Hawaii Fieldwork Safety Guidelines Overview

1.0 Application and Scope: Fieldwork consists of off-campus research or teaching activities. Fieldwork may occur in remote locations and/or expose field crew members to extreme weather, hazardous terrain, or other adverse conditions.

2.0 Responsibilities: The PI has ultimate responsibility for the safety of their field crew.

3.0. Requirements for Reasonable Care: Reasonable care includes considering all aspects of the excursion, including who is eligible to participate, transportation, equipment, first aid supplies, proper training and use of equipment and vehicles, communications, delegation of duties, and an emergency plan.

4.0 Refusal of Unsafe Work: Any member of a fieldwork crew may refuse to participate in activities that s/he feel are unsafe.

5.0. Solitary Fieldwork: Solitary fieldwork is strongly discouraged. If necessary, the individual should plan carefully and make sure someone else know where s/he went and when s/he will return.

6.0 General Guidelines: Every situation is different. This section includes requirements and suggestions for safe field work under a variety of situations.

- Planning your fieldwork
- First aid
- Travel on foot
- Vehicles
- Roadside parking and/or roadside fieldwork
- Working on State or Federal Land
- Pests
- Other hazards

7.0 Animal Capture and Sampling Protocol: Participants of field work that involves the capture of animals and sampling of bodily fluids must follow the outlined protocol.

8.0 Equipment and Communications: The field crew should ensure that their equipment is in good operating condition, that they have all necessary safety equipment and supplies, that their phones or radios have sufficient power and local coverage, and that there is a communications plan in place.

9.0 Emergency Plan: The PI and field work crew should all understand the emergency plan.

10.0 COVID-19 Standard Operating Procedures: Protocols for safely traveling and working amidst the ongoing COVID-19 pandemic.

11.0 Other Resources: University resources for emergencies

The following guidelines focus on establishing a climate in which safety of University personnel has primacy, where faculty, staff and students know the policies, procedures and guidelines to help create safe practices. Principal Investigators (PIs) may elect to manage the risks involved with their fieldwork in a different manner to these guidelines, but alternative practices must provide at least equivalent or better level of safety.

There is no successful method of guaranteeing safety of personnel. These guidelines attempt to provide a framework in which it is customary and normal that all possible precautions have been taken and all proper responsibilities met. The major requirements -assessment of risk, planning, training, equipment, communication, responsibilities - are addressed in this document.

1.0 APPLICATION AND SCOPE

"Fieldwork" consists of activities authorized by the University, conducted for the purpose of study, research, or teaching that are undertaken by faculty, staff, students, and authorized volunteers of the University at a location outside the geographical boundaries of the campus. Fieldwork activities, such as those involving isolated or remote locations, extreme weather conditions, or hazardous terrain, can expose participants to significant risks to their health, safety, or well-being at locations outside the direct supervisory control of the University. The intent of these guidelines is to ensure that prior to undertaking fieldwork:

- All concerned parties are aware of their responsibilities;
- A risk assessment is carried out to identify potential hazards associated with fieldwork and to establish appropriate controls to eliminate or minimize such hazards; and
- All participants have an informed understanding of the associated risks and consent to the means for dealing with such risks.

These guidelines are not generally intended for organized off-campus activities such as:

- Supervised study or work placements at external institutions which are affiliated with the University or which the University department has designated to be an approved placement center; or
- Travel for conferences, seminars, meetings or visits to other institutions.

For all off-campus activities conducted on the premises of or under the control of another organization or institution, Principal Investigators (PIs) must ensure that the local safety procedures of that organization or institution are appropriate and reasonable for the type of activities being conducted, are in compliance with local laws and regulations, and are consistent with the safety standards and practices of Utah State University.

