

Field Safety Manual

**Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection**

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Introduction

This manual contains field safety protocols that encompass general safety techniques and guide Division of Environmental Assessment and Restoration (DEAR) staff participating in field-related activities. The manual provides guidance for general safety and outlines safety and emergency issues and recommendations specific to the field environment and staff water quality monitoring duties.

As field staff, ours is a unique profession with the enviable opportunity to spend most of our days out of the traditional office setting. We are privileged to be able to do this type of work, but as with almost all things, there is a flip side to our fortune. Working outdoors in remote areas in all kinds of weather, often encountering wildlife and other potential hazards, can put us at risk to a degree that most 9-to-5 office staff can't imagine. This is made even clearer in our Job Safety Analysis Worksheet ([Appendix 1](#)), which lists page after page of potential accidents or hazards—far more than any other position in DEAR.

As a rule, we work in pairs or teams. We are all different and vary in age, size, and physical fitness. Likewise, we all have our strengths and weaknesses, likes and dislikes. Working as a team, each member's opinion should be equally valued. If one member feels uncomfortable or hesitant about what is being asked to obtain water quality data or whatever the expedition requires, then the concern should be taken seriously. There should be an opportunity to discuss alternatives, whether it involves rescheduling, finding an alternate location, or assigning a different team member to the task. Everyone should feel comfortable about speaking up. No one should be scared to do their work and feel forced to proceed with something they feel threatens their own safety and well-being. Too often we ignore our own gut feelings because we don't want to "rock the boat" or be the naysayer, or appear weak, etc. Our gut feelings are there for a reason and need to be listened to. There are far too many stories of permanently injured people who thought that maybe they could or should do something physical, while a little voice in their head told them it wasn't the best idea. A one-time simple mistake can have consequences that last a lifetime. If your gut is telling you "no," take time to figure out why and consider an alternative.

Ours truly is a unique profession and one that many of us would even say is our life's calling. If we make certain that we take the charge of "safety first" as seriously as we feel gratitude for spending our work hours outdoors, hopefully we'll all have wonderful memories instead of preventable regrets.

Section 1: Know Your Environment

Field staff should **ALWAYS** use situational awareness. Most unsafe situations can be avoided by being aware of your surroundings, conditions, and potential hazards.

1.1 Common Hazards

There are certain hazards specific to particular sampling environments (see Section [1.2 Urban Environments](#) through Section [1.4 Natural Environments](#)). However, there are several hazards common to all sampling environments. Whenever they are in the field, staff should be aware of the hazards listed below and follow the guidance provided.

1.1.1 Steep Terrain and Fall Hazards

- Riprap, slick or soft mud, cypress knees, unstable or slick rocks.
- Snags, strong flow/currents.
- Steep or undercut banks:
 - Have a safety rope available when scaling steep banks.
- See Section [1.7.1 Slips, Trips, and Falls](#) and Section [1.7.2 Steep Terrain](#) (below).

1.1.2 Flora and Fauna

- Alligators, crocodiles, snakes, spiders, ticks, anthills, bee/hornet/wasp nests.
- Poison ivy/oak, sumac, smilax, nettles, manchineel tree, tropical soda apple.
- See Section [1.7.4 Biohazards](#) (below).

1.1.3 Overhead Obstacles

- Tree limbs, bridges, power lines.
- See Section [1.5.5 Sampling with a Pole](#) (below).

1.1.4 Trash and Hazardous Waste

- Syringes, needles, condoms, glass, discarded fishing equipment.

1.1.5 Vehicular Traffic

- Oncoming traffic:
 - Vehicle and field staff should maintain maximum distance from, but remain visible to, moving traffic.

- Consider the location of the vehicle to the sample station when parking. Vehicle(s) should not obstruct their view of surrounding traffic.
- Field staff should park the vehicle clear of rights-of-way and avoid parking in front of gates or tracks.
- See Section [1.13.4 Vehicle Positioning](#) (below).

1.2 Urban Environments

Sampling in urban environments, particularly from sidewalks, streets, banks, or structures, can be tricky given the steep terrain and fall hazards. As with other terrain or environments, there are flora and fauna, trash, and potentially hazardous waste to consider when accessing a site from an embankment or structure. Additionally, the elevated automobile and pedestrian traffic means that field staff should be sure to keep sampling equipment clear of active pathways. The following guidance should be considered:

- See Section [1.5.1 Facility Sampling](#) (below),
- See Section [1.5.5 Sampling with a Pole](#) (below),

1.3 Rural Environments

Rural and urban environments have various considerations that field staff must take before accessing a site. What holds true in an urban setting is also true for rural when it comes to private property. Field staff should take precautions when accessing private property. Always obtain permission before accessing a site from private property. Consider the following when making site visits in rural areas:

- Take into account private property considerations, such as electric fences, barbed wire, hostile property owners.
- Be alert to fauna, including dogs and farm animals.
- Be aware of hunting seasons and wear bright-colored clothing when sampling in areas where hunting may occur (Florida Fish and Wildlife Conservation Commission [FWC] 2019).
- Avoid working in areas with active farming equipment, when possible. Maximize space between working farm equipment and field staff and vehicles. Ensure that the individuals operating farm equipment are aware of the presence of field staff and that they remain visible to equipment operators.

1.4 Natural Environments

Field staff visit many types of natural environments when collecting water quality samples. These environments include aquatic systems such as fresh and marine waterbodies. Field staff may encounter the following hazards at each of the aquatic systems listed below.

1.4.1 Streams, Rivers, Canals, Wetlands, and Lakes

- See Section [1.5.2 Sampling from a Boat](#) (below).
- See Section [1.5.2.7 Airboat Safety](#) (below).
- See Section [1.5.4.1 Waders](#) (below).

1.4.2 Marine Systems

- See Section [1.5.2 Sampling from a Boat](#) (below).
- Be alert to the presence of fauna, such as oyster beds, barnacle growth, jellyfish.
- Do not sample in areas with an active or projected *Small Craft Advisory* or during high wind events, avoiding high seas.
- Be aware of conditions throughout a sampling day and watch for any worsening conditions:
 - Be aware of expected high and low tides for the sampling area to avoid running aground or while wading in deep water.

1.5 Type of Activity

1.5.1 Facility Sampling

1.5.1.1 Personal Protective Equipment (PPE)

- **ALWAYS** wear appropriate PPE. For facility sampling, this may include, but is not limited to, steel-toed boots, hard-hats, safety glasses, and ear protection.

1.5.1.2 Slip and Fall Hazards

- Avoid wet floors, wires, and cables.

1.5.1.3 Machinery

- Always maintain a safe working distance from all operating machinery.
- Ensure that individuals operating machinery are aware of their presence and that they remain visible at all time to machinery operators.

1.5.2 Sampling from a Boat

Refer to Directive 270 and the *Boater Safety Manual* (Florida Department of Environmental Protection [DEP] 2019).

1.5.2.1 Personal Flotation Device (PFD)

- **ALWAYS WEAR A PFD** and have a throwable available when a vessel is on the water.

1.5.2.2 Float Plan

- **ALWAYS** file a float plan before departing on a trip that requires sampling from a watercraft.
- Leave the plan on file at the location accessible to your supervisor/team lead.
- The float plan at minimum should have the following information:
 - Names of personnel.
 - Vessel information.
 - Trip details.
- Notify your supervisor/team lead if you must deviate from your sampling run as described in the float plan.

1.5.2.3 Slip, Trip, and Fall Hazards

- Be alert to wet decking, unsecured sampling equipment, and ropes.
- Appropriate rubber-soled shoes can help mitigate the risk of slipping on wet decks.
- Secure sampling equipment and ropes before moving sampling sites.

1.5.2.4 Navigational Channel

- **ALWAYS** avoid working in a navigational channel.

1.5.2.5 High Seas

- In high seas conditions:
 - Find a good speed. Too fast can cause the boat to crest off a wave and spear into the next wave. Too slow and the boat could be swamped.
 - Be prepared to adjust speed and direction in response to conditions.
 - Approach waves at approximately a 45° angle. Tacking, or a zig-zag pattern, is often the safest route through rough seas.
 - See Section [1.4.2 Marine Systems](#) (above).

1.5.2.6 Airboat Safety

Field staff should follow all rules from Directive 270 and the *Boater Safety Manual* while onboard an airboat; however, there are some safety concerns specific to working from an airboat.

- Stay clear of the propeller at **ALL TIMES**.
- Wear hearing and eye protection when the airboat is in motion.
- All equipment and personal belongings must be securely stored to prevent items from blowing into crew members, the propeller, or the environment.
- Consider the distribution of weight when stowing equipment and moving around the airboat to maintain safe stability and maneuverability.
- Do not stand up while an airboat is in motion.

1.5.3 Well Sampling

1.5.3.1 Working with Pumps and Generators

- **Electric Shock** – Check the condition of power cords and power source prior to use and ensure all connection points are dry.
- **Gasoline Fumes** – Generators should be downwind of field staff and in a properly ventilated area.

1.5.3.2 Physical Demands

- Use proper lifting technique (see Section [1.7.3 Heavy Lifting](#)) and lift as a team when lifting or moving heavy equipment.

1.5.4 Wading

1.5.4.1 Waders

- Properly secure and adjust waders at the shoulder to ensure proper fit.
- **ALWAYS** wear the provided wader belt securely fastened at the waist when wearing waders. This will slow the flow of water into the lower half, providing valuable time to get out of a flooded wader/potential drowning situation.
- Use a shuffling step, rather than completely lifting the stepping foot, to reduce the impact of currents and reduce fall and flooding risks.
- Consider wearing a PFD when wearing waders in water over waist deep and/or in strong currents.

1.5.4.2 Deep Water

- Flooding risks, magnified current, increased physical demands, limited visibility.

1.5.4.3 Access Points

- **ALWAYS** be aware of entry and exit points while wading.
- Conditions can change quickly and may require the use of a secondary exit point.
- If the primary entry point is inaccessible, consider whether it is safe to enter the waterbody.

1.5.5 Sampling with a Pole

1.5.5.1 Overhead Hazards

- Check your surroundings for any possible powerlines, trees, or bridges overhead or within reach of the extended pole before extending and using a sampling pole.

1.5.5.2 Traffic Hazards

- Be aware of your proximity to any passing vehicles nearby to avoid inadvertently placing a sampling pole in the path of passing traffic.

1.5.6 Machete Use

Using a machete to clear brush for accessing a site can be very useful. Extreme caution should be used when using a machete for both the operator and others around you:

- Eye protection is highly recommended, as snapping branches and flying debris may cause eye injuries.
- Do not use a machete with wet or slippery hands. Dry hands with a good grip are essential to prevent the loss of control of the machete, possibly causing injury.
- The prolonged use of a machete may cause blistering of hands; alternating turns with others or wearing well-fitting leather gloves can help prevent blisters. Poorly fitting gloves may increase the chances of blisters or contribute to a poor grip, leading to loss of control.
- Before starting, take note of your surroundings. Make sure others are a clear distance from where you are working with at least 8 to 10 feet clearance. Periodically check your surroundings to ensure that no one has moved closer while working.
- Cut in front of yourself (Fiskars 2019):
 - Take big swings, leading with your elbow, so the blade meets the stems and stalks at an angle and slices through them.
 - Never reach out to one side or the other to make quick clean-up cuts in such a way that the blade is moving toward your legs.

- Keep your free hand well out of the way.
- Never grab a fistful of brush with one hand and swing the machete with the other.

1.5.7 Health and Safety Considerations

Remember, if you are not a medical professional, use this information as a guide only to help field staff in need.

1.6 Climate and Weather

1.6.1 Heat and Humidity

When a person works in a hot environment, the body must get rid of excess heat to maintain a stable internal temperature. It does this mainly through circulating blood to the skin and through sweating. Sweat then evaporates from the skin, which in turn helps to cool us off. When the air has a high moisture content (high humidity), sweat cannot evaporate. To cool off, our bodies must work even harder. This results in excessive sweating and increased heart rate and respiration. Excessive sweating can cause a loss of water and electrolytes that the body needs to function properly. High heat and humidity can contribute to feelings of low energy and lethargy. In addition, hyperthermia, or overheating because of your body's inability to effectively let out heat, can negatively impact your health (Urgent Care 2019).

1.6.1.1 Physical Hazards of Excessive Heat and Humidity

The physical hazards of excessive heat exposure and humidity are similar. They include dehydration, fatigue, heat stroke, heat exhaustion, heat and muscle cramps, fainting, and heat rash. The use of some PPE (e.g., certain types of impermeable clothing) can increase the risk of heat-related illness. Prevention, symptoms, and first aid for these heat-related illnesses are discussed below (Section 1.12.1.1[b]) (U.S. Department of Labor 2019) and listed in **Table 1-1**.

1.6.1.1.1 Prevention

- **Water** – Field staff must have adequate potable (safe for drinking) water close to the work area and should drink small amounts frequently. During heavy work in a hot environment, drink 2 to 4 glasses (16 to 32 ounces) of cool fluids each hour (Contra Costa County 2019).
- **Rest** – Employers should take steps to help field staff become acclimatized (gradually build up exposure to heat), especially those who are new to working in the heat or who have been away from work for a week or more. Gradually increase workloads and allow more frequent breaks during the first week of work. If possible, reduce physical demands during hot and humid weather, or schedule heavier work for cooler times of the day.

- **Shade** – Rather than being exposed to heat for extended periods, field staff should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work/rest cycles. Rotating job functions among field staff can help minimize overexertion and heat exposure. Consider providing a portable tent for shade during long hours in the sun (e.g., during well monitoring).
- **PPE** – In some situations, special cooling devices can protect field staff in hot environments.
- **Specialized Cooling Garments** – These include cooling vests and hats that can be used to mitigate the effects of excessive heat and humidity.

Take frequent breaks and hydrate often. For high-humidity circumstances, shade may not be the best solution. Find a location with air conditioning if you or anyone with you is at high risk for developing any of the above health dangers. If you continue to feel worse while experiencing the conditions listed above, seek medical attention at an emergency or urgent care facility.

Table 1-1. Symptoms and first aid for heat-related illnesses

(U.S. Department of Labor 2019)

Heat Stroke	
Symptoms	Protective Measures
• Confusion. • Fainting. • Seizures. • Excessive sweating or red, hot, dry skin. • Very high body temperature.	• Call 911 • While waiting for help: ○ Place field staff in shady, cool area. ○ Loosen clothing; remove outer clothing. ○ Fan air on field staff; place cold packs in armpits. ○ Wet field staff with cool water; apply ice packs, cool compresses, or ice if available. ○ Provide fluids (preferably water) as soon as possible. ○ Stay with field staff until help arrives.
Heat Exhaustion	
Symptoms	Protective Measures
• Cool, moist skin. • Heavy sweating. • Headache. • Nausea or vomiting. • Dizziness. • Light-headedness. • Weakness. • Thirst. • Irritability. • Fast heartbeat.	• Have field staff sit or lie down in a cool, shady area. • Give field staff plenty of water or other cool beverages to drink. • Cool field staff with cold compresses/ice packs. • Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes. • Do not return to work that day.
Heat Cramps	
Symptoms	Protective Measures
• Muscle spasms.	• Have field staff rest in shady, cool area.

- | | |
|--|--|
| <ul style="list-style-type: none"> • Pain, usually in abdomen, arms, or legs. | <ul style="list-style-type: none"> • Field staff should drink water or other cool beverages. • Wait a few hours before allowing field staff to return to strenuous work. • Have field staff seek medical attention if cramps don't go away. |
|--|--|

Heat Rash

Symptoms

- Clusters of red bumps on skin.
- Rash often appears on neck, upper chest, folds of skin.

