10. Waterproof trousers
11. Shorts
12. Hiking socks (several pairs)
13. Rain jacket
14. Quick dry towel
15. Sunhat
16. Warm hat (for cold nights at high altitude)
17. Sunglasses
18. Sliders/Sandals
19. Base layers
20. Gloves
Predicted Weather
(https://weatherspark.com/y/83139/Average-Weather-in-Sarajevo-Bosnia-&-Herzegovina-Year-Round)

The average hourly temperature, color coded into bands. The shaded overlays indicate night and civil twilight.

The percentage of time spent in each cloud cover band, categorized by the percentage of the sky covered by clouds.

The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average liquid-equivalent snowfall.
Weather conditions on trip

The weather conditions encountered by the group throughout the trip was significantly different from that which had been planned. We had prepared for warm days and cold nights, however we appeared to encounter the extremes of this. The temperature from 11am (sometimes as early as 9.30 am) would exceed 30 C and would last at this level until 5/6 pm. This made the hiking extremely strenuous and began to cause issues with the water supply and demand – as discussed in the next section. Furthermore, the nights were much colder than expected and the dew encountered late at night/early in the morning made camping more challenging with regards to set up and packing away. Fortunately we did not encounter any significant rain during the hiking days with only the occasional shower on a few

Food and Water

The average duration spent without stopping in a town to stock up on food was planned to be two days, and a maximum of three. Prior to the expedition, research was conducted as to which streams were used by previous hikers who had completed the route. It seemed as if there were many streams near the trail and the route and itinerary was produced based around this information. The water collected from the streams was treated with chlorination tablets and then topped up in towns. We planned to carry 3L of water per day and camp near water sources for cooking and washing.

Due to the higher temperatures experienced, the group water demand was higher than initially expected meaning that around 4-5L was carried by each team member. It was discovered upon arrival at a couple of water refill locations that most streams along the trail had dried up due to a lack of rain. This meant that additional hiking on some days (early in the trip) was necessary to replenish water stores. The route was re-planned to take the group through more towns to ensure water was available.

Enough food was brought so that each member could eat around 3000 calories per day. Gas cannisters were collected upon our arrival in Split (had been ordered in advance) and were carried along with a Trangia so that hot meals could easily be prepared. Rice and lentils became the staple meal of the trip, and the day was nearly always started with a bowl of oatmeal. Lunches and breaks consisted of snacks such as pretzels, biscuits, tinned foods and nuts. Oral rehydration salts were essential throughout this trip due to the high temperatures. Any food that could cause a bear encounter was kept away from the camp at night.
Training

Due to the varying degrees of hiking experience within the group, it was important that all members had tested out their equipment and are comfortable being laden with it throughout days of sustained hiking. A trip to Dartmoor National Park was undertaken, which provided the opportunity to learn the physical capabilities of each team member and points of improvement before the main expedition. This exercise was three days and two nights, and as backpack camping is permitted in some areas of the national park, the group practised setting up camp at night. Furthermore, the more experienced members shared advice throughout the training excursion, and all individuals practised their navigational skills in both on-trail and off-trail sections of the moors - skills demanded during the main expedition.

During this trip it was discovered which equipment needed to be changed or purchased and as the weather consisted of both sun and rain, it gave the group a good experience of hiking in different conditions. Moreover, it helped provide an idea of how much food would be required daily for each team member.
## Risk Assessment

