

OUTDOOR HEAT EXPOSURE PLAN

UW Friday Harbor Labs

Which workers does this plan cover?

Anyone working outdoors more than 15 minutes in any 60-minute period in temperatures:

- **As low as 52°F** when wearing clothing that is non-breathable or provides a vapor barrier like rain gear, chemical resistant suits, or Level A suits
- **Starting at 77°F** when wearing double layer woven clothing like sweatshirts, coveralls, and jackets on top of other clothes
- **At 89°F or above** when wearing any other type of clothing like typical shirts and pants.

In this document, “heat exposure” refers to any of the conditions above.

Some individuals are more susceptible to heat stress than others. For example, individuals who aren’t acclimatized or who come to work dehydrated.

At UW Friday Harbor Labs, the personnel whose jobs carry the risk of outdoor heat exposure are the four construction & maintenance mechanics and their supervisor (collectively the FHL Maintenance Crew).

On certain summer days, the FHL Maintenance Crew may occasionally be at risk for heat exposure while doing the following types of work:

- Grounds work (mowing, trimming, landscaping, etc.)
- Roadway repair
- Outdoor construction projects
- Exterior painting
- Other extended outdoor maintenance projects

Prevention measures

Personnel and supervisors share responsibility for safety at the jobsite. This includes watching out for yourself and others because heat illness can become a life-threatening condition quickly if unnoticed or ignored.

1. Set up the worksite for shade

Before an outdoor job involving potential heat exposure begins, the Maintenance Supervisor will access shade options for the job. If projects/tasks are determined to require supplemental shade and/or cooling, the following will be implemented:

Tasks and projects that require extended time in the sun/heat are provided pop-up tent structures or similar shade-producing awnings to shield workers from direct sun and heat. Where applicable and possible, fans are set up to improve ventilation and enhance cooling. Regular breaks to regulate worker temperature and avoid overheating are increased as needed.

2. Schedule work to reduce heat exposure

FHL Maintenance Crew members begin their shifts at 7 am to take advantage of the cooler hours in the morning, and end their shifts at 3:30 pm, before the hottest time of most summer days.

If outdoor temperatures and the required clothing for a project present the potential for heat exposure, the project will be postponed to a later, cooler date and/or scheduled for early in the day when temperatures are lower. As daytime temperatures rise, work assignments will be moved indoors to take advantage of shade and conditioned environments.

3. Hydration

Encourage personnel to stay hydrated:

- Drink at least 1 cup every 15-20 minutes.
- Don't wait to be thirsty to drink water, and don't drink it all at once. In fact, it's best to start drinking water before work. Drink small amounts often throughout the day to stay hydrated.
- Sport drinks low in sugar are okay. Avoid drinks with caffeine and high sugar content like sodas because they won't hydrate you.

Supervisors must:

- Allow additional water breaks during hot days.
- Make sure there is enough water to allow each person to drink at least a quart of water each hour.

Necessary projects that involve potential heat exposure will be assigned a "Heat Exposure Mitigation Steward." The duty of this Steward, one of the Maintenance Crew, will be to ensure all previously mentioned heat stress management procedures are in place and to be in charge, either personally or through delegation, of providing each worker with a minimum of two gallons of cool, potable water and an appropriate sanitary drinking vessel. Fractional amounts of the aforementioned water quantity are acceptable for project durations of fewer than 8 hours, figured at one quart per hour. Should water consumption exceed the amount available, work will cease until the water supply has been refreshed.

Cool, potable water is available in the Maintenance Conference Room, and the Heat Exposure Mitigation Steward will regularly carry fresh water from there to the work site in a two-gallon jug with spigot for delivery to individual drinking vessels. Each crew member will

have their own, reusable drinking vessel, which they are responsible for cleaning at the sink in the Maintenance Conference Room.

4. Adjusting to heat (acclimatization)

It takes about two weeks to fully adjust to hot working conditions. This adjustment is lost if a person is away from the hot conditions for a week or more. Acclimatization is especially critical for heavy work in hot temperatures.

If a necessary project involves potential heat exposure, time will be allowed for acclimatization, with workers assigned to the project for gradually increasing lengths of time:

Day 1: 90 minutes on the project for 8 hours of work.

Day 2: 180 minutes on the project for 8 hours of work.

And so on with 90-minute increases each day, not to exceed 7 hours of potential heat exposure for 8 hours of work.