Protective Measures

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.

Dehydration

Symptoms

- Lack of urination or having very dark yellow urine.
- Very dry skin.
- Feeling dizzy.
- Rapid heartbeat.
- Rapid breathing.
- Sunken eyes.
- Sleepiness, lack of energy, confusion, or irritability.
- Fainting.

Protective Measures

- Field staff should drink fluids (16 to 32 ounces) of cool fluids each hour.
- Seek shade/air conditioning.
- Have field staff seek medical attention if dehydration symptoms do not subside.

1.6.1.1.2 High-Heat Procedures

Table 1-2 summarizes the risk level and protective measures to be taken based on the heat index. High-heat procedures are required when temperatures are expected to exceed 95 °F (industry standard), using the following guidance:

- Plan for emergencies and train field staff in prevention.
- Observe field staff for alertness and signs or symptoms of heat illness. The employer shall ensure effective field staff observation/monitoring by implementing one or more of the following:
 - o A mandatory buddy system.
 - o Regular communication with solo field staff such as by radio or cellular phone.
 - o Other effective means of observation.

1.6.1.1.3 High-Risk Conditions

High-risk conditions are considered to exist when the heat index is 103 °F to 115 °F (U.S. Department of Labor 2019). A 10-minute break for every 2 hours of work (industry standard) is recommended.

Table 1-2. Summary of risk level and protective measures

U.S. Department of Labor 2019

Heat Index	Risk Level	Protective Measures
Less than 91 °F	Lower (Caution)	Implement basic heat safety and planning measures.
91 °F to 103 °F	Moderate	Implement precautions and heighten awareness.
103 °F to 115 °F	High	Take additional precautions to protect field staff.
Greater than 115 °F	Very High to Extreme	Trigger even more aggressive protective measures.

1.6.2 Cold

1.6.2.1 Hypothermia

- Hypothermia is a physical condition that occurs when the body's core temperature falls below 95 °F. **Table 1-3** lists hypothermia prevention, symptoms, and protective measures.
- Cold water dangerously accelerates the onset and progression of hypothermia, since body heat can be lost 25 times faster in cold water than cold air.
- Even a mild case of hypothermia diminishes a victim's physical and mental abilities, thus increasing the risk of accidents.
- Severe hypothermia may result in unconsciousness and possibly death.

1.6.2.1.1 Hypothermia's Physical Hazards

- Blood pressure and heart rate initially rise as the body constricts surface blood vessels to conserve heat for vital organs.
- There is a loss of dexterity and motor control as muscles tense and shiver.
- As the person's core temperature drops, blood pressure, heart rate, and respiratory rate all decrease.
- As conditions worsen, attitude and level of consciousness change, signaling a loss of mental faculties.
- Dangerously low core temperatures can cause a semiconscious state followed by unconsciousness.
- Stress, shock, and low core temperatures may then cause cardiac and respiratory failure.

Table 1-3. Hypothermia prevention, symptoms, and treatment chart

Prevention	Symptoms	Protective Measures
Plan for cold weather: severity, duration, and activity, i.e., boating and wading. Dress appropriately: layers, for warmth, wicking fabric, for weather conditions, i.e., wind, rain, snow.	<i>Mild Case: Body temperature is 95 °F – 90 °F</i> Shivering.	Prevent further heat loss.
	Cold hands and feet.	Allow body to rewarm itself.
	Numbness in limbs, loss of dexterity.	Apply gentle heat.
	Pain from cold.	Help victim exercise. Keep victim warm for several hours.
	<i>Moderate Case: Body temperature is 90 °F – 83 °F</i> Shivering may decrease or stop.	Same as with a mild case EXCEPT: Limit exercise.
	<i>Severe Case: Body temperature is < 8 °F</i> Shivering decreases or stops.	Obtain medical help or advice ASAP.
	Confusion, clumsiness, slurred speech.	Treat as for shock, lay down, elevate feet.
	Semiconscious or unconscious.	Apply mild heat; transport to hospital.

Boating and working around the water are associated with additional risk factors for hypothermia. **Table 1-4** lists how long a person can survive in various cold-water temperatures. If you are wet, the cooling effect of evaporation causes body temperature to fall faster. Wind chill caused by a boat running at 20 knots can drop the ambient temperature of 50 °F to 37 °F, then down to 29 °F. if the boat speed is increased to 40 knots. As stated earlier, cold water can create body heat loss 25 times faster than cold air. If submerged, maximize chances of survival by doing the following:

- Wearing a personal flotation device.
- Keeping clothing on.
- Getting as much of the body out of the water as possible.
- Remaining still and in place **UNLESS** a floating object, another person, or the shore is nearby.
- Keeping a positive attitude (the will to survive really does matter).

Table 1-4. How long can a person survive in cold water?

Water Temperature (°F)	Expected Time Before Exhaustion or Unconsciousness	Expected Time of Survival
32.5	< 15 minutes	45 minutes
32.5 – 40	15 – 30 minutes	30 – 90 minutes
40 – 50	30 – 60 minutes	1 – 3 hours
50 – 60	1 – 2 hours	1 – 6 hours
60 – 70	2 – 7 hours	2 – 40 hours
70 – 80	3 – 12 hours	3 hours – indefinite

1.6.2.2 Frostbite

Frostbite is tissue damage caused by freezing and the formation of ice crystals in cells. It can happen when a person is exposed to frigid temperatures for an extended time. It occurs most often to extremities and causes cell death because of rupturing. Frostbite can progress through several stages:

- **First degree** – This occurs when only the surface layer of skin is frozen and is referred to as frostnip. This stage begins with pain and itching, and then the skin blanches and the area become numb.
- **Second degree** – If freezing continues, deep tissue may be spared, but the skin becomes hard and frozen. Generally, the skin will blister in several days and can become hard and blackened. This type of injury, despite its appearance, will usually heal within a month.
- **Third- and fourth-degree injuries** – When deep frostbite occurs, all muscles, tendons, nerves, and blood vessels freeze. The affected extremity feels hard and woodlike and use can be lost temporarily or, in extreme cases, permanently. Severe frostbite can result in the loss of toes and fingers.

During typical field sampling events in Florida, frostbite is unlikely to occur for most field staff. However, when dealing with near-freezing temperatures, wet weather, and wind chill effects combined with extended exposure, frostbite is possible. In addition, although everyone is at risk for developing the condition under extreme circumstances, people with circulatory problems (such as diabetes or Raynaud's syndrome) and smokers, alcoholics, and those who use beta-blockers are at an increased risk. Extra precautions should be used under any of these circumstances.

1.6.2.2.1 Frostbite's Physical Hazards

- Cold skin with prickling sensation.
- Numbness.
- Hard or waxy-looking skin.
- Clumsiness caused by joint and muscle stiffness.
- In severe cases, blistering after rewarming.
- Temporary, or in extreme cases, permanent loss of feeling or the use of the affected area.

1.6.2.2.2 Prevention

- Prevention of frostbite is the same as for hypothermia (see **Table 1-3**).

1.6.2.2.3 Additional Considerations for Frostbite

- A person should not walk on frostbitten toes or feet unless **absolutely** necessary and attempts to rewarm the skin should not be made until the skin can be **kept** warm.
- Worse damage can be caused by warming then re-exposing the frostbitten area to cold.
- Gently warm the area in warm (not hot) water or with wet heat until the skin appears red and warm.
- Complications from frostbite if left untreated can result in infection, tetanus, gangrene, long-term numbness, or permanent loss of sensation in the affected area.

1.6.3 Severe Weather

When preparing to go out into the field, it is essential to know what type of weather may be waiting for you. Contact the National Weather Service (NWS) for recorded weather forecasts for various regions of Florida. The phone numbers are as follows:

Jacksonville:	(904) 741–4370
Key West:	(305) 295–1316
Melbourne:	(321) 255–2900
Miami:	(305) 229–4550 (English and Spanish)
Tallahassee:	(850) 942–8851
Tampa Bay:	(813) 645–2506

You can also follow NWS active alerts on twitter (<http://twitter.com/nws>) and Facebook (<http://www.facebook.com/nws>).

1.6.3.1 Thunderstorms

Of the estimated 100,000 thunderstorms that occur each year in the U.S., 10 % are classified as severe. The NWS considers a thunderstorm severe if it produces hail the size of a U.S. quarter or larger or has winds of 58 miles per hour or stronger. Severe thunderstorms can cause significant damage to well-built structures or cause bodily harm. These strong storms can also produce frequent and dangerous lightning, flooding, and tornadoes. A severe storm may be marked on the ground by a sudden reversal of wind direction, a noticeable rise in wind speed, and a sharp drop in temperature. Lightning, hail, and heavy rainfall can occur in any thunderstorm. Another hazard that can occur is localized flooding.

On average, the interior sections of central Florida receive the most thunderstorms on 100-plus days per year. However, thunderstorms are also frequent along coastal areas, which average 80 to 90 days per year. Lightning occurs with every thunderstorm. Florida sees around 1.4 million lightning strikes annually. Because of Florida's vulnerability to thunderstorms and lightning, lightning is one of the deadliest weather hazards in the Sunshine State (<https://floridadisaster.org/>).

1.6.3.1.1 Lightning

- Staff should understand lightning risks, characteristics, and precautions to minimize workplace hazards.
- Lightning is unpredictable and can strike outside the heaviest rainfall areas or even up to 10 miles from any rainfall.
- Many lightning victims are caught outside during a storm because they did not act promptly to get to a safe place, or they go back outside too soon after a storm has passed.
- If signs of approaching thunderstorms occur, staff should not begin any task they cannot quickly stop.
- Prior to beginning any outdoor work, staff should check weather reports and radio forecasts for all weather hazards:
 - The Occupational Safety and Health Administration (OSHA) recommends that field staff consider rescheduling jobs to avoid being caught outside in hazardous weather conditions.
 - Watch for darkening clouds and increasing wind speeds, which can indicate developing thunderstorms.
 - Pay close attention to internet weather reports, forecasts, and emergency notifications regarding thunderstorm activity and severe weather.

1.6.3.1.2 Lightning Do's and Don'ts

- Lightning is likely to strike the tallest objects in a given area—you should not be the tallest object.
- Lightning can travel long distances through metal, which is an excellent conductor of electricity. Avoid contact with exposed metal, wiring, plumbing, and fencing:
 - o **DON'T** seek shelter in sheds, pavilions, tents, or covered porches, as they do not provide adequate protection from lightning.
 - o **DO** seek out fully enclosed buildings with electrical wiring and plumbing. Remain in the shelter for at least 30 minutes after hearing the last sound of thunder (National Oceanic and Atmospheric Administration [NOAA] recommendations).
 - o **DO** shelter in hard-topped metal vehicles with rolled-up windows if safe building structures are inaccessible. The vehicle will act as a Faraday cage and ground the lightning around you. Remain in the vehicle for at least 30 minutes after hearing the last sound of thunder.
 - o **DON'T** shelter near isolated tall trees, hilltops, utility poles, cell phone towers, cranes, large equipment, ladders, scaffolding, or rooftops, even if adequate shelter is not available.
 - o **DO** retreat to dense areas of smaller trees that are surrounded by larger trees, or retreat to low-lying areas (e.g., valleys, ditches), but watch for flooding.
 - o **DON'T** lie flat on the ground if located in an open field.
 - o **DO** crouch down and keep feet together to minimize the amount of contact with the ground.
 - o **DON'T** stay on or in the water as you may be the tallest object around.
 - o **DO** immediately get out of and away from bodies of water (e.g., swimming pools, lakes). Water does not attract lightning, but it is an excellent conductor of electricity.

1.6.3.1.3 Lightning and Wildfires

Lightning causes about 10 % of the wildfires in Florida. See Section [1.6.4 Fire Hazards](#) (below).

1.6.3.2 Hail

Hail can occur during strong thunderstorms in any season. Every storm has an updraft that gathers supercooled water droplets. The stronger the storm, the stronger the updraft, and the more time these droplets have to combine with each other. Once they get too heavy, they fall to the surface as hail. Large hail can cause serious or even fatal injuries. When hail is seen, or in the forecast, seek shelter. Other considerations during a hailstorm is listed below.

1.6.3.2.1 Hail While Driving

- Stop driving.
- If you can see a safe place close by to drive to (e.g., under a safe structure), do so as soon as you can.
- Make sure you pull completely off the highway.
- Do not stop under bridges or overpasses unless you can completely pull off the highway.
- Do **NOT** leave the vehicle until it stops hailing. Your car will furnish reasonable protection.
- Stay away from car windows.
- Cover your eyes with something (e.g., a piece of clothing).
- If possible, get onto the floor face down, or lie down on the seat with your back to the windows.

1.6.3.2.2 Hail While Outdoors

- If you are caught outdoors, seek shelter immediately (e.g., under a bridge).
- If you can't find anything to protect your entire body, at least find something to protect your head.
- Stay out of culverts and lowland areas that might fill suddenly with water.
- Standing under trees is a last resort:
 - It is common during severe storms for trees to lose branches.
 - Also, large isolated trees attract lightning.

1.6.3.2.3 Hail While in a Building

- Shelter in place until the hail stops.
- Stay away from skylights and windows, especially windows that are being struck by hail.
- Do not go outside for any reason.

1.6.3.3 Flash Floods

Several factors contribute to flash flooding. The two key elements are rainfall intensity and duration. Intensity is the rate of rainfall, and duration is how long the rain lasts. Topography, soil conditions, and ground cover also play an important role. Sometimes floods develop slowly, and forecasters can anticipate where a flood will happen days or weeks before it occurs. Often flash floods can occur within minutes and sometimes without any sign of rain—i.e., there is a dam or levee failure, or a sudden release of water held by a logjam. Flash floods can roll boulders, tear out trees, destroy buildings and bridges, and scour out new channels. Rapidly rising water can

reach heights of 30 feet or more. Furthermore, flash flood–producing rains can also trigger catastrophic mudslides.

You will not always have a warning that these deadly, sudden floods are coming. Being prepared can save your life and give you peace of mind. Know your risks. Stay informed via radio, internet forecasts, and/or social media for information and updates. The sections below describe the precautions that should be taken during flash floods.

1.6.3.3.1 Get to Higher Ground

If you are driving in a flood-prone area or are sampling in a low-lying area, get to higher ground immediately.

1.6.3.3.2 Obey Evacuation Orders

If told to evacuate, do so immediately.

1.6.3.3.3 Avoid Flash Flood Waters

- Don't walk through floodwaters; it only takes six inches of moving water to knock you off your feet.
- If you are trapped by moving water, move to the highest possible point and call 911 if possible.
- Do **NOT** drive into flooded roadways or around a barricade, "Turn Around, Don't Drown!"
- Water may be deeper than it appears and can hide hazards such as sharp objects, washed-out road surfaces, electrical wires, chemicals, etc.
- A vehicle caught in swiftly moving water can be swept away in seconds. Twelve inches of water can float a car or small sport utility vehicle (SUV); 18 inches of water can carry away a large vehicle.

1.6.3.4 Post-Hurricane Hazards

Danger from a hurricane doesn't end when the storm passes. Knowing these after-the-storm potential hazards and what to do if these are encountered while in the field is essential for safety. Debris, downed electric lines, flooding, fallen trees, and animals driven from their normal habitat can all cause problems. Listed below are possible hazards staff may encounter while sampling in the field after a hurricane.