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Effect</th>
<th>Control Measure</th>
<th>Likelihood (L)</th>
<th>Severity (S)</th>
<th>Risk Factor (L*S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of direction</td>
<td>Unplanned exposure</td>
<td>Frequently check map, and GPS. Ensure all members are aware of the route and capable of navigating alone.</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Exhaustion/Fatigue</td>
<td>Lower core body temperature</td>
<td>Frequent, adequate rest catering to the weakest group member. Always carry sufficient water plus emergency. Carry emergency, high energy food.</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Sickness or death</td>
<td>Frequent water breaks. Water should also be accessible to be taken during hiking. Carry sufficient water plus emergency.</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>Lower core body temperature, shivering, loss of feeling, death</td>
<td>Wear sufficient warm, water and wind proof layers including spares. Always change out of wet items as soon as possible.</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Bad weather</td>
<td>Difficulty in navigation, unsuitable walking conditions</td>
<td>Refer to map and GPS more often, sharing the responsibility between group members. Be prepared to adjust plans and camp earlier than anticipated.</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Trips and falls</td>
<td>Sprained, twisted, or fractured ankle or knee. Other injuries.</td>
<td>Wear hiking boots. Set up camp before dark so members can remember the location. Take care when moving around throughout the day, taking no unnecessarily hazardous routes.</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Group separation</td>
<td>Delays. Increased likelihood of becoming lost or injured.</td>
<td>All members should be aware of surroundings and location of other members.</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Small injuries (e.g. cuts, sprains)</td>
<td>Inability to use affected body part.</td>
<td>Be cautious at all times, take no unnecessary risks. All members should be familiarised with equipment before departure.</td>
<td>5</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Large injuries (e.g. severe bleeding, fractures)</td>
<td>Serious or permanent injuries, ending of expedition.</td>
<td>Be cautious at all times, take no unnecessary risks. Travel as a group at all times. All members will be first aid trained to deal with immediate issues.</td>
<td>3</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Injury due to heavy loading</td>
<td>Muscular damage, inability to continue working at full capacity.</td>
<td>Distribute loads between groups fairly, taking into account fitness and any injuries. Warm up/stretch each morning before lifting heavy loads.</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Blisters</td>
<td>Pain when walking and possible infection</td>
<td>Take blister plasters and deal with blisters immediately. Make sure boots are worn in beforehand.</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Sunburn</td>
<td>Painful to carry rucksack. Blister prone to infection.</td>
<td>Use SPF50 sun cream and cover shoulders.</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Too unfit</td>
<td>Increased risk of injuries, slower progress.</td>
<td>Adequate training plan and practice of multi day hikes.</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Heat exhaustion</td>
<td>Body temperature too high. Possible dehydration. Can cause dizziness and tiredness, delaying progress.</td>
<td>Drink plenty of water and avoid hiking at maximum sunlight. Wear hats and take regular breaks to cool down</td>
<td>5</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Rockfall or other material</td>
<td>Injury or death</td>
<td>Be observant of surroundings. Ensure camping area is out of risk areas. Be vigilant for possible risks when hiking.</td>
<td>2</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>River crossings</td>
<td>Member swept downstream, damage to equipment, injury.</td>
<td>Use bridges unless entirely necessary, use dedicated crossings, under no circumstances enter heavy/unknown current.</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
### Camping

<table>
<thead>
<tr>
<th>Stove breakage</th>
<th>Inability to cook or boil unclean water</th>
<th>Take maintenance and repair kit and a spare stove. Ensure spare is identical to main stove for repair purposes. All equipment shall be checked before departure to be in good working order.</th>
<th>4</th>
<th>2</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel loss/leakage</td>
<td>Unable to cook or boil unclean water. Fire or explosion risk.</td>
<td>Frequently check stove and fuel bottles. Bring only correctly rated fuel bottles.</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Tent fire</td>
<td>Loss of tent, possible burns</td>
<td>Cook outside of tent (well away due to bear risk). Keep all naked flames away from tenting area</td>
<td>1</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Tent loss/breakage</td>
<td>All persons share a single tent</td>
<td>Ensure all equipment is packed firmly in correct places so not to be missed.</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Trips and slips in camp</td>
<td>Sprained, twisted, or damaged joints/bones</td>
<td>Ensure the campsite is clear of obstacles, especially overnight. Makea team members aware of guy lines, prominent pegs or other features in camp.</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Dirty water</td>
<td>Sickness and diarrhoea</td>
<td>Check water sources up stream for obvious contaminants, always filter and sterilise water</td>
<td>6</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Food Poisoning</td>
<td>Sickness and diarrhoea</td>
<td>Avoid uncooked local food, use antibacterial hand gel for cooking, avoid bad street vendors</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
</tbody>
</table>

### People

| Aggressive members of the public | Shock, injury, inability to find safe campsite | Avoid situations from occurring. Be respectful and diffusive. | 4 | 2 | 8 |
| Theft/mugging | Loss of property, injury, shock | Check crime rates in travel areas, keep away from danger areas, use common sense (not having valuable on show etc) | 2 | 5 | 10 |

### Wildlife

| Bear encounter at camp | Shock, stolen food, broken equipment, small or large injuries. | Camp near trails indicating human activity. Follow precautions outlined in 'How to handle bears' section of this proposal. | 1 | 0 | 8 |
| Bear personal encounter | Shock, stolen food, broken equipment, small or large injuries. | Travel with bear bells on established trails; follow precautions outlined in 'How to handle bears' section of this proposal. | 1 | 6 | 6 |

