

Archbold Expeditions

General Safety Manual

Reviewed Jan. 2026

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ARCHBOLD EXPEDITIONS
EMERGENCY CONTACT INFORMATION

<u>Major Emergencies including Structural Fires</u>	911
<u>Wildfires – Station and Reserve</u>	
Land Manager	(863) 414-5144
Operations Manager	(863) 414-5141
<u>Wildfires – Buck Island Ranch</u>	
Ranch Manager	(863) 441-0097
<u>Florida Division of Forestry</u>	(863) 462-5160
<i>(Note, DOF communicates in Section, Township, Range. The Main Office's location is S7, T38S, R30E)</i>	
<u>Hospitals</u>	
Florida Hospital Lake Placid	(863) 465-3777
Highlands Regional Hospital	(863) 385-6101
<u>Florida Poison Information Center</u>	(800) 222-1222
<u>Sheriff's Department (non-emergency)</u>	(863) 699-3737
<u>Station Emergency Contacts</u>	
Station Executive Director	(863) 465-2571
Station Operations Manager	(863) 414-5141
Human Resources	(863) 991-3151
IT Administrator	(407) 590-7861
<u>Ranch Emergency Contacts</u>	
MAERC Research Director	(863) 840-3673
Ranch Manager	(863) 441-0097

FOREWARD

The safety of our employees, volunteers and visitors is of the highest importance to Archbold. To assist in providing a safe and healthy work environment, Archbold Expeditions has instituted a Workplace Safety Program.

This Safety Manual outlines what Archbold expects of every employee, volunteer, and visitor. It is provided as a principle, but not the sole source of basic information on safety at Archbold. It is expected that clear, detailed instructions for efficient and safe operation and performance will be given in all instances by Archbold Expeditions supervisors to people reporting to them.

Please carefully read this Safety Manual and follow those items pertaining to you and your work area. Failure to adhere to these procedures may result in disciplinary action up to and including termination of employment.

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CHAPTER 1

GENERAL SAFETY RIGHTS AND RESPONSIBILITIES

- I. General: This manual is an aid in the continued efforts of Archbold Expeditions to prevent job-related accidents and provide a safe and healthy work environment. The Human Resource Department and Operations Manager have responsibility for implementing, administering, monitoring, and evaluating the safety program at Archbold Biological Station. The Human Resource Department and Ranch Manager have this responsibility at the Ranch.
- II. Use of this Manual: This manual should be used to plan, organize, and implement departmental safety programs. Supervisors should use it as a guide to accomplish the following:
 - Familiarize themselves with all applicable safety instructions.
 - Instruct individuals in safe work practices.
 - Provide continuing on-the-job safety training.
- III. Your Safety Rights: You have the right to:
 - A safe workplace free from recognized hazards.
 - Request information on safety and health hazards in the workplace, precautions that may be taken, and procedures to be followed if an employee is injured or exposed to toxic substances.
 - Know about the hazards associated with the chemicals you work with, and the safety procedures you need to follow to protect yourself from those hazards.
 - Question any instruction which requires you to disobey a safety rule, which puts yourself or someone else in unnecessary danger of serious injury, or requires you to perform a task for which you have not been trained to perform safely.
 - Freedom from retaliation for demanding your safety rights.
- IV. Your Safety Responsibilities: Employees, volunteers and visitors of Archbold Expeditions are responsible for following all environmental, health, and safety guidelines and safe work procedures specified in government regulations.
 - Individuals are expected to obey safety rules and exercise caution in all activities.
 - Individuals must immediately report any unsafe condition to the appropriate person.
 - Employees and volunteers are required to immediately report all on-the-job injuries and illnesses, no matter how slight, to their supervisor and the Human Resource Department (HUMAN RESOURCE DEPARTMENT).
 - Visitors are required to immediately report all injuries and illnesses, no matter how slight, to the HUMAN RESOURCE DEPARTMENT.
 - To ensure a safe workplace environment and to comply with all government regulations:
 - Employees who violate safety standards, cause hazardous or dangerous situations, or fail to report or remedy such situations may be subject to disciplinary action, up to and including termination of employment.

- Volunteers and visitors who violate safety standards, cause hazardous or dangerous situations, or fail to report or remedy such situations may be requested to leave Archbold property.
- V. Right to Refuse Work: It is understood and is an accepted practice that an individual has the right and obligation to refuse to perform any task he/she feels he/she cannot perform safely. Such circumstances should be reported immediately to the supervisor who will assess the situation, provide appropriate personal protective equipment if warrant, discuss the safety concerns with the employee, and if necessary, reassign the tasks to an individual better trained to perform the task.
- VI. Lone Worker Rule: Lone workers should not undertake hazardous operations, either during regular work hours or after hours. Two or more employees should be within sight or earshot for work to take place in any area where a significant hazard might exist. If you must work alone in an area where a significant hazard might exist:
- Make sure you have a cell phone and/or Station/Ranch radio in your possession.
 - Plan with another individual to check on you periodically.
 - Notify your supervisor or other designated individual at the beginning and end of your work shift and at other agreed upon times during the workday.
- VII. Supervisors Responsibilities: Supervisors are responsible for providing a safe work environment for their employees by:
- Ensuring employees know their job and engage in safe work practices.
 - Investigating and reporting all accidents and incidents involving their employees.
 - Ensuring that unsafe conditions in the workplace are corrected, regardless of whether an accident or incident has occurred.
 - Examples of how supervisors can prevent accidents:
 - Use simple, clear instructions and follow-up to ensure compliance.
 - Visit areas of responsibility.
 - Point out hazards when assigning tasks.
 - Provide personal protective equipment.
 - Insure the use of proper equipment.
- VIII. Reporting Accidents and Unsafe Conditions: Individuals must immediately report all accidents and incidents that result in injury, illness, and/or property damage (however slight), and any unsafe condition that could result in an accident, incident or property damage, to their supervisor and the Human Resource Department.
- A) Unsafe Conditions:
- Reports and concerns about workplace safety issues may be made anonymously.
 - All reports on unsafe conditions can be made without fear of reprisal.
- B) Accident Reporting and Investigation: Timely and thorough investigations of accidents are essential to an effective safety program. Every accident involving injury to an employee, volunteer or visitor will be investigated by the immediate supervisor and the Human Resource Department to identify pertinent information regarding the accident and to formulate measures to prevent similar occurrences.

An investigation may include:

- Interview of the Injured Person(s): The injured person(s) must be interviewed for specific details of the accident, but if the person(s) needs immediate medical help, the questioning should be left until after treatment. Supervisors should be alert for signs of any mental or emotional stress that may have contributed to the accident. Supervisor should also look for indicators that an individual is under the influence of alcohol, illegal drugs, or medication that may have contributed to the accident. When necessary, individual will be asked to take a drug test.
- Interview with Witnesses: Witnesses in an accident must be interviewed by the Human Resources Department.
- Examination of Physical Evidence: Physical evidence helps to determine the cause of the accident. Mechanical defects should be noted and measurements taken of distance or dimensions. When necessary and for further reference, photographs should be taken of the scene and of other outstanding evidence. The extent of all damage should be recorded.
- Record of Other Conditions: Record all other conditions such as the weather or the inadequacy of lighting and/or machine guarding.
- Recommend Corrective Actions: Once the cause of the accident has been determined, suitable corrective actions must be implemented to prevent similar accidents.
- Accident / Illness Investigation Report: All evidence and factors of the accident must be compiled into a final Accident/Illness Investigation Report, which should include a timeline of events of the described accident.
- Follow-up: In addition to the corrective actions taken, timely follow-up is essential to determine whether preventive measures have been completed.

IX. Workers' Compensation: Archbold provides workers' compensation coverage to employees for work related injuries and illnesses.

- Employees must report all work-related incidents causing injury or illness to their supervisor and the human Resource Department immediately. Failure to timely report a work-related accident or illness may result in the denial of workers' comp benefits.
- Neither Archbold nor the insurance carrier will be liable for the payment of workers' compensation benefits for injuries that occur during an employee's voluntary participation in any off-duty recreational, social or athletic activity, or for injuries that occur while the employee is employed with another employer.
- Visitors and Volunteers at Archbold are not covered under Archbold's workers' compensation coverage. These individuals must sign a Release of Liability form upon their arrival to Archbold as a condition to visiting/volunteering.

CHAPTER 2

FACILITY SAFETY AND SECURITY

- I. General: The remoteness of the Station, Ranch and Avon Park Air Force Base makes following security procedures extremely important.
- II. Station Security
 - Doors with keypad entries are locked in the evenings and on weekends; and labs and offices with key locks are to be locked when unoccupied.
 - The codes on keypad entries are routinely changed; please do not share the code with others.
 - If you discover an unlocked door that should be locked, contact the Facilities Coordinator.
 - Always remove the key and lock the doors of vehicles when not in use.
 - Always remove the key from ATVs when not in use and secure the ATV in the ATV shed.
 - If you see individuals who you are not sure belong at the Station (including at Lake Annie):
 - Ask them who they are with and if they need help.
 - If they do not leave and you are not convinced that they belong to the Station, immediately contact the Executive Director or the Operations Manager.
- III. Ranch Security
 - Labs and offices have key locks and must be locked when unoccupied.
 - Always remove the key from vehicles and ATVs when not in use.
 - If you see individuals who you are not sure belong at the Ranch:
 - Ask them who they are with and if they need help.
 - If they do not leave and you are not convinced that they belong to the Ranch, immediately contact the Ranch Manager.
- IV. Avon Park Air Force Base Security (APAFR)
 - Avon Park Air Force Range is a large, active military range used by the U.S. Air Force and the National Guard for live-fire bombing and gunnery practice.
 - Before leaving the office and while traveling on the base, monitor the base radio for military activities.
 - Do not enter restricted areas.
 - Notify the Base when you go into a potentially restricted area.
 - APAFR is also home to a state prison and a juvenile detention facility.
 - Do not give rides to unknown individuals.
 - Notify the Base security if you see an individual who you do not believe belongs at the Base.
 - The office must be kept locked when unoccupied.
 - Always remove the key and lock the doors of vehicles when not in use.

- V. Office Safety: Complacency, the attitude that office accidents do not amount to much, is one of the prime causes of accidents in the office.
- Types of Injuries and Accidents:
 - Falls are the most common cause of injuries in an office. Frequent reasons for falls include tripping over uneven surfaces (including objects in walkways), inattention on stairs and inappropriate shoes.
 - Strains from over-exertion are the second most common type of office injury. Most injuries in this category result from an individual improperly carrying or moving objects such as office machines, supplies, and furniture.
 - Other office injuries include bumps and bruises, foreign substances in the eye, spilled hot beverage, paper cuts, insect bites, electric shock, and fingers pinched in equipment.
 - Basic Safety Tips: The following basic safety tips are intended to increase safety awareness and reduce injuries to office workers:
 - Report unsafe conditions or equipment to your supervisor. If the condition cannot be corrected quickly for any reason, notify the Human Resource Department.
 - Keep floors free of tripping and/or slipping hazards. The path of egress should not be impeded by extension cords, phone cords, wastebaskets, foreign objects or materials stored on the floor.
 - Do not climb on chairs or furniture to reach stored material or supplies and never stand on wheeled chairs.
 - Use safe (and proper) lifting techniques (Refer to Chapter 3).
- VI. Electrical Outage: An electrical outage involves more than a temporary loss of lights; Station personnel need to check on the service to the network and sensitive research instrumentation. The following steps should be taken in the event of an electrical outage:
- Contact the Operations Manager.
 - Leave a note on the Main Office door stating the date, time and which the Operations Manager was contacted.
 - The Operations Manager will call Glades Electric.
 - The Operations Manager will inform staff to shut down computers, turn-off UPS devices and any extraneous electrical uses.
 - The Systems Administrator will shut down the Network.
 - In the event of an electrical outage, only trained staff can start up and shut down the Station's diesel generator. Trained staff include the Operations Manager, Senior Maintenance Crew, and Executive Director.
 - Upon electrical restoration: Operations Manager will shut down generator and ensure breakers have not stopped. The IT Administrator will ensure the network, web and telephone system are functioning.
- VII. Telephone Outage: When the Station's telephone system is down, all lines on the phone system will appear busy, paging system will be non-operational, and no calls can go in or out on the phone system. If this happens, contact the **Systems Administrator** via cell phone.