1.6.3.4.1 Structural Integrity

- Buildings: After a hurricane, the biggest hazard you will face in buildings is the possibility that part or all of a building could collapse:

- Before entering the building, walk around the perimeter to make sure it looks structurally sound and safe to enter.
 - Keep an eye out for walls, windows, or support beams that are bowing or portions of the roof that have collapsed.
- Also consider gas lines:
 - If you smell gas, or if it appears that a gas line may have ruptured or is damaged, call the gas company before doing anything else.
- Floodwaters and standing water:
 - Floodwaters can hide many dangers, such as tripping or even electrical hazards.
- Roadways: Watch for slippery or blocked roads, crumbling shoulders, cracks in the road, bubbles or upwelling in a road, washed-out or weakened bridges, falling debris from the underside of a bridge, or crystalline silica dust from crushed concrete:
 - Keep an eye out for leaning trees, broken tree limbs hanging from trees, and potential hazards during wind gusts.
 - Always follow posted signs. If there are temporary signs warning you of a danger ahead on the road, follow the instructions.
 - Do not assume that because you are a good driver or have a powerful truck or SUV, you will be fine.
 - If the authorities are warning about dangerous conditions, take note.
- After a natural disaster, finding gasoline is not always easy. Gas stations may be damaged or closed. Try to find a source of gas, and always keep your gas tank at least half-full:
 - You do not want to end up stranded because you ran out of gas.
- Be prepared for traffic jams:
 - Once a disaster has ended, people will need to get out of the area, and this can create a significant amount of traffic.
 - Be cautious as you head out into traffic and be prepared for your trip to take much longer than normal.
 - If you are stuck on the road for hours, you may need food and water; bring these supplies in the car with you.
- Before heading out into the field, check your car for damage:
 - If the vehicle was submerged in water or otherwise damaged in the disaster, take care of the damage before you start driving if possible.
 - It takes just a cup full of water in the wrong place to create significant damage to your car's engine.
- Remember that other drivers are stressed too:

- After a natural disaster, people are scared and anxious.
- They may drive erratically and fail to follow traffic rules. Be prepared for this.
- Recognize that traffic lights and traffic signs may be gone or damaged.
- Practice safe driving even without signs, such as treating intersections as a four-way stop if the traffic light is out.
- If your global positioning system (GPS) doesn't work properly and your planned route is impassable, you will need a paper map to ensure you can get to your destination:
 - Put paper maps in the car.

1.6.3.4.2 Floodwaters

Floodwaters and standing water can be caused by flash floods, heavy rainfall, and storm surge from hurricanes. The best practice is to keep away from floodwaters:

- Always follow warnings about flooded roads.
- Don't drive through floodwater/standing water—it may be deeper than you think.
- Floodwaters contain many things that may harm health. It is impossible to know exactly what is in floodwater at any given point in time. Floodwater and standing water can contain the following:
 - Downed power lines.
 - Human and livestock waste.
 - Household, medical, and industrial hazardous waste (chemical, biological, and radiological).
 - Sharp objects, such as glass or metal fragments, that can cause injury and lead to infection. Prompt first-aid can help heal small wounds and prevent infection.
 - Coal ash waste that can contain carcinogenic compounds such as arsenic, chromium, and mercury.
 - Other contaminants that can lead to illness.
 - Physical objects such as lumber, vehicles, and debris that can cause hazards and/or injury.
 - Wild or stray animals such as rodents and snakes (see Section [1.7.4 Biohazards](#) [below]).
 - If you receive a puncture wound or a wound is contaminated with feces, soil, or saliva, have a health care professional determine whether treatment is warranted based on individual records, i.e., tetanus, rabies, stitches.

- It is important to protect yourself from exposure to floodwater regardless of the source of contamination. The best way to protect yourself is to stay out of the water:
 - If you must be in or near floodwaters, wear a life jacket—especially if the water is rising.
 - If you must enter floodwater, wear rubber boots/waders, rubber gloves, and goggles.
- If you come in contact with floodwater:
 - Wash the exposed area with soap and clean water as soon as possible. If you don't have soap or water, use alcohol-based wipes or sanitizer.
 - Take care of wounds and seek medical attention if necessary.
 - Wash clothes contaminated with floodwater or sewage in hot water and detergent before reusing them.
- Exposure to contaminated floodwater can cause the following:
 - Wound infections.
 - Skin rash.
 - Gastrointestinal illness.
 - Tetanus.
 - Leptospirosis (not common).

1.6.3.4.3 Downed Power Lines

Safety First!

- Always consider all electrical equipment, lines and conductors to be energized:
 - Circuits do not always turn off when a power line falls into a tree or onto the ground.
 - If you notice downed wires or damaged electrical equipment, contact appropriate utility personnel if you can.
 - Reloaders automatically try to reset circuits and restore power when it is interrupted.
 - Even if electric lines are not sparking or humming, fallen electric lines can electrocute you if you touch them or the ground nearby.
- Never drive over downed power lines:
 - If contact is made with an energized power line while you are in a vehicle, remain calm and do not get out unless the vehicle is on fire.
 - If possible, call for help.

- If you must exit any equipment because of fire or other safety reasons, try to jump completely clear, making sure that you do not touch the equipment and the ground at the same time.
- Land with both feet together and shuffle away in small steps to minimize the path of electric current and avoid electrical shock.
- Be careful to maintain your balance.
- Downed wires can energize other nearby objects, such as fences, water pipes, bushes and trees, buildings, manhole casings, rebar in concrete, and telephone/cable television (CATV)/fiber optic cables.

1.6.3.4.4 Protect Yourself from Animals and Pests

Stay away from wild or stray animals after a storm, especially if they exhibit unpredictable or aggressive behavior:

- Call 911 or the local public health department to report them.
- If you see any dead animals, including wild animals, pets, or even farm animals, report them to local officials.
- Floods can bring mosquitoes that carry disease:
 - Use insect repellent (bug spray) with N,N-Diethyl-meta-toluamide (DEET) or picaridin.
 - Wear long sleeves, pants, and socks when you're outside.
- Floodwaters can cause animals to come out of hiding looking for higher ground, and this can cause dangerous encounters with wildlife that are under duress and may become aggressive. See Section [1.7.4 Biohazards](#) (below).

1.6.3.5 Whirlwind Hazards

Whirlwinds are one of Mother Nature's most destructive forces and can come in all shapes and sizes. They can form over land (tornadoes) or water (waterspouts). While each whirlwind is unique, there are similarities that can allow whirlwinds to be categorized by size, appearance, and how they form. Regardless of the type, every whirlwind can be dangerous, with destructive winds that could put lives and property in danger. A whirlwind that is around for a longer period may transition from one type to another as it changes in size and shape throughout its life cycle. Field staff could encounter the following two types of whirlwinds:

1.6.3.5.1 Tornadoes

Tornadoes strike rapidly, sometimes without time for a tornado warning, and sometimes without a thunderstorm in the vicinity. When you are watching for rapidly emerging tornadoes, it is important to know that you cannot depend on seeing a funnel—clouds or rain may block your view. The following weather signs may mean that a tornado is approaching:

- A dark or green-colored sky.
- A large, dark, low-lying cloud.
- Large hail.
- A loud roar that sounds like a freight train.
- If you notice any of these weather conditions, take



- cover immediately, and stay tuned to local radio and television (TV) stations or to a NOAA weather radio.
- Sighting a funnel cloud: If you see a funnel cloud nearby, take shelter immediately (see the following section for instructions on taking shelter).
- However, if you spot a tornado that is far away, help alert others to the hazard by reporting it to the newsroom of a local radio or TV station before taking shelter, as described below.
- Use common sense and exercise caution.

1.6.3.5.1.1 Taking Shelter

- The key to surviving a tornado and reducing the risk of injury lies in planning, preparing, and practicing what you will do if a tornado strikes. Flying debris causes most deaths and injuries during a tornado. Although there is no completely safe place during a tornado, some locations are much safer than others. One basic rule is to **AVOID WINDOWS**. An

exploding window can injure or kill. The safest place in a building is the interior part of a basement. If there is no basement, go to an inside room, without windows, on the lowest floor. This could be a center hallway, bathroom, or closet.

- If you are caught outside during a tornado and no adequate shelter is immediately available, avoid areas with many trees. Lie flat in the nearest ditch, ravine, or culvert and shield your head with an object, your hands, or your arms. Stay alert to the possibility of flooding.
- The least desirable place to be during a tornado is in a motor vehicle. Cars, buses, and trucks are easily tossed by tornado winds. **DO NOT TRY TO OUTFRAN A TORNADO IN YOUR CAR.** Remain calm and assess the situation. It should be possible to determine the tornado's direction of movement. If the road circumstances permit, **drive at right angles to the tornado's path.** If you can't avoid a tornado, stop your vehicle. Do not get under your vehicle. Shelter in the interior of a building, a ditch, or other low-lying area.

1.6.3.5.2 Waterspouts

- While waterspouts are known for being less intense than tornadoes, they can still be potentially devastating to vessels and sea life in their path. Here's how to spot a waterspout and how to handle one:
 - Listen to the radio for local forecasts, or to social media for local news and threats, particularly NOAA Weather Radio.
 - Know the warning signs for waterspouts. According to NOAA, these consist of "a line of cumulus clouds with dark, flat bases," aka: thunderstorms, and/or a dark spot on the surface of the water, which is the first stage of waterspout and where the vortex touches down from the cloud line.
- If you see a waterspout, never attempt to navigate toward it or through it. Instead, move at a 90° angle away from where the swirling motion of the waterspout appears to be happening. A waterspout can last up to an hour but typically is over within 10 to 20 minutes, and so waiting it out from a distance is generally safe.
- If you are in a boat and a waterspout appears to be headed directly for you, take down any sails, close hatches, and, if possible, get below deck. Diving overboard may keep you from flying debris, but it may also put you at risk of other factors, such as hypothermia. If the waterspout comes ashore, it can turn into a tornado. In that event, refer above for tornado safety preparedness.
- If a waterspout causes your boat to capsize, a representative from the U.S. Coast Guard recommends, above all else, staying with your boat. If you

can, climb on top of the hull to reduce the amount of time spent in potentially cold waters. A mayday call can be placed on an emergency radio, phone, or other visual means.

1.6.4 Fire Hazards

The hot weather and dry lightning common in Florida are often a recipe for wildfire. Prescribed burning is an essential tool in Florida, making fires a year-round concern for people working outdoors. Wildfires may create a variety of hazards for staff working in the field.

1.6.4.1. Extreme Heat

- See Section [1.6.1 Heat and Humidity](#) (above).

1.6.4.2 Burns

Wildfires can cause burns by damaging body tissues with heat. There are three types of burns:

- First-degree burns damage only the outer layer of skin.
- Second-degree burns damage the outer layer and the layer underneath.
- Third-degree burns damage or destroy the deepest layer of skin and tissues underneath.
- Burns can cause swelling, blistering, scarring and, in serious cases, shock, and even death. They also can lead to infections because they damage your skin's protective barrier.

1.6.4.3 Smoke Inhalation

Smoke inhalation is the primary cause of death for fire victims:

- The inhalation of or exposure to gaseous products of combustion can cause serious respiratory complications.
- Smoke inhalation can injure and/or kill someone by a combination of thermal damage (hot gases), asphyxiation, poisoning, pulmonary irritation, and swelling of the lungs and airways.

1.6.4.4 Prior to Beginning Any Outdoor Work

Prior to beginning any outdoor work, check online for current wildfire conditions (<https://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Wildland-Fire/Current-Wildfire-Conditions2>) and current fire maps (<http://tlhforucs02.doacs.state.fl.us/fmis.dataviewer>) for all fire hazards. When conditions warrant, it is recommended that field staff consider rescheduling jobs to avoid being caught by wildfire. When working outdoors, continuously monitor the sky for smoke plumes when working in high-hazard fire conditions. Watch for increasing wind speeds and the smell of

smoke, which can indicate nearby wildfires. Pay close attention to emergency notifications regarding wildfire activity.

- **Always follow posted signs.** If there are temporary signs warning you of a fire or smoke danger ahead on the road, follow the instructions. Do not assume that because you don't see the fire, you will be fine.

1.6.4.5 What to Do if Caught by a Wildfire

If the road/path is blocked by wildfire with wildfire heading towards you and there is no way out:

- While in your vehicle:
 - o Park your vehicle in an area clear of vegetation.
 - o Stay calm and still in vehicle.
 - o Turn on headlights and flashers and strobes if equipped.
 - o Close all vehicle windows and vents.
 - o Cover yourself with a wool blanket or jacket.
 - o Keep yourself hydrated to help withstand the heat.
 - o Lie on the vehicle floor to get away from the smoke and protect airways.
 - o Use your cell phone to advise officials—call 911.
- While on foot:
 - o Stay calm.
 - o Go to an area clear of vegetation, such as a stream, ditch, or depression on level ground if possible.
 - o Lie face-down to help reduce smoke inhalation and protect airways; cover up your body.
 - o Use your cell phone to advise officials—call 911.

1.6.5 High Winds

While high winds are commonly associated with severe thunderstorms, hurricanes, and northeasters, they may also occur because of differences in air pressures, such as when a cold front passes across the area. Large winter storms occasionally produce high winds over central Florida. High winds are most likely to occur in March and April. A high-wind warning is issued when sustained winds of 40 mph or greater or gusts to 58 mph or greater are expected.

High winds can cause downed trees and power lines, flying debris, and building collapses, which may lead to power outages, transportation disruption, damage to buildings and vehicles, and injury or death. Tune in to local weather forecasts and bulletins issued by the NWS on the web, NOAA Weather Radio, or radio stations.

Rules to live by (from NOAA Weather Service):

- Postpone outdoor activities if a wind advisory or high-wind warning has been issued.
- If you are caught outside during high winds:
 - Take cover next to a building or under a shelter.
 - Stand clear of roadways or train tracks, as a gust may blow you into the path of an oncoming vehicle.
 - Use handrails where available on outdoor walkways and avoid other elevated areas such as roofs without adequate railings.
 - Watch for flying debris. Tree limbs may break and street signs may become loose during strong wind gusts. Keep an eye on nearby balconies for loose objects that may fall.
- In the event of a downed power line:
 - Call for help. Report downed lines to your local utility emergency center and to the police. Do not try to free lines or remove debris yourself.
 - See Section [1.6.3.4.3 Downed Power Lines](#) (above).
- If you are driving:
 - Keep both hands on the wheel and slow down.
 - Watch for objects blowing across the roadway and into your path.
 - Keep a safe distance from cars in adjacent lanes as strong gusts could push a car outside its lane of travel.
 - Take extra care in a high-profile vehicle such as a truck, van, SUV, or when towing a trailer, as these are more prone to be pushed or even flipped by high wind gusts.
 - If winds are severe enough to prevent safe driving, get onto the shoulder of the road and stop, making sure you are away from trees or other tall objects that could fall onto your vehicle. Stay in the car and turn on the hazard lights until the wind subsides.
 - The precautions listed above should be strictly adhered to when crossing a bridge during a high-wind event.

1.6.6 Sun Exposure

Sunlight contains ultraviolet (UV) radiation, which causes premature aging of the skin, wrinkles, cataracts, sunburn, heat illness (see above), and skin cancer. There are no safe UV rays. Be especially careful in the sun if you burn easily, spend a lot of time outdoors, or have any of the following physical features: numerous, irregular, or large moles; freckles; fair skin; or blond, red, or light brown hair. Here's how to block those harmful rays:

- Cover up. Wear loose-fitting, long-sleeved shirts and long pants.
- Use sunscreen with a sun protection factor (SPF) of at least 30. Be sure to follow the application directions on the bottle or tube.
- Wear a hat. A wide-brim hat, not a baseball cap, works best because it protects the neck, ears, eyes, forehead, nose, and scalp.
- Wear UV-protective sunglasses (eye protection). Sunglasses do not have to be expensive, but they should block 99 % to 100 % of ultraviolet A (UVA) and ultraviolet B (UVB) radiation. Before you buy sunglasses, read the product tag or label.
- Limit exposure. UV rays are most intense between 10 a.m. and 4 p.m.