2.0 RESPONSIBILITIES

The responsibilities of the following: 1) Deans, Directors and Department Chairs; 2) Departmental Safety Coordinators; 3) Principal Investigators/Supervisors; 4) Employees and Students and; 5) Environmental Health and Safety should be consistent with the responsibilities set forth in by Utah State University. For the purpose of fieldwork, the following additional responsibilities are:

PRINCIPAL INVESTIGATOR

Responsibility for ensuring fieldwork safety rests primarily with the Principal Investigator, or the person supervising or guiding the specific project at the location involved. This person is expected to exercise good judgment, and to take reasonable steps to protect the health and safety of participating team members. The Principal Investigator is responsible for:

- Approving the composition of the fieldwork team;
- Ensuring that a Risk Assessment is completed prior to departure;
- Making arrangements for appropriate transportation to and from the location of the fieldwork, where applicable;
- Considering the need to accommodate team members with disabilities, including any financial implications;
- Determining what safety equipment is appropriate, and ensuring that each team member is instructed in the proper use of the equipment (examples include hard hats, safety boots, goggles, etc.);
- Ensuring that each team member is made aware of the specific requirements that must be met for participating in the fieldwork prior to departure (such as visas, immunizations, health insurance requirements, etc);
- Ensuring that there are first aid supplies and a trained team member to use them if an emergency should arise;
- Identifying appropriate safety procedures in case of emergency or distress (one example is sensitivity training for entrance to poverty-stricken areas or war zones);
- Ensuring that team members are informed of the availability of procedures for contacting the University to obtain assistance in a crisis situation;
- Recognizing the right and responsibility of an individual to exercise personal judgment in acting and avoiding harm in situations of apparent danger;
- Requiring every team member to attend any relevant training courses on field safety;
- Ensuring that each team member receives appropriate site-specific training, including information on the known risks and physical hazards of the area in which the fieldwork is to be carried out;
- Establishing a chain of leadership that is understood by all participants and documenting this chain of responsibility;
- Maintaining written documentation of all the above steps and any other required safety procedures (this documentation can be part of the Fieldwork and Associated Travel Safety Planning Record). It shall be filed with the office of the Department Head, Division Head or Dean prior to departure for fieldwork, and maintained for a minimum of three years.

TEAM LEADER

The Team Leader may be the Principal Investigator (PI) or may, in the absence of the PI, be another member of the team who has been designated as such by the PI. The Team Leader has the duties of a supervisor and in particular, the Team Leader is responsible for:

- Ensuring implementation of the controls established by the PI, including the use of appropriate safety equipment, safety procedures, and medical precautions by team members during fieldwork;
- Conducting ongoing risk assessments during fieldwork and reporting any new hazards to the PI;

- Resolving any safety concerns which arise in the field;
- Maintaining regular contact with the PI and/or departmental contact;
- Informing the PI and/or departmental contact of all accidents, illnesses, or emergencies which occur in the field; and
- Ensuring team member receive adequate health and safety training as applicable.

TEAM MEMBERS

Each member of the fieldwork is responsible for:

- Acknowledging the risks of the particular field project;
- Using the appropriate protective equipment provided and following the procedures established by the PI;
- Working safely and in a manner to prevent harm to themselves or to others;
- Understanding the Requirements for Reasonable Care outlined in Section 3; - Reporting any identified hazards to the Team Leader or PI; and
- Reporting all accidents, illness, or emergencies to the Team Leader.

3.0 REQUIREMENTS FOR REASONABLE CARE

Requirements for reasonable care for those involved in fieldwork, to ensure safety, include, but are not restricted to, the following:

- Only staff, students, and approved volunteers authorized by the PI may assist with fieldwork. **Friends, pets, and children are prohibited from accompanying field teams.** Employees of county, state and federal agencies on official business connected with the project may accompany people working in the field as appropriate.
- Always consult with your PI if you are uncertain regarding someone's eligibility to accompany you in the field. **In general, researchers or other colleagues from other institutions who not authorized by the PI are not allowed to accompany field teams.**
- Availability of appropriate first-aid supplies and expertise; and accessibility to emergency medical treatment;
- Availability of appropriate personal protective equipment (PPE) and field equipment to support the research;
- Availability of appropriate food and accommodations, and during travel to and from the site;
- Arrangements of appropriate transportation to, at, and returning from the location of the fieldwork; vehicles must be operated in a manner consistent with Standard Operating Procedures (SOPs) for university vehicles. Personnel should ask the PI for a briefing on the procedures before operating an unfamiliar vehicle for the first time;
- The tasks and responsibilities assigned to each participant must be clearly communicated prior to and during each field excursion;
- Knowledge of all health and safety standards and requirements applicable to the jurisdiction in which the fieldwork is being conducted;
- Provision of appropriate information and training regarding the risks associated with fieldwork activities, materials, equipment and environment, and appropriate control measures for dealing with them;
- Provision of appropriate information and training for responding to and reporting of accidents involving injuries, damage to property and equipment, and spills, leaks or release of hazardous materials;

- Recognition of the right and responsibility of an individual to exercise personal judgment in acting to avoid harm in situations of apparent danger; in this regard, students should be informed of the general nature, requirements, and location of their fieldwork; and
- Availability of procedures for contacting the University to obtain assistance in an emergency.

4.0 REFUSAL OF UNSAFE WORK

Any member of a fieldwork team may refuse at any time to participate in any activity that they feel may endanger their health and safety or that of another person.

5.0 SOLITARY FIELDWORK

Working alone is strongly discouraged, particularly when remote or hazardous locations, high-risk activities or other unusual conditions are involved. In situations where solitary work is deemed necessary and unavoidable, a stringent code of practice must be established to address worker competency, procedures for regular communication, emergency procedures, and other precautions and procedures appropriate to the type of activities involved. The field member must ensure that someone knows where he/she is and when he/she is expected to return.

6.0 GENERAL GUIDELINES

Before fieldwork is conducted, the PI should develop standard operating procedures (SOPs) specific to their fieldwork. The SOPs should include at a minimum, information provided in sections 6.1, 6.2, and 8.0.

6.1 Preparation – Before Departure

One of the most important phases of a fieldwork experience is planning and preparation before you leave. Here are some suggestions:

- Complete and submit a Fieldwork Plan (required!).
- Learn about potentially hazardous plants, animals, terrain, and weather conditions in the area where fieldwork is being conducted.
- Take a CPR/First Aid/Wilderness First Responder class. The WILD department has offered subsidized courses in the past. Inquire with Marsha Bailey in WILD or the Graduate Student Safety Liaison about course availability.
- Organize safety equipment and other provisions and check everything before you leave. These include:
    - First aid kit and first aid manual
    - Medications taken on a regular basis
    - Allergy treatments, as needed
    - Sunscreen and hat
    - Personal protective equipment (PPE) such as safety glasses/goggles, gloves, hard hat, work boots, etc.)
    - Vehicle/boat emergency kit
    - Flashlight
    - Flares
    - Two-way radio or satellite phone (if you will be working in an isolated or dangerous area) and/or cellular phone, as appropriate
- Whenever possible, fieldwork activities should be done in teams of at least two people.

- Ask your health insurance provider about how your coverage applies to medical treatment in the fieldwork locale, should that become necessary. Find out where to go for emergency care.
- Obtain authorization for access to state, federal and/or private lands.
- Obtain permits for any sample collection from respective agencies (i.e. DLNR, NFWS, etc.)

6.2 Medical Care and First Aid

When conducting field work, crew members should carry a first aid kit. When conducting field work in remote areas, around particularly dangerous or extreme landforms, or under other special circumstances, the PI may require one or more field crew members to receive first aid/WFR certification.