- VIII. Water Source Contamination: If the Station's drinking water system experiences a line break or tests positive for coliform, individuals will be notified and areas posted to ensure proper precautions are taken until the problem is rectified.
- Use bottled water for drinking, brushing teeth, washing/preparing food or making ice until notified by the Operations Manager that it is safe to use tap water.
 - Dishes should be washed with treated water until instructed otherwise by the Operations Manager.
 - Treating tap water – There are two methods for treating tap water for dishwashing and bathing. Individuals should continue using bottled water for drinking, making ice, cooking, preparing food and tooth brushing.
 - Boiling – Bring water to a rolling boil for at least 1 minute.
 - Bleach – To every gallon of water, mix six drops (1/8 teaspoon) of unscented, ordinary household chlorine bleach. Wait 30 minutes before using the water.
- IX. Telephone Paging System: Individuals in the Main Building, Annex, Rand Building and Shop can be notified of fires or other emergency situations via the telephone paging system. There are two different types of phones at the Station: Model 401 has fourteen buttons and Model 501 has twenty-four buttons on the right side of the phone.
- How to page from either phone
 - Pick-up the receiver
 - Press the bottom button.
 - You will hear a tone, and the LCD display will show “Paging-All Speakers” – Anything you say is broadcasted on all Station telephones whose speakers are activated. Speak very clearly and repeat the announcement at least once.
 - Hang-up when done.
- X. Unlawful / Nuisance / Suspicious Incidents: Report unlawful / nuisance / suspicious incidents to the Operations Manager and Human Resource Department. Examples of unlawful activities are arson, poaching, theft, trespassing, stalking and vandalism. Examples of nuisance activities are lewd, inappropriate, or suspicious behavior. If an unlawful event is witnessed or discovered, do not attempt to remedy the situation alone, get help.
- Report the crime as soon as possible and provide as much detail as possible.
 - Do not disturb the crime scene.
 - Notify the Human Resource Department who will:
 - Document the incident.
 - Take photographs of the scene if needed.
 - Ensure that inventory losses or damages are documented.
 - Notify the Executive Director.
 - Notify the appropriate law enforcement agency.
 - Crime – Sheriff Department
 - Wildlife or protected species crime – Florida Fresh Water Fish and Game Commission

XI. Water Safety: Employees and registered visitors with completed Release of Liability forms on file are allowed to swim at Lake Annie.

- Lifeguards are not present; swimmers swim at their own risk.
- Children under twelve must have adult supervision.
- Never swim when there is lightning or thunder.
- No diving off the dock
- Alligators are a natural part of the Florida ecosystem / Lake Annie. Please do not approach, frighten, or feed any alligators.

XII. Threatening Telephone Calls: If you receive a threatening telephone call, try to keep the individual on the phone as long as possible and get as much information from them as possible. Use the following as a guide.

- Date and time of call: _____
- As detailed as possible, what did the caller say? _____
- Describe the caller's voice:

___ Loud	___ Soft	___ Fast	___ Slow
___ Deep	___ Squeaky	___ Distant	___ Distorted
___ Sincere	___ Raspy	___ Stressed	___ Stutter
___ Nasal	___ Drunken	___ Slurred	___ Lisp
___ Disguised	___ Crying	___ Broken	___ Calm
___ Irrational	___ Rational	___ Angry	___ Incoherent
___ Excited	___ Laughing	___ Righteous	___ Accent
___ Well-spoken	___ Incoherent	___ Foul	___ Irrational

- If the voice is familiar, who does it sound like? _____
- Identify any background sounds:

___ Voices	___ Airplanes	___ Street traffic	___ Trains
___ Animals	___ Party	___ Factory machines	___ Quiet
___ Music	___ Horns	___ Office machines	___ Bells
Other _____			

CHAPTER 3

ACCIDENT AND INJURY PREVENTION

I. Fundamentals of Accident Prevention:

- Identifying and Eliminating the Causes: Accidents are caused by unsafe acts and unsafe conditions, which are frequently the result of inadequate training, lack of supervision, poor attitude, and faulty design of equipment or structures.
- Following Area-Specific Safety Rules and Obeying All Danger and Warning Signs.
- Taking Preventive Measures:
 - Engineering: Safety engineering involves controlling the work situation to minimize physical hazards. Mechanical revisions or modifications may have to be made to eliminate existing unsafe conditions, or special devices may have to be developed to correct specific unsafe conditions and, in some cases, to prevent unsafe acts.
 - Education and Training: Education and training are effective means of preventing unsafe acts by individuals. Employees receive periodic workplace safety training covering potential safety and health hazards and safe work practices and procedures to eliminate or minimize hazards.
 - Enforcement of Safety Standards: Accidents can usually be prevented through adequate safety engineering, education and training. However, some individuals disregard accepted safety standards. For these individuals, strict enforcement of safety practices by the supervisor is necessary. Because accidents are frequently the direct result of violations of safety standards and regulations, accident prevention effort cannot be successful without effective enforcement. Each manager/supervisor is responsible for enforcing safety standards and regulations with their employees. When these directives are not enforced, supervisors are condoning conduct that may lead to an accident or injury.
- Conducting Safety Assessments: Archbold is dependent on its employees, volunteers and visitors to continually assess their work areas for safety hazards and to report all observed safety concerns immediately to their supervisor or the Human Resource Department. If a deficiency is not corrected, report it immediately to the next higher-level supervisor for corrective action.

II. Personal Protective Equipment and Clothing: Principal Investigators are responsible for ensuring appropriate approved personal protective clothing and equipment are available and worn by employees, volunteers and visiting researchers under their supervision. When employees provide their own protective equipment, the supervisor shall be responsible for ensuring it is an approved type, and that the employee performs the proper maintenance and sanitizing requirements for the equipment.

- A) Eye and Face Protection: Safety goggles or glasses with full side shields must be worn at all times when working with hazardous chemicals. Safety goggles and face shields shall be utilized where there is a possibility of splashing hazardous chemicals, violent reactions or flying particles.

- B) Ear Protection: Properly fitted earplugs or earmuffs must be worn whenever noise levels exceed an 8-hour average of 80 decibels. Earplugs and/or muffs are available through your supervisor. Examples of the number of decibels produced:
 - Nol conversation – 60 decibels
 - Busy traffic and noisy restaurant – 70 decibels
 - Lawnmower and most shop tools – 90 decibels
 - C) Head Protection: Individuals must wear a DOT approved helmet when operating on an ATV.
 - D) Foot Protection: Appropriate footwear must be worn by individuals at all times. The particular task being performed dictates the type of protection necessary.
 - When working with chemical and other hazardous materials, individuals must wear shoes that fully cover and protect their feet.
 - When working on prescribed burns or wildfires, individuals must wear closed-in leather shoes.
 - It is recommended that individuals exposed to hazards such as material handling, operating lawn mowers, construction, building maintenance and ranch operations wear safety-toe shoes.
 - E) Respiratory Protection: Many individuals think if they cannot see a hazard, they must be safe. Respiratory hazards can take the form of invisible fumes or gases that are deceptively dangerous. Disposable masks are available to individuals for protection against harmful dust, mold, fumes, etc.
 - F) Hand Protection: Protective gloves shall be worn when working with hazardous materials or with materials of unknown toxicity. Select proper glove material based on the material being handled, the particular hazard involved, and the suitability for the operation being conducted. Leather gloves must be worn when working on prescribed burns or wildfires.
 - G) Wrist Protection: Cumulative trauma from repetitive wrist motion results in carpal tunnel syndrome. It can be prevented by maintaining correct posture and comfortable wrist position, avoiding monotonous and repetitive patterns, and stretching your hands, fingers, and wrists often. In order to reduce strain and potential pain, a keyboard tray can be used for wrist support while typing.
 - H) Body Protection: Laboratory coats must be worn over personal clothing and exposed skin when hazardous chemical substances are being used. Lab coats should always be worn closed and be long enough to cover the wearer below the knees. Lab coats with significant contamination of any hazardous substance must be immediately discarded according to hazardous waste. Lab coats should not be removed from or worn outside the lab area.
- III. Preventing Back Injuries: Preventing a back injury is much easier than repairing one. Most back pain arises from using your back improperly, so learning a few basic rules about lifting, posture and proper exercise can help keep your back in good shape.
- A. Exercise: Having a strong back and stomach muscles is important in order to ease the work your back is put through each day. Check with your doctor as to the best exercises for you.

- B. Weight: Being overweight exerts extra force on back and stomach muscles. Your back tries to support the weight by swaying backwards causing excess strain on the lower back muscles.
- C. Good posture: You can prevent many back pains by learning to sit and stand correctly. When you sit down, do not slouch. Slouching makes the back ligaments, not the muscles, stretch and hurt, thus putting pressure on the vertebrae. Learn to stand tall with your head up and shoulders back.
- D. Proper Lifting Techniques:
 - Avoid picking up heavy objects placed below your knees.
 - Position yourself correctly in front of the load. The further the load is from the centerline of your body, the greater the strain imposed on your back.
 - If need be, squat down bending your knees (not your back and stomach).
 - Tighten your stomach muscles. This helps prevent your spine from twisting.
 - Lift with your legs and not your back.
 - Position body so your weight is centered over your feet. This provides a more powerful line of thrust and ensures better balance.
 - If you lift a load and need to place it off to one side, turn by moving your feet and not by twisting at your stomach.
- E. Team Lifting: When an object is too heavy, bulky or awkward for you to lift comfortably alone, get help. If no one is available, is it possible to break the load into two smaller loads? Or can you locate a cart or dolly to help you move it? Look for simple solutions to help make the move easier on you and your back.

CHAPTER 4

SEEKING MEDICAL TREATMENT

- I. General: Archbold does not have medical staff or personnel whose job description mandates first aid. We do have staff, volunteers and visitors who have been trained in First Aid/CPR as “Good Samaritans”. First aid treatment by Good Samaritans is to be consistent with their level of training.
- II. Emergency Medical Treatment: In life threatening situations, 911 should be called first and then the Human Resource Department and Supervisor.
- III. Seeking Medical Assistance: If you are in the field and the individual needing medical treatment cannot be brought to the Station Main Office, Ranch Office or APAFR Office, contact the Office, identify the emergency, and give exact location (identify burn unit and road, maps are available in all Station vehicles). Based on your assessment, someone from the Station Main Office, Ranch Office or APAFR Office will:
 - Send a Good Samaritan with Trauma Bag to your location.
 - Call 911 and have someone meet the ambulance (this person should take a gate key and cell phone).
 - Notify Human Resource so a “First Report of Injury” may be completed.
 - If known, Human Resources will notify individual’s emergency contact.
- IV. Automated External Defibrillator: With the growing number of visitors at the Station, especially the general public attending our weekend guided tours during the winter and spring months, we have invested in an Automated External Defibrillator (AED). The AED is used to treat individuals who display ALL the symptoms of cardiac arrest (SCA):
 - Unconscious,
 - Not breathing, and
 - Have no pulse and/or show no signs of circulation such as coughing or having any movement.

