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| Project Title | Understanding small- and large-scale factors of seaweed biofouling through eDNA analysis |
| Principal Investigator/Assessor | Calum Young / Sofie Spatharis |
| Partner Institutions | Kilchoan Melfort Trust |

NOTE: This template is provided to allow project teams to plan, assess and record control measures that may be needed to mitigate risk during proposed travel and fieldwork/project activities. This has been modified from the University FWRA to include both Travel and Fieldwork Risks (see guidance here on [fieldwork/travel](#)). If travel doesn't involve fieldwork and has significant risks beyond the [Generic Travel Risk Assessment](#), then only Sections A-D need to be filled in. If fieldwork is in the UK, then only sections A-C and E apply (not Section D). If travel is overseas, involves travel to a country that cannot be covered by the Generic Travel Risk Assessment, and involves field work, please fill in all Sections (A-E). The template provides only an outline of some typical hazards that will need to be considered but is not necessarily a comprehensive list. It is for the assessor to identify foreseeable and significant hazards associated with the proposed work. If it is necessary to modify parts of this template to accurately capture the risks associated with your project, please do so – the most important part of risk assessment is a frank discussion of the risks involved in your project, a discussion about how those risks will be addressed and that all team members are made aware of the processes and procedures they should be following to reduce risk. This document is a tool to capture/demonstrate that those discussions occurred and that all team members acknowledge being briefed on those discussions.

Currently, all fieldwork risk assessments must also be reviewed by the SBOHVM health and safety committees. PLEASE SEND TO sbohvm-hs-fw-travel@glasgow.ac.uk AT LEAST **THREE WEEKS BEFORE TRAVEL FOR REVIEW**.

SECTION A – OVERVIEW OF ACTIVITIES

| | |
|---|---|
| Location(s) of the planned activity | Kilchoan Estate, Oban |
| Description of the planned activity <i>This section should describe the nature of the activity (mark-recapture study, biodiversity surveys, epidemiological cohort study, etc) in sufficient detail that someone not familiar with the project can understand what the activity is and what sort of risks are involved.</i> | <p>Activities will consist of:</p> <ul style="list-style-type: none"> - Collection of water for eDNA sampling, phytoplankton, zooplankton, and nutrients (Zooplankton samples require formol preservation; gloves and masks will be worn during this collection). Water samples will be collected from a boat with total volumes being Zooplankton (1.25L), Phytoplankton (1.25L), nutrients (2.5L), eDNA (5L). Water is collected via a long hose and peristatic pump allowing user to stay seated inside boat. - Collection of chlorophyll through water filtration |

| | | | |
|--|--|--|---------------------------------------|
| | <ul style="list-style-type: none"> - Samples will be collected from shallow waters (<20m depth) close to shore from a small powerboat operated by estate staff. No lone working will be conducted, and estate staff are onsite throughout day-light hours when research will be conducted. | | |
| Participant details <i>This section should provide the name, e-mail address and employer for each participant.</i> | Name Calum Young | E-mail Address 2090242y@student.gla.ac.uk | Employer University of Glasgow |

SECTION B – SCHEDULE AND LOGISTICS OF ACTIVITIES

Travel itinerary and arrangements within host destination(s). Include anticipated dates, locations, activities for those locations, as any known intended travel routes for touring

Two-day trips will occur monthly during the third week of each month dependent on weather conditions and accommodation availability of the estate. Departure by car will be from Glasgow 9am to arrive in Kilchoan at 12pm. The vehicle used will be private or rented with insurance in place that covers business use. Sampling will be carried out by the participant alongside estate staff manning a small (max 3 person) boat owned by Kilchoan Estate. Samples will be collected from 5 stations located around the onsite seaweed farm. Samples will be collected using either a small plankton net or a handheld electronic hand pump. Participant will depart Kilchoan the following day and travel to Oban to collect water samples from partner farms. These samples are taken by partner farm staff and not by participant. Following handover participant will return to Glasgow.