6.3 Travel on Foot

- Wear proper safety gear and foot wear;
- Always carry a first aid kit, radio (or cell phone if coverage is available), and water;
- Be sure that equipment and supplies are carried in a manner consistent with safe travel over rough terrain. Backpacks should be in good repair and fit properly; **DO NOT OVER-ESTIMATE YOUR LOAD CAPACITY;**
- Always be aware of what's around you (on ground and overhead);
- Be conscious of surroundings both ahead and behind you – when disoriented, familiar objects can set you on track. Carry a compass and a map showing locations of pertinent transect, roads and trails, and other landmarks, especially in unfamiliar surroundings and/or when fog, rain, or darkness can set in. Do not solely rely on digital maps/navigation devices because these can fail. Carry paper maps and/or backup devices when you can.
- Always be sure someone in the laboratory knows where you are and when you are expected to return;
- Never overextend your capabilities;
- Be sure permission is granted before entering private property;
- Report accidents immediately to your supervisor;
- Use common sense; and If you do get lost or become disoriented **STAY WHERE YOU ARE**. You may be overcome by panic. Sit down and quietly organize your thoughts on where you are. A few moments of recollection may clarify your situation. If not, find a comfortable place to rest. Use your whistle or other means to attract the attention of anyone around you. Do not try to leave the area if there are no signs of where to go. Do not travel at night. You can sometimes assist a helicopter search by starting a smoky fire but be extremely careful not to set the surrounding vegetation on fire.

6.4 Transportation

6.4.1 Use of Vehicles

Only licensed and appropriately trained drivers should be in charge of field vehicles. This can be ensured by only allowing personnel to drive vehicles for field work if they have been cleared to drive a University vehicle by getting certified online every 2 years https://wwwou.usu.edu/riskmgt/vehicles/drivers-training (also talk with Marsha Bailey in WILD office). Use of private vehicles for field work is highly discouraged; vehicle owners should check with their private insurance provider.

Vehicles used for fieldwork should be well-maintained according to the manufacturer's service specifications and equipped with adequate spare parts and tools according to the area and length of trip. Care must be taken when loading vehicles to maintain as low a center of gravity as possible and to secure items adequately in the cabin. Vehicles must be driven with caution and attention to prevailing road and weather conditions.

The vehicle should be selected for the type of terrain likely to be encountered and drivers should be familiar with the vehicle before departure. Drivers intending to use four-wheel drive (4WD) vehicles should be able to demonstrate experience in driving such vehicles. Drivers should be familiar with routine maintenance procedures such as checking oil, water, tire pressure, coolant, and battery, and changing tires. Drivers should also be aware of the fuel capacity and range of the vehicle.

Prior to setting out on the trip, the driver should check the vehicle to ensure it has been adequately maintained and has all necessary tools, spare parts and special equipment for the trip. A check should be made that luggage and other equipment are secure. Rest stops and fuel stops should be used to check the vehicle and that luggage and equipment remain secure.
Driving times and distances should be planned to prevent fatigue. Drivers should take periodic breaks after driving for a few hours. During the break, some light physical activity such as walking should be incorporated. Night driving is more hazardous because of reduced visibility and fatigue and should be minimized.

Drivers should always heed applicable speed limits and road rules, including those pertaining to consumption of alcohol. Safe speeds depend upon the road and weather conditions, experience of the driver, time of day, alertness of the driver, and the vehicle itself. Unfamiliarity with the road or conditions and the presence of nocturnal animals contribute to driving hazards.

6.5 Roadside Parking and/or Roadside Fieldwork

It is often necessary to park on the side of the road when conducing fieldwork, and often to actually work along or near the side of the road. The minimum requirement for roadside parking or fieldwork is for all field crew members to wear reflective safety vests at all times. Traffic cones may also be placed behind the vehicle and a strobe light placed on the vehicle. Work vehicles in or near traffic areas should be equipped with flashing lights, such as a yellow rotating beacon or strobe light.