The AED will be kept in the Front Office. It comes with a Quick Reference Guide and is very user friendly. Individuals who have gone through a recent CPR/AED class should have no trouble with using it. While it is preferable that a person using the AED has current CPR/AED training, it is not mandatory.
- V. Minor First Aid Treatment: If you sustain an injury or are involved in an accident requiring minor first aid treatment:
 - Inform your supervisor and the Human Resource Department.
 - Administer first aid treatment to the injury or wound.
 - If items in a first aid kit are used, notify the Station Receptionist or Ranch Housekeeper so the kit can be restored.
- VI. Medical Supplies: Locations for medical supplies are:

- First Aid Kits: All vehicles and ATVs contain first aid kits. Supplies to fill first aid kits at the Station can be obtained from the Receptionist. Supplies for filling in first aid kits at the Ranch and APAFR are in their respective offices. Items in First Aid Kits include:
 - Rubber Gloves
 - Alcohol Preps
 - Triple Antibiotic, Burn Gel, Hand Sanitizer, Sting Relief
 - Various Bandages, Gauze, Adhesive Tape
 - Benedryl, Tylenol-Extra Strength, Aspirin, Antacid
- First Aid Storage: Items to replenish first aid kits, as well as the following items, are stored in the First Aid Supply Closet at the Station and in the Ranch Office.
 - Irrigating Eye Wash
 - Scissors and Tweezers
 - Insect Repel
 - Instant Cool Pack
 - Eye Pad
 - Rescue Blanket
- Trauma Bag: A trauma bag is located in the Main Office at the Station and at the Ranch Office. Individuals using contents of the trauma bag must ensure they do not contaminate other contents in the bag. Any items which may be reused should be isolated (bagged separately) and given to the Facility Coordinator or Ranch Administrative Assistant who will ensure that they are disinfected before returning to the bag. Anyone using the trauma bag must report the incident to the Human Resources Department along with a checklist of items used. In addition to items listed above, items in the Trauma Bag include:
 - Glucose Gel
 - Board Splint
 - Velcro Tourniquet
 - Bloodborne Pathogen Protection Kit
 - Blood Pressure Kit
 - Stethoscope
 - Poison Antidote Kit
 - Emergency First Aid Burn Kit
- The Facilities Coordinator is responsible for replenishing first aid supplies and checking items that are expired when at the station.
- The Ranch Administrative Assistant is responsible for replenishing first aid supplies and checking items that are expired when at the ranch.
- APAFR staff are responsible for notifying the Facilities Coordinator at the station of first aid supplies that need to be replenished or replaced at APAFR.

VII. Typical First Aid Treatment

- Minor cuts, lacerations, abrasions or punctures:
 - Wash the wound using soap and water, rinse well.
 - Cover the wound with clean dressing.
- Major Wounds

- Stop the bleeding by pressing directly on the wound using a clean bandage or cloth.
 - Keep pressure on wounds and seek medical help.
- Broken bones
 - Do not move the individual unless it is absolutely necessary.
 - If the individual must be moved, “splint” the injured area using a board, cardboard, or rolled newspaper as a splint.
- Burns (Flame)
 - Rinse the burned area without scrubbing it and immerse yourself in cold water; do not use ice.
 - Blot dry the area and cover it using sterile gauze or a clean cloth.
- Burns (Chemical)
 - Flush the exposed area with cool water immediately for 15 to 20 minutes.
 - Seek medical treatment.
- Eye Injury
 - Small particle – do not rub eye. Use corner of a soft, clean cloth to draw particles out, or hold the eyelid open and flush the eye continuously with water.
 - Large particle – do not attempt to remove, cover both eyes with bandage and seek medical treatment.
 - Chemical – immediately irrigate the eye and under the eyelid with water for 30 minutes. Seek medical treatment as necessary.
- Neck and Spine Injury:
 - Call 911 immediately.
 - If an individual appears to have injured his or her neck or spine or is unable to move his or her arm or leg, do not attempt to move them unless it is absolutely necessary.
- Heat Exhaustion – Refer to Chapter 11
 - Loosen tight clothing.
 - Take sips of cool water.
 - Lie down in a cooler place with feet raised.
 - Seek medical attention as necessary.
- Insect, spider and snake bites – Refer to Chapter 11
- Insect stings – Refer to Chapter 11

CHAPTER 5

FIRE SAFETY – STRUCTURAL FIRES

- I. General: Building fires are always unexpected events demanding quick decisions and immediate actions. The possibility of such an emergency is remote but requires advanced planning to ensure the orderly and safe evacuation of all individuals.
- II. In the event of a structural fire that cannot be quickly and easily extinguished:
 - Call 911 immediately.
 - For structural fires at the Station, follow a call to the Operations Manager 863-414-5141 and the Executive Director 863-465-2571.
 - If neither of these individuals can be reached, call the Human Resource Department 863-991-3151.
 - For structural fires at the Ranch, follow a call to the Ranch Manager at 863-441-0097 and the MAERC Research Director 863-840-3673.
 - If neither of these individuals can be reached, call the Operations Manager 863-414-5141 or Human Resource Department 863-991-3151
 - Notify employees and visitors (See below).
- III. Notifying Others of a Structural Fire:
 - Fire Alarm at the Station's Library/Information Center: If the Fire Alarm System in the Library/Information Center detects an emergency situation, like smoke, it will automatically sound the alarm and notify the alarm center. The alarm center will call the Executive Director, and if not available, the Operations Manager, to determine if there is a true emergency. If neither the Executive Director nor Operations Manager can be reached, the alarm call center will contact the local fire department. If you discover a fire and the alarm has not sounded, pull down the handle of the red fire pull-box. This notifies the authorities and sounds like the alarm to warn others.
 - Station Fire Alarm Dormitory Area: This system does NOT notify the alarm center. Call 911 if it is confirmed there is a fire and notify individuals to evacuate the building. If it is confirmed there is NOT a fire, follow the directions posted by the Main Office alarm box to silence the alarm.
 - Telephone Paging System: Individuals in the Main Building, Annex, Rand Building and Shop can be notified of fires or other emergency situations via the telephone paging system. There are two different types of phones at the Station: Model 401 has fourteen buttons and Model 501 has twenty-four buttons on the right side of the phone.
 - How to page from either phone
 - Pick-up the receiver
 - Press the bottom button.
 - You will hear a tone, and the LCD display will show "Paging-All Speakers" – Anything you say is broadcasted on all Station telephones whose speakers are activated. Speak very clearly and repeat the announcement at least once.
 - Hang-up when done.

- Personal Notification: In addition to the above announcement, the Human Resources Department or designee will go to each lab and office area to notify individuals of the fire. The first individual contact in each lab or office area will be responsible for ensuring all individuals in the area are informed of the fire and evacuated from the area. If time permits, the last individual leaving an area will leave a sign on the front door indicating that all individuals have left the lab/office.
- IV. Evacuation Due To a Structural Fire: Every second counts when evacuating a building. A disorganized evacuation can result in confusion, injury, and property damage.
- When notified of a fire, all individuals are to immediately stop whatever they are doing and evacuate the building by the nearest available exit. Emergency Exit signs are posted in each room at the Station.
 - No one is expected to endanger him/herself in order to assist with the evacuation of others, but everyone has the responsibility to ensure other building occupants are aware of the emergency.
 - Once outside, individuals have to proceed to the parking lot north of the Annex building. Do not leave the area until we have verified that everyone is out of the buildings.
 - Individuals are not to re-enter the building until the building is declared safe by the Fire Department.
 - Employees trained in First Aid/CPR are encouraged to aid in emergency and rescue situations occurring in the workplace.
- V. Basic Fire Safety:
- If your clothing is on fire, STOP, DROP and ROLL on the ground to extinguish the flames.
 - Know the primary and secondary exits to the areas you frequent. Each office/lab at the Station has an Emergency Exit posting indicating exits from the area.
 - Never open a door without feeling it first. Use the back of your hand to determine if the door is hot. Never open a hot door.
 - If there is smoke in the building, stay low and crawl along the floor if needed.
 - After leaving the room, close the door but do not lock it.
 - If time permits, the last individual leaving an area will leave a sign on the front door indicated that all individuals have left the lab/office.
- VI. Fire Extinguishers: Fire extinguishers are professionally inspected annually.
- Know the location of fire extinguishers within your work area.
 - Know how to properly use a fire extinguisher. Be familiar with the different classifications of fuels and the type of extinguishers most effective for each fuel type.
 - Classifications of Fuels:
 - Class A – Wood, paper, cloth, trash, plastic, and solid combustible materials that are not metals.
 - Class B – Flammable liquids such as gasoline, oil, grease and acetone.
 - Class C – Electrical: energized electrical equipment.
 - Class D – Metals such as potassium, sodium, aluminum, and magnesium. It takes special extinguishing agents to fight such a fire.

- Types of fire extinguishers: most fire extinguishers will have a pictograph label telling which fuels the extinguisher is designed to fight. The three most common types of fire extinguishers are:
 - Water (APW) Extinguishers – designed for Class A fires.
 - **Never** use to extinguish flammable liquid fires.
 - **Never** use to extinguish an electrical fire.
 - Carbon Dioxide Extinguishers – are filled with non-flammable carbon dioxide gas under extreme pressure and designed for Class B and C fires. May be ineffective at extinguishing Class A fires.
 - Dry Chemical Extinguishers- come in a variety of types.
 - “DC” for “dry chemical”
 - “ABC” indicating they are designed for class A, B, and C fires.
 - “BC” indicating they are designed for class B and C fires.
- It is easy to remember how to use a fire extinguisher if you remember the acronym PASS, which stands for Pull, Aim, Squeeze, and Sweep.
 - **Pull** the pin.
 - **Aim** at the base of the fire, not at the flames.
 - **Squeeze** the top handle or lever.
 - **Sweep** from side to side until the fire is completely out.

Report each time an extinguisher is used. Contact Operations Manager to arrange for the extinguisher to be refilled.

VII. Should you fight the fire? Before attempting to extinguish a small fire with a fire extinguisher, make sure:

- Someone called 911.
- The building is being evacuated.
- The fire is limited to a small area and not spreading.
- There is a clear path to an exit that is not threatened by the fire.
- You have correctly identified the type of fire and have the appropriate type of extinguisher.
- Do not put yourself in a situation of breathing in smoke that could be harmful.
- Do not attempt to extinguish a large fire.

VIII. Fire Prevention: The following guidelines are intended to help prevent fires.

- Smoking is prohibited at the Ranch and is prohibited except in designated areas at the Station. Do not dump lit or hot cigarettes, cigars or pipe ashes into trash containers.
- All flammable materials shall be stored in approved flameproof cabinets.
- Rags or cloths soaked with oil or other flammable liquids must be disposed of in a flameproof container and removed from the building.
- Do not block aisles, exits, electrical panels, portable fire extinguishers, smoke detectors, or fire alarm boxes.
- Extension cords and power strips must be manufactured sufficiently to safely carry intended electrical loads.
- Do not store or use flammables near electric motors, water heaters, switches, or controls. Electrical sparks can ignite flammable vapors.

- Limit quantity of flammable liquids in work area. Isolate large quantities of flammable liquids in flammable storage cabinets or specially designed inside storage rooms.

IX. RECAP: Basic things to do in case of fire:

- Remain calm and Call 911
- Report on fire to the Operations Manager and Executive Director
- Advise other individuals.
- Close doors and windows
- Use fire extinguisher on a small fire only.
- Evacuate the building and go to your assigned evacuation area – north of the Annex building.
- If you catch a fire, stop, drop and roll.

X. Basic things NOT to do in case of fire:

- Panic
- Assume fire has been reported.
- Try to quickly gather belongings.
- Use a fire extinguisher on a large fire.
- Go back into building before instructing that it is okay.