1.7 Other Physical Hazards

Other physical hazards are encountered daily, some more commonly than others. Bad habits formed while conducting work activities can lead to both an increase in the chance of injury and make even simple tasks potentially harmful. Putting in place good workplace habits and practices will help avoid injuries involving the lifting and moving of heavy loads; preventing slips, trips, and falls; and navigating steep terrain. Communication plays a large part in many situations when tasks involve field staff/team members. Developing a game plan, putting good habits into effect, and good communication will all prove beneficial to the safety of parties involved.

1.7.1 Slips, Trips, and Falls

Prevention is key to avoiding slips, trips, and falls. The following list provides guidance on how to avoid these hazards:

- Pay attention in areas that have a high potential for a slippery surface, such as washrooms or kitchens where there is a high chance of water on the floors.
- Surfaces with an incline can greatly increase the odds of slipping. Use caution when navigating boat ramps as algae becomes a major problem at these sites. Assume the ramps are slippery even if it looks like there are no algae present.
- Stay vigilant when walking in areas with potential trip hazards. Leaf-littered trails or overgrown underbrush may hide tripping hazards such as roots, logs, vines, or rocks.
- Habit might cause some individuals to assume the path is clear. When setting up a workstation in the office or in field settings, attempt to create an obstacle-free working area. Always assume that your field staff is not aware of a tripping hazard that you may have placed in the area and let them know it's there. Communication can prevent a potential accident.

1.7.2 Steep Terrain

1.7.2.1 Assess Your Climb or Descent

- Be wary of loose or slippery terrain; even proper hiking boots can slip on muddy or claylike surfaces. Concrete embankments may become slippery if sand is present even when dry.
- Search for potential hazards above that may become dislodged and fall towards you (e.g., logs, boulders, etc.).
- When descending, be cautious of any objects that may slide out from under you.
- Keep a low center of gravity. Staying low to the ground or scooting down a steep incline on all fours might be safer.
- Equipment/gear:
 - Safety hand line. Tying a rope at the top of a steep decline to a firm anchor such as a tree, guardrail, or even a vehicle tow hitch can help to steady one's descent on a steep or slippery slope. This same line can also be used to lower or lift heavy equipment to and from your sampling location.
 - Safety rope. Keeping a good length of rope rated for a heavy load capacity in your vehicle can prove useful for other situations.

1.7.3 Heavy Lifting

Proper lifting technique is important to field safety, because field staff often lift heavy equipment and sample coolers filled with ice. Equipment that aids in the lifting of heavy items should be used whenever available, but when such equipment is not available then proper lifting techniques and teamwork must be used to complete the task. Be aware that even objects that may not seem heavy may cause an injury if improperly lifted. Use the following guidance when lifting heavy loads.

1.7.3.1 Determine the Weight of the Load

- Use a hand truck, if possible.
- Get help if you need it.
- Check for splinters and protruding nails and use gloves if necessary.
- Make sure you have a clear pathway.

1.7.3.2 Teamwork

(<https://www.osha.gov/SLTC/etools/electricalcontractors/supplemental/principles.html#lifting>)

- Teamwork is always a must, even with equipment/containers that don't seem too heavy or that are only being moved a short distance.

- Don't hesitate to ask for help from a coworker and communicate a game plan before the lift and move.
- Vocalizing your progress is also helpful—i.e., "I need to stop for a second," or "My hands are slipping a bit," or "Watch your step there."

1.7.3.3 How to Lift Safely



1. Stand close to the load with your feet spread shoulder-width apart. One foot should be slightly in front of the other for balance.

2. Squat down bending at the knees (not your waist). Tuck your chin while keeping your back as vertical as possible.



3. Get a firm grasp on the object before beginning the lift.



4. Slowly begin straightening your legs, lifting slowly. Never twist your body during this step.



5. Once the lift is complete, keep the object as close to the body as possible. If the load's center of gravity moves away from your body, there is a dramatic increase in stress to the lumbar region of the back.

If you must turn while carrying the load, turn using your feet, not your torso.

To place the object below the level of your waist, follow the same procedures in reverse order. Remember to keep your back as vertical as possible, and bend at the knees.



1.7.4 Biohazards

Field staff must take precautions to maintain minimal to no contact with wildlife. It is not recommended for field staff to unnecessarily handle wildlife. However, sometimes encounters with wildlife are unavoidable. Use professional judgment and common sense when handling any wildlife. Additional controls are warranted for species that may transmit life-threatening diseases.

When performing field studies, it is most important to know what environmental hazards are out there, including venomous insects or reptiles, and to understand what preventative measures and personal protection may be required. Field staff should be aware that besides the obvious risks associated with working in a field setting, microbiological hazards could also be significant. Field staff should consider the animals they deal with and the organisms that may be associated with these animals in evaluating the risk that certain situations may present. Animals can carry diseases, some of which can be contracted by humans. For instance, turtles can harbor Salmonella, and handling these animals can pose a risk to field staff and other turtles. Thus PPE and disinfectant must be used in the field to prevent transmission.

Table 1-5. Diseases associated with biting insects, rodents, and amphibians

Vector	Disease
Mosquitoes	▪ Eastern Equine Encephalitis ▪ St. Louis Encephalitis ▪ West Nile Virus ▪ Zika
Ticks (see Appendix 6)	▪ Lyme Disease ▪ Spotted Fever ▪ Ehrlichiosis
Sandflies	▪ Leishmaniasis ▪ Phlebotomus Fever
Tsetse Flies	▪ Trypanosomal Diseases
Fleas	▪ Plague
Black Flies	▪ River Blindness
Rodents/Amphibians	▪ Rabies ▪ Salmonellosis ▪ Leptospirosis ▪ Hantavirus Pulmonary Syndrome ▪ Lymphocytic Choriomeningitis Virus ▪ Rat Bite Fever

1.7.4.1 Ticks

The University of Florida states that ticks can be found throughout the year in Florida, but there are seasonal differences in the abundance of nymphs and adults. Ticks can transmit disease at any stage of their life cycle. They can be found in wooded areas or areas with long grass. For tick bite prevention, see [Appendix 6](#). If staff finds a tick embedded in the skin, a first notice of injury to workers' compensation should be conducted (see [Section 3](#)). It is up to the employee to seek a medical professional if they find an embedded tick. The employee's program area should keep an internal log of bites and if they are bitten multiple times in a given year.

1.7.4.2 Algal Blooms

Marine and freshwater systems thrive with complex life forms, most of which are microscopic. While most of these species of phytoplankton and cyanobacteria are harmless, a few dozen create potent toxins given the right conditions. When these conditions align, the potential for harmful algal blooms (HABs) increases. HABs may cause harm through the production of toxins or by their accumulated biomass, which can disturb existing organisms and alter food web

dynamics. Impacts from the consumption of or indirect exposure to HAB toxins include human illness and mortality. When responding to algae reports, samplers are required to wear the correct PPE. This includes wearing particulate masks, gloves, and safety goggles before entering harmful conditions and using PPE appropriately while sampling.

1.8 Personal Protective Equipment

Recognition and elimination are the most effective methods of controlling risks and hazards. Use PPE that conforms to DEP standards and the correct PPE for the job. PPE includes hard-hats, safety glasses, earplugs, particulate respirators, gloves, and safety shoes. Know how to wear and adjust PPE, so it functions correctly. Inspect PPE daily, maintain it, and replace it when damaged or worn out.

1.8.1 Clothing (Bottom-Up Approach)

- Woolen socks are warmest. Carry extra socks in case they get wet.
- Use the correct type of boots for the specific type of terrain/field work you will be doing.
- Boots must not constrict blood flow.
- Depending on weather, terrain, and environment, the choice of pants (waders, long jeans, shorts, etc.) varies.
- Long-sleeved and short-sleeved field shirts—choose accordingly for field work that day.
- A windproof outer layer and good quality rain gear are essential. The jacket should be long enough so that rain does not leak into your pants. Put rain gear on before you get wet.
- Prevent heat loss/provide sun protection with a wide-brimmed hat.
- Consider the size, fit, weight, and comfort of PPE. PPE must be compatible and not interfere with other safety equipment.

1.8.2 Gloves

Because skin contact is a potential source of exposure to infectious materials, it is important that the proper steps be taken to prevent such contact. DEP Standard Operating Procedures (DEP FS1000) recommend that staff wear gloves when handling hazardous sample constituents. Gloves should be replaced periodically, depending on the frequency of use and permeability to the substance handled. Take gloves off carefully to avoid contaminating hands (see the figure at right). Never reuse disposable gloves. Latex gloves are commonly used in the labs but may cause allergic reactions in certain sensitized individuals. Alternatives such as latex-free or nitrile gloves should be available for use. Glove use should never replace the need for hand washing.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The types of gloves to be used in these situations include leather, aluminum-backed, and other types of insulated glove materials.

After handling chemical preservatives and solvents (sulfuric acid, formalin, etc.), the proper removal of gloves is mandatory to prevent possible contact with the chemicals. Review the diagram below for instructions on how to remove contaminated gloves.

Diagram of how gloves should be taken off to avoid contact with contamination



1.8.3 Safety Glasses

In the line of duty, staff have the potential to encounter a variety of hazards that can cause permanent eye damage. Exposure to flying objects, chips, sand, dirt, and UV light are all possible out in the field. When handling reagents and preservatives in the field (on a boat, in high winds, on a structure, etc.), splash hazards are a higher risk compared with being inside a controlled lab. Safety glasses/goggles must always be worn when handling chemicals, and sunglasses are recommended whenever sampling out in the field.

1.8.4 Particulate Respirators (R95)

If an airborne contaminant needs to be addressed, samplers must be able to determine whether control measures and respirators are required. During the summer season, certain species of algae create harmful blooms that can release unhealthy concentrations of toxins that can alter the ambient atmospheric conditions at a particular site. The air may become saturated with toxins that cause respiratory stress. Employees experiencing conditions with unhealthy concentrations of airborne contaminants are expected to use respiratory protection to supplement these control efforts. OSHA-regulated filtering facepieces and air-purifying particulate respirators are recommended and can be provided on request.

1.8.5 Cleaning and Maintenance

It is important that all PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained at regular intervals so that it provides the required protection. PPE shall not be shared between field staff until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible.

1.9 First Aid

1.9.1 Training

First-aid training is appropriate for staff working at remote field sites because emergency medical services may be limited or delayed. First-aid kits do not save lives; people do. Get trained, enroll in a cardiopulmonary resuscitation (CPR)/first-aid course on Maestro upon hiring, and know how to use everything you put in your first-aid kit. The field safety officer should check field staff annually for compliance with CPR/first-aid training. Field work should never be performed alone, and someone in the group should be CPR/first-aid certified.

1.9.2 First Aid Kits

First-aid kits should be well stocked and periodically inspected for expired or damaged products. Customize your kit for your destination, tasks, group size, and level of training. Field staff should carry any personal medicine they require (i.e., those at risk of anaphylactic shock).

Pack extra gloves!

- Repack your first aid kit for each trip; replenish used or expired items.
- Check for expiration dates on medications and sterile items; replace items that may have been torn open or damaged. Many vendors sell refill kits.

1.9.3 Emergency 911 Information

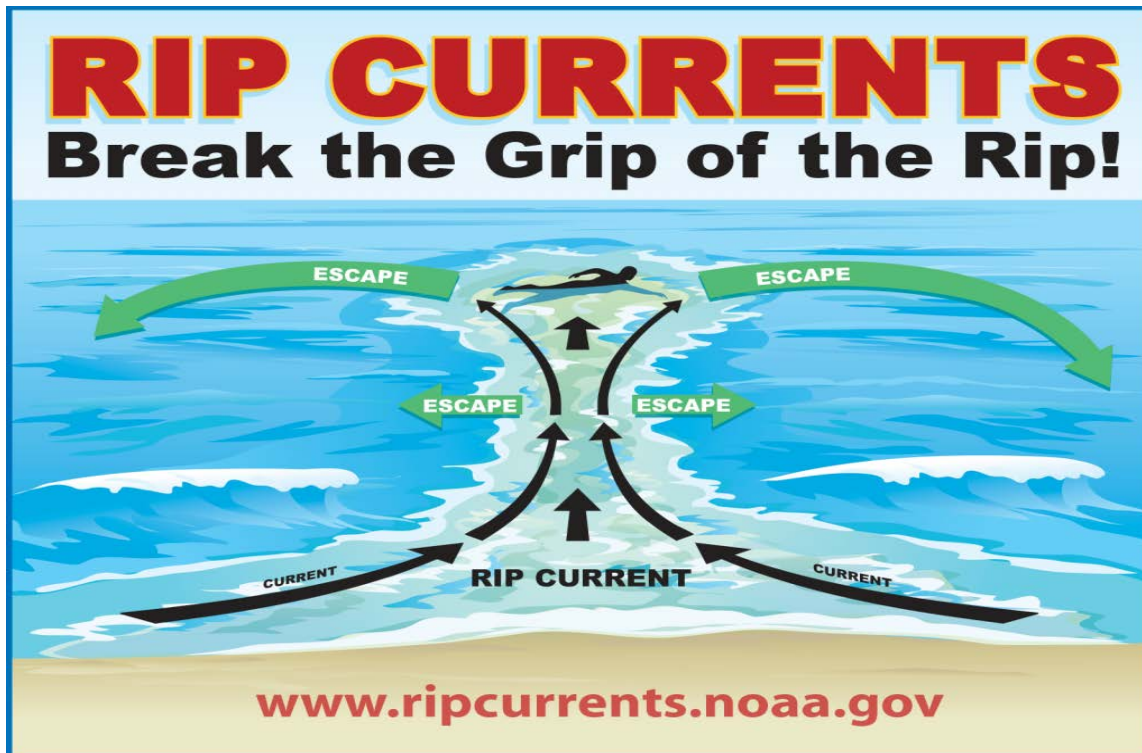
For emergencies, you should provide the following information:

- **Nature of emergency:** Basic information includes whether the emergency is a vehicle collision; a fire, medical, or trauma emergency; a behavioral emergency; a situation requiring law enforcement; or a special situation (such as a hazardous materials spill or another issue requiring containment or special rescue).
- **Location of emergency:** Be as specific as possible, using GPS coordinates, nearest intersection, physical address, or nearby landmark. Be ready to provide details such as the specific area of a building or property, which side of the road or intersection, and any instructions for accessing the site, including the direction of approach or gate/security codes.
- **A call-back number:** The information is needed in case the call is disconnected, or responders have trouble finding the site.
- **Number of people affected and their conditions:** This is important, so that the appropriate number of resources can be sent. Helpful basic information to provide includes whether the victims are breathing, pulse present, and any significant bleeding or other life-threatening injuries.

1.10 Rip Currents

Rip currents are strong flows moving rapidly away from a beach back into open water:

- Move parallel to the shore until out of the current, then move back toward shore.
- Trying to move to shore within a rip current is more physically demanding and dangerous.



1.11 Risk Factors

Working in the field presents various hazards that may not be encountered in other types of work environments. Improving staff safety begins by addressing the risk associated with common field hazards. It is important to identify risk factors, assess the level of risk, and identify ways to reduce risk when planning a field trip.

1.11.1 Safety in Numbers

- Field teams should consist of at least two members, with more added depending on factors such as the complexity of the trip and experience level of the team members:
 - Establish the field team structure by assigning specific roles to each team member.
 - A team should consist of a team leader and a safety officer, with other roles assigned specific to the goals of the field trip and staff experience.
 - Other roles may include lead scientist, boat operator, etc.
 - Consider the responsibilities of each role and combine roles as necessary to complete the make-up of the team.
 - Include the responsibilities for each role in the trip plan.