6.6 Working on State or Federal Lands

If research on state or federal land (e.g., State or National Parks, Forest Reserves, etc.) is required, be sure to obtain a research or special use permit prior to the start of your field work. Carry your permit with you at all times while on the premises. If you are working in a national park, wildlife refuge, or state forest reserve and there is an emergency, (e.g., volcanic eruption, wildfire, injury, etc.) you may be requested to participate in emergency operations. Obey the incident commander or other responsible official. Participation in such emergencies is optional but you are encouraged to support the emergency operation. During the period of the emergency you will be covered under the emergency regulations.

6.7 Pests

A number of pests may be encountered in fieldwork. Follow these general guidelines to prevent injury and illness:

- Keep garbage in rodent-proof containers and stored away from your campsite or work area.
- Thoroughly shake all clothing and bedding before use.
- Do not camp or sleep near obvious animal nests or burrows.
- Carefully look for pests before placing your hands, feet or body in areas where pests live or hide (e.g. wood piles, crevices, etc.)
- Avoid contact with sick or dead animals.
- Wear clothes made of tightly woven materials, and tuck pants into boots.
- Wear insect repellent.
- Minimize the amount of time you use lights after dark in your camp or work site, as they may attract pests and animals.
- Use netting to keep pests away from food and people.
- Carry a first aid manual and kit with you on any excursion so you can treat bites or stings. If the pest is poisonous or if the bite does not appear to heal properly seek medical attention immediately.
- Familiarize yourself with common pests and symptoms of animal- or parasite-borne diseases in the area.
- Be aware of the appearance and habitat of pests likely to be found.
- If you are bitten by a deer tick, watch for symptoms of Lyme disease, which may appear days or weeks after infection, or other signs of illness. Seek medical attention.

6.8 Other Environmental Hazards

In addition to pests, other fieldwork exposures can be hazardous:
- Poisonous Plants – plants like poison ivy may contain a potent allergen that can cause a reaction anywhere from several hours to two weeks after exposure. To prevent exposure, learn to recognize and avoid the plant and wear clothing such as long pants and long-sleeved shirts. If you come in contact with these plants, wash clothes and skin with soap and water as soon as possible.
- Impure Water – A variety of potentially harmful organisms and pathogens can live in "natural" water sources such as streams, lakes and rivers. Never drink straight from a "natural" source. If you must use these sources, treat the water first by using water purification tablets, boiling it for three minutes, or using a special purification filter (available from sporting goods stores).
- Exposure to the Elements – Sunburn is a common and easily preventable hazard. To prevent sunburn, cover exposed skin and liberally apply sunblock creams. Wearing a long-sleeved shirt and hat will also provide protection from the sun.
- Heat Exhaustion and Heat Stroke – To prevent heat exhaustion, drink plenty of liquids (electrolyte replacers) and take frequent rest breaks. Heat exhaustion symptoms include fatigue, excessive thirst, heavy sweating, and cool and clammy skin and are similar to shock symptoms. Cool the victim, treat for shock, and give water or electrolyte replacement slowly but steadily if the victim can drink. If left untreated, the victim can suffer heat stroke, which is very serious and possibly fatal. Cool the victim at once, replenish fluids, and seek medical attention immediately.
- Excessive Cold - On any trip, even a one-day excursion, where sudden changes in weather can occur, adequate clothing must be worn or carried. Prolonged exposure to excessive cold can lead to hypothermia: symptoms include shivering, numbness, slurred

speech and excessive fatigue. Wear several layers of clothing to allow adjustments to differing levels of physical activity. Avoid getting damp from perspiration.

7.0 ANIMAL CAPTURE AND SAMPLING PROTOCOL

In general, field participants will be researching and working with *Eleutherodactylus coqui* (hereafter referred to as the coqui frog). Threats posed by the coqui are minimal, however, like all wild animals, caution should be used when working with them in the field. Because the coqui is an invasive species in the state of Hawaii, all individuals handled must be terminated. All sampling procedures must be approved by the IACUC.

