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| **Field Site Location**: | ***Younger Lagoon Reserve*** |
| **Activity Description:** | *Type, length, and intensity of activity (hiking, climbing, collections, capture)* |
| **Group Information:** | *Name of Research Group / Course, PI / Lead Instructor*  | *Revision number:*  | *1* | *Date of last revision:* | *Mo-Day-Yr* |
| **Travel Date(s):** | *If specific dates are not available please indicated a range or season. (3/15-28/2017, Fall 2018, garibaldi spawning season)* |

**A field safety plan serves as a tool to document your travel hazard assessment, communication plan, emergency procedures, and required training. Developing and using a field safety plan is part of the Cal/OSHA requirement of an effective Injury and Illness Prevention Plan (IIPP).**

**This plan should not only identify hazards but indicate how they will be addressed and mitigated. For any identified hazards indicate what steps will be taken to minimize the risk to participants.**

**Steps to prepare for field work:**

1. **Complete a field safety plan.**
2. **Complete appropriate training for your site and operations (heat illness, first aid,…).**
3. **Obtain recommended immunizations for your destination (allow 4-6 weeks prior to your trip).**
4. **Hold a pre-trip meeting to review your field safety plan, travel logistics, pack list (including first aid kit), etc. and cover any remaining training needs.**
5. **Register trips via** [**UC Away**](https://ehs.ucop.edu/away/) **for travel alerts, travel insurance documentation, and evacuation services.**