CHAPTER 6

FIRE SAFETY – WILDFIRE AND PRESCRIBED BURNS

- I. Prescribed burns can get away from fire crews; and wildfires can start by lightning strikes, sparks from a passing train, or cigarette butts carelessly discarded. When confronted with wildfire, individuals must take quick actions.
- II. Wildfire Response Staff can be grouped into three categories:
 - Fire Leader – in charge of all activities.
 - Assess situation (location, size, weather, plan of attack, escape routes, and fire crew available), communicate this assessment to support staff to update DOF.
 - Brief fire crew.
 - Ensure all crew members have all personal protective equipment (PPE). PPE includes radio (test radio with base before leaving), Nomex fire shirt and pants, leather gloves, closed-in leather shoes, radio harness, water bottle.
 - Continually focus on safe operations and fire line decision making.
 - Work with outside agencies to prevent or minimize plowing.
 - Fire Crew – follows the Fire Leader’s plan of attack.
 - Fire Support Staff
 - Contact members on the Fire Phone Tree and inform fire leader of staffing availability.
 - Man, the Main Office to provide communication links via telephone with fire-line operations and other responders (DOF, EMS, fire enforcement, utilities, railroad). Answer incoming calls for information.
 - Document fire activities (date, time, events, actions).
 - Set up smoke warning signs on the highway if needed.
 - Monitor weather forecasts.
- III. Activate the Fire Response Phone Tree Immediately in the event of a non-structural fire.
 - The Fire Response Phone Tree is posted on each front door of the main building at the Station, in each cottage and in every Station vehicle and ATV.
 - To activate the phone tree, first call the Land Manager: 863-414-5144 or the Operations Manager: 863-414-5142.
 - If no one is available, call the Florida Division of Forestry at 863-462-5163. Note: They may ask for our landowner number: 18045.
 - If you have been trained on what to do, take the Wildfire Guidelines and visit the fire so you can relay fire information to staff in route to the Station.
- IV. Reporting to a wildfire:
 - Who to send:
 - Must have Archbold Fire Training
 - Must be at least 18 years of age.
 - Non-staff must have a signed liability release on file.
 - Send a team of two or more, if possible

- What to take:
 - A radio from the Front Office Mail Room (check operation before leaving)
 - Cellular phone
 - Current Fire Response Guide and Fire Action Map (copies on bulletin board in Front Office)
 - Personal protective equipment (Nomex) from the Fire Cache.
 - Drinking water
 - What to check:
 - Burn unit where fire is located.
 - Fire size
 - Wind direction and speed.
 - Fuel is presently burning
 - Fuels in path of fire
 - Roads/structures in the path of fire
 - Best access for fire vehicles
 - Safety:
 - Stay in contact with the Front Office at all times
 - Never drive in front of a head-fire
 - Stay close to your vehicle
 - Be aware of changing conditions
 - Do not initiate attack without notifying a certified fire manager
- V. If there are buildings in danger from a wildfire:
- Notify Executive Director and Operations Manager
 - If time allows, secure as many valuables as possible
 - Evacuate buildings and the property
- VI. Wildfire Prevention: The following guidelines are intended to prevent fires:
- Smoking is prohibited at the Ranch.
 - Smoking is prohibited except in designated areas at the Station.
 - Do not dump lit or hot cigarettes, cigars or pipe ashes on the ground.
 - Do not park vehicles on dry grass
 - Avoid riding ATV's or vehicles through tall grass as hot mufflers could ignite dry grasses.

CHAPTER 7

WEATHER RELATED EMERGENCIES

- I. General: While we may know days in advance of an approaching tropical storm/hurricane, there is no way to accurately predict its severity or path or the occurrence of a tornado. The Executive Director, Human Resource Department (HUMAN RESOURCE DEPARTMENT), Operations Manager and Ranch Manager will monitor all approaching storms and notify employees as appropriate. The following are guidelines only and will be modified on a case-by-case basis.
- II. Reporting to work during a weather emergency: At times, emergencies such as severe weather, fires, or power failure, can disrupt operations. In extreme cases, these circumstances may require the closing of the Station and/or Ranch. The Executive Director will make the final determination whether to close the Station and/or Ranch. In the event of a hurricane or severe storm threat, all designated department heads or their designees are required to report to work to secure their areas from storm damage.
 - If the decision is made to close the Station, the HUMAN RESOURCE DEPARTMENT will notify supervisors who will then notify their employees.
 - If the decision is made to close the Ranch, the Ranch Manager will notify all Ranch Operations staff and the MAERC Research Director will notify the Ranch Research staff.
 - When the facilities are officially closed due to emergency conditions, the time off from scheduled work will be paid as Admin Leave Time and should be noted as such on an employee's time sheet.
- III. Tornados: Tornadoes come and go quickly, are often obscured by rain, and can contain winds exceeding three hundred miles per hour.
 - Tornado Watch means conditions are right for severe thunderstorms and tornadoes to develop. When there is a Watch, move to be near enough to a shelter or sturdy building to be able to get there quickly in a few minutes if there is a Warning or if you see signs of a tornado approaching. Remain alert for approaching storms.
 - Tornado Warning means a tornado has been seen or detected by radar. All individuals are to take cover in shelter areas immediately.
 - Tornado shelter areas:
 - Station – go to the Main Building, first floor away from windows.
 - Ranch – Go to the nearest building and take shelter under a desk or other heavy item in a room with no windows and preferably no exterior walls.
 - APAFR – If you have time, go to Barracks; otherwise, go to the nearest building and take shelter under a desk or other heavy item in a room with no windows and preferably no exterior walls.
 - In the Field – Abandon vehicles and lie flat in a ditch, culvert or depression.

IV. Hurricane Notice: Follow these step-by-step actions at the beginning of hurricane season and 3-5 days before any anticipated strike.

- Operations Manager
 - Make sure emergency pumps and generators are operable and fully fueled.
 - Ensure there is adequate fuel at the Station.
 - Remove tree branches which are likely to damage structures.
 - Check and store loose items which should not be left outside during hurricane.
 - Check Station's water treatment supply of chlorine, order immediately if needed.
 - Ensure water tower can fill-up.
- Human Resource Department
 - Ensure the Station has necessary supplies: flashlights, radios, batteries, bleach, large plastic garbage bags, duct tape, Sterno, disposable plates, cups and eating utensils, etc.
 - Provide an up-to-date list of employees and individuals residing at the Station with their phone numbers (both home and cell) and emergency contact information to the Executive Director and Station Receptionist.
 - Provide an up-to-date list of employees and individuals residing at the Ranch with their phone numbers (both home and cell) and emergency contact information to the Executive Director and Ranch Manager.
- Station Receptionist
 - Test the disaster recovery phone line to ensure it is functional.
 - Inventory battery supply, request more batteries as needed.
 - Ensure all Main Office emergency equipment is in place, operational and stocked (flashlights, trauma kit, weather radios, batteries for radio).
 - Confirm all first aid kits and medicine cabinets at the Station are fully stocked and up-to-date.
- Ranch Manager
 - Ensure the Ranch has necessary supplies: flashlights, radios, batteries, bleach, etc.
 - Ensure there is an adequate supply of fuel at the ranch.
 - Confirm all first aid kits and medicine cabinets at the Ranch are fully stocked and up-to-date.

V. Hurricane Watch: (36 to 48 hours before anticipated strike – follow these step-by-step actions.)

- Operations Manager
 - Move all vehicles to the open plaza area.
 - Secure all loose items around cottages, shop, water treatment plant, grounds.
 - Secure storm shutters over back doors in the labs.
 - Secure boats, life preservers, trash cans, etc. at Lake Annie.
- Human Resource Department (In cottages)
 - Lock all doors and move furniture away from windows where possible.
 - Adjust thermostat to 80 degrees.
 - Turn off all electrical lights and equipment (conserve generator).
- Computer Network Administrator

- Ensure all data is backed-up and secured.
- Ensure all critical equipment is connected to a UPS.

VI. Hurricane Warning: (12 to 36 hours before anticipated strike – follow these step-by-step actions.)

- Operations Manager
 - Ensure all vehicles are in the open plaza area.
 - Secure all items that cannot be moved indoors.
 - Gas-up vehicles and inform Front Office which vehicles would be available for emergency use.
 - Shutdown circuit breakers in Rand building, high lift pump, and any other areas in which we do not anticipate people seeking shelter.
 - Shut hurricane doors in the labs and storm shutters on the Annex building.
- Station Receptionist
 - Determine from Shop which two vehicles are filled with gas and could be used in an emergency. Leave keys in Main Office desk drawer.
 - Phone should be staffed until shutdown activities are completed and the Operations Managers has released the Receptionist. The Main Office is a critical communication hub for staff, persons seeking shelter, and concerned relatives of staff and visitors.
 - Put a message on the phone voice mail system:
 - (i) It is important that staff call in to access this message for instructions.
 - (ii) Sample message might include:
 - (i) All storm preparations are complete.
 - (ii) Administrative leave is granted for (give date).
 - (iii) Please call after 6PM tonight to find out if you need to report for work in the morning.
- Computer Network Administrator
 - Because of the highly specialized nature of the server and hub, no shut down may commence until all departmental computers are shut down and secured.
 - Do not disconnect any telephone equipment or electrical service to telephone equipment
- Ranch Manager
 - Close all gates.
 - Ensure there is sufficient food and water for captive animals.
- Department heads or their designates
 - Unplug all electronic devices to protect against power surges and lightning damage.
 - Raise all computers and electronic equipment off the floor and cover with plastic to protect from water damage.
 - Principal investigators of grants are responsible for the orderly shut down of grant activities and securing offsite locations.
 - Each supervisor must have a list of phone numbers for contacting each of their employees.

- Each employee must ensure their areas are well prepared for the storm, including protecting computers and other valuable items from water or wind damage.

- VII. Evacuation of Ranch: The Executive Director, Ranch Manager and MAERC Research Director will determine if residents should be evacuated from the Ranch due to an approaching hurricane.
- Once the determination has been made to evacuate the Ranch, the Ranch Manager or designee is responsible for notifying an adult from each household at the Ranch.
 - The Ranch Manager or designee will confirm all individuals have left the Ranch.
 - Individuals evacuating the Ranch may temporarily relocate to the Main Building at the Station. Individuals going elsewhere must notify the Ranch Manager.
 - Individuals evacuating to the Station are responsible for bringing their own hurricane supplies. Supplies include, but are not limited to; sleeping bags or camping mattresses, non-perishable food, water, flashlights, radio, and extra batteries.
- VIII. Shelter During the Storm: Archbold offers hurricane shelter to employees and their immediate family who may wish to ride out a storm at the Station's Main Building.
- Individuals must make the determination to come to the Station well in advance of unsafe weather conditions.
 - Report to the Executive Director or HUMAN RESOURCE DEPARTMENT upon arrival to the Station.
 - Please bring hurricane supplies with you. Such supplies include, but are not limited to; sleeping bags or camping mattresses, non-perishable food, water, flashlights, radio, and extra batteries. There will be designated sleeping areas at the Station for individuals staying overnight.
 - Archbold prefers not having pets at the Station during a storm. If you do not have a safe place to leave your small pet, you may bring it to the Station providing you keep it in a carrier/cage and it stays with you at all times. Individuals must tend to their own pet's needs and clean up after them. Small pets refer to cats, dogs, hamsters, birds, etc.
- IX. Post-Storm Activities:
- The Operations Manager will be responsible for opening all storm doors and shutters.
 - The Executive Director, Operations Manager and HUMAN RESOURCE DEPARTMENT will assess damage and assign clean-up duties as needed at the Station.
 - The Executive Director, Ranch Manager and MAERC Research Director will assess damage and assign clean-up duties as needed at the Ranch.
 - Archbold recognizes its employees may have varying degrees of damage to their personal property following a tropical storm/hurricane. The Executive Director will determine an appropriate time-off provision on a case-by-case basis.