7.1 Safety

Animals will be caught primarily by hand in the field. Be sure to wash hands (or any other area that was in contact with the animal) thoroughly with soap and water before and after handling wild animals to minimize the transfer of infectious diseases. Avoid touching the ears, eyes, mouth, and face, and avoid contact of animal blood or other bodily fluids to these areas. If necessary, wear protective gloves when handling animals.

7.2 Blood Sampling

Coqui frogs will be anesthetized using a benzocaine solution then euthanized via double pithing. Blood will be terminally sampled using a heparinized capillary tube inserted into the aorta. Blood samples will be transported into an Eppendorf tube which will be kept on ice in the field using an insulated lunchbox until it can be either processed or stored for a short-term period (standard freezer: -18°C).

7.3 Blood Processing

Upon returning from the field, plasma can be separated by centrifugation (10 min) and transferred to a new 0.5 mL Eppendorf tube using a 100-uL Hamilton syringe. Before and after processing the samples, the Hamilton syringes must be sterilized using the ethanol (95% ETOH) and distilled water (dH_2O). This requires 3 (70 uL) rinses of ethanol followed by 10 (70 uL) rinses of distilled water. Between samples the syringes only need 1 (70 uL) rinse of ethanol, followed by 3 (70 uL) rinses of distilled water. Duplicate tubes corresponding to the ones labeled in the field should be made prior to transferring samples into them. The samples should be kept cold throughout this process if possible, so keeping the tube rack on an ice pack is ideal. The samples can simply be organized with one bag for red blood cells and another for plasma. Sharps should be disposed of in a separate sharps' container. Amphibian blood does not constitute a biohazard, and so all disposable materials can be disposed of in regular trash receptacles. Hands should be washed thoroughly after blood sampling and processing procedures.

7.4 Tissue Sampling

Coqui frogs have been shown to host rat lungworm (*Angiostrongylus cantonensis*), a parasitic nematode that causes angiostrongyliasis, in their organs (Niebuhr et al., 2020). In light of this, extreme caution should be taken when handling the tissues of coqui frogs. Eye protection and fresh gloves should be worn when handling tissues. Surgical tools should be cleaned with ethanol after dissection and collection of tissue samples.

We will collect liver samples from coqui frogs following blood sampling. Using a scalpel, dissect the frog along the abdomen. Identify and remove as much of the liver as possible,

being cautious not to collect samples of neighboring tissues. Transfer the liver sample into a 0.5 mL Eppendorf tube and keep tubes on ice in the field until they can be transferred to a standard freezer. After dissection, rinse the scalpel with ethanol and dispose of gloves.

8.0 EQUIPMENT AND COMMUNICATIONS

8.1 Equipment

Safety equipment used in the field should be inspected and/or tested prior to the trip to ensure that it is in good operating condition, with fully charges batteries, sufficient fuel, and all appropriate parts.

8.2 Special Safety Equipment

Depending on the type of work, the area, and the likely weather conditions, special safety equipment may be required. This will include personal protective equipment (PPE) such as coveralls, proper footwear or boots, sunglasses, safety goggles, insect repellent, sunscreen, hats, wetsuit, gloves, respirators or personal flotation devices. Other suggested items include: water canteen, matches, whistles and flashlights.

Ensure that the equipment and material you need has been carefully thought about, is available to the field crew, and that everyone involved knows how to use it. If anyone in the group has specific medical conditions requiring medication, or has allergies to anything that may occur during the work, make sure someone else knows about it and is familiar with appropriate treatment for the condition.

8.3 Communications Equipment

Training and licensing are required for use of certain types of radios. Where these are the main form of communication, all members of the fieldwork group must be trained and licensed in their use. If cellular phones are used, everyone must know how to use them properly and must have access to the relevant contact numbers. Battery power for communication equipment should be sufficient to last beyond the expected duration of the fieldwork.