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| **Site Information** |
| **Geographic Location** | Name: *Younger Lagoon Reserve*Coordinates (Latitude, Longitude): 36.951374W, 122.065437NLink to online map: <https://youngerlagoonreserve.ucsc.edu/species-maps-resources/maps.html> |
| **Site Information** | *Younger Lagoon Reserve is located on the UC Santa Cruz Coastal Science Campus. The reserve is located in an urban area and relatively close to resources; however on-site hazards include uneven terrain, ticks, poison oak, ground wasps, and dangerous surf. Younger Lagoon itself is one of the few relatively undisturbed wetlands remaining on the California Central Coast. Although relatively small in size and surrounded by agricultural and urban development on three sides, Younger Lagoon Reserve is comprised of eight unique habitat types, including freshwater marsh, saltwater marsh, riparian willow, coastal strand (back dune), coastal scrub, coastal grassland, seasonal freshwater wetlands, and the brackish lagoon. Most of the reserve is relatively flat; however, the slopes around the lagoon are steep and the lagoon itself has areas of steep bathymetry.The reserve can experience a range of temperatures in a single day and is often colder and windier than other parts of Santa Cruz. Layered clothing and sturdy shoes are recommended.*  |
| **Travel to Site** | *How will participants get to the field site? Note any dangerous roads or conditions.* If traveling more than 100 miles from campus, register your trip at [UC Away](https://ehs.ucop.edu/away/) for UC travel insurance documentation and trip alerts. For international work, the [Worldcue Trip Planner](https://ermsp.ucop.edu/uctrip/) is available to assist with planning logistics, identify local services, and provide guidance regarding local hazards. |
| **Wildlife** | *Hazards on the reserve include* [*ticks*](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Tick-Borne-Diseases.aspx)*,* [*poison oak*](https://healthcenter.ucsc.edu/forms/student-handbook/HC-255-Poison-Oak.pdf)*,* [*ground wasps*](http://ipm.ucanr.edu/PMG/PESTNOTES/pn7449.html)*, and uneven ground. Please use caution on and off trail.**All groups accessing the beach must go over* [*beach safety*](https://www.weather.gov/safety/beach)*,* [*sneaker waves*](https://www.weather.gov/safety/sneaker-waves)*, and check the* [*marine forecast*](https://marine.weather.gov/MapClick.php?zoneid=pzz560#.Y2kxuOzMJfV) *and* [*tide chart*](https://tidesandcurrents.noaa.gov/noaatidepredictions.html?id=9413745&legacy=1) *as a group before heading to the beach.**Trespass, theft, and other unauthorized human activities are a fact of life on the UC Santa Cruz Coastal Science Campus. Please take precautions to secure equipment and personal belongings and reach out to the Reserve Director with any concerns right away. Information for getting campus police support if needed is* [*here*](https://youngerlagoonreserve.ucsc.edu/visit/campus-police-support.pdf)*.* |
| **Regional Stability** |  *Are there situations (at field site or during travel) where participants could be the target of or exposed to violence? Provide intended mitigation measures if there is a possibility*.The [Worldcue Trip Planner](https://ermsp.ucop.edu/uctrip/) provides detailed information on a variety of regional safety concerns, including a cumulative [Country/City Security Assessment Rating (CSAR)](https://www.worldaware.com/sites/default/files/collateral/Collateral_CSARS%20Overview%202015%202%2013%2015.pdf). Note, travel to any region with a CSAR rating of 4 or 5 (high to very high risk) requires additional review. Please contact EH&S (fieldsafety@ucsc.edu) as soon as possible. |
| **Go/No Go Criteria** | *What are the conditions under which approach to, or activities at, the site should be curtailed or canceled? e.g., Recent heavy rains if access is on dirt roads that have swelling clay soils. Electrical storms, snow, within 2 hours of high tide, or wave heights over 1 m. US State Department travel warning or alert.*  |
| **Site Access** | *The Coastal Science Campus entrance gate is generally open M-F during normal business hours (8am-5pm) and opens automatically on exit. If you need access outside of these hours, card access can be arranged at no cost. Paid parking (ParkMobile app) is available on the Coastal Science Campus. Please use caution if parking off site and walking to the Coastal Science Campus. There is a large homeless/RV encampment along Delaware Ave that is a safety/security concern. The gate combo into the lagoon area, storage areas, and information on how to access the reserve’s facilities will be provided by the Reserve Director as needed upon reservation approval.*  |
| **Expected Weather** | *Make note of extreme conditions that could impact the trip or require additional planning, (e.g. high heat, wind, rain, snow, approaching storm).*  |
| **Drinking Water Availability** | *If forecast exceeds 80*°*, Cal/OSHA requires access to at least one quart (4 cups) per person per hour for the entire shift, i.e., an 8 hour shift requires 2 gallons per person. Water must be fresh and suitably cool.* *✔Plumbed water available ☐ Water cooler with ice to be provided ☐ Bottled water provided ✔Other: Plumbed water available in the Younger Lagoon Reserve kitchen and restroom, 145 McAllister Way, Santa Cruz, CA 95060.* |
| **Access to Shade/Shelter** | *If forecast exceeds 80*°*, shade must be provided by any natural or artificial means for rest breaks. Shade is not considered adequate when heat in the area does not allow the body to cool (e.g. sitting in a hot car).* *✔ Building structures ☐ Trees ✔Temporary Canopy/Tarp ☐ Vehicle with A/C ✔ Other: Access to the Younger Lagoon Reserve office, restroom, and kitchen space can be provided. In addition, there are covered picnic tables adjacent to the Seymour Center, a covered overlook shelter in the lagoon area, and a temporary shade structure in the backyard of the Reserve’s office.*  |
| **High Heat Procedures**  | *Required when temperatures are expected to exceed 95° F. If possible limit strenuous tasks to morning or late afternoon hours. Rest breaks in shade must be provided at least 10 minutes every 2 hours (or more if needed). Effective means of communication, observation and monitoring for signs of heat illness are required at all times. Pre-operations meeting required.* *☐ Direct supervision ☐ Buddy system ☐ Reliable cell or radio contact ☐ Other:* |