### Other

| Road crash | Broken bones or possible death | No hitch-hiking. Use qualified drivers. | 2 | 10 | 20 |
| Rucksack breaking | Unable to carry equipment | Make sure equipment is in good condition prior to start of expedition. Redistribute contents to other backpacks if necessary. | 2 | 4 | 9 |
| Satellite phone breaking | Unable to contact emergency services etc | Have backup phones charged. | 2 | 7 | 14 |

---

**Emergency Contact Numbers (General Emergency 112)**

<table>
<thead>
<tr>
<th>Mountain Rescue Service</th>
<th>062 654 456</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Emergency</td>
<td>124</td>
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<tr>
<td>Police</td>
<td>122</td>
</tr>
<tr>
<td>Fire Emergency</td>
<td>123</td>
</tr>
<tr>
<td>Koševu Hospital</td>
<td>297 000</td>
</tr>
<tr>
<td>General Hospital</td>
<td>285 100</td>
</tr>
<tr>
<td>Kasindo Hospital</td>
<td>057 325 300</td>
</tr>
</tbody>
</table>
Hospital and Medical Centre Locations

How to Handle Bears

Before departure
- Check reported bear activity in regions of travel
- Purchase bear-proof food containers, bear spray and bear bells

While travelling
- In risk areas, attach bear bells to belts/backpacks to alert bears of our presence in advance
- Check for signs of activity (scat, tracks, carcasses)

In camp
- Cook 100 metres downwind from the tent
- Store all food in bear proof containers suspended out of reach
- Keep a clean camp free of food and rubbish
- Remain calm, do not run
- Speak loudly and raise arms to appear larger and obviously human (most bears on the trail will have encountered humans before)
- Back away slowly until it loses interest and detour far downwind

In case of aggressive encounter
- Administer bear spray, this should be enough to stop the bear and allow your escape
- If attack continues, fight back using anything at hand aiming at eyes and nose

Helicopter Evacuation Procedure

The individual on the ground should determine the following to communicate to the pilot:
- Location of landing zone
- Wind aspect and speed
- Hazards around the landing zone

The landing zone must be as such:
- Flat area, less than 10-degree slope, approximately 25x25m square in daylight, 33x33m in the dark
- Area free of obstructions, namely trees, wires, poles and buildings
- Ground must be firm
- Clearly mark the landing area with objects that will not blow away
- At night, walk the area to determine any obstructions in the dark
- At night, after landing, turn off all white lights

After landing:
- Approach the helicopter in full view of the pilot, do not run
Steer clear of the rear rotor as they can be at head height

**Budget**

We travelled through Croatia and Bosnia and Herzegovina. The currency of Croatia is the Kuna (HRK) with a current exchange rate of 8.47 HRK to GBP. The currency in Bosnia and Herzegovina is the Bosnian Marka, with a current exchange rate of 2.23 BAM to GBP, however this was fixed to the Euro. We carried cash for the hike, drawing out more in the larger towns and cities. The BAM could not be bought in the UK and was hard to gather in Croatia, meaning it was only exchanged for larger amounts in Bosnia and Herzegovina itself.

Equipment costs were reduced by borrowing, renting or purchasing items at a discounted rate where possible. Some members of the team did not have all the required personal equipment for the trek and required purchasing before the training expedition. The planned expenditure for the trip was detailed below in the table, where possible specific costs have been provided. Previous expedition reports have been used to estimate the cost of food.