8.4 Contacts and Continuity of Contact

No trip should take place without there being properly informed and competent designated contacts both within the fieldwork team and at the University base as appropriate. Before setting out on fieldwork, the schedules and methods for maintaining contact with the University and/or other contacts must be established and understood by everyone involved. Contacts at the University and elsewhere must be informed about the location of the fieldwork, the expected duration of work, how to contact field personnel, the planned time of return, and at what time subsequent to this an alarm will be raised.

For long fieldwork, arrangements must be made to make contact on a regular basis, such as daily, or some other regular interval if daily contact is impractical. The frequency of the regular contacts will depend on the length of the trip and where it is, how many personnel are involved, and the available forms of communication. If a scheduled contact is missed, the project PI or other designated contact person should have an alternative means of communicating with the field team and/or contact information for appropriate emergency personnel in the field work area.

Before any trip, contacts and members of the field team must agree on how an alarm would be given under any worst-case scenario (e.g. the boat sinks, a vehicle fire) when the planned means of communication is no longer feasible.

The University campus security telephone number (435) 797-1939 which is monitored 24 hours a day, should be displayed in all vehicles and can be used as a last resort should other University-based contacts fail. For other emergencies, call 911.

9.0 EMERGENCY PLAN

As appropriate, contacts at the University, at home, and/or at a location near to the fieldwork should be notified of the intended route(s), timing, and number of people involved in the work so that they can provide the information and help to direct search and rescue attempts. Anyone designated as the contact person for a particular fieldwork must be organized and know exactly what is required. Schedules for contact, the timing and method of raising alarms if contact is not made, the circumstances of the work (e.g. the registration numbers of vehicles, or boats, the place where boats are to be launched) should be documented so that the contact can find them quickly if required.

No designated contact may pass on their responsibility simply by leaving a message for someone else to take over; a new contact must be told personally and all the relevant information provided so that there is no break in the continuity of contact. The fieldwork team leader must also be informed of the change of contact person.

Example Emergency SOP:

- Contact person initiates the emergency alert if fieldwork team fails to return when scheduled. The response may involve the following steps:
- Call 911, give your name, location of emergency, type of emergency and type of help required. Provide GPS coordinates of last known location if available.
- Notify supervisory personnel and provide them with the same information. If you are working in a national park or wildlife refuge, notify the local manager.
- Thirty (30) minutes from call-in time, an alert is issued. Contact person or another person should stay near the phone at the fieldworker's office or lab.
- One hour from call-in time, search procedures should begin.
- One person should remain near the phone, and one person familiar with the field area should begin tracking the scheduled route.
- Tracking person should call back to the lab/office every 20 minutes to see if field worker has made contact.
- Tracking continues until the person is found or word is received that she/he is safe.

10.0 COVID-19 STANDARD OPERATING PROCEDURES

In light of the devastating COVID-19 pandemic, we need to ensure those participating in our research efforts are operating in a manner that protects themselves and others from infection. As a result, we present the following SOP for travel and work in the field and laboratory.

10.1 Suspected Infection

If you feel sick or begin presenting one or more of the symptoms of COVID-19 (e.g., fever, cough, shortness of breath, fatigue, muscle or body aches, headaches, loss of taste or smell, sore throat, congestion, nausea or vomiting, diarrhea), stay home and self-isolate. Additionally, you

should stay home if you have been in contact with someone who has tested positive for COVID-19. Get tested right away and quarantine at home until you receive your results.

10.2 Confirmed Infection

Should you test positive for COVID-19, you must quarantine at home for a minimum of 10 days since your symptoms began or until a confirmed negative test. Additionally, please fill out USU's COVID-19 questionnaire: https://usu.co1.qualtrics.com/jfe/form/SV_0rG8jHbDa076cyV. Seek immediate medical attention if symptoms worsen or become life-threatening. Be sure to contact your Principal Investigator (PI) and those you have been in close-contact with and notify them of your infection. Your PI will notify Risk Management and your department head. If you are living with someone, try to stay in one room to minimize your exposure to them. Disinfect surfaces, wash your hands regularly, and cover coughs and sneezes.