- Avoid assigning multiple roles to one person that may create a conflict of interest. For example, the team member responsible for calling off the trip because of unsafe weather conditions should be separate from the person responsible for meeting sampling goals.

1.11.2 Planning to Reduce Risk

- When planning a trip, the team leader should identify potential hazards the team may encounter in the field, accounting for each team member's personal limitations and level of training.
- Maintain communication with the team and supervisors while planning and carrying out field trips.
- Obtain the necessary approval from supervisors and authorities as applicable.
- The team leader should ensure that team members have read and understand the trip plan and are properly trained and proficient to carry out their role.
- Even experienced field staff can increase their level of risk when proper planning and communication are not carried out.
- Factors contributing to increased risk can also include complacency, fatigue, personal attitude toward safety, personal awareness, deviation from the plan, and others.
- While each trip and team are unique, common field hazards to consider include weather conditions, site terrain and physical demands, travel and access into and out of the site, the use of vehicles and equipment, contamination exposure, hazardous plants and animals, and specific considerations for urban or remote surroundings. These are discussed previously.
- Create a risk assessment/checklist to address potential hazards that may be encountered.
- Create a safety equipment checklist to make sure you are prepared in the field.
- Research relevant past safety incidents and incorporate preventative measures into the plan. Identify ways to minimize the risk of hazards specific to the plan.

1.12 Establish Go/No-Go Criteria

Fieldwork can often be unpredictable, as conditions and circumstances change at a moment's notice. Sometimes it is necessary to call off a trip, either before embarking or during the event. Proper planning, communication, and risk analysis will aid in making the decision to call off a

trip. Often, modifications to the plan can be made to reduce the level of risk and avoid canceling a trip completely. Assign someone on the team, likely the safety officer, whose role it is to make the call to modify or cancel a trip. This person should understand the limitations and be given authority to make the decision for the team without feeling pressured or judged. Be sure to document and inform the necessary contacts of any changes to the plan.

1.13 Vehicle Safety

DEAR is dedicated to protecting all employee drivers, their passengers, and the public from injury arising from the use of state motor vehicles for state business. For more information, see the *DEAR Vehicle Safety Manual*.

Only those employees who have a current driver's license and whose job duties require them to drive a vehicle are authorized to drive a state vehicle for state business. This authorization may be revoked if evaluations of driver performance do not meet division standards.

1.13.1 Driver's License Check

Supervisors should review all subordinate's employee's driver's licenses annually to make sure the licenses are valid (<https://services.flhsmv.gov/DLCheck/>). Driving privileges and/or duties must be immediately suspended for any employee who has a suspended or revoked driver's license. Privileges and/or duties may be reinstated once the employee's license is deemed valid again.

1.13.1.1 Driver Training

All DEAR employees who operate state vehicles are highly encouraged to take both Defensive Driving and Defensive Driving in State Vehicles courses in the Maestro SumTotal Systems online training (<https://gm1.geolearning.com/geonext/floridadep/login.geo>).

1.13.1.2 Employee Responsibilities

- All state and federal laws must be followed while operating a state vehicle.
- All drivers must complete any required driver safety training.
- All drivers must attend any required driver safety meetings.
- All drivers must attend safety meetings or training activities required for the field trip.
- Drivers must inspect any vehicle they are to operate before they start any trip.
- Periodically inspect vehicles during trips; this includes checking trailers and carried loads.

- A vehicle must be "red tagged" and not used if it cannot be safely operated. Needed repairs must be submitted through DEP's online Vehicle Reservation System (<https://floridadep.sharepoint.com/dear/vrs/SitePages/Home.aspx>) (Tallahassee vehicles only).
- Report any accident, injury, illness, or property damage to your supervisor as soon as possible.
- Do not operate a state vehicle while under the influence of strong medications. DEP also has a zero-tolerance policy for working under the influence of illegal drugs or alcohol. All such violations may result in immediate termination.
- Firearms and/or weapons of any kind are not allowed in nonlaw-enforcement DEP vehicles.
- Operate only the vehicle(s) for which you have been properly trained and use safe operational procedures for that vehicle.
- Seatbelt use is required whenever driving or riding in any DEP vehicle.
- Abide by the Distracted Driving Policy (this policy is still in draft form awaiting the Director's approval)—i.e., do not use a cell phone when driving a DEP vehicle.

1.13.2 Fatigue Management

Drivers required to operate a vehicle for DEP must not operate a motor vehicle if the driver's ability or alertness is impaired from fatigue or if the employee is potentially unsafe to operate a motor vehicle for any other reason, such as illness.

1.13.3 Environmental Stressors

Roadway conditions such as construction, traffic congestion, and weather conditions are all environmental stressors when driving. These increase fatigue when operating a vehicle. Trip planning can help alleviate some fatigue by checking road conditions and planning routes that may bypass construction and congested areas.

1.13.4 Vehicle Positioning

DEP vehicles must be parked so that they do not impede traffic flow. When performing roadside sampling, it is best to find a driveway or parking lot to park in. Always be sure the vehicle is in a safe location that will not be in the way of other vehicles. When you must park on road shoulders, make sure the vehicle is well into the clear zone. This is typically a lane width away from the edge of the road pavement on the shoulder of the road to the edge of the right-of-way. When parking in this manner, vehicle caution lights must be turned on. The newer DEP sampling trucks have caution LED lights that must be used to make the vehicle more visible to other

motorists. The switch for these lights is usually located on the ceiling of the vehicle cab near the rear-view mirror.

Always be cautious of deep sand, mud, gravel, etc., when traveling off the roadway, even when still on the road shoulder. The shoulders may have steep grades the farther you travel from the road surface. These grades can be very dangerous to drive on and can result in a vehicle rollover. Avoid parking on a grade and always use the parking brake when not parking on level ground.

1.13.5 Off-Road Operations

Safety considerations differ considerably when vehicles are used in off-road operations. Off-road operations occur at much slower speeds, but dangers still lurk. One of the most dangerous tasks during off-road operations is the use of a vehicle winch. This mainly includes dangers from cable snaps. Proper winch use is outlined in the *DEAR Vehicle Safety Manual* (in draft).

Other safety considerations involve the use of four-wheel drive. It's always best to engage the four-wheel drive when the vehicle is completely stopped. Some folks say it's OK to engage "on-the-fly," but this involves moving parts having to mate with parts that are not moving, adding stress to the drivetrain. You should never travel any sizable distance in four-wheel drive on flat, smooth, dry roads, as it will damage the vehicle's drivetrain. If you get stuck while in two-wheel drive, it is always best to use the four-wheel drive option just for getting out.

Section 2: Know Your Area

This section covers the basics about which field staff should be knowledgeable when traveling to a site to conduct field work. The following information should be obtained during preparation for travel: local contacts, nearest emergency medical services, directions to the site, parking and boat ramp areas, other nearby services, cell phone coverage, and local hydrological and weather conditions. These aspects are discussed in more detail below.

2.1 Local Contacts

- Notify landowners prior to conducting field work, to ensure you will have access. Inquire about any potentially hazardous locations or issues on the property:
 - Acquire any gate codes or keys and find out if there are any special identification requirements. If possible, have the confirmation of permission to access the property in writing.
 - If the landowner is not local, get contact information for the property manager, or someone else who may be on the property.
 - Familiarize yourself with the area geography, roads, and any potential hazards present.
 - Identify vehicles and equipment, including PPE, necessary for access.
- Consult with other DEP staff who may have already worked in the area, or local people familiar with the area.
- Take the contact numbers of those familiar with the area with you in the field, in case you have questions.

2.2 Nearest Emergency Medical Services

Information about the field study and emergency contact information should be left with someone in DEP, and information on emergency procedures and phone numbers must be given to field staff:

- Always be aware of the closest hospitals and emergency clinics to your field area, and make sure to always have that information with you when conducting field work.
- If cell service is present and your phone supports voice recognition, you can quickly use that feature to ask directions to the nearest hospital.
- In areas with poor or no cell coverage, a good map book, such as DeLorme's *Florida Atlas and Gazetteer*, shows the locations of local hospitals.

- For uncommon life-threatening injuries that require special treatment (e.g., poisonous snakebites), it is a good idea to call ahead to the hospital, so that it can be prepared with the proper medications and expertise upon your arrival. This can save time and suffering, and possibly a life.

2.3 Directions to Site

- Before ever leaving the office, make sure that you have all the information you will need to locate your field site(s). This should include landowner contact addresses and phone numbers, GPS coordinates, and paper maps with locations marked on them, in case cell coverage is spotty or nonexistent.
- A recreational-grade (or better) GPS can be very useful for navigating to your field sites.
- Be prepared to find an alternate route to the site(s), in case local conditions affect road access.
- Location services for automobile, cell phone, and other hand-held GPS devices are only as good as the map data installed or accessed from your device. Experienced GPS users know that directions given are not always correct, so be prepared with backup maps.

2.4 Parking and Boat Ramp Areas

- Familiarize yourself with the locations and layout of boat ramps, if you will be using watercraft as part of your field work. The FWC has an online "Florida Public Boat Ramp Finder" (<https://public.myfwc.com/LE/boatramp/public/>), which can be consulted when planning field work.
- Be sure to park in designated vehicle trailer spaces, and be very careful when trailering and launching, as your rear visibility is often obscured by the trailered vessel.
- Visually familiarize yourself with physical ramp conditions, including deep holes or drop-offs at the end of the paved portion of the ramp.
- Ramp access and use can be affected by unusually high or low water levels. In coastal areas, some ramps are only usable at high tide. Ask locals if there are any questions about the ramp conditions before launching.
- Have one of your field staff "spot you" while backing the vessel down the ramp—they can see what you cannot in your blind spots and can help prevent accidents.

- Prepare your watercraft before taking your turn launching at the ramp, to be courteous to others who might be waiting to launch. Preparation may include preloading equipment into the vessel, disconnecting trailer lights, and removing trailer cinch straps from the stern of the vessel.
- Always have a team member assigned to control the craft after launch, either by using a hand line to pull the craft to the loading dock or remaining onboard to pilot the craft to the dock. Do the same when returning to the ramp.
- Make sure the vehicle is secure when parking at boat ramps.

2.5 Nearby Services

- Know where the closest convenience stores and gas stations are located, in case you need fuel, food and drink, or cooler ice.
- Make lodging reservations well in advance of travel, using your DEP-issued P-card. If not familiar with the venue, inquire in advance about available parking if you are traveling in oversize vehicles or are towing a trailer or boat.
- Pay attention as you travel through nearby towns, just in case you need repair parts, hardware, or other supplies.
- If you will be shipping coolers back to the DEP Lab, you will need to locate the closest FedEx shipping office.

2.6 Cell Phone Coverage, if Known

- Most cell phone providers have online maps showing their wireless coverage areas; consult the map for your wireless provider before heading out. Keep in mind that these maps usually depict optimum conditions, so be prepared for instances and locations when you cannot get cell coverage.
- Consult with someone familiar with the area in advance who may have good knowledge about wireless access.
- If you have a weak signal with no voice access, try sending a text instead—texts require less phone signal strength and are more likely than voice to get a message out.

2.7 Local Hydrological and Weather Conditions

Determine meteorological and hydrological field conditions:

- Check river stage and/or lake levels before heading out into the field to sample waterbodies. The U.S. Geological Survey (USGS) real-time stage and discharge data can be accessed online at:

https://waterdata.usgs.gov/fl/nwis/current/?type=flow&group_key=basin_cd.

- See Section [1.6.3 Severe Weather](#).

Section 3: Workers' Compensation Procedures

DEP's Workers' Compensation (WC) Coordinator is responsible for processing and managing WC claims. Supervisors are trained in the WC process and supervisory responsibilities. The WC Coordinator collaborates with the contracted medical case management provider to ensure injured field staff receive treatment following a report of a workplace injury. Additionally, the agency Return-to-Work (RTW) Program provides alternate or modified-duty tasks for injured field staff, allowing them to return to work while adhering to functional restrictions provided by medical providers.

3.1 State Vehicle Accidents

- Motor vehicle and boating accidents must be reported to the proper law enforcement agency and a copy of the accident report obtained after the accident has been investigated, if required by law:
 - If another vehicle is involved, it is important to stay onsite until law enforcement arrives.
- Motor vehicle accidents must be reported on the Department of Insurance Automobile Accident Report form ([Appendix 2](#)). Boating accidents must be reported on the Department of Insurance General Liability Loss Report form ([Appendix 3](#)). These forms must be completed in full by the driver/operator of the state-owned vehicle/boat and submitted to that person's division/district office within three working days of the accident.

3.2 Injury Reporting

- Vehicle and boating accidents involving bodily injury, death, or extensive property damage must be reported immediately to the Department of Insurance at (850) 922–3122. This number is only answered from 8:00 a.m. to 5:00 p.m. Monday through Friday. If the accident occurs after these hours, report the accident the next working day.
- Injuries to DEP field staff, resulting from vehicle or boating accidents, that require medical treatment must be reported in accordance with procedures specified in Directive DEP 450. Medical treatment, other than urgent emergency care, must be obtained through a Humana-authorized provider. For more information, see Directive DEP 450.

3.3 WC Procedures for Reporting On-the-Job Injury, Illness, or Death

3.3.1 WC Provider Information

The Division of Risk Management has partnered with **AmeriSys** to provide services to state employees who are injured at work. **AmeriSys** provides around-the-clock (24/7/365) claim

reporting through a Triage/Intake Unit. At the time the claim is reported, the intake coordinator will assist with reporting the claim and a triage nurse will orient the injured field staff to the WC system and direct them to the most appropriate care for their injury. After the field staff is directed for medical care, the claim will be assigned to the **AmeriSys** Case Manager and adjuster team, who will manage the claim to conclusion.

WC benefits may be forfeited if an employee seeks his or her own medical treatment.

3.3.2 Reporting an On-The-Job Injury/Illness

Field staff are responsible for reporting all accidents/injuries as soon as possible to the supervisor or the supervisor on duty and request first aid or medical treatment if needed. The following information provides specific reporting instructions:

- In the case of a medical emergency, call 911.
- The supervisor should immediately contact **AmeriSys** at (800) 455–2079 to report the claim, even if the incident is not an emergency. In addition to reporting the claim to **AmeriSys**, supervisors must notify the director of their division by email, and supervisors must notify DEAR's Human Resources Representative, Debby Smith, by email, as soon as possible on the day the injury/illness is sustained. The DEAR Safety Manager also must be notified of any WC accidents or injuries within 24 hours or the next working day using the DEAR Work-Related Incident Report Form ([Appendix 5](#)).
- Whenever possible, the injured field staff should be present with the supervisor when the claim is reported. The **AmeriSys** triage nurse will assess the field staff's medical needs and arrange for medical treatment.
- If field staff is offsite and in need of immediate treatment and unable to reach a supervisor, the person may call **AmeriSys** directly, at **(800) 455–2079**, to report the accident/injury and arrange for medical treatment. Field staff must report the accident/injury to the supervisor as soon as possible after receiving approved medical treatment.
- Once the injured field staff's medical needs have been taken care of, the triage nurse will then collect the following information for completion of the Florida First Report of Injury claim form, DFS-F2-DWC-1 ([Appendix 4](#)):
 - 4-digit Agency Location Number – **The code for DEAR is 2058.**
 - Field staff's name, social security number, home address, home phone number, occupation (class title), date of birth, and sex (male or female).
 - Date and time of incident (injury or illness).