Overnight accommodation. List all addresses and telephones and dates where these are applicable

Accommodation will be provided onsite, at the Guest House at Kilchoan Estate in single ensuite rooms. Contact details: 07377 194263
Kilchoan Estate, Kilmelford, Oban

Transport

| | |
|---|---|
| Outward and return journey mode of transport and dates/times. If applicable; can list different schedules for multiple participants. | In general participant will travel by university or private vehicle from Glasgow to Kilchoan, departing 9am and returning the following evening. |
| Arrangements for transfer from airport to accommodation (if applicable): | n/a |
| Details of daily travel to/from accommodation and around field site. Include details of any participants that will be driving overseas. | Accommodation is on site; boat jetty is within walking distance; sampling site is 3-minute boat journey from shore. |

SECTION C – PLANNING CHECKLIST

| TABLE C1. Planning checklist | Response (category, yes, not applicable) |
|--|--|
| What is the UK Government foreign travel advice category (See https://www.gov.uk/foreign-travel-advice) Proposed action in response to any specific advice should be provided within Section D. | Not applicable |
| Are any relevant safety risks identified in UK Government Overseas Business Risk report ? If country is not listed, please state 'no risks.' If yes, please list risks here and indicate mitigation activities in Section D | Not applicable |
| If international travel is involved, has the country profile from AIG been reviewed? Access through www.mylifeline.co.uk - use your Glasgow email and Main Policy Number (15900329) to register for an account. List any moderate, high risk , and very high categories in section D and include the overall risk rating in the column to the right. | Not applicable |
| If group travel, have all group members reviewed and signed the risk assessment? | Not applicable |
| Have recommended travel immunisations been completed for all travellers? | Not applicable |
| Are research permits applicable to conduct the work? If yes, please make sure these are in place before your work begins. | Not applicable |
| Are research ethical approvals required for the fieldwork? If yes, please make sure these are in place before your work begins. | No |
| Are visas required? If yes, please make sure you obtain these before purchasing tickets. | Not applicable |
| Are you aware that the trip MUST be registered in UoG travel portal and suitable insurance been arranged ? (Registration is mandatory if travel is outside the UK or, if within the UK, involves an overnight stay or air travel.) This is done AFTER RA is approved | Yes |
| Are personal contact details on file in CoreHR or within the department/ University? | Yes |
| Has the SafeZone app been downloaded and registered for all participants? | Yes |
| Has the University Generic Travel Risk Assessment been reviewed? | Yes |
| Has a need for specific training been identified for the planned trip (i.e.hostile area, cultural awareness)? If yes, provide details in Section D or E | No |
| Are all emergency contacts and information complete (see table C2)? | yes |

| TABLE C2. Emergency contacts and information | |
|--|---|
| First aid | (Provide details of arrangements) First aid kits are present in vehicle, in guest house and in boathouse at field site. Estate staff are first aid trained. |
| Local hospital(s) | (Address, accessibility and facilities, if relevant to trip) Glengallan Rd, Oban, Argyll PA34 4HH Phone: 01631 567500 |
| Insurance number(s) | University insurer helpline is +44 (0) 1273 552 922 (Glasgow Policy No. TBC) – but trip must be logged on TRICAP : Policy Number 15900329 If additional cover is taken out place contact here: |

| | | | | |
|--|--|------------------------|--------------------------------|----------------------------------|
| | | | | |
| British consulate(s) | (Address and telephone number) (not applicable for UK fieldwork) | | | |
| Destination contact(s) | Marnik Van Cauter 07377 194263 | | | |
| Local emergency number(s) | | | | |
| Emergency contact(s) for participants | Participant Name | Emergency contact name | Emergency contact relationship | Emergency contact (phone, email) |
| | Calum Young | Rhona Young | Sibling | 07584572041 |
| | | | | |
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RISK ASSESSMENT GUIDANCE (FOR SECTIONS D & F)

To calculate the risk ratings, please use the scores for likelihood and impact provided below. Assign the appropriate number for the Likelihood and Impact columns (see definitions below) and then multiply those numbers to determine the Risk Rating number for both the '*Inherent Risk*' and the '*Residual Risk*' columns. Inherent Risk describes the risk of the hazard without control measures in place. This should be based on most likely foreseeable outcome, not a worst-case outcome. Then in the right hand column, you should detail risk control measures. These should be specific and actionable and should either reduce the *likelihood* or *impact* of an event, or both. You should then adjust the likelihood and impact scores to determine the residual risk of this hazard after your control measures are enacted.