| **Emergency Services and Contact Information** |
| **Local Contact** | *Elizabeth Howard, Reserve Director,* *eahoward@ucsc.edu**, (831) 459-2455, (415) 412-7776**Vaughan Williams, Restoration Field Manager,* *vwilliams@ucsc.edu**, (831) 502-7250, (661) 974-9243**Eric Medina, Steward,* *eimedina@ucsc.edu**, (831) 502-7250, (707) 237-1245**Office location: 145 McAllister Way, Santa Cruz, CA 95606**Emergency assembly location: Parking lot of 145 McAllister Way, Santa Cruz, CA 95606* | **University Contact****(Not participating in trip)** | *Name, number, email; may be a Professor/PI, department contact, supervisor back on campus, etc.* *Frequency of check ins: daily or other?*  |
| **Nearest Emergency Medical Services (EMS)** | *Dial 911 to reach the Santa Cruz Consolidated Emergency Communications Center, which is staffed by Emergency Medical Dispatchers. Always dial 911 if you have an emergency!**If you cannot dial 911, contact UC Santa Cruz Police dispatch for any kind of emergency situation with serious threat to life or property:**(831) 459-2345* *(831) 459-4868**Check with local sheriff’s office, USFS, etc. to see how 911 is implemented in the area. In some localities, the best first contact may be with the state police, highway patrol, or county sheriff’s office.* |
| **Nearest Emergency Department (ED)** | *Dominican Hospital Emergency Room - open 24-hours/day, 7 miles from the reserve**(833) 931-0460**1555 Soquel Dr**Santa Cruz, CA 95065**From Younger Lagoon Reserve:**Take Delaware Ave to CA-1 S/Mission St**Head north on McAllister Way toward Shaffer Rd**Continue onto Delaware Ave**Turn left onto Swift St**Turn right onto CA-1 S/Mission St**Use the left 2 lanes to turn left to stay on CA-1 S**Take exit 439 for Soquel Ave**Keep right at the fork and merge onto Soquel Ave**Continue on Soquel Ave to your destination**Merge onto Soquel Ave**Sharp right onto Soquel Dr**Turn left onto Paul Sweet Rd**Turn right onto Dominican Way**Turn right**Destination will be on the right* |
| **Cell Phone Coverage** | **Device carried?** ☐yes ☐no**Type:** **Coverage:** fair-good, all carriers. Reception can drop off in the lagoon area and along the bluffs.**Nearest location with coverage:**  | **Satellite device (phone or locator)** | **Device carried?** ☐yes ☐no**Type:** **Coverage:** **Nearest location with coverage:**  |
| **Nearby Facilities** | *Restrooms, kitchen, picnic tables, and shared office space are available at the reserve. There is no food available to purchase on-site. However, Santa Cruz is a large college town and there are plenty of food options (grocery store, cafe, etc), gas stations, hardware stores, laundromats, banks, etc in town.*  |
| **Participant Information** |
| **Field Team/ Participants** | *Primary Field Team Leader: Name, phone number Secondary Field Team Leader: Name, phone number**☐ Field Team/Participant list is attached as training documentation ☐ Other attachment: e.g. course roster* *Is anyone working alone? ☐ Yes ☐ No* *If yes, develop a communications plan with strict check-in procedures; carry a satellite communication device for remote locations without cell coverage.*  |
| **Physical Demands** | *List any physical demands required for this trip and training/certification provided. Diving, swimming, hiking, climbing, high altitudes, respirators, heights, confined or restricted spaces, etc. (consult with EH&S regarding appropriate training & documentation).*  |
| **Mental Demands** | *Will there be a high level of stress in the participant’s work? (e.g. work requiring constant alertness for long periods of time, such as a security monitor, or work with high levels of emotional stress such as working in an Emergency Room)*  |
| **First Aid Training** | *Cal/OSHA requires at least one trained person (with current certification) for work in remote locations. List team members trained in first aid and the type of training received.* *Location and description of group medical/first aid kit: Who is carrying it, where is it stored. Brief description of components.*  |
| **Immunizations or Medical Evaluation (if applicable)** | *List required immunizations/prophylaxis or required medical evaluation. (CDC provides recommendations based on location, wwwnc.cdc.gov/travel. For additional medical guidance and immunization services please contact UrgencyMED, (831) 704-3030 or your primary care physician. Allow at least six weeks prior to trip.*  |
| **Equipment and Activities** |
| **Fieldwork Transportation** | *What vehicles will be used during fieldwork operations? Plane, helicopter, watercraft, car, ATV.* *UCSC Risk Services manages a variety of insurance programs, consult their website (*[*http://risk.ucsc.edu/insurance/insurance-programs/index.html*](https://risk.ucsc.edu/insurance/insurance-programs/index.html)*) for assistance.* |
| **Research Activities** | *Detail the goal of field operations. Collection of samples, observation of animals/environment, capture of animals, …*  |
| **Research Hazards** | *Describe the potential research associated hazardous including: hazardous materials (chemical, biological, radiation, and explosives), exposure to harmful substances (asbestos, lead, mercury, silica), excessive noise, vibration, or high force motion.*  |
| **Research Tools** | *Brief description of tools or equipment that will be used to access research site or during research activities. Indicate if any specific training is required before use. Sharps (knives, razors, needles), hand tools, power tools, heavy machinery, specialty equipment, firearms.*  |
| **Personal Protective Equipment** | **Required—***Boots, safety glasses, PFDs, hardhats, etc.* **Recommended—***Walking sticks, gloves, long pants, etc.*  |
| **Export Controls** | *Note that you must comply with all export control regulations. These regulations cover shipment of controlled physical items, such as scientific equipment that require export licenses from the United States to a foreign country and transfers of controlled information, including technical data.**Contact Lisa Coscarelli (export@ucsc.edu), UCSC Export Control Officer, for information* |