5. Training

Each year in April, Maintenance Crew members will be required to take the online [safety training](#) on the dangers of outdoor heat exposure, the steps we take to protect them, and actions they must follow to prevent heat-related illness. New personnel will be required to take the training at the time of their hire. The Maintenance Supervisor is responsible for ensuring that new members of the Crew take the training when hired, and that everyone on the Crew takes it annually in April.

Personnel need to be aware of:

- ☐ How heat can make them sick, and how to recognize the common signs and symptoms of heat-related illness in themselves and coworkers. Four most common conditions are heat rash, heat cramps, heat exhaustion and heat stroke.
- ☐ The environmental factors that increase risk for heat-related illness such as higher temperatures, humidity, sunlight (working under direct sunlight makes it feel about 15 degrees hotter), additional sources of heat like powered equipment and asphalt, no wind, level of physical activity, and wearing of personal protective equipment (PPE) or layers of clothing.
- ☐ Personal factors that may increase susceptibility to heat-related illness including age, not being acclimatized, having medical conditions such as hormonal and heart issues and diabetes, dehydration, and use of substances that can affect the body's response to heat like drugs, alcohol, caffeine, nicotine, and medications.
- ☐ The importance of removing heat-retaining PPE such as non-breathable chemical resistant clothing during all breaks to allow their body to cool down.
- ☐ How to stay well hydrated by drinking small quantities of water or other acceptable beverages frequently throughout the day.

- The importance of acclimatization (to get used to the conditions). It takes about 5 days to start and two weeks to be fully acclimated.
- How to immediately report signs or symptoms of heat-related illness they experience or observe in coworkers, and how to **immediately** respond to prevent the situation from becoming a medical emergency. How to identify and what to do during a heat-related medical emergency (e.g., potential heat stroke).

Supervisors need to know the following (in addition to what is detailed for personnel above):

- The procedures to follow to implement the heat-related illness prevention plan including the acclimatization schedule, how to keep track of environmental conditions throughout the day, when to increase the number of breaks or stop work early, to check that workers are accessing shade and water (especially for mobile operations), encourage them to stay hydrated, and communicate with lone workers to ensure they are safe. (*The free [OSHA-NIOSH Heat Safety Tool app](#) could be helpful.*)
- When to provide personal protective equipment, such as cooling vests and gel-filled bandanas.
- What the Supervisor needs to do if an individual shows signs and symptoms of possible heat-related illness including appropriate emergency response procedures including how to transport any affected individuals to a medical service provider.

Responding to reports or observations of heat-related illness.

Let a supervisor or someone nearby know if you or a co-worker is experiencing any signs or symptoms of heat-related illness and take immediate action to ensure things don't get dangerously worse.

1. Time is critical. Get the individual(s) experiencing symptoms away from the hot area into a cool shaded area. Quick action increases the chances for a full recovery.

Relocate victim to a cooler area, inside air-conditioned environment such as a truck or climate-controlled building. Move victim to the shade if air-conditioned space is not available. If available, place fans to move air around victim.

Remove PPE, loosen tight fitting clothing, and encourage victim to lie down.

Apply cool compresses.
2. Let the individual(s) rest and drink cool water.

Provide cool, but not cold, water in regulated amounts.
3. Never leave an individual who is experiencing heat-related problems alone, as things could get worse.

The Heat Exposure Mitigation Steward for a particular project shall stay with that victim to monitor their recovery and call emergency medical services if necessary, or will delegate that duty to another crew member.

4. If the individual does not respond quickly, call emergency medical services.

Call 911 and have a crew member meet First Responders at Campus entrance to guide them to the site of the incident.

5. Projects or tasks that are slated to take place in remote or difficult to access areas require additional planning and supplies to prepare for an incident.

The crew will take more than the usual amount of potable water (2 gallons per person per 8-hour day); shade canopies or awnings; and, if cell phone reception is inadequate in the project location or the route leading to it, communication equipment capable of reaching Emergency Services.

In the event of a heat exposure incident that were to occur in a remote or difficult to access area, the Heat Exposure Mitigation Steward, or his/her/they assignee will stay with the victim and continue to render aid and monitor the victims' condition while other team members go seek additional aid.

If the individual receives medical attention, get a written authorization from the provider that the worker can get back to work and if there is any restriction or limitations.

The supervisor, the person injured, or another University representative must submit a report of the incident within 24 hours to EH&S via the UW's [Online Accident Reporting System \(OARS\)](#).