RISK RATING is the product of likelihood and impact of a given event. Risk ratings are calculated for both '*Inherent Risk*' and '*Residual Risk*'

| SCORES for Likelihood | |
|-----------------------|---------------|
| 1 | Very unlikely |
| 2 | Unlikely |
| 3 | Possible |
| 4 | Likely |
| 5 | Very likely |

| SCORES for Impact/Consequence of hazardous event | |
|--|--|
| 1 | Insignificant (no injury or very minor injury only) |
| 2 | Minor (minor injury requiring first aid only) |
| 3 | Moderate (More severe injury or up to three days absence) |
| 4 | Major (Significant injury or more than seven days absence) |
| 5 | Catastrophic (Permanent injury or death) |

RISK RATING & ACTION TABLE

SBOHVM Fieldwork Risk Assessment Template version 1.0 (August 2022)

| Risk Rating | Risk Level | Actions to be taken | |
|-------------|----------------|---------------------|--|
| 20 – 25 | Very High Risk | STOP! | Stop the activity and take immediate action to reduce the risk, a detailed plan should be developed and implemented before work commences or continues. Senior management should monitor the plan. |
| 15 – 16 | High Risk | Urgent Action! | Take immediate action and stop the activity, if necessary. Maintain existing controls rigorously. The continued effectiveness of control measures should be monitored periodically. Seek additional controls to reduce the risk. |
| 8 – 12 | Moderate Risk | Action | Moderate risks may be tolerated while further control measures to reduce the risk are being planned and implemented or if no risk reduction is possible. Where practicable, improvements should be made. |
| 3 – 6 | Low Risk | Monitor | If possible, try to reduce risk, otherwise monitor the situation to ensure that risk remains low. |
| 1 – 2 | Very Low Risk | No Action | No further action is usually required but ensure that existing controls are maintained and reviewed regularly. |

SECTION D – Trip-specific risk assessment

First, identify what significant hazards are associated with the travel. Some common travel hazards are suggested below, but you should try to identify any others that are relevant to travel to the country or field location. For international travel, we recommend using AIG's country risk profiles (www.mylifeline.co.uk) to help guide this. Fieldwork specific activities (i.e. immobilizing a wildebeest) are covered in Section E but risks associated with travel to the location and around it, daily activities (i.e. eating, drinking, exposure to endemic diseases), and overnight stays in the location should be covered here. Each relevant factor identified below (YES) should be listed in the 'Hazard' column on the risk assessment table that follows.

| Human factors | Applicable? (Yes/No) | Environment and infrastructure | Applicable? (Yes/No) |
|--|-------------------------|---|-------------------------|
| Muggings/ robbery | | Infrastructure | |
| Political tension | | Driving (Consider risk of driving in the area, road condition, off road driving or night driving, risk of hijack/theft) | |
| Corruption | | Accommodation (fire, carbon dioxide, electricity) | |
| Civil unrest | | High altitude | |
| Kidnap/ abduction | | Desert/intense sun/cold climate | |
| Culture (customs, dress, LGBTQ+, religion) | | Earthquake or volcanic risk | |
| Language/communication | | Storm/hurricane risk | |
| Legal differences | | Monsoon/ high humidity | |
| Stress (lack of family support) | | Air pollution | |
| Medical (health, pregnancy, other factors) | | Radiation risk | |
| Biological risk | | Water contamination | |
| Venomous animals | | Asthma/allergies | |
| Hazardous animals (non-venomous) | | Food toxins | |
| Endemic disease (e.g. Covid, HIV, hepatitis, malaria, rabies, leptospirosis, yellow fever, cholera, polio, typhoid, zika, dysentery, parasites) | | Other (specify:) | |
| | | Other (specify:) | |

SECTION E – Fieldwork-specific risk assessment

Lastly, identify significant hazards are associated with the specific fieldwork activities. We have given some examples below, but please adapt to your activities. You should then list each relevant hazard in the 'Hazard' column on the risk assessment form that follows.