**Additional Considerations -** **Contact EH&S at (831) 459-2553 or** **ehs@ucsc.edu** **for guidance.**

☐ One or more of the following will be handled/transported: hazardous biological, chemical, or radioactive materials, pesticides, animals, or fireworks.

☐ Activities involve any special hazards: ATVs, tractors or other motorized vehicles; rigging, climbing, fall protection; shoring/trenching, digging/excavations, caves, other confined spaces or egress/access limitations; chainsaws, hand held power tools, mechanical blades, bits and pinch points, other hazardous energy (lock-out/block-out); explosives and fire arms; lasers, high pressure vacuum, portable welding/soldering devices, other hazardous equipment or tools?

☐ Modes of transportation other than regularly scheduled commercial carriers (e.g. chartering a boat, plane)?

☐ Reviewed the [University Auto Insurance Policy](http://risk.ucsc.edu/insurance/insurance-programs/auto-insurance.html) for university vehicles, personal vehicles, and rental vehicles?

☐ Visas/permits, finances, import/export controls, transportation of specialized equipment, and data security have been considered? [UC Global Operations](http://ucgo.org/) provides some resources.

☐ Considered and discussed personal safety risks during free time, e.g. alcohol or drug use, leaving the group alone, situational awareness, sexual harassment, or local crime/security concerns? The [Worldcue Trip Planner](https://ermsp.ucop.edu/uctrip/enterERM.do) ‘Location Intel’ tab will generate a security brief.

☐ Contacted the [UCSC Export Control Office](https://officeofresearch.ucsc.edu/compliance/services/export-control.html) regarding international transportation of sensitive material including intellectual property (research material, laptops, other valuable documents).

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| **First Aid Reference – Signs & Symptoms of Heat Illness** |
| **Signs & Symptoms** | **Treatment** | **Response Action:**  |
| **HEAT EXHAUSTION*** Dizziness, headache
* Rapid heart rate
* Pale, cool, clammy or flushed skin
* Nausea and/or vomiting
* Fatigue, thirst, muscle cramps
 | 1. Stop all exertion.
2. Move to a cool shaded place.
3. Hydrate with cool water.
 | Heat exhaustion is the most common type of heat illness. Initiate treatment. If no improvement, call 911 and seek medical help. Do not return to work in the sun. Heat exhaustion can progress to heat stroke.  |
| **HEAT STROKE*** Disoriented, irritable, combative, unconscious
* Hallucinations, seizures, poor balance
* Rapid heart rate
* Hot, dry and red skin
* Fever, body temperature above 104 °F
 | 1. Move (gently) to a cooler spot in shade.
2. Loosen clothing and spray clothes and exposed skin with water and fan.
3. Cool by placing ice or cold packs along neck, chest, armpits and groin (Do not place ice directly on skin)
 | **Call 911 or seek medical help immediately.** **Heat stroke is a life threatening medical emergency. A victim can die within minutes if not properly treated. Efforts to reduce body temperature must begin immediately!**  |

**Campus Contacts:**

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| **UCSC Police Department Emergency Number:** (831) 459-2345, Non-Emergency Number: (831) 459-2231 |
| **University Health Services** | ***Faculty/Staff:***  | <http://risk.ucsc.edu/workers-comp/authorized-medical-providers.html>, UrgencyMED (831) 704-3030 |
| ***Students:*** | Cowell Student Health Center, <http://healthcenter.ucsc.edu/>, (831) 459-2211 |
| ***Counseling & Psychological Services (CAPS)*** | <http://caps.ucsc.edu/counseling/crisis-assistance.html>, (831) 459-2628 |
| **Environmental Health & Safety (EH&S):** [ehs.ucsc.edu](http://ehs.ucsc.edu/), (831) 459-2553, ehs@ucsc.edu |
| **Travel Insurance** **UCSC:****Emergency Number:**  | (831) 459-1458, <http://risk.ucsc.edu/insurance/insurance-programs/travel-insurance.html> (800) 527-0218 (Domestic) or 1-410-453-6330 (International) |
| **Report injuries:**  | Emergency - 911, Call EH&S at (831) 459-2553, submit report [Employer’s First Report of Injury (EFR, ehs.ucop.edu/efr)](https://ehs.ucop.edu/efr/home) |

**Include any additional resources: route/location maps, photos of general terrain and areas requiring extra caution, etc.**

**Participants and University Contact should have travel itineraries for team members. Travel arrangements can be made through Connexxus, which will provide a detailed itinerary. A travel itinerary template is available on the Field Safety website (**[**ehs.ucsc.edu/programs/research-safety/field-research/**](http://ehs.ucsc.edu/programs/research-safety/field-research/index.html)**).**

**Signature of Academic Supervisor/PI:**

**I acknowledge that this safety plan has been prepared in accordance with the requirements of the University of California, Santa Cruz “Field Research Safety” Policy and EH&S “Procedure for Field Research Safety.”**

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| **Name** | **Signature** | **Date** | **Phone Number** |
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**Field Team/Participant Roster - Training Documentation**

**I verify that I have read this Field Safety Plan, understand its contents, and agree to comply with its requirements.**

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| **Name/Phone Number** | **Affiliation** | **Signature** | **Date** | **Emergency Contact/Phone Number** |
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