- o Description and cause of accident/injury.
- o Part of body affected.
- o Name and address of DEP as follows:

Department of Environmental Protection
Bureau of Human Resource Management, MS 70
3900 Commonwealth Blvd.
Tallahassee, Florida 32399-3000

- o Employment.
 - o Field staff's salary.
 - o Field staff's work address, phone number, and county; and supervisor's name and phone number.
- The **AmeriSys** Case Manager acts as the center point of contact, ensuring the coordination and delivery of approved medical services. The Case Manager is also responsible for communicating the actions of the claim, including the treatment plan and injury-related restrictions that will facilitate field staff's return to work as soon as possible.
 - The phone number for injured field staff to reach the Amerisys Case Manager is **(800) 427-3590**.
 - Injured field staff are generally instructed to return to work immediately following each visit. Supervisors should be prepared to speak with the Case Manager regarding work restrictions, limitations, and work status issues, such as modified or alternate duty.
 - DEP's concern is for the injured field staff's well-being. The field staff and supervisor should focus on recovery, full-duty release, and regular communication to alleviate any fear or uncertainty on the field staff's part, reducing possible litigation.
 - If DEP is unable to accommodate restrictions, or modified duty, immediately notify the DEP WC coordinator in the Bureau of Human Resource Management regarding the field staff's out-of-work (OOW) status (HR_FieldstaffComp@dep.state.fl.us). The DEP Compensation Coordinator will provide further specific instructions on proper timesheet completion and payroll processing. General timesheet information and instructions are as follows:
 - o A full-time employee (FTE) should record any time used for medical treatment appointments and/or clinician-prescribed time off from work for up to the initial 40 hours missed as disability leave (hours-type 0065) on the People First timesheet. When an FTE has been off work status for 40 hours and will need to continue being off work based on the clinician's orders, the person will be considered a **lost time** case and will begin receiving WC benefits from the Division of Risk

Management until he/she is able to return to work and/or reach maximum medical improvement (MMI).

- o The supervisor is responsible for ensuring that each on-the-job injury or illness is recorded by the division/district/organizational unit. The incident report and related backup documentation should be maintained for three calendar years as required by the DEP Safety Office.

3.3.3 Reporting an On-The-Job Death

If a job-connected injury or illness results in the death of an employee, Florida law requires that the death be reported to the Department of Financial Services, Division of Risk Management, Workers' Compensation Section, **within 24 hours** by telephone at (850) 413–1601 or fax (850) 921–2572. The supervisor in charge shall provide this 24-hour notification as follows:

- Notify **AmeriSys** as you would any other claim toll-free at **(800) 455–2079**.
- Notify the WC Coordinator in Human Resources by telephone at (850) 245–2518 and coordinate contacting the Division of Risk Management. Additionally, Human Resources will ensure the DEP Safety Officer is notified of such an event.

3.4 WC and Return-to-Work Program

- All DEP employees, Career Service, Selected Exempt Service, Senior Management Service, Other Personnel Services (OPS), and volunteers are covered for WC. Coverage is not extended to contracted employees, independent contractors, or vendors who provide services to DEP.
- Employees and volunteers have the responsibility to immediately report a work-related accident, illness, or injury to their direct supervisor. As soon as they are notified, supervisors are required to report the incident to the managed care provider contracted by the Department of Financial Services (DFS), Division of Risk Management. In a medical emergency, the injured employee or volunteer should be taken to the nearest medical facility, or 911 should be called to summon an ambulance to transport the employee. Otherwise, medical care must be arranged and authorized through the managed care provider prior to sending the employee or volunteer for care.
- Employees and volunteers shall familiarize themselves with requirements and procedures to follow if they are unable to return to work because of a work-related accident, illness or injury. This includes updating their immediate supervisor regarding their medical status following each medical visit.

- For employees who sustain a workplace accident, illness, or injury, the Return-to-Work Program provides modified-duty and alternate-duty assignments that accommodate the functional restrictions and limitations as determined by the authorized treating physician to bring the employee back to work as quickly as medically possible.

3.5 Procedures/Manuals/Forms

Procedures and Manuals:

- Standards and Procedures for Workers' Compensation and Return-To-Work Program:
<https://www.fldepnet.org/sites/default/files/Administrative-Services/governing-documents/450-Standards%20and%20Procedures.pdf>.
- DEP Workers' Compensation Procedures for Reporting On-the-Job Injury/Illness/Death:
<https://www.fldepnet.org/user/login?destination=system/files/Administrative-Services/governing-documents/WCInfoReportingProcedures.pdf>.
- DEP Workers' Compensation Location Codes:
<https://www.fldepnet.org/system/files/Administrative-Services/governing-documents/Workers%20Compensation%20Location%20Codes%20%2802-2019%29.pdf>.

Forms for this policy are accessible via the DEP Forms portal:

<https://www.fldepnet.org/user/login?destination=fdep-forms-list>, and from the DFS Workers' Compensation website: <https://www.myfloridacfo.com/Division/WC/>:

- Workers' Compensation – Return-to-Work Program Notification Form, DEP 54-301:
https://www.fldepnet.org/user/login?destination=system/files/DEP_54-301.pdf.
- First Report of Injury or Illness Form, DFS-F2-DWC-1 (10/2016):
<https://www.myfloridacfo.com/Division/WC/pdf/DFS-F2-DWC-1.pdf>.
- Wage Statement Form, DFS-F2-DWC-1a (3/2009):
<https://www.myfloridacfo.com/Division/WC/pdf/DFS-F2-DWC-1a.pdf>.
- Florida Workers' Compensation Uniform Medical Treatment/Status Reporting Form, DFS-F5-DWC-25 (1/2008):
<https://www.myfloridacfo.com/division/wc/pdf/DFS-F5-DWC-25inter.pdf>.

Section 4: Contacts and Personnel

4.1 DEP Contacts

- Jeff Loflin, Agency Safety Officer, (850) 245–2312.
- Tom Biernacki, DEAR Safety Manager, (850) 245–8515.
- DEP Workers' Compensation Coordinator.

4.2 Field Team Participants

Phone numbers should be obtained for all field team participants in case of emergency or separation.

4.3 Emergency Quick Reference Numbers

Acute Life-Threatening Medical Emergencies

911 operators can direct calls to local Emergency Medical Services (EMS), Fire, Sheriff Offices, FWC Emergencies, CSX Railroad emergencies, etc.:

- DEAR Safety Manager: Tom Biernacki
(850) 245–8515 (Office)
(850) 508–5747 (Cell)

4.3.1 State Vehicle Accidents

- Call 911, then your supervisor.
- Within 24 hours call the Division Safety Manager and the Department of Insurance at (850) 922–3122.
- All vehicle accidents that involve a DEP vehicle and a non-DEP vehicle or private property must be investigated by a law enforcement agency and a written report obtained.

4.3.2 Injury Reporting

Division of Environmental Assessment and Restoration (DEAR)
Work-Related Incident Report Form

- Employee's Name:
- PSN/Title:
- Supervisor's name:
- Date and time of accident:
- Task being done when accident occurred:
- Witnesses:

- Describe how the accident occurred:
- Describe physical injuries:
- Date and time medical attention was sought:
- Name of doctor and/or hospital:
- Describe what could have been done to prevent an accident of this type:

4.3.3 Workers' Compensation

The Division of Risk Management has partnered with AmeriSys at **(800) 455–2079** to provide services to state employees who are injured at work. AmeriSys provides around-the-clock (24/7/365) claim reporting through a Triage/Intake Unit. At the time the claim is reported, the intake coordinator will assist with reporting the claim and a triage nurse will orient the injured worker to the workers' compensation system and direct them to the most appropriate care for their injury. After the employee is directed for medical care, the claim will be assigned to the AmeriSys Case Manager and adjuster team, who will manage the claim to conclusion.

4.4 DEAR Safety Manager

Tom Biernacki (Office: [850] 245–8515, Cell: [850] 508–5747) is the DEAR Safety Manager. He must be notified of all safety incidents, including close calls and incidents where only DEP equipment is involved.

Section 5: References Cited

Contra Costa County, accessed on January 23, 2019, from <https://cchealth.org/heat/>.

Florida Department of Environmental Protection, DEPNet, *Boater Safety Manual*, accessed on April 23, 2019, from <https://www.fldepnet.org/content/adm/boater-safety-page>.

Florida Fish and Wildlife Conservation Commission, accessed on April 10, 2019, from <https://myfwc.com/hunting/season-dates/>.

University of Florida IFAS Extension, accessed on June 27, 2019, from <https://sfyl.ifas.ufl.edu/family-resources/ticks-and-disease/>.

U.S. Department of Labor (n.d.), accessed on January 10, 2019, from <https://www.osha.gov/SLTC/heatstress/>.

Urgent Care, accessed on January 23, 2019, from <https://share.upmc.com/2014/06/effects-humidity-body/>.

Fiskars, accessed on May 6, 2019, from <https://www2.fiskars.com/Ideas-and-How-Tos/Gardening-and-Yard-Care/Landscaping/How-to-use-a-Machete>.

Appendices

Appendix 1. Job Safety Analysis Worksheet

Florida Department of Environmental Protection
Division of Environmental Assessment and Restoration (DEAR)
Environmental Field Sampling, Laboratory, and Office Duties Safety Plan
JSA (Job Safety Analysis)

(March 2019)



Job Safety Analysis Worksheet	Date: March 2019
Title of Job/Operation: Office Operations and Ground/Surface Water Environmental Sampling	Log Number:
Employee Name and Job Title:	Analyst and Date:
Division/Program/Section: DEAR/ /	Approved by and Date:
Personal Protective Equipment (PPE) Required or Recommended: First-aid kit, sunscreen, wide-brimmed hat, safety glasses, gloves, steel-toed safety shoes with nonslip soles, hearing protection, bug repellent, personal flotation device, and high-visibility safety vest.	

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
Office operations	Trip and fall, and falling objects Paper cuts Wrist injuries (carpal tunnel syndrome) Back strain while moving boxes Falls from ladders or stepstools Electric shocks from plugging or unplugging office equipment.	Be aware of your surroundings. Do not store heavy objects on top of unstable shelves/cabinets. Avoid slippery floors, clean spills promptly. Watch for open file cabinets. Exercise care in handling paperwork. Use an ergonomically designed wrist rest for long typing sessions. Use proper lifting techniques. Use a moving dolly when necessary. Seek assistance. Position feet securely on each step. Wear proper shoes for this activity. Place ladder or stool on level surfaces. Avoid wet areas. Do not use damaged plugs. Do not use frayed (damaged) extension cords.
Ensure health of employees	Insect-/animal-borne disease; reactions to hazardous plants or insect stings (allergic reactions)	Ensure that first-aid training is current and encourage tetanus boosters. Ensure that environmental hazards training is completed for field hazards, including snakes and other animals and or insects.
Assess weather conditions to be encountered during site visit	Heat stroke Sunburn	Familiarize self with signs of heat-related illnesses: cramps, heat rash, dehydration, heat exhaustion, and heat stroke. Additionally, review associated DEP guidelines, procedures, and training (these include proper fluid intake, sunscreen use, proper clothing, work scheduling etc.). Keep body protected; wear sunscreen and wide-brimmed hat or hardhat (depending on PPE needs and DEP policy).

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
	Wind-burn hypothermia	Wear layered clothing, gloves, hardhat with winter liner, etc. During cold weather, layer clothing and wear wind-impervious outerwear; during warm months, wear a long-sleeved cotton/breathable fabric shirt and pant.
Carry and load sample coolers, pumps, and other items	Trip/fall/strain	Use davits, winches, handcart, or elevator, and employ proper ergonomics and lifting techniques. Get help from a coworker to carry and load coolers and other items.
Moving equipment	Back injury from improper lifting	Get help from a coworker to carry and load equipment.
Ensure vehicle has been properly maintained	Vehicle will not start Before traveling Vehicle crash	Perform a quick vehicle inspection for obvious items such as a corroded battery. Check tire inflation, windshield wipers, engine fluid levels; check for sufficient fuel to get to your destination. Observe state guidelines for use of a state vehicle: make sure that information on procedures regarding accidents, injuries, vehicular breakdowns, or roadside emergencies is available in vehicle. Refer to DEP Directive 620.
Proceed to vehicle/travel to and from site	Moving vehicles on road or in parking areas/traffic hazards Slip/trip/fall Vehicle contact with fixed or movable objects	Pay attention when crossing roads and walking in parking areas. Map route to site; have area map available; follow defensive driving practices. Do not attempt to walk on surfaces suspected of being slippery because of steep slope; loose rock/gravel; wet grass, moss, or algae; rain or other conditions. Conduct a walk-around inspection of the vehicle for fixed or movable objects around and/or behind the

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
	Wind-borne contaminants Physical contact hazards Fire hazards	Monitor lightning detectors and stop work when alarm alerts closer than 20 miles. Obtain wind direction information and identify "upwind" on site map. Always wear steel-toed safety shoes, safety glasses, hard-hats, safety vests and/or other appropriate PPE. Be alert for fire conditions. Do not enter areas being burned. Avoid flammables in and near vehicle and work area.
Vehicle/equipment/ security	Passing traffic Theft, vandalism Contact with fixed or movable objects	Be alert; secure area from through traffic with safety cones, traffic warning signs; use amber-colored warning lights and wear site-/activity-appropriate PPE. Pull over at least 4 feet on shoulder from white line. Use parking brake. Always lock vehicle; do not leave valuables in vehicle; cover anything that can't easily be removed from vehicle. Conduct a full walk-around of vehicle and place highly visible safety cones behind and/or in front of the vehicle.
Conduct visual inspection of facility/site layout	Irritated site owner/neighbors Dangerous surroundings Animals (dogs, snakes, stinging insects, ticks, etc.)	Be courteous and diplomatic. Identify yourself immediately. Always wear identification. Do not enter site unless accompanied by another employee, site personnel, or property owner. Wear safety shoes, protective eyewear, hearing protection, and hard-hat when necessary. Identify areas where biological hazards may be present; wear insect repellent on all exposed skin surfaces; wear long-sleeved shirt and full-length pants; avoid high

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
		grass areas if possible; tuck pants legs into boots; do not put hand/arm into/under an area that you can't see into/under clearly; do not pet animals unless owner is present and permission is granted; do not touch any suspected contaminant without appropriate hand PPE; wash hands as soon as possible upon completion of task.
Accessing wooded areas	Tick bites	Read and follow DEAR <i>Tick Bite Prevention Plan</i> (Appendix 5). Use proper PPE and permethrin.
Collecting samples	Irritation from contaminants in water Electrocution hazard	Always wear gloves and never drink nonpotable water. Always use properly grounded equipment and keep water away from electric power items. Identify any electrical hazards before commencing work. Halt all work if conditions become unsafe. Always check wires for chafing and exposed conductors before energizing.
Lifting heavy objects (covers, pumps, sampling equipment, coolers, etc.)	Muscle strain	Use proper ergonomics when lifting heavy objects; use appropriate mechanical assistance and tools when possible.
General water sampling (lakes, streams, wells, springs, etc.)	Contaminated media: Eye/skin contact with biological agents and chemicals Inhalation of chemical vapors Dangerous animals and vegetation	Review and understand Safety Data Sheet/Material Safety Data Sheet (SDS/MSDS) for all chemicals being handled. Be careful when handling acids and caustic substances. Wear adequate PPE and wash hands after completion of task. MSDS must be kept in vehicle at all times. Position body to minimize downwind exposure. Be aware of your surroundings. Learn to identify, and avoid, toxic plants such as poison ivy. Watch for dangerous animals, such as aggressive dogs, raccoons,

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
	Trailblazing with machete Heat exhaustion and sun exposure Hypothermia/cold water exposure Stinging insects Slip/trip hazards Muscle and soft tissue injury	alligators, snakes, and harmful insects. Be aware of sharp edges and angle of cuts. Be aware of briars. Be aware of location and distance of other samplers. Drink lots of water; wear hat, sunglasses, and sunscreen. Wear layers of clothing. Stay dry. Use caution when opening monitoring well protective covers; watch for biting insects. BE ALERT; position pumps and other sampling equipment in an orderly and safe fashion. Use proper ergonomics when positioning and lifting pumps.
Surface water sampling	Contaminated media Eye/skin contact with biological agents and chemicals Inhalation of chemical vapors Dangerous animals and vegetation	Wear site-/activity-appropriate PPE. Review and understand MSDS for all chemicals being handled. Be careful when handling acids and caustic substances. Wear adequate PPE and wash hands after completion of task. Position body to minimize downwind exposure. Be aware of your surroundings. Learn to identify, and avoid, toxic plants such as poisonwood trees. Watch for dangerous animals, such as aggressive dogs on private property, raccoons, snakes, and harmful insects.