10.3 Travel

USU discourages all non-essential travel. However, travel to Hawaii is important for the purposes of this research. In light of this, we must ensure we are in compliance with USU and the state of Hawaii's travel requirements. In general, when traveling you should wear a mask, keep 6 feet between yourself and others, avoid crowds, wash your hands regularly, avoid touching your face, and disinfect surfaces before use.

To travel to Hawaii (as of 1/8/21), visitors must provide proof of a negative COVID-19 test from a trusted testing and traveling partner (https://hawaiicovid19.com/travel-partners/) within 72 hours of departure (Note: the USU testing service offered on the Logan campus is NOT an approved testing partner of the state of Hawaii). The negative result must be uploaded to Safe Travels (https://travel.hawaii.gov/#/) prior to departure, or have a hard copy printed before departure to show upon arrival. A mandatory 10 day quarantine is required of travelers without a confirmed negative test or those who board their flight prior to receiving their negative test result. More information can be found at https://hawaiicovid19.com/travel/.

A negative COVID-19 test prior to travel is mandatory for all parties affiliated with USU (e.g., graduate students, PIs, field technicians) seeking to work in Hawaii. Furthermore, quarantine between the day of the COVID-19 test and the day of travel is required to limit expose within the window before traveling. Additionally, due to the risks associated with out-of-state travel, all parties should expect to quarantine upon arrival to Hawaii for 3-4, after which another COVID-19 test should be taken. Quarantining until receiving a negative result from this test will help keep co-workers and the community safe.

Within 14 days of traveling from out of state, USU asks that you fill out their travel registration survey (https://usu.co1.qualtrics.com/jfe/form/SV_7WkZbwcIdKq3net). For USU-sponsored trips, a Travel Authorization (TA) must be filled out as early as possible, preferably at least one week prior to travel (https://usu.service-now.com/dashboard?id=travel). In the TA, you must provide a contingency plan should a mandatory quarantine be required. If traveling with others, written authorization from the department head must be acquired that approves your plan to minimize risk of infection and transmission associated with your travel and final destination. More information can be found at https://www.usu.edu/covid-19/operations/travel.

10.4 Field Work

Be sure to obtain a TA prior to field work. Wear masks and maintain a distance of 6 feet between yourself and others whenever possible. When driving to field sites, limit each vehicle to

those within the same household, or to no more than two people. Keep windows and vents open to maintain air flow and wear masks. Sanitize surfaces and equipment and wash hands (or use hand sanitizer) regularly.

10.5 Lab Work

Telework whenever possible. Wear a mask when indoors, and maintain a distance of 6 feet between yourself and others in the lab space. To avoid over-crowding the lab space, do not allow more people in the lab than can safely socially distance. After completing lab work, wash your hands and wipe down surfaces and materials used with 70% ethanol or disinfecting wipes.

10.6 General Guidelines

Wear a mask over your nose and mouth when in public spaces. Maintain a distance of 6 feet from those outside your household whenever possible. Avoid crowded spaces and poorly ventilated spaces. Wash your hands with soap and water for at least 20 seconds frequently. Cover coughs and sneezes and clean surfaces regularly. More information and recommendations can be found at https://www.cdc.gov/coronavirus/2019-ncov/your-health/need-to-know.html.

11.0 OTHER RESOURCES

Utah State University Emergency Operation Plan
https://dps.usu.edu/emergency/USU%20EOP%20Jan%202017.pdf

Utah State University Driver's Training
https://risk.usu.edu/vehicles/drivers-training

Utah State University Claims Reporting & Liability
https://risk.usu.edu/claim_reporting/claims

Utah State University Workers Compensation
https://risk.usu.edu/workers-compensation

References

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*Field work safety protocol adapted from University of Iowa – College of Engineering, as well as from the Beard Lab and French Lab field safety protocols – Utah State University.
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Last modified on January 19th, 2021