CHAPTER 8

HAZARD COMMUNICATION PROGRAM

- I. General: Individuals have a right to know about the hazardous chemicals they work with or could be exposed to, and how they can avoid injury or illness when working with these chemicals. Hazard communication refers to communication of the health and physical hazards of a substance and is typically provided to individuals through Safety Data Sheets (SDS) and container labeling.
- II. Purpose of this policy is to ensure that:
 - All employees, volunteers, interns, and visiting researchers are informed of Archbold Expeditions Hazard Communication Program, and are aware that a copy is available to them, their designated representatives, and OSHA.
 - All hazardous chemicals used in the work place are labeled. A list of hazardous chemicals located in the work place and their Safety Data Sheets (SDS) are available.
 - Employees, volunteers, interns, visiting researchers and visitors who work with, or could be exposed to, hazardous chemicals will receive information and training on chemical hazards in their work place.
 - Contractors and their employees will be informed of chemical hazards they may be exposed to while at Archbold before performing work at our facility; and contractors will inform Archbold of any hazardous materials they may bring into our facility.
- III. Individuals Covered: The Hazard Communication Program will apply to employees, volunteers, interns, and visiting researchers who are exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.
- IV. Hazard Communication Training: Employees, volunteers, interns, and visiting researchers who are exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies are to receive Hazard Communication training as part of their initial orientation, as well as periodic training thereafter. This training will include the following:
 - Copy of this Hazard Communication Program.
 - Location of chemical inventory list and SDS.
 - Requirements for chemical labeling and SDS, and how to read and interpret an SDS.
 - Methods to determine the presence or release of hazardous chemicals.
 - Physical and health hazard of hazardous chemical.
 - Location and use of personal protective equipment.
 - Procedures to follow if exposure occurs.
 - How to prevent or reduce exposure to hazardous substances.
 - Emergency response procedures for hazardous chemical spills.

V. Hazardous Communication Responsible:

- Manufacturers, importers, and distributors will be relied upon to perform the appropriate hazard determination for the substances they produce or sell.
- The HUMAN RESOURCE DEPARTMENT will be responsible for the administration of this program, which includes:
 - Identification of individuals to be included in the Program.
 - Development and maintenance of a hazardous chemical inventory list.
 - Coordination and documentation of employee training.
 - Maintaining current Safety Data Sheets.
 - Coordination of any necessary exposure monitoring.
 - Coordination and supervision of required recordkeeping.
 - Periodic evaluation of the overall program.
- Employees, volunteers, interns, and visiting researchers are responsible for following all safe work practices and using proper precautions required by the guidelines in this program. Individuals not following safety rules regarding working with a hazardous substance will be subject to disciplinary actions and may lose their privilege of conducting research at Archbold.
- The Executive Director is responsible for responding to requests from members of the community on hazardous substances used at the facility.

VI. Hazardous Chemical Inventory: The HUMAN RESOURCE DEPARTMENT is responsible for compiling, maintaining, and updating a list of all hazardous substances known to be present at the Station. The MAERC Research Director has this responsibility at the Ranch. A copy of the inventory list is included in the front of each SDS binder.

- The inventory list will include the common identity or trade name of the product, the name of the manufacturer or distributor, and the type or level of hazard.
- Individuals must notify the HUMAN RESOURCE DEPARTMENT of all hazardous chemicals needing to be added or deleted from the inventory.
- Reducing Chemical Inventory, Waste and Hazardous Waste:
 - Inventory – Reduce ordering chemicals that are already in stock.
 - Waste – Order chemicals in minimum quantities
 - Hazardous Waste – When possible, order less hazardous chemicals and supplies
 - Waste Disposal – Every six months, the HUMAN RESOURCE DEPARTMENT will request chemicals waiting for disposal to be taken to a central location for sorting. Each item for disposal must contain a “Hazardous Waste Disposal” sheet (form available in public folders). If the waste is unknown, please write on the sticker your best “guess” as to what the material is – and indicate that it is a “guess.” Do not pour a chemical down a drain unless it is allowed based on its SDS.

VII. Hazardous Chemical Labeling: Each individual ordering hazardous chemicals is responsible for evaluating labels on incoming containers. If the label is not complete, the individual is responsible for preparing an appropriate label. Labels on incoming containers are not to be removed or defaced.

Supervisors are responsible for ensuring that all containers of hazardous chemicals located in their area are properly labeled. All incomplete and illegible labels must be replaced and all secondary containers must be labeled with the contents of the container. Any label developed in-house will derive their information from the original label and the Safety Data Sheet, and will include the chemical's identity, appropriate hazard warning, and the name and address of the manufacturer, importer, or other responsible party. Secondary containers into which hazardous chemicals have been transferred need not be labeled if that container is used immediately (within one day) and used by the employee who performed the transfer.

- VIII. Safety Data Sheets (SDS): The SDS is a detailed document prepared by the manufacturer or importer of a chemical and contains information about a chemical or hazardous substance or mixture that a user should review prior to using the chemical. The term "hazardous substance or mixture" is defined as any chemical that is a physical hazard (for example, a flammable substance) or a health hazard (such as an irritating substance).

SDS formats vary, but all contain the following information which would benefit the user and/or emergency responders:

- Manufacturer's information
- Hazardous ingredients/identity information
- Physical/chemical characteristics
- Fire and explosion hazard data
- Reactivity data
- Health hazard data

Employees, volunteers, interns, and visiting researchers will have access to Safety Data Sheets on all hazardous substances to which there is a potential of actual exposure. The HUMAN RESOURCE DEPARTMENT is responsible for compiling and maintaining SDS binders specific for the Station, Ranch, and Avon Park Air Force Range. Individuals must notify the HUMAN RESOURCE DEPARTMENT of all hazardous chemicals needing to be added to or removed from an SDS binder.

SDS binders are available at the following locations:

Archbold Biological Station

- Main Office – all SDS for Station
- Chem Lab – SDS for Research at Station
- Shop – SDS for Maintenance
- Kitchen – SDS for Guest Services

McArthur Agro-ecology Research Center Office

- Main Office – all SDS for Ranch
- Chem Lab – SDS for Research at Ranch
- Vet House – SDS for Ranch Operations

Avon Park Air Force Range (APAFR)

- Avian Lab Office – all SDS for APAFR

All SDS's will be kept for a period of 2 years after the use of the substance has been discontinued. Exception: If an individual exposure to a particular hazardous chemical occurs, the SDS for that product will become part of the individual's medical records. Medical records must be kept for 30 years. "Exposure" means that an individual is subjected to a toxic substance or harmful physical agents through any route of entry (inhalation, ingestion, skin contact, or absorption, etc.).

- IX. Minimize All Chemical Exposure: The following standard procedures must be followed by all individuals involved in the use of hazardous chemicals.
- Skin contact with chemicals and inhalation of vapors should be avoided.
 - Avoid underestimation of risk. Even for substances of no known significant hazard, exposure should be minimized.
 - For work with substances that present special hazards, special precautions should be taken. One should assume that any mixture will be more toxic than its most toxic component and that all substances of unknown toxicity are toxic. Refer to the SDS for specific information about a chemical or product containing hazardous chemicals.
 - Provide adequate ventilation. The best way to prevent exposure to airborne substances is to prevent their escape into the working atmosphere by use of fume hoods and other ventilation devices. One should be familiar with the proper operation and use of a fume hood. Use only those chemicals for which the quality of the available ventilation system is appropriate.
 - Learn how to detect the presence or leak of a hazardous substance.
 - Order chemicals in minimum quantities, and when possible, order less hazardous chemicals
- X. Hazardous Chemical Accidents and Spills:
- Report any unsafe conditions, accidents, injuries, spills, property damage or near misses to your supervisor, the HUMAN RESOURCE DEPARTMENT, Operations Manager, or Ranch Manager immediately.
 - The HUMAN RESOURCE DEPARTMENT will document the hazardous condition and ensure that proper corrective actions are taken.
 - Eye contact: Promptly flush eyes with water for a prolonged period (at least 15 minutes) and seek medical attention. Eyewash stations are located in the Chemistry Lab and Multi-user Lab at the Station and at the Chemistry Lab at the Ranch.
 - Ingestion: Contact the local Poison Control Center and follow directions – (800) 222-1222.
 - Skin Contact: Promptly flush the affected area with water and seek medical attention. Remove any clothing that may have chemical contamination to prevent further exposures.
 - Clean-up: Promptly clean up spills, using appropriate apparel and equipment and proper disposal. See the related SDS for specific clean-up recommendations.

- XI. Hazardous Chemical Information for Visitors and On-Site Contractor: The HUMAN RESOURCE DEPARTMENT will inform visitors and on-site contractors of hazardous substances in the workplace to which they may be exposed. The HUMAN RESOURCE DEPARTMENT is also responsible for obtaining and disseminating information from visitors and on-site contractors on all hazardous substances to which others at Archbold may be exposed.
- XII. Hazardous chemical exemption: The following substances are exempt from the Hazard Communication Standard (Source: OSHA Hazard Communication Standard):
- Hazardous waste subject to regulations issued by the Environmental Protection Agency.
 - Articles which would not emit a hazardous substance if worked upon.
 - Foods, drugs, or alcoholic beverages packaged for consumers.
 - Substances used in the same manner, frequency and duration as does a normal consumer.
- XIII. Violation of Hazard Communication Program: Employees, volunteers and interns not following safety rules regarding working with a hazardous substance will be subject to disciplinary actions. Visiting researchers who do not follow safety rules regarding working with a hazardous substance may lose their privilege of conducting research at Archbold.
- XIV. Program Evaluation: The HUMAN RESOURCE DEPARTMENT will conduct an annual evaluation of the Hazard Communication Program and take necessary actions to correct areas of deficiencies.

CHAPTER 9

LABORATORY SAFETY

- I. General Laboratory Safety: The following standard operating procedures must be followed by all individuals working in a lab at the Station or Ranch.
 - No children under 12 years of age are allowed into any laboratory unsupervised.
 - No pets are allowed in any laboratory.
 - Glassware or utensils used for laboratory operations should not be used for food or beverages.
 - Do not use laboratory refrigerators for storage of food or beverages.
 - Use equipment only for its designed purpose.
 - Handle and store laboratory glassware with care to avoid damage; do not use damaged glassware.
 - Keep the work area clean and uncluttered, and clean up the work area on completion of an operation or at the end of each day.
 - To minimize slips, falls or other potential hazards, all spills must be attended to immediately.
 - Follow the “Lone Worker Rule” (See Chapter 1).
 - Know the specific work practices and emergency procedures for your area.
 - Before beginning any new operation; seek information and advice about hazards, plan appropriate protective procedures, and plan positioning of equipment.
- II. Chemistry Laboratory Safety:
 - Chemistry Labs should be kept locked at all times.
 - A complete inventory of all chemicals must be maintained at all times. The inventory must be updated at least annually to cross check against the previous inventory, sort unused or expired chemicals, and check the condition of caps, bottles, and labels. This inventory must be available to all individuals working in the Chemistry Lab.
 - Spill control materials must be maintained in the Chemistry Lab in the event of a chemical spill. This includes instructions on what to do in the event of a chemical spill, absorbents, neutralizers, and protective equipment.
 - Properly label and store chemicals and equipment.
 - Make sure you understand the health and physical hazards of the chemicals you work with. Do not work with a chemical until you have read the SDS and container label.
 - Individuals should take appropriate precautions when performing non-routine tasks that could result in exposure to chemicals from unusual and unsuspected sources.
- III. Health and Hygiene When Working with Chemicals:
 - When working with chemicals or biological substances, wash hands often, especially after gloves have been removed and before leaving the lab.
 - Clothing and footwear:
 - Personal clothing that is worn home must be covered by protective apparel when working with hazardous chemicals.