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
	Heat exhaustion and sun exposure	Avoid dehydration and excessive sun and heat; wear hat, sunglasses, and sunscreen.
	Hypothermia/cold water exposure	Wear waders or a wetsuit.
	Stinging insects	Watch for biting insects. Wear long sleeves, long pants, and bug repellent.
	Slip/trip hazards	BE ALERT ; position sampling equipment in an orderly and safe fashion.
	Muscle and soft tissue injury	Use proper ergonomics when positioning and lifting sampling gear.
	Drowning	Work in pairs; wear life jacket (PFD) when appropriate.
	HABs include <i>Karenia brevis</i> (red tide), ciguatera, and blue-green algae)	Wear gloves, dust mask (to block inadvertent aerosol inhalation), and eye protection; wash with soap and water after any skin contact. Some people who are very sensitive to algae may develop a skin rash. Some people who are very sensitive to smells may experience respiratory irritation and must immediately move to fresh air.
Working in isolated areas	Victim of crime	Use the buddy system and carry a cell phone. Always be alert. Never leave your partner alone.
Vessel operations	Boating accidents NOTE: Employee must receive DEP/DEAR Boating Safety and Watercraft Operations Certification.	Complete DEP/DEAR Boater Safety course. All DEP employees must wear life vests while aboard. Maintain vessel and proper safety equipment. Carry cell phone and/or VHF radio. File a float plan and work in pairs.
Sampling from bridges	Struck by vehicles Slips/trips/falls/noise	Wear an orange safety vest and use buddy system. Use traffic cones and amber-colored warning lights as required by state law. Attempt to sample away from the bridge if possible.

Sequence of Basic Job Steps	Potential Accidents or Hazards*	Recommended Safe Job Procedures
Sampling from road shoulder	Struck by vehicles Slips/trips/falls/noise	Wear an orange safety vest and use buddy system. Use traffic cones and amber-colored warning lights as required by state law. Attempt to park in a driveway or other out-of-traffic area and sample as far away from traffic as possible.
Icing (re-icing) sample coolers, transporting coolers and other equipment back to vehicle and laboratory	Slip hazard Muscle and back injury	Use due care when draining water from coolers; use proper ergonomics when lifting and moving coolers and other equipment.
Site exit	Contamination Exotic plants	Wash hands promptly. Contaminated PPE (booties, Tyvek, latex gloves) should be disposed of onsite. Remove boots and soiled clothing for secure storage in trunk; decontaminate as soon as possible. Update exposure log. Never transport vegetation from a waterbody. Clean vehicles and boats thoroughly.
Acid preservation	Acid burns	Always wear PPE, including safety glasses and gloves. Provide proper ventilation. Have a buddy present at all times. Secure waste items to prevent contact.
Operating all-terrain equipment	Physical injury	Operate equipment at safe speeds. Complete DEP All-Terrain Vehicle (ATV) training.

***Codes for Potential Hazards:**

Caught Between (CBT)
Caught In (CI)
Caught On (CO)
Contacted By (CB)
Contact With (CW)

Exposure (E)
Fall – Below (FB)
Fall – Same Level (FS)
Overexertion (OE)
Struck By (SB)
Struck Against (SA)

Appendix 2. Automobile Accident Report Form (DFS-DO-261)



DEPARTMENT OF FINANCIAL SERVICES
Division of Risk Management

AUTOMOBILE ACCIDENT REPORT State Liability Claims Tallahassee, FL 32399-0338	
RM File #: _____	
INSURED STATE AGENCY	Department _____ Bureau, Institution or District _____ Location and Address _____
INSURED AUTO AND DRIVER	Year: ____ Make: ____ Model: ____ Tag No.: ____ Driver: _____ Phone No.: ____ Employed by: _____ Age: ____ Purpose of Use at Time of Accident: _____ Amount of Damage to Vehicle: _____
TIME AND PLACE	Date of Accident or Loss: _____ Hour: ____ Location of Accident: _____ Police Authority Investigating: _____
DAMAGE TO PROPERTY OF OTHERS	Owner of Property Damage: _____ Address: _____ Phone No.: ____ Driver of Other Vehicle: _____ Address: _____ Phone No.: ____ Driver's License No.: _____ If Automobile, Year: ____ Make: ____ Model: ____ Tag No.: ____ Kind of Property and Extent of Damage: _____ Insurance Carrier: _____



DEPARTMENT OF FINANCIAL SERVICES
Division of Risk Management

PERSONS INJURED	Name:	Address	Phone No.
	1. _____		
	2. _____		
	3. _____		
	4. _____		
	Nature and extent of injuries: 1. _____		
	2. _____		
	3. _____		
	4. _____		
	If Doctor was called, give name: Name: _____ Address: _____		
Where was injured person taken: _____			
By whom: _____			

(USE BACK FOR ADDITIONAL COMMENTS)

Show on diagram position each car, vehicle, or injured person, indicating direction by arrow

SIDEWALK

CENTER SIDEWALK

IMPORTANT
If street or view obstructed in any way, indicate where and how; also indicate any street cars and traffic signal or signs.

Indicate points of compass.



DEPARTMENT OF FINANCIAL SERVICES
Division of Risk Management

Explain fully how accident occurred:

Names of Witnesses	Address	Phone No.	State where witness was at time of accident

Date

Name of Person Filing Report

Name of Person Taking Report

Telephone Number of Caller

Appendix 3. General Liability Loss Report Form (DFS-DO-1403)



DEPARTMENT OF FINANCIAL SERVICES
Division of Risk Management

GENERAL LIABILITY LOSS REPORT

Department of Financial Services
Division of Risk Management
State Liability Claims
Larson Building
Tallahassee, FL 32399-0338

RM File No.: _____
(Do not complete)

INSURED AGENCY	Department: _____			
	Division and Location: _____			
	Bureau, Institution, or District: _____			
ACCIDENT	Date: _____		Time: _____	Location: _____
	Type of Claim:	Bodily Injury: _____	Property Damage: _____	
		Medical Malpractice: _____	Other: _____	
	Description: _____ _____			
INJURED PERSON	Name: _____		Age: _____	Telephone No.: _____
	Address: _____		City: _____	State: _____
	Occupation & Employer: _____			
	Why on Premises: _____			
	Nature & Extent of Injury: _____ (List additional injured persons on back of form.)			
PROPERTY DAMAGE	Owner & Address:	_____	Telephone No.:	_____

	Description of Property:	_____		
	Describe Damage:	_____		
	When & where can property be inspected: _____			

WITNESSES	Name	Address	Telephone No.	
POLICE REPORT	Identify Police Authority Investigating:			
	Their Location:			
(USE BACK FOR ADDITIONAL COMMENTS)				
Date of Report			Signature of person filing report	
			Telephone No.:	

(List additional injured persons here.)

INJURED PERSON	Name:	Age:	Telephone No.:
	Address:	City	State:
	Occupation & Employer:		
	Why on Premises:		
	Nature & Extent of Injury:		
INJURED PERSON	Name:	Age:	Telephone No.:
	Address:	City	State:
	Occupation & Employer:		
	Why on Premises:		
	Nature & Extent of Injury:		
INJURED PERSON	Name:	Age:	Telephone No.:
	Address:	City	State:
	Occupation & Employer:		
	Why on Premises:		
	Nature & Extent of Injury:		

ADDITIONAL COMMENTS:

Appendix 4. First Report of Injury Claim Form (DFS-F2-DWC-1)

FIRST REPORT OF INJURY OR ILLNESS FLORIDA DEPARTMENT OF FINANCIAL SERVICES DIVISION OF WORKERS' COMPENSATION For assistance call 1-800-342-1741 or contact your local EAO Office		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">RECEIVED BY CLAIMS-HANDLING ENTITY</td> <td style="width: 33%;">SENT TO DIVISION DATE</td> <td style="width: 33%;">DIVISION RECEIVED DATE</td> </tr> <tr> <td style="height: 60px;"></td> <td></td> <td></td> </tr> </table>		RECEIVED BY CLAIMS-HANDLING ENTITY	SENT TO DIVISION DATE	DIVISION RECEIVED DATE			
RECEIVED BY CLAIMS-HANDLING ENTITY	SENT TO DIVISION DATE	DIVISION RECEIVED DATE							

PLEASE PRINT OR TYPE		EMPLOYEE INFORMATION	
NAME (First, Middle, Last) _____		Social Security Number _____	
HOME ADDRESS Street/Apt #: _____ City: _____ State: _____ Zip: _____		Date of Accident (Month-Day-Year) _____ Time of Accident _____ ☐ AM ☐ PM	
TELEPHONE _____ Area Code _____ Number _____		EMPLOYEE'S DESCRIPTION OF ACCIDENT (Include Cause of Injury) _____	
OCCUPATION _____		INJURY/ILLNESS THAT OCCURRED _____	
DATE OF BIRTH _____ SEX ☐ M ☐ F		PART OF BODY AFFECTED _____	

COMPANY NAME: _____ D. B. A.: _____ Street: _____ City: _____ State: _____ Zip: _____ TELEPHONE _____ Area Code _____ Number _____		EMPLOYER INFORMATION FEDERAL I.D. NUMBER (FEIN) _____ NATURE OF BUSINESS _____ DATE EMPLOYED _____ / _____ / _____ LAST DATE EMPLOYEE WORKED _____ / _____ / _____ RETURNED TO WORK ☐ YES ☐ NO IF YES, GIVE DATE _____ / _____ / _____		DATE FIRST REPORTED (Month/Day/Year) _____ POLICY/MEMBER NUMBER _____ PAID FOR DATE OF INJURY ☐ YES ☐ NO WILL YOU CONTINUE TO PAY WAGES INSTEAD OF WORKERS' COMP? ☐ YES LAST DAY WAGES WILL BE PAID INSTEAD OF WORKERS' COMP _____ / _____ / _____	
EMPLOYER'S LOCATION ADDRESS (If different) Street: _____ City: _____ State: _____ Zip: _____ LOCATION # (If applicable) _____		DATE OF DEATH (If applicable) _____ / _____ / _____ AGREE WITH DESCRIPTION OF ACCIDENT? ☐ YES ☐ NO		RATE OF PAY ☐ HR ☐ WK \$ _____ PER ☐ DAY ☐ MO Number of hours per day _____ Number of hours per week _____ Number of days per week _____	
PLACE OF ACCIDENT (Street, City, State, Zip) Street: _____ City: _____ State: _____ Zip: _____ COUNTY OF ACCIDENT _____		Any person who, knowingly and with intent to injure, defraud, or deceive any employer or employee, insurance company, or self-insured program, files a statement of claim containing any false or misleading information commits insurance fraud, punishable as provided in s. 817.234, Section 440.105(7), F.S. I have reviewed, understood and acknowledge the above statement.		NAME, ADDRESS AND TELEPHONE OF PHYSICIAN OR HOSPITAL _____ AUTHORIZED BY EMPLOYER ☐ YES ☐ NO	
EMPLOYEE SIGNATURE (If available to sign) _____ _____ EMPLOYER SIGNATURE _____ _____		DATE _____ _____ DATE _____ _____		_____ _____	

CLAIMS-HANDLING ENTITY INFORMATION	
☐ 1(a) Denied Case - DWC-12, Notice of Denial Attached ☐ 1(b) Indemnity Only Denied Case - DWC-12, Notice of Denial Attached ☐ 2. Medical Only which became Lost Time Case (Complete all required information in #3) Employee's 8 th Day of Disability _____ / _____ / _____ Entity's Knowledge of 8 th Day of Disability _____ / _____ / _____ ☐ 3. Lost Time Case - 1st day of disability _____ / _____ / _____ Full Salary in lieu of comp? ☐ YES Full Salary End Date _____ / _____ / _____ Date First Payment Mailed _____ / _____ / _____ AWW _____ Comp Rate _____ ☐ T.T. ☐ T.T. - 80% ☐ T.P. ☐ I.B. ☐ P.T. ☐ DEATH ☐ SETTLEMENT ONLY Penalty Amount Paid in 1 st Payment \$ _____ Interest Amount Paid in 1 st Payment \$ _____	
REMARKS: _____ _____ _____	
INSURER CODE # _____ EMPLOYEE'S CLASS CODE _____ EMPLOYER'S NAICS CODE _____ SERVICE CO/TPA CODE # _____ CLAIMS-HANDLING ENTITY FILE # _____	
INSURER NAME _____ CLAIMS-HANDLING ENTITY NAME, ADDRESS & TELEPHONE _____ _____ _____	

Form DFS-F2-DWC-1 (10/2015) Rule 68L-3.025, F.A.C.

DWC-1 Purpose and Use Statement

The collection of the social security number on this form is specifically authorized by Section 440.185(2), Florida Statutes (F.S.). The social security number will be used as a unique identifier in Division of Workers' Compensation database systems for individuals who have claimed benefits under Chapter 440, F.S. It will also be used to identify information and documents in those database systems regarding individuals who have claimed benefits under Chapter 440, F.S., for internal agency tracking purposes and for purposes of responding to both public records requests and subpoenas that require production of specified documents. The social security number may also be used for any other purpose specifically required or authorized by state or federal law.

Appendix 5. DEAR Work-Related Incident Report Form

Employee's name:

PSN/title:

Supervisor's name:

Date and time of accident:

Task being done when accident occurred:

Witnesses:

Describe how the accident occurred:

Describe physical injuries:

Date and time medical attention was sought:

Name of doctor and/or hospital:

Describe what could have been done to prevent an accident of this type:

Appendix 6. Tick Bite Prevention Plan

Tick Bite Prevention Plan

**Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection**

April 2017

**2600 Blair Stone Road, MS 3525
Tallahassee, Florida 32399-3000
<https://floridadep.gov>**



Tick Bite Prevention Plan

This document shall serve as the Tick Bite Prevention Plan for the Division of Environmental Assessment and Restoration.

This plan includes the following:

- Procedures for tick bite prevention.
- Applications.
- First-aid.
- MSDS.

Purpose

The purpose of the plan is to eliminate or minimize hazards to employees in the field from tick-borne diseases.

Materials

- 1 quart "Martin's Permethrin 13.3%." Be sure to document purchase and opened dates on bottle.
- (2) 12 ounce "Sawyer Premium Insect Repellent." Be sure to document purchase and opened dates on bottle.
- Gallon pump sprayer.
- Light-colored canvas tarp.

Procedures

1 Month Prior to Sampling:

Review information on ticks from the University of Rhode Island:

<http://www.tickencounter.org/>. Trim back brush and overhanging vegetation.