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Description</th>
<th>Unit Cost</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flight Costs</strong></td>
<td>London-Split</td>
<td>£115.00</td>
<td>5</td>
<td>£575.00</td>
</tr>
<tr>
<td></td>
<td>Sarajevo-London</td>
<td>£130.00</td>
<td>5</td>
<td>£650.00</td>
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<tr>
<td><strong>In-country Transport</strong></td>
<td>Bus from Split-Tomislavgrad</td>
<td>HRK 80.00</td>
<td>5</td>
<td>£48.00</td>
</tr>
<tr>
<td></td>
<td>Taxi to Sarajevo (estimate, no value online)</td>
<td>£50.00</td>
<td>1</td>
<td>£50.00</td>
</tr>
<tr>
<td></td>
<td>Bus to Split from Airport</td>
<td>HRK 20.00</td>
<td>5</td>
<td>£120.00</td>
</tr>
<tr>
<td></td>
<td>Bus to Airport from Sarajevo</td>
<td>BAM 5.00</td>
<td>5</td>
<td>£11.25</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>Cost of food per person</td>
<td>£2.20</td>
<td>5</td>
<td>£11.00</td>
</tr>
<tr>
<td><strong>Accommodation</strong></td>
<td>Split (2 nights, pp)</td>
<td>£10.00</td>
<td>5</td>
<td>£50.00</td>
</tr>
<tr>
<td></td>
<td>Sarajevo (1 night, pp)</td>
<td>£10.00</td>
<td>5</td>
<td>£50.00</td>
</tr>
<tr>
<td></td>
<td>Campsite Forc/Mountain Huts 3 Nights</td>
<td>£5</td>
<td>25</td>
<td>£125.00</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td>N/A</td>
<td>£45.00</td>
<td>5</td>
<td>£225.00</td>
</tr>
<tr>
<td><strong>First Aid</strong></td>
<td>Cost of training P.P.</td>
<td>£65</td>
<td>5</td>
<td>£325.00</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>Estimated Cost of Equipment</td>
<td>£200</td>
<td>5</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Emergency Fund pp</strong></td>
<td>Estimated Cost of Equipment</td>
<td>£50</td>
<td>5</td>
<td>£250.00</td>
</tr>
<tr>
<td><strong>Total Per Person</strong></td>
<td></td>
<td></td>
<td></td>
<td>£884.25</td>
</tr>
</tbody>
</table>
Trip Diary

29/06/19: London/Hamburg \(\rightarrow\) Split, Croatia
- Early morning arrival at Heathrow, followed by two delayed flights and a sprint across Vienna airport
- Arrived in backpackers hostel, very nice/open/casual atmosphere
- Found a restaurant that served pizzas topped with an insane amount of cheese

30/06/19: Split
- Made first purchase of food in preparation for the upcoming trail
- Casual sightseeing around Split, ascended to the viewpoint on the hill followed by a rest at the beach
- Weather was much hotter than anticipated
- Mentally preparing ourselves for the following day
- Dan purchased a pair of bargain sunglasses

01/07/19: Split \(\rightarrow\) Bukova Gora Lake – Day 1
- Took a bus at 0700 to the Kamensko border crossing, with a large amount of help from google translate and gesticulation between the group and driver
- Struggled to stay awake at border crossing
- Dan’s bargain sunglasses broke
- Bus let us of on the side of the road, immediately walked in the wrong direction
- Encountered some German-speaking locals
- Properties were sparse, but when encountered look newly developed
- After an easy 7km (11:00) arrived at the first lake and campsite.

02/07/19: Bukova Gora Lake \(\rightarrow\) Mrkodol – Day 2
- Early 0430 rise
- Packed up and joined the trail, travelling into a small town in the middle of the day for food, water and a much-needed ice cream to break the ever-increasing heat
- Continued up hill and had amazing view over lake and valley, had lunch a bit further on. So far, the day was excellent.
- Walked on stone street with very little coverage from the trees, started getting dehydrated due to 33°C
- Around 1500 arrived at the planned campsite, Sorcha and Josephine stayed behind and the rest of the group went to collect water. Stream was incredibly hard to access due to dense forest and a steep valley. Decision was made to travel on to the next campsite – a further 16km away.
- Passed a never-ending windfarm
- Stroopwafels were needed
- Intense day, over 30km travelled

03/07/19: Mrkodol \(\rightarrow\) Umolje – Day 3
- Discovered in the morning that the spring near camp had dried up
- Walked to nearby town Mrkodol, one day ahead of schedule. Visited a market to gather more water and enjoyed another pizza at a local pizzeria
- Continued to Umolje, bought 35L of water in supermarket
- Campsite was on the side of a hill overlooking where we had travelled the previous two days
04/07/19: Umolje → Blidinje Lake – Day 4
- Immediately travelled 450m upwards, peak never seemed to arrive
- Sorcha’s walking pole broke before ascension even began
- 360° view on top, could see Mrkodol, mountain ranges
- Needed to descend hill, decided to go off-route and encountered dense forest on a steep decline
- After descending, arrived in a small village and had our first major interaction with the local people
- Family offered us coffee and biscuits, and a local man named Marko conversed with Josephine in German. He explained about how he left to work in Austria during the war and came back to his village after he retired.
- Explained that 97% of people in the local area were catholic and came from Croatia
- Weather began to look threatening, incoming storm. Josephine had bad blisters and was struggling to walk.
- Local shop owner arranged for a taxi to take us to our next camping destination at Blidinje lake

05/07/19: Blidinje Lake – Day 5
- Still one extra day ahead, decided to take it as a rest day
- Dan, Sorcha and Dave climbed a nearby mountain, whilst Niamh and Josephine rested at the campsite
- The group that climbed the mountain took a questionable route on the way down involving a steep rock face and a Beech forest
- First time not camping in the vicinity of a town, without light pollution. Surreal sky at night.