- Long hair should be tied back so it does not come in contact with chemicals.
 - Full coverage shoes constructed of sturdy material must be worn at all times while in the chemistry lab.
 - Food and drink:
 - Do not store or consume food or beverages in areas where chemicals or biological substances are stored, handled or used.
 - Laboratory refrigerators may not be used for storage of foods.
- IV. Hazardous Material Inventory: The HUMAN RESOURCE DEPARTMENT is responsible for compiling, maintaining, and updating a list of all hazardous substances known to be present at the Station. The MAERC Research Director has this responsibility at the Ranch. A copy of the inventory list is included in the front of each SDS binder. (Refer to Chapter 7 for additional information).
- V. Hazardous Chemical Labeling: Each individual ordering hazardous chemicals is responsible for evaluating labels on incoming containers. If the label is not complete, the individual is responsible for preparing an appropriate label. Labels on incoming containers are not to be removed or defaced. (Refer to Chapter 8 for additional information)
- VI. Safety Data Sheets (SDS): SDS is a detailed document prepared by the manufacturer or importer of a chemical and contains information about a hazardous substance or mixture that a user should review prior to using the chemical. The term “hazardous substance or mixture” is defined as any chemical that is a physical hazard (for example, a flammable substance) or a health hazard (such as an irritating substance).

Employees, volunteers, interns, and visiting researchers have access to Safety Data Sheets on all hazardous substances to which there is a potential of actual exposure. Individuals must notify the HUMAN RESOURCE DEPARTMENT of all hazardous chemicals needing to be added to the SDS binder.

SDS binders will be available at the following locations:

Archbold Biological Station

- Main Office – all SDS for Station
- Chem Lab – SDS for Research at Station
- Shop – SDS for Maintenance
- Kitchen – SDS for Guest Services

McArthur Agro-ecology Research Center Office

- Main Office – all SDS for Ranch
- Chem Lab – SDS for Research at Ranch
- Vet House – SDS for Ranch Operations

Avon Park Air Force Range (APAFR)

- Avian Lab Office – all SDS for APAFR

Refer to Chapter 8 for additional information on Safety Data Sheets.

- VII. Hazardous Material Employee Training: Supervisors are responsible for ensuring employees are trained on proper safety measures, and physical and health risks of hazardous chemicals used on the job before working with those chemicals.
- Training will include the following topics:
 - Copy of Hazardous Communication Program and location of chemical inventory and Safety Data Sheets.
 - Physical and health hazards of chemicals in the work area.
 - Methods and observation techniques used to detect the presence or release of a hazardous chemical.
 - How to lessen or prevent exposure to these hazardous chemicals through usage of controls, work practices, and personal protective equipment.
 - How to use the Safety Data Sheet information.
 - How to read and understand labels.
 - Emergency response procedures for exposure to hazardous material.
 - Emergency response procedures for hazardous chemical spill.
 - It is recommended employees receive annual training updates.
 - The supervisor shall document all training.
- VIII. Hazardous Material Spill: Employees should clean up only small incidental spills that constitute a minimum hazard. Contact the HUMAN RESOURCE DEPARTMENT regarding all other spills.
- Regardless of the nature of the spill, and before starting any cleanup activities, secure the area around the spill.
 - If someone has been splashed with chemicals, immediately flush the affected areas with water for at least 15 minutes. Seek medical attention if needed.
 - Wear protective equipment when cleaning up a spill and avoid breathing vapors.
 - Notify the HUMAN RESOURCE DEPARTMENT of the spill, its location, and when the area is clean.
- IX. Fume Hood Safety: Fume hoods are intended to remove vapors, gases and dust of toxic, flammable, corrosive or otherwise dangerous materials.
- Operate the hood at proper sash height.
 - Work as far into the hood as possible – at least 6 inches from the front edge is recommended.
 - Have only the equipment necessary to conduct the experiment inside the hood.
 - Do not position equipment or other materials so as to block rear hood slots or otherwise interfere with airflow.
 - Do not store equipment, materials, or other clutter in a hood where work is conducted.
 - Do not stick your head into the hood during an experiment.
 - Do not position fans or air conditioners in a manner that will direct air flow across the face of the hood and interfere with fume containment.
- X. Compressed Gas Cylinders: Compressed gas cylinders are located in the Multi-User Lab at the Station and in the Chemistry Building at the Ranch.
- Handling and Use of Compressed Gas Cylinders:

- All compressed gas cylinders (regardless of size) shall be secured to racks, walls, work benches, or hand trucks by a strong chain or strap, or secured by any other approved method capable of preventing the cylinder from falling or being knocked over.
- All questionable gas cylinders or equipment shall be reported immediately to the supplier for correction or replacement.
- All cylinders shall be clearly labeled to identify the contents. Empty cylinders should be tagged as such, have their valves closed and be handled with the same care as full cylinders
- Only personnel trained in the proper transportation and safe use of gas cylinders should handle cylinders.
- Compressed gases shall be used only in areas with adequate ventilation for the gas being used.
- Cylinders are not to be intentionally dropped, struck, or permitted to strike each other and shall be protected from impact of any kind.
- All cylinders shall be kept far enough away or shielded while in the work area in order to prevent contact with sparks, flame, or radiant heat.
- All oxygen or nitrous oxide cylinders and manifolds shall be at least 20 feet away from or separated by a one-hour rated fire resistant partition from all flammable gases and materials (such as petroleum products) in the area of use.
- All gas cylinders shall be equipped with a functioning gas regulator while in use.
- No one shall attempt to connect a regulator or accessory equipment by the use of improvised hookups or adaptors.
- When personnel have finished using a compressed gas cylinder for the day, the cylinder valve shall be closed and the pressure in the regulator and associated equipment released.
- If a compressed gas is used to maintain a static pressure on a closed system, a clearly visible warning sign shall be posted indicating the approximate pressure the system is under and the gas involved.
- Compressed gas or compressed air shall not be used for cleaning purposes (to blow dust and debris away) without appropriate reduction valves (15 p.s.i. maximum).
- Under no conditions shall anyone direct high-pressure gas toward another person.
- While in use, all cylinders of flammable gases shall be protected by an approved flashback protection device.
- Cylinders of flammable gas shall not be opened more than 1 and ½ turns to allow for quick closing. If a special wrench is required, the wrench shall be left in position on the stem valve while the cylinder is in use.
- In the event a particularly hazardous gas (e.g., phosgene, hydrogen chloride, hydrogen cyanide) is used, a procedure shall be established for evacuating, sealing, and isolating the area of use.
- Only personnel properly instructed in the chemical and biological hazards of a corrosive or toxic gas are to release or use the gas or operate any equipment using the particular gas.
- Appropriate first aid supplies must be available to individuals and their supervisors using gas cylinders.

- Emergency Procedures
 - First Aid for inhalation: If the gas or an aerosol is inhaled, remove the victim to fresh air. Provide artificial respiration if the victim is not breathing. Get medical attention immediately.
 - First Aid for splash: Immediately remove any clothes that may have been splashed. Flood or soak affected area with tepid water. Seek immediate medical attention for frostbite injuries.
 - Leaks: Evacuate any area. If you can do so without personal risk, shut off the leak and move the leaking assembly to an area with better ventilation.
 - Fire: Move the cylinder away from the fire if you can do so without risk. Cool the cylinder with a water spray or fog nozzle.
- Storage of Compressed Gas Cylinders:
 - Compressed gas cylinder storage areas must be in a fire resistant enclosure located away from emergency exits and must be kept well-drained, well ventilated, cool, and protected from the weather. Regardless of size, all cylinders shall be provided with supports (straps, chains, or other similar devices) capable of preventing the cylinders from falling.
 - Under no condition shall the temperature of gas cylinders exceed 50 degrees C (125 degrees F). When Type E gas cylinders are being stored, the ambient temperature storage area shall not exceed 34 degrees C (93 degrees F).
 - Oxygen or nitrous oxide shall not be stored in the same area with flammable gases unless separated by at least 20 feet or by a one-hour rated fire resistant partition. Cylinders stored in an area outside a building must be a minimum distance of 20 feet from flammable gases or combustible materials.
 - All storage rooms that contain in excess of 2000 cubic feet of oxygen and/or nitrous oxide shall be vented to the outside.

CHAPTER 10

WORKING WITH HERBICIDE

- I. Herbicide Safety: The following is a guide to using herbicides at Archbold. Detailed information on commonly used herbicides at the Station can be obtained from the Land Manager and at the Ranch from the Ranch Manager.
 - **Herbicide Training**: Only individuals with herbicide training can use herbicides at Archbold. The minimum training required to oversee the use of herbicides is successfully passing the Core (General Standards) Pesticide Training Class administered by Florida Department of Agriculture Consumer Services. Individuals without training will be allowed to apply herbicides providing they are overseen by someone with training and they have been given specific training on the herbicide and equipment they will be using.
 - **Herbicide Labels**: The label is the legal document for how to safely use the herbicide, with instructions for mixing and use, safety equipment, species affected, danger level and more. All people using these chemicals **MUST** read the labels and follow the directions for use.
 - Labels list the active ingredients, emergency phone numbers, precautionary statements, environmental hazards, storage and disposal, mixing and application directions, and other general information.
 - The label is “the law.” Chemicals must be used as directed. Do not use the chemical unless you fully understand how to use it.
 - All herbicides carry one of three precautionary words: Caution, Warning, or Danger. These are intended to give the user an idea of the relative toxicity of the chemical. Most of the herbicides used at the Station and Ranch are in the “Caution” category. “Warning” and “Danger” labeled chemicals can only be applied by someone who has gone through State training and is certified.
 - **Caution** – lowest safety concern (but NOT to be taken lightly)
 - **Warning** – higher safety concerns and potential irreversible damage to skin/eyes/etc.
 - **Danger** – will have skull and crossbones emblem. Can be deadly.
 - **Personal Protective Equipment (PPE)**: PPE is clothing/devices that are worn to protect the human body from contact with herbicide or herbicide residues. Individuals are required to follow all PPE instructions that appear on the herbicide label.
 - Long sleeves (made of sturdy material, fasten shirt collar completely to protect lower part of neck).
 - Long Pants (made of sturdy material).
 - Eye protection (goggles)—DO NOT wear contact lenses.
 - Gloves (nitrile or latex)
 - Leather shoes—do not wear running shoes, herbicide will seep through.
 - Optional PPE (provided upon request)
 - Face masks (to protect nose and mouth)
 - Chemical resistant suits-disposable (NAPA)
 - Face shield (to protect skin)

- Chemical resistant footwear-disposable
- Herbicide Storage and Handling:
 - All herbicides at the Station are stored in the ATV barn. Chemicals must be locked up at all times.
 - All chemicals have labels attached to the bottle – do not remove the label.
 - Do not reuse containers. Follow label directions for disposal of empty containers (triple rinse and dispose in dumpster).
- Herbicide Mixing procedures:
 - Use PPE when mixing and take extra precaution to guard eyes.
 - Always mix near water source.
 - Rinse off any equipment that chemicals have been spilled on during mixing and rinse off chemical bottles.
 - Backpack pumps:
 - Fill container with water (through mesh screen)
 - Add concentrated herbicide near the end of the filling process to avoid foam (Do not contaminate the hose with herbicide)
 - Agitate
 - Add concentrated dye
 - Agitate
 - 60-gallon spray tank:
 - Mixing process is same as backpack pumps
 - Dye is not used in spray tank
- Spraying: Spray coverage should be uniform and complete.
 - **Do not stand downwind of a person spraying, you may be affected by the drift.**
 - Do not spray before rain. Heavy rainfall soon after application may wash the product off the foliage and a repeat application may be required.
 - Do not bend over with backpack pumps on; they will leak.
 - Do not walk through treated areas until spray solution has dried.
 - Always check weather before going out. Never spray in winds over 10 mph! Be aware of drift. If wind picks up at any time during the workday, STOP SPRAYING.
- Cleanup: Cleanup is necessary so tanks and equipment are not a danger to others while not in use and to keep equipment functioning properly.
 - Triple Rinse container as soon as empty, remaining residues can dry quickly and become difficult to remove.
 - If mixed chemicals must be stored in a sprayer, make sure it is labeled and used as soon as possible.
 - Rinse gloves and packs after filling and field use (inside and out). If some premix solution needs to be left overnight in the backpack **LABEL IT**.
 - Use toothbrush to clean nozzles periodically. Never use metal you could ruin the nozzle.
- First Aid: If an individual comes in contact with the herbicide, follow first aid statements on the label. Always take in the field:
 - First aid kit

- Extra water (15-gallon tank with electric pump or a couple of jugs of distilled water) **DO NOT USE TO REFILL TANKS**
- Extra gloves
- Extra disposable suits

What to do if exposed to herbicide:

- If Herbicide gets in your eyes: Hold eye open and rinse 15-20 minutes.
- If herbicide on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.
- Remove field clothes immediately upon return from field and wash separately in hot water with soap.