1 Week Prior to Sampling:

- Mow grass to a height of less than 3 inches **no earlier** than one week prior to sampling. This lowers the moisture in the vegetation. It also limits the height of vegetation that ticks may climb and "quest."

1 Day Prior to Sampling:

- Review Sawyer frequently asked questions (FAQs):
<http://www.sawyer.com/permFAQ.html>.

- Review University of Rhode Island video on permethrin efficacy: http://www.youtube.com/watch?v=n_XvX9Hyrrhw.
- Review Sawyer repellent video: <http://www.sawyer.com/video-perm.html>.
- Hang sampling clothes outdoors. Apply repellent to cotton socks, pants, and long-sleeved shirt. Allow time to hang and dry.
- Treat the canvas tarp and tent surface with repellent.

Day of Sampling:

- Wear repellent-treated clothing.
- Mix 5.5 oz. of "Martin's Permethrin 13.3%" with 1 gallon of water in a pump sprayer.

2 Hours Prior to Sampling:

- Apply 1/4 gallon of permethrin mixture to a 20-foot perimeter around well.
- Apply 1/4 gallon of mixture to brush in the vicinity (labeled rate: 1 gallon of mixture per 790 square feet of land surface).
- Avoid applying if rain is expected within 3 hours after application. The product label states that insects are controlled for up to 4 weeks; however, animals passing through the area could bring in new populations of ticks.

Immediately Prior to Sampling:

- Lay a 20-foot by 20-foot tarp on the ground between the well and vehicle. This will create a physical barrier for any untreated ticks that may be hiding under leaf debris.
- Set up the canopy tent over the work area if vegetation overhangs the well. This will create a physical barrier for any ticks that may fall from overhanging tree limbs.

Immediately after Sampling:

- Examine the tarp and tent during retrieval. If ticks are present, spray them with the mixture.

4 Hours after Sampling:

- Triple rinse the pump sprayer with dishwashing soap and water.
- Store any unused chemical in a cool, dark area.

5 Hours after Sampling:

- Examine body for ticks.

- Wash permethrin-treated clothing in washing machine—do not mix this load with other clothes.
- Dispose of any unused chemical 1 year after the purchase date to ensure next year's product being used is still effective.

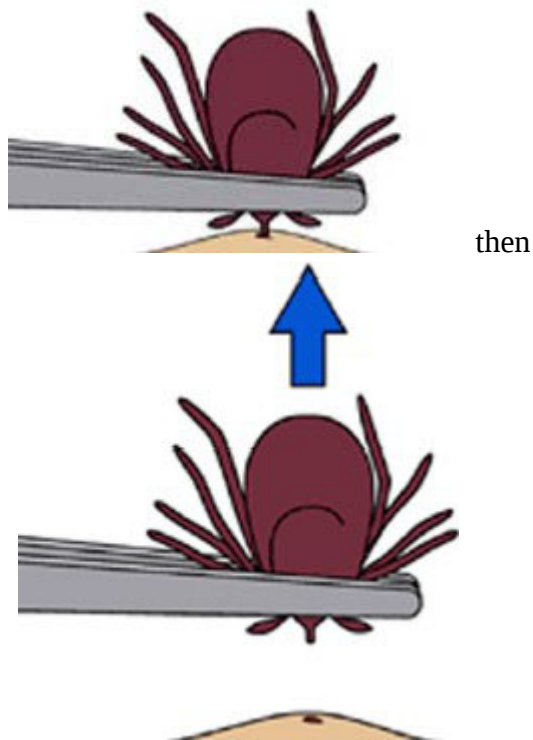
Tick Removal

If you find a tick attached to your skin, there is no need to panic. There are several tick removal devices on the market, including "Ticked Off" and "Tick Twister." However, a plain set of fine-tipped tweezers will remove a tick quite effectively.

Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible.

How to remove a tick:

1. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth parts easily with clean tweezers, leave it alone and let the skin heal.



3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and hot water.
4. Dispose of a live tick by submerging it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet (with no plastic). Never crush a tick with your fingers.

Follow-Up

If you develop a rash or fever within several weeks of removing a tick, see your doctor. Be sure to tell the doctor about your recent tick bite, when the bite occurred, and where you most likely acquired the tick. Notify your supervisor, who will notify the DEAR Safety Manager.

Symptoms of Tick-Borne Illnesses

Many tick-borne diseases have similar signs and symptoms. If you have been bitten by a tick and develop the symptoms listed below within a few weeks, a health care provider should evaluate the following before deciding on a course of treatment:

- Your symptoms.
- The [geographic region](#) where you were bitten.
- Diagnostic tests, if indicated by the symptoms and the region where you were bitten.

The following are the most common symptoms of tick-related illnesses:

- **Fever/chills:** With all tick-borne diseases, patients can experience fever at varying degrees and time of onset.
- **Aches and pains:** Tick-borne disease symptoms include headache, fatigue, and muscle aches. With Lyme disease you may also experience joint pain. The severity and time of onset of these symptoms can depend on the disease and the patient's personal tolerance level.
- **Rash:** [Lyme disease](#), [Southern tick-associated rash illness \(STARI\)](#), [Rocky Mountain spotted fever \(RMSF\)](#), [Ehrlichiosis](#), and [Tularemia](#) can result in distinctive rashes:
 - o In Lyme disease, the rash may appear within 3 to 30 days, typically before the onset of fever. The Lyme disease rash is the first sign of infection and is usually a circular rash called *Erythema migrans*, or EM. This rash occurs in approximately 70 % to 80 % of infected persons and begins at the site of a tick bite. It may be warm but is not usually painful. Some patients develop additional EM lesions in other areas of the body several days later.

- The rash of STARI is nearly identical to that of Lyme disease, with a red, expanding "bull's eye" lesion that develops around the site of a Lone Star tick bite. Unlike Lyme disease, STARI has not been linked to any arthritic or neurologic symptoms.
- The rash seen with RMSF varies greatly from person to person in appearance, location, and time of onset. About 10 % of people with RMSF never develop a rash. Most often, the rash begins 2 to 5 days after the onset of fever as small, flat, pink, nonitchy spots (macules) on the wrists, forearms, and ankles and spreads to the trunk. It sometimes involves the palms and soles. The red to purple, spotted (petechial) rash of RMSF is usually not seen until the sixth day or later after onset of symptoms and occurs in 35 % to 60 % of patients with the infection.
- In the most common form of Tularemia, a skin ulcer appears at the site where the organism entered the body. The ulcer is accompanied by the swelling of regional lymph glands, usually in the armpit or groin.
- In about 30 % of patients (and up to 60 % of children), Ehrlichiosis can cause a rash. The appearance of the rash ranges from macular to maculopapular to petechial and may appear after the onset of fever.

Tick-borne diseases can result in mild symptoms treatable at home to severe infections requiring hospitalization. Although easily treated with antibiotics, these diseases can be difficult for physicians to diagnose. However, early recognition and treatment of the infection decreases the risk of serious complications. So immediately notify your supervisor and **see your doctor if you have been bitten by a tick and experience any of the symptoms** described here.

Where to Purchase Permethrin

- Wal-Mart (in the Outdoors/Camping Section).
- Dick's Sporting Goods.
- Tractor Supply Company.
- Forestry Suppliers, Inc. (formerly Ben Meadows Company) (<https://www.forestry-suppliers.com/BM/index1.php#>).
- Florida Farm & Feed, Inc.

Permethrin First Aid

- EYES: Flush with water for at least 15 minutes. If irritation persists, obtain medical attention.
- SKIN: Remove contaminated clothing and wash with soap and water immediately. Obtain medical attention.

- INHALATION: Remove to fresh air. If breathing is difficult or if any discomfort persists, obtain medical attention.
- INGESTION: Obtain medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN: Contains the pyrethroid insecticide permethrin and has low oral toxicity, moderate dermal toxicity, and moderate eye irritation. Initial treatment is removal of exposure by washing, emesis, or lavage and is followed by symptomatic and supportive care.

MSDS or Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be consulted
for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List)

Permethrin 13.3

Section I

Date: April 14, 2011

Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507
281-892-2500

Spills: (800) 424-9300 CHEMTREC
Medical: (866) 897-8050 SafetyCall® International

Section II – Hazardous Ingredients/Identity

Hazardous Components (Specific Chemical Identity: Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits	% (Optional)
Permethrin 52645-53-1 *Contains Petroleum Distillates	None	None	None	13.30%

Section III – Physical/Chemical Ingredients

ODOR: Faint, mild	pH: 5.0-6.0	MELTING POINT: Not Available
APPEARANCE: Viscous yellow to brown liquid		SOLUBILITY (H ₂ O): 0.07 +- 0.02 ppm
VAPOR DENSITY: >1 (Air=1)	% VOLATILES: NA	SPECIFIC GRAVITY: 1.190 to 1.272 at 20°C
BOILING POINT: 198-200°C at 0.3 mm HG		VAPOR PRESSURE: 3.4 x 10 Torr at 25°C

Section IV – Fire and Explosion Data

FLASHPOINT: >105°F (closed cup) FLAMMABILITY LIMITS: UFL: N/A LFL: N/A
EXTINGUISHING MEDIA: Water fog, foam. DEGREE OF FIRE/EXPLOSION HAZARD: Slightly combustible.
Overheated, sealed containers are an explosion hazard. Vapors which form inside empty containers may also present an explosion hazard during a fire. SPECIAL FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind residents and all areas where fire seriously threatens the product containers. Wear full protective clothing including rubber boots, neoprene gloves and self-contained breathing apparatus. Attempt to keep drums cool. Do not breathe or contact smoke or vapors. CONDITIONS TO AVOID (INCOMPATIBILITY): Heat and fire. Thermal decomposition and burning may produce toxic by-products and an explosion hazard. HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and/or carbon dioxide. Chlorine and hydrogen chloride may be formed.

Section V – Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

Section VI – Health Hazard Information

PRIMARY ROUTES OF ENTRY: Acute and chronic effects from overexposure may result from inhalation and ingestion. ACUTE EFFECTS FROM OVEREXPOSURE: Data available to date on human exposure suggests that permethrin does not produce skin sensations (feelings of numbing and tingling), although other pyrethroids have been known to cause these reactions. If they occur, these sensations subside and disappear within a few hours. Large, toxic doses administered to laboratory animals have produced central nervous system effects with symptoms that include diarrhea, salivation, bloody nose, tremors and intermittent convulsions. Overexposure of animals to permethrin via inhalation has also produced hyperactivity and hypersensitivity.

CHRONIC EFFECTS FROM OVEREXPOSURE: In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long terms feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system and histopathological changes in the lungs and liver. An overall lack of genotoxicity has been demonstrated in mutagenicity testing with permethrin.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None presently known

CARCINOGENICITY: NTP: No IARC: No OSHA: No

Section VII – Health Hazard Information (cont'd.)

Seems like Section VII text is missing here? and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system and histopathological changes in the lungs and liver. An overall lack of genotoxicity has been demonstrated in mutagenicity testing with permethrin.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None presently known

CARCINOGENICITY: NTP: No IARC: No OSHA: No

Section VIII – First Aid

EYES: Flush with water for at least 15 minutes. If irritation persists, obtain medical attention.

SKIN: Remove contaminated clothing and wash with soap and water immediately. Obtain medical attention.

INHALATION: Remove to fresh air. If breathing is difficult or if any discomfort persists, obtain medical attention.

INGESTION: Obtain medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN: Contains the pyrethroid insecticide permethrin and has low oral toxicity, moderate dermal toxicity and moderate eye irritation. Initial treatment is removal of exposure by washing, emesis or lavage and is followed by symptomatic and supportive care. **You may also call SafetyCall International for emergency medical information.**

Section IX – Precautions for Safe Handling/Use

STORAGE AND HANDLING: Store in a cool, dry place and avoid excess heat. Store in original containers only. Carefully open containers. After partial use, replace bungs or cap and close tightly. Wash hands and other exposed skin surfaces thoroughly prior to smoking or consuming food or beverages. Shower after handling or applying the product. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

PROTECTIVE REQUIREMENTS: VENTILATION: Thoroughly ventilate all transport vehicles prior to unloading. Store in a cool, dry, well-ventilated place. General exhaust ventilation is considered sufficient. **WORK CLOTHING:** Wear long-sleeved coveralls or uniform, cap, safety shoes and neoprene gloves. **EYE PROTECTION:** Where potential of splashing exists, or contact with mist, protective safety glasses, goggles and face shield should be worn. A source of clean water for flushing the eyes should be nearby.

RESPIRATORY PROT.: For fires, use self-contained breathing apparatus only. For moderate vapor liquid mist exposure, use half face or full-face air purifying respirators which are NIOSH/MSHA approved for pesticides. **GLOVES:** Where chemical protective gloves made of neoprene when handling this product.

Section X – Environmental and Disposal Information

SPILL OR LEAK: Isolate and post spill area. Wear prescribed protective clothing and equipment. Keep material out of streams and sewers. Contain and absorb spilled material with a solid absorbent such as sand, cat litter, commercial clay or other suitable absorbent. Place in an approved drum and dispose of material following the method outlined below under "Waste Disposal". To decontaminate spill area, tools and equipment, wash with a suitable solution (e.g. organic solvent, detergent, bleach or caustic) and dispose of solution following the method outlined below under "Waste Disposal".

WASTE DISPOSAL: Open dumping or burning of this material is prohibited. An acceptable method of disposal is to burn in an incinerator in accordance with all local, state and federal environmental laws, rules, standards and regulations. Because acceptable methods of disposal may vary by location and because regulatory requirements may change, the appropriate regulatory agencies should be contacted prior to disposal. Steel containers which contained these materials must be crushed and disposed of in a sanitary landfill. Do not cut or weld steel containers.

KEEP OUT OF REACH OF CHILDREN

ABBREVIATION KEY

N/A: NOT AVAILABLE OR APPLICABLE
TLV: THRESHOLD LIMIT VALUE
STEL: SHORT TERM EXPOSURE LIMIT

N/E: NOT ESTABLISHED
TWA: TIME WEIGHTED AVG./8 HOUR WORKDAY
D.O.T.: DEPARTMENT OF TRANSPORTATION

ND: Not Determined

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

Appendix 7. List of Acronyms

ATV	All-Terrain Vehicle
CATV	Cable Television
CPR	Cardiopulmonary Resuscitation
DEAR	DEP Division of Environmental Assessment and Restoration
DEET	N,N-Diethyl-meta-toluamide
DEP	Florida Department of Environmental Protection
DFS	Florida Department of Financial Services
DWC	Florida DFS Division of Workers' Compensation
EM	Erythema Migrans
EMS	Emergency Medical Services
°F	Degrees Fahrenheit
FAQ	Frequently Asked Question
F.S.	Florida Statutes
FTE	Full-Time Employee
FWC	Florida Fish and Wildlife Conservation Commission
GHS	Globally Harmonized System
GPS	Global Positioning System
HAB	Harmful Algal Bloom
HR	Human Resources
JSA	Job Safety Analysis
LED	Light-Emitting Diode
MMI	Maximum Medical Improvement
mph	Miles Per Hour
MSDS	Material Safety Data Sheet
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
OOW	Out of Work
OPS	Other Personnel Services
OSHA	Occupational Safety and Health Administration
PFD	Personal Flotation Device
PPE	Personal Protective Equipment
RMSF	Rocky Mountain Spotted Fever
RTW	Return to Work
SDS	Safety Data Sheet
SPF	Sun Protection Factor
STARI	Southern Tick-Associated Rash Illness
SUV	Sport-Utility Vehicle
TV	Television
USGS	U.S. Geological Survey

UV	Ultraviolet
UVA	Ultraviolet A
UVB	Ultraviolet B
WC	Workers' Compensation