06/07/19: Blidinje Lake – Day 6
- The first of the two planned rest days at this site
- Niamh and Dave to “nearby” ski town (10km) away to get food, no supermarket, another food emergency so sandwiches from restaurant
- Water filter broke and resorted in using one of Dan’s t-shirts as a mesh filter before water was then chlorinated

07/07/19: Blidinje Lake – Day 7
- Second of the two planned rest days – still needed due to Josephine’s bad blisters
- Windier day, four engineers attempted to make a kite from camping equipment
- More swimming and stargazing
- Route re-planned to avoid small streams
08/07/19: Blidinje Lake → Vilinac Mountain Hut – Day 8
- Very cold morning
- Hike into mountains, up through forest along path, first time we really followed markings
- ‘Pinegolf’ – a game involving pinecones and walking poles was founded
- On top saw ice, Dave to peak (2116m) while others would go around to hut
- Had not learnt from day four about going off path, had to go back and over peak
- Found a logbook at the summit detailing who had summited the mountain and when, discovered a group from the University if Bristol were one day ahead
- Dave waited at mountain hut, luxury to sleep inside while it stormed during the night

09/07/19: Vilinac Mountain Hut → Jablanica – Day 9
- Food limited: rice in the morning and bag of peanuts throughout the day
- Walked down to Jablanica, saw river linking all big towns in direction of Sarajevo
- Missed the iconic Via Dinarica ring landmark, found out when speaking to two Danish people doing day hike in opposite direction
- A local restaurant owner named Wahid told us that camping around the town was not possible, stayed the night in a local bungalow
- Ate an obscene amount of food (five courses worth) for less than £10 a head
- Carla joined at dinner

10/07/19: Jablanica → Pansion Asim, Glodnica – Day 10
- Josephine’s blisters had become quite badly infected, Dave accompanied her to a Doctor in Konjic.
- Remaining group followed the trail to the next town, where they met up at the Pansion Asim bed and breakfast.

11/07/19: Pansion Asim, Glodnica – Day 11
- Another rest day, allowing Josephine’s foot time to heal and the remaining group some recovery time
- Yoga session by the lake
- Sorcha charmed her way into renting a jet-ski

12/07/19: Pansion Asim, Glodnica → Ravna – Day 12
- Walked back through Jablanica
- A stray dog followed us for the majority of the day, nicknamed him Jacko – a good boy
- Continued to Ravna, tiny village surrounded by mountains
- Camped close to stream, all tents on a hill meant a comical night of sliding to one end
13/07/19: Ravna → Prenj Mountain Valley – Day 13
- 21km hike with a 1.6km ascension
- 2km of 50% incline, not hiking but climbing
- Astounding views from the top
- Had lunch and gathered water in an abandoned mountain hut, set off in the direction of another hut
- Faster pace to make it to mountain hut in time before sundown
- Continued walking, exhausted, walked for 14 hours across harsh terrain
- Could not locate second mountain hut, luckily came across a farming family at the bottom of a valley
- Communicated using google translate, offered us coffee, water from their well, a place to camp and provided homemade cookies, bread, meat and potatoes.
- A less than enjoyable day turned around completely and had an amazing ending

14/07/19: Prenj Mountain Valley → Jezero – Day 14
- Good mood as a result of the generosity and hospitality provided by the farmers
- Took pathed road route as opposed to the climb due to fatigue
- Accompanied by another stray dog (another good boy), went to Bijela
- Arrived in Bijela via a road, however lack of signs had meant we emerged onto a shooting range (not in use fortunately but could use some serious signage)
- A local hiker on his way into Konjic offered us a lift to the town. Having bad ankles and blisters, Dan, Josephine and Sorcha were given a ride, with Niamh, Carla and David offering to walk.
- Strong Ottoman influences in Konjic architecture and culture, beautiful town.
- Regrouped at a pizzeria, discussed best/most challenging moments of the trip so far.
- Niamh had injured her knees in the walk from Bijela to Konjic, taxis were taken from the pizzeria to the Jezero lake campsite