CHAPTER 11

FIELD SAFETY

- II. General: Employees, interns, volunteers, and visitors conducting research at Archbold spend a great deal of time in the Florida scrub. For their own safety and the safety of others, individuals must be aware of the various dangers posed by the scrub.
- III. Types of Injuries and Accidents: There are a wide variety of injuries and accidents individuals working in the scrub may be exposed to, ranging from minor to life threatening.
- Sprains from stepping in a hole or tripping over fallen branches
 - Abrasions to face and arms from trees, palm branches, or barbed wire fence
 - Insect bites and stings
 - Venomous snakes – rattlesnakes, coral snakes, cottonmouth, and copperhead
 - Wildlife – alligators, bears, bobcats, etc.
 - Wildfires – refer to Chapter 6
 - Lightning Strike
 - Heat related illnesses
- IV. Basic Field Safety: Being safety conscience is critical when working in the scrub.
- Know your destination and surroundings. It is easy to get disoriented and lost due to the vast geographic size of the Station, Ranch and Reserve.
 - Inform others of your plans (timeframe/location) so they know when to expect you back.
 - Take communication device with you (cell phone – make sure fully charged and verify you have service.
 - Ensure your vehicle is equipped with safety items, such as first aid kit and fire extinguisher.
 - Check the weather prior to going in the field.
 - Return to Station if you hear thunder, see lightning, or a storm is approaching.
 - Wear appropriate field clothing:
 - Closed-toe shoes, preferably leather
 - Light-colored breathable clothing
 - Long pants and long sleeves will minimize abrasions and sun exposure.
 - Hat/glasses to protect face and eyes from sun.
 - Apply sunscreen to exposed skin following the products instructions.
 - If you get overheated, go to shaded area, remove hat, wet head with water to cool down faster.
- V. Insects and Reptiles
- Africanized honey bees (AHB) are responsible for the recent death of one individual in Florida, as well as numerous domestic animals and livestock. If you see a swarm or colony of bees, do not disturb them and contact the Operations Manager immediately.

Individual Africanized bees are highly unlikely to sting. A swarm rarely stings people when in flight or temporarily at rest. However, established Africanized colonies are highly defensive toward perceived predators. Africanized bees:

Respond quickly to disturbances 50 feet or more from the nest.

Sting in large numbers.

Will chase an enemy up to a ¼ mile or more.

Nest in smaller cavities and sometimes underground .

- What to do if you come across a swarm of bees:
 - Get away from bees as quickly as possible. Go to a safe area away from the bees such as inside a car, truck, or building.
 - Do not stand still and swat at bees; rapid movements will cause them to sting.
 - The best method of escaping a bee attack is to cover your head and run for shelter.
- If bees sting you:
 - Because most venom is released within 1 minute, remove stinger from skin as soon as possible. Scrape stinger off the skin with a blunt instrument or plastic card. Do not remove stinger with fingers or tweezers – this only forces toxins into your body.
 - Wash stung areas with soap and water like any other wound to prevent infection.
 - Apply ice to relieve pain and swelling.
 - If you have been stung more than 15 times, or if you are having any symptoms other than local pain and swelling, seek medical attention immediately.
- Other Stinging Insects inject venom.
 - Examples are bees, wasps, yellow jackets, hornets, and ants.
 - Strong allergic reaction can cause fever, lightheadedness, hives, muscle pains and swelling of lymph glands.
 - Massive allergic reaction can cause a sudden drop in blood pressure, breathing difficulties and anaphylactic shock. Death could occur within a few minutes unless appropriate treatment is quickly administered. If you know you are allergic, carry appropriate medication with you and inform your co-workers how to administer it.
- Biting Insects suck blood.
 - To facilitate blood flow, they may inject enzymes, which are the main source of irritation from the bite.
 - Examples are mosquitoes, chiggers, ticks, black flies, deer flies, horse flies, and gnats.
 - Biting insects are less immediate hazard than stinging insects, but may be carriers of disease such as malaria, yellow fever, or Rocky Mountain spotted fever.
 - Ticks are especially worrisome because an individual cannot feel when they have been bitten. Precautions against ticks include wearing clothing that makes access to skin difficult and inspect exposed skin periodically.

- Forcible removal of ticks risks breaking off mouth parts, which are embedded in the skin by barbed pedipalps. Flip the tick onto its back with a fingernail or the point of a knife. Within 2-3 minutes the tick should retract the barbs in the process of attempting to right itself. Another approach is to cover the tick with Vaseline or heavy oil to close the breathing pores. Wash the bite area with soap and water and apply antiseptic.
- Spiders: In Florida, only two main types of venomous spiders occur: widow spiders and recluse spiders. Both types tend to be found in or under objects where their presence is not necessarily obvious. It is recommended that people engaged in activities where they cannot see where their hands are being placed should wear gloves to prevent being bitten by a hidden spider. Also, clothing – especially if unused for a considerable time – should be checked before wearing, as a spider may have taken up residence within it.
 - Widow spiders: Bite symptoms are systemic, spreading through the lymphatic system, and usually start about 1-3 hours after the bite. The most common symptoms are intense pain, rigid abdominal muscles, muscle cramping, malaise, local sweating, nausea, vomiting, and hypertension. If left untreated, bite symptoms usually last 3-5 days.
 - Recluse spiders: Bites range in intensity from no noticeable effect to severe necrosis. Symptoms typically start 2-6 hours after the bite. Blisters frequently appear at the bite site, accompanied by severe pain and pronounced swelling. By 12-24 hours, it is usually apparent if a wound is going to become necrotic because it turns purple in color. If the skin turns purple, it will then turn black as cells die. Eventually the necrotic core falls away, leaving a deep pit that gradually fills with scar tissues. If necrotic symptoms do not appear by 48-96 hours, then they will not develop.
 - First Aid for venomous spider bites:
 - Try to identify the species of spider safely and quickly if practical.
 - Seek medical attention immediately.
 - Treat for shock – keep victim lying down, calm, and comfortable, maintain body temperature.
 - Minimize circulation by immobilizing the bitten extremity and keeping it below heart level.
 - Remove rings, watches, bracelets.
 - Do NOT apply ice to the wound.
- Snakes: There are four venomous snakes in Florida; rattlesnakes, coral snakes, cottonmouth, and copperhead.
 - The initial response of a venomous snake bite ranges from intense pain to mild burning and mild to rapid swelling around the wound. There is general weakness, rapid pulse, blurred vision, sometimes nausea, drowsiness, sweating and shock.
 - First Aid for venomous snakebites:
 - Try to identify the species of snake safely and quickly if practical.
 - Get victim to hospital immediately.
 - Treat for shock – keep victim lying down, calm, and comfortable, maintain body temperature.

- Immobilize the bitten extremity and keep it below heart level.
 - Remove jewelry and tight clothing covering bitten extremity.
 - Do NOT apply ice to the wound.
 - Do NOT make cuts around bitten area.
 - Do NOT apply a tourniquet.
 - Alligators, can be found in any body of water in Florida, including Lake Annie, and should be respected, not feared. Alligators are most active between dusk and dawn, and are more aggressive in the spring during mating season. Do not approach, frighten, or feed alligators-- it is against state law.
- VI. Lightning: Florida is the lightening capital of the U.S., and is most susceptible to thunderstorm activity during the summer months. If a thunderstorm approaches while you are outside:
- Leave open areas and seek shelter. If shelter is not available, find a ditch or culvert. If a ditch or culvert is not available, crouch or kneel until the storm passes. Do not lay flat as this increases the contact surface if lightning hits nearby.
 - A hard-top car or truck provides some protection. The charge will pass to the ground. Avoid ATVs, tractors, and other heavy machinery.
 - Do not seek shelter under a tree, especially the tallest one in a stand.
 - Stay off the phone. Lightning can travel through wires.
 - If someone is struck by lightning:
 - Take the individual to a safe zone away from electrical lines, water, and lightning.
 - Call 911
 - Check the individual's heart and breathing and if necessary perform CPR.
- VII. Heat-Related Illnesses: Heat in excessive amounts that causes the body temperature to climb above 105 degrees creates a life-threatening situation. Adverse response to heat varies among people depending on their physical fitness and acclimatization. Physical exertion, amount of clothes, humidity, air movement, and temperature all contribute variously, but the most important factor is body hydration.

When working in the Florida scrub, it is important to know and be able to recognize the signs and symptoms of a heat-related illness. There are different types of heat-related illnesses, ranging from those causing temporary discomfort to the fatal condition of heat stroke. The four-basic heat related illnesses are:

- Heat Rash: A skin irritation caused by excessive sweating during hot humid weather. Heat rash looks like a red cluster of pimples or small blisters. Heat rash usually does not require medical assistance; the best treatment is to keep the affected area dry.
- Heat Cramps: A person who has been exercising or participating in other types of strenuous activity in the heat may develop painful muscle spasms in the arms, legs, or abdomen. The body temperature is usually normal, and the skin will feel moist and cool, but sweaty. Heat cramps may also be a symptom of heat exhaustion. If you have heart problems or are on a low sodium diet, get medical attention for heat cramps. If medical attention is not necessary, take these steps:

- Stop all activity, and sit quietly in a cool place.
- Drink clear juice or a sports beverage.
- No strenuous activities for a few hours after the cramps subside; further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in 1 hour.
- Heat exhaustion: Symptoms of heat exhaustion include nausea, vomiting, fatigue, weakness, headache, muscle cramps, and dizziness. Sometimes individuals experience symptoms of heat exhaustion before progressing to heat stroke.
- Heat Stroke: Heat stroke is a form of hyperthermia (abnormally elevated body temperature) with accompanying physical and neurological symptoms. Heat stroke is a true medical emergency that can be fatal if not properly and promptly treated. Symptoms of heat stroke can sometimes mimic those of heat attack. Some individuals can develop symptoms of heat stroke suddenly and rapidly without warning.
 - Common symptoms and signs of heat stroke include:
 - High body temperature
 - Absence of sweating with hot red or flushed dry skin
 - Rapid pulse and difficult breathing
 - Strange behavior and hallucinations
 - Confusion and disorientation
 - Seizure
 - Treatment for heat stroke: Victims of heat stroke must receive immediate medical treatment to avoid permanent organ damage.
 - First and foremost, cool the victim. Get them to a shady area, remove clothing, apply cool or tepid water to the skin, fan the victim to promote sweating, place ice packs under armpits and at groin.
 - Always notify emergency services (911). If their arrival is delayed, they can give further instructions for treatment of the victim.
 - Prevention of heat stroke:
 - Avoid becoming dehydrated.
 - Avoid vigorous physical activities in hot and humid weather.
 - Drink plenty of fluids, such as water and Gatorade. Avoid alcohol and caffeinated drinks including soda, coffee, and tea.
 - Take frequent breaks.
 - Wear hats and light weight, light colored, loose weave clothing.