| Example hazards associated with fieldwork (please include additional ones as required) | Applicable? (Yes/No) |
|---|----------------------|
| Muggings/ robbery (Does the work involve valuable equipment/ materials that could make the work/ study group more vulnerable to robbery?) | No |
| Political tension (Does the activity, in itself, pose a risk of offending the local population/ government, or is it likely to be controversial?) | No |
| Infrastructure (Consider communications and utilities, mobile phone signal in the field, potential for loss of communications) | No |
| Working at height | No |
| Compressed Air | No |
| Lithium batteries (fire hazard) | Yes |
| Mechanical handling | No |
| Collection of samples (i.e. uneven terrain, increase exposure to specific pathogens) | No |
| Handling biological samples | No |
| Transporting biological samples (i.e. dry ice, liquid nitrogen) | No |
| Needles and Sharps | No |
| Hazardous chemicals | Yes |
| Working conditions (i.e. long hours, nighttime) | No |
| Slips, falls, minor injuries | Yes |
| Work in or adjacent to water | Yes |
| Increased exposure to venomous or poisonous animals (if not covered in Section D) | No |
| Working from a boat | Yes |

| Risk identification | | | Risk assessment | | | | | |
|---------------------|------------------------|---------------|-----------------|-------------|--|---------------|--------|-------------|
| Hazard | Potential consequences | INHERENT RISK | | | Risk control measures <i>(Indicate any specific arrangements to be put in place to deal with the identified hazards.)</i> | RESIDUAL RISK | | |
| | | Likelihood | Impact | Risk rating | | Likelihood | Impact | Risk rating |
| Driving | Road traffic accident | 2 | 5 | 10 | Driving will be done by an experienced, licensed individual only in a well maintained personal or university vehicle. Participant will wear seat belts and follow all UK driving laws throughout fieldwork | 1 | 5 | 5 |
| Extreme of weather | Hypothermia/sun stroke | 3 | 3 | 9 | Participant will wear appropriate clothing and footware for the weather, including layers and waterproofs as necessary. Duration of any field | 2 | 3 | 6 |

| | | | | | | | | |
|------------------------------|--|---|---|----|--|---|---|---|
| | | | | | sampling will take <2 hours at a time, with appropriate breaks for water and meals. Forecast and weather will be reviewed prior and during all activities. | | | |
| Slips, falls, minor injuries | Minor cuts, grazes and bruises. Impact with submerged objects. | 3 | 3 | 9 | Participant will wear sturdy footwear with appropriate treads and take care when walking on uneven terrain. Field workers will take care on landing stages and the shoreline. Carry out a visual survey of the work area before hand to identify any potential hazards in the water. First aid kit will be stored in vehicles. | 2 | 3 | 6 |
| Working near water | Slipping, minor injuries, falling into water and drowning | 3 | 4 | 12 | Participant will enter boat from jetty ladder taking care on descent and in company of estate staff. Lifejackets will be worn prior to walking to jetty. | 1 | 4 | 4 |
| Boat work – powerboat | Hypothermia, drowning | 3 | 4 | 12 | YDSA certified workboat will be operated by staff from the estate. Two staff members will be joining participant, one holds RYA/MCA Powerboat Advanced certificate of competence (Marnik Van Cauter), the second holds RYA Powerboat level 2 powerboat handling certificate (Joshua Madeley). Tickets held by estate staff are commercially endorsed permitting them to take students onto boats for work purposes. Participant will adhere to all instructions from Kilchoan staff. Participant will wear lifejackets throughout boat work. There will be a continuous dynamic risk assessment for weather conditions. These will be checked prior to departure and throughout sampling, which will only be continued under appropriate conditions. Spare dry clothes should be available in the vehicle should someone fall in and become wet. | 1 | 4 | 4 |