15/07/19: Jezero – Day 15
- Sleep in, rest day, nice to have (cold) shower, toilet, electricity
- The following day was planned to have a 2km increase in altitude. Due to fatigue and the ever-present heat this would have been a potential danger in our current condition. Was decided that a taxi should be taken up to a nearby town (Lukomir)
- Dan and Sorcha tried Rakija, the local spirit brewed in the region
16/07/19: Jezero → Lukomir – Day 16
• Dropped off after altitude increase of 1000m
• Shephard advised us that the women should cover their hair as we were now in a more Islamic part of the country
• 16km walk to Lukomir, was invited for coffee by a local farmer and his mother
• Lukomir had 500 inhabitants in the past, still very traditional
• The village once had 500 residents, remained very traditional to this day. Local offered us his land for us to pitch up camp.

17/07/19: Lukomir – Day 17
• Super cold outside, would walk part of the trail to Dubocani on a day-hike and then return to Lukomir
• After 4 hours had reached the edge of a mountain range and sat on cliff overlooking the valley
• Route there and back involved hiking along the edge of a mountain, encountered a snake on the return journey
• Stayed in restaurant until sun went down, had local Bosnian pie (burek) with meat, cheese or potato
• After sundown went up on hill some 100m away and watched over Rakitnica valley for about 1.5 hours, contemplated about journey so far, very peaceful

18/07/19: Lukomir → Bjelašnica – Day 18
• Left Lukomir at dawn, accompanied by a beautiful sunrise
• Hiked to a Ski-village, Bjelasnica, that was used during the 1984 Sarajevo Winter Olympic games
• Passed tourists and locals along the road, Josephine was able to converse with them in German
• Very big apartment, luxurious with beds, warm showers etc.
• Had an auction for selling all communal equipment used along trip

19/07/19: Bjelašnica → Sarajevo – Day 19
• 0800 taxi to Sarajevo youth hostel
• Walked to Ottoman market for breakfast, had Burek for the last time
• Free tour of Sarajevo by a local man, who explained about the war in Bosnia, how it arose, affected the people, culture and how the country is moving forwards.
• So much history in the city: starting as part of the Ottoman empire, then part of Austria-Hungary, assassination of Franz Ferdinand in 1914, then part of Yugoslavia, then 1992-1995 war in Bosnia: can see these influences in the architecture
• Country suffered from war, not much tourism, Bosnia Herzegovina cannot get into EU cause of political system (3 presidents)
• Walked to brewery in Sarajevo with tour: very important in wartime, since provided drinking water to people in Sarajevo, life threatening to gather drinking water
• After free tour, big tour organised by hostel, tour guide was a young man who was born during the conflict and explained what it was like growing up, stories about the locals and his family. Took us to
varying parts of the city discussing war stories, visited the historic tunnel that helped Sarajevo fend off the siege.

- Tour ended up on a nearby mountain, the site of one of the former bobsled tracks used during the winter Olympics
- Later that night we went to a Jazz bar with a group of musicians who happened to be staying at the hostel.
- Left for the airport the following day.

**Conclusion**

This expedition to Bosnia and Herzegovina provided the group an opportunity to visit a beautiful and misunderstood country that has grown and repaired over the last two decades. The people of this nation showed us nothing but compassion and generosity, despite rarely speaking a common tongue – offering food, water, shelter and some of the best coffee we’ve ever tasted.

We heard stories from the war that involved pain, loss, and suffering. Although these emotions still last today, there was an ever-present desire to move forwards and progress towards a better future. Despite not having much, some of the people we met were always willing to offer anything they could to make us feel welcome in their country and their home.

The trail itself took us through landscapes that we could never have anticipated – from what appeared to be never-ending plains to stunning mountain ranges and valleys that look untouched and away from human interference. Although the hike presented its challenges as a group and individually, we all managed to reach Sarajevo and have some laughs along the way. We each gained more experience in this style of expedition and will likely undertake more like this in the future.

We would like to thank the Imperial College Exploration board, the CGCA, and the Lord Mayor’s 800th Anniversary fund for giving us all the opportunity to undertake this expedition, and the people of Bosnia and Herzegovina for their unforgettable hospitality.