| | | | | | | | | |
|--|--|---|---|----|--|---|---|----|
| | | | | | | | | |
| Hazardous chemicals | Exposure to potentially carcinogenic substance | 2 | 5 | 10 | Formalin based fixatives will be used for zooplankton preservation. Chemical is pre-measured into 5 separate polyethylene collection bottles with 20ml in each bottle. Bottles have tight seals and carry appropriate warning labelling. Bottles will be opened on the boat individually at separate locations open to air and will be held down wind of participant and staff. Water samples will be taken prior to bottle opening. Jars will be opened, water sample added, and bottle quickly resealed to minimise any exposure. Relevant COSHH forms will be included in training prior to the trip and documentation signed by participant. | 2 | 5 | 10 |
| Entanglement in gear | Risk of tripping and falling | 3 | 4 | 12 | The presence of cables, rope on boat should be limited. Do not wrap rope around hands or limbs. Equipment etc. will only be used after training in their correct use. No damaged or faulty equipment will be used, all defects will be reported to the supervisor. | 2 | 4 | 8 |
| Equipment (manual handling failure) | Carrying equipment causing muscle/back strain | 2 | 3 | 6 | All equipment is light weight, this includes sampling pump and nets | 1 | 3 | 3 |
| Rural location (rough terrain, tides, low support infrastructures, difficulty in summoning assistance etc) | Poor mobile signal resulting in communication failure, difficult to get help in an emergency | 2 | 3 | 6 | There is good mobile phone coverage in the Loch Melfort area with O2 and Vodafone. Other networks are patchy. Field work will always be carried out by participant alongside estate staff. SafeZone has been uploaded onto phones, and assistance can be summoned via Estate staff operating the boat. | 1 | 3 | 3 |
| Long working day | Fatigue | 2 | 2 | 4 | The risk of fatigue from working long days is unlikely. Entirety of boat sampling protocol will take <2 hours. | 1 | 2 | 2 |
| Potential communications issues | There will be no lone working either in or near to water. | 2 | 3 | 6 | Participant will be in a team with 1 – 2 estate staff. | 1 | 3 | 3 |

| | | | | | | | | |
|---|--|---|---|----|--|---|---|---|
| Unsafe accommodation (fire, carbon dioxide, electricity failure) | Fire, carbon dioxide poisoning, electric shock | 2 | 5 | 10 | Accommodation is provided by the Kilchoan Estate and the guest house is maintained to a high standard. | 1 | 5 | 5 |
|---|--|---|---|----|--|---|---|---|

OVERALL RISK RATING:*

very low, low, moderate, high, OR very high

* The most appropriate Overall Risk Rating should be judged from the risk assessments carried out within SECTION D and E above and be based on the highest residual risk (see risk rating & action table for categories relating to risk ratings)

moderate

Participant Acknowledgement

This section should be completed by each participant in the activity to confirm that they have been provided with a copy of this risk assessment and acknowledge the risks identified therein and their own responsibilities in mitigating those risks. Add additional rows as appropriate.

| Name | Employer | Contact Information (phone number or e-mail) | Signature | Date |
|-------------|-----------------------|---|---|------------|
| Calum Young | University of Glasgow | 07398206954/2090242y@student.gla.ac.uk |  | 02/12/2024 |
| | | | | |
| | | | | |

Line manager / supervisor authorisation – Required for all fieldwork.

I have assessed this proposal together with the associated risk assessment at Sections D and E. I am satisfied that suitable control measures are in place to manage foreseeable risks and I agree to the fieldwork being undertaken.

| | | |
|--|--|------------------|
| Signed (Line Manager or Group Leader): |  | Date: 16/12/2024 |
| Print Name: Sofie Spatharis | | |

NOTE: The signatures below indicate managerial authorisation for the fieldwork. They are not intended to place any personal liabilities on those providing such authorisation, beyond any existing legal duty of care that may apply.

Additional sign offs: Head of School (or authorised depute) sign off is required only for risk assessments attracting a MODERATE, HIGH or VERY HIGH risk rating. Head of College level sign off is required for any fieldwork judged to be in the higher risk categories.

I have reviewed this proposal together with the fieldwork assessment at Sections D and E. I am satisfied that suitable control measures are in place to manage foreseeable risks and I agree to the fieldwork being undertaken.

| | |
|--|---------------------------------|
| Head of School/Director of Institute/Head of Service (or authorised depute) | Date: 17 th Dec 2024 |
| Signed:  | Print Name: Roman Biek |

The additional sign off below is required only where fieldwork is assessed as HIGH risk, or VERY HIGH risk.

| | |
|--|-------------|
| Head of College/Chief Operating Officer (or authorised depute) | Date: |
| Signed: | Print Name: |