VIII. So You are Lost: Prepare yourself mentally for being lost: a well-known behavior of disoriented individuals is to panic. This results in poor judgment and irrational acts that only aggravate the problem. Guidelines:

- Carry a topographical map and compass.
- Be constantly aware of your location by following your progress on the map. Study the terrain and note prominent landmarks as you move along. Be aware of what direction you are going by using the compass frequently.
- If you become uncertain, triangulate. Lay out the map on the ground and orient it to true north using the compass. Then make a sighting on a landmark that you can

identify on both the landscape and the map. You may have to move yourself and the map to another vantage point where you can see an identifiable landmark. Lay the compass on the map and align it so the needle has the same bearing and the edge of the compass body passes through the landmark. Draw a line on the map along the compass edge. Repeat the process on two other landmarks. The intersection of the lines on the map indicates your approximate location.

CHAPTER 12

OPERATIONS OF MOTORIZED VEHICLES

- I. General: Individuals using Archbold vehicles and equipment are expected to exercise care, report required maintenance, and follow all operating instructions, safety standards, and guidelines. The improper, careless, negligent, destructive, or unsafe use of operation of equipment or vehicles, as well as excessive or avoidable traffic violations, can result in disciplinary action, up to and including termination of employment.
- II. Approved Drivers: Driver's license checks will be performed on all applicants after a conditional offer of employment has been made and periodically thereafter. Only individuals approved by Archbold's insurance company are authorized to operate Archbold owned vehicles. An appropriate Class license is required for heavy vehicles.
- III. Standard Supplies in Archbold Vehicles:
 - Registration and owner's manual (cars and trucks only).
 - Seat belts – must be worn at all times by all occupants of the vehicle.
 - Fire extinguisher – inspected annually.
 - First Aid Kit – updated as needed but no less than once a year.
 - Insurance Card
 - Station Maps: Burn Units, Roads & Boundaries, IR aerial
 - Emergency Staff Contact Numbers
 - Accident Report Form – complete whenever vehicle is involved in an accident then submit to the HUMAN RESOURCE DEPARTMENT.
 - Gas Report Form – complete when traveling (cars and trucks only).
- IV. Vehicular Accidents include incidents resulting in injury to an individual and/or damages to an Archbold or personal vehicle.
 - On Station or Ranch Property:
 - Contact Operations Manager or Ranch Manager.
 - Follow medical emergency protocol if needed.
 - Persons involved must complete an Accident Investigation Report and submit to the HUMAN RESOURCE DEPARTMENT.
 - Persons involved should notify their immediate supervisor.
 - Off Station Property: If accident involves another vehicle, or damage to someone else's property, contact local law enforcement so that an official accident report is generated.
 - Call 911 if emergency services are needed.
 - If non-Archbold individuals are injured or non-Archbold property is damaged, gather names, phone numbers, addresses, and insurance information from persons/witnesses. Forward this information to the HUMAN RESOURCE DEPARTMENT, along with any official accident report.
 - Persons involved must complete an Accident Investigation Report and submit to the HUMAN RESOURCE DEPARTMENT.
 - Persons involved must notify their immediate supervisor.

- V. Driving Guidelines: When operating an Archbold vehicle or when operating a personal vehicle on Archbold property or while conducting Archbold business, observe the following guidelines:
- Individuals must receive vehicle training from the Maintenance Department or Ranch Manager before operating a 4x4 Archbold vehicle.
 - All drivers and passengers must wear a seat belt at all times.
 - All employees are expected to follow all driving laws and safety rules such as adherence to posted speed limits and directional signs, use of turn signals and avoidance of confrontational or offensive behavior while driving
 - All accidents (on or off Archbold premises) involving an Archbold owned vehicle or a private vehicle used for Archbold business, must be promptly reported to the HUMAN RESOURCE DEPARTMENT.
 - Employees must report any moving or parking violations received regardless if it is while driving on company business and/or in company vehicles.
 - Do not use alcohol, drugs, or other substances, including certain over-the-counter cold or allergy medications that in any way may impair your driving ability.
 - Report vehicle maintenance problems (such as odd noises, vibrations, or vehicle pulling to a side) immediately to the Operations Manager or Ranch Manager.
- VI. Cell Phone Use While Driving: Increase cell phone use by employees may increase productivity, but a growing trend suggests the practice also carries a substantial liability risk.
- Individuals must comply with any state or local laws which prohibit operating a cell phone or texting while operating a motor vehicle.
 - Individuals needing to use a cell phone to conduct Archbold business while driving either an Archbold or personal vehicle on Archbold business should use a hands-free device or pull off the road to make / take a phone call or send / receive a text message.
- VII. Safety when driving in the Scrub (ATV and 4-wheel drive Vehicles)
- Make sure someone knows where you are going and when you expect to be back.
 - Treat all fire lane intersections as 4-way stops.
 - Check weather before going out.
 - Be aware of any prescribed burns.
 - Watch out for and respect areas where research is being conducted. Do not run over or remove flags or stakes.
 - Watch out for gopher tortoises, gopher tortoise burrows, and other wildlife.
- VIII. Additional ATV Safety Guidelines
- Individuals must receive ATV training from the Operations Manager or his designee at the Station and the Ranch Manager or his designee at the Ranch before being allowed to operate an ATV.
 - A D.O.T. approved helmet must be worn and chin strap fastened at all times while operating an ATV.

- Treat all fire lane intersections as 4-way stops.
- Come to a complete stop and check for traffic when crossing a road, drive, or railroad track.
- Have either a hand-held radio or cell phone with you when on an ATV.
- ATVs are meant for one rider only; do not ride double.

IX. Driving During Flooded Field Conditions: Wet field conditions make driving difficult, increase vehicle repair bills, and increase the likelihood of getting stuck. During these times, the Operations Manager will post a map indicating “Areas of Caution” in the Mail Room. Staff/Visitors are asked to take the time to review the marked areas and adhere to the following guidelines.

- Avoid wet roads by taking alternate route or by walking part of the way.
- Test the water depth before driving through water.
- Slow down when approaching and when driving through water.
- Avoid making new road ruts and do not drive into habitat.
- Contact the Operations Manager if you get stuck or stranded at the Station, and the Ranch Manager if you get stuck or stranded at the Ranch.

CHAPTER 13

MAINTENANCE SHOP SAFETY

- I. General: Due to the nature of machinery, operations in the Station and Ranch maintenance shops present many potential hazards.
- II. Basic Guidelines:
 - **Only fully trained individuals with authorization from the Operations Manager or Ranch Manager are permitted to operate shop machinery.**
 - All machinery and power equipment used in the shop should be fully equipped with appropriate guards. Machine guards should not be removed or blocked while the equipment is in operation, or when power is applied prior to operating.
 - Electrical equipment should be grounded to prevent shock or sparks that could start a fire.
 - Machine shop equipment should be maintained in good operating condition at all times.
 - Individuals should not wear loose clothing while working in the shop. Gloves, rings, and other jewelry can be hazardous and should not be worn while working on moving machinery.
 - Individuals operating machinery must wear appropriate personal protective equipment when performing any hazardous maintenance operation, including safety eyeglasses, goggles or face shields, and/or hearing protection. This equipment is available in the shop.
 - Smoking is not permitted in the maintenance shops.
 - Suitable fire extinguishers are located in the maintenance shops.
 - The Operations Manager and Ranch Manager are responsible for observation of shop practices to make certain all safety regulations are being followed. When unsafe acts are noted, it is the responsibility of the Operations Manager or Ranch Manager to see these are corrected.
 - The Operations Manager and Ranch Manager must ensure all shop personnel take special care in storage and handling of flammable fuels and lubricants.
 - Shop floors should be kept clean and free of oil, grease, gasoline, water, and other hazardous and slippery materials.
- III. Specific Pieces of Machinery: There are many types of machinery in the Station and Ranch Maintenance Shops that present hazards. Only fully trained individuals who have authorization from the Operations Manager or the Ranch Manager are allowed to operate these machines.
- IV. Paint Operations Safety Practices: Painting operations using flammable and combustible materials shall be conducted in compliance with the State Fire and NFPA 33 (1977 edition) code requirements. In addition to flammables, commonly used paints may contain toxic substances such as lead or benzol, which may be harmful if inhaled, ingested, or absorbed.

- V. Battery Maintenance Safety Practices: Individuals are often exposed to the possibility of painful chemical burns, explosive gases, and toxic chemicals when servicing batteries. Acid burns should be treated immediately with running water. Flush affected area with clear water for 15 minutes and notify the Operations Manager or Ranch Manager and HUMAN RESOURCE DEPARTMENT. Seek medical attention as needed.
- VI. Welding Safety Practice: Radiation from welding flares and arcs can seriously injure eyes and burn skin. Burns can also be caused by splashing metal and hot sparks from objects being welded. The welding operation must meet all State and NFPA Codes. Only fully qualified personnel are allowed to perform welding operations.
- VII. Portable Power Tools Safety Practices: The improper use of portable power tools can cause electrical shock, burns, cuts or eye injuries. Individuals using these types of tools should be thoroughly trained in safe operating practices and should observe the following:
- The switch should be shielded against accidental operation. Tools should be equipped with a constant-pressure switch that will shut off the power supply if the pressure is released.
 - Special type cords (rubber or plastic covered) should be used in areas where they may come in contact with oils or solvents.
 - Electric powered tools should not be used near flammable materials or in explosive atmospheres unless they are approved explosion proof types meeting the requirements of the National Electrical Code for area and atmosphere in which they are used.
- VIII. Electrical Equipment Safety Practices: Ignorance, neglect, or carelessness in the use of electrical equipment and appliances are the chief causes of electrical accidents.
- Appliances:
 - Supervisors and/or maintenance personnel should periodically inspect all electrical equipment to insure safe and proper use. Be sure all electrical equipment is properly grounded (3-prong plugs).
 - Never use electrical equipment and appliances where flammable vapors, gases, or dust are present unless devices and wiring are known to be explosion proof.
 - Heating appliances such as hot plates, coffee pots, electrical heaters, etc. should always be placed on a non-combustible surface and away from combustible materials. If possible, all such electrical units should be disconnected when not in use.
 - The use of surge protection is recommended for all computers, copiers, and electrical lab equipment.
 - Panels and Wiring:
 - Fuse panels and electrical wiring shall not be modified in any way without prior approval from the Operations Manager or Ranch Manager.
 - Fuse size shall never be increased above the design rating of the circuit.

- Each fuse (disconnect switch) shall be identified by label according to service area to facilitate power shut-off in case of emergency.
- A Ground Fault Circuit Interrupters (GFCI) should be installed on all outlets located near wet areas such as sinks, showers, and wash down areas.
- Extension Cords:
 - Only three-wire type extension cords that are Underwriters Laboratories (UL) or Factory Mutual (FM) approved shall be used.
 - Extension cords are temporary devices. If an extension cord is needed for a specific task, its current-carrying capacity should exceed the current-demand capacity of the apparatus being used.
 - In lieu of hard or permanent wiring of proper load capacity, a plug strip with an on/off switch and overload protector may be used.
 - Supervisors and/or maintenance personnel should periodically inspect all electrical cords to insure safe and proper use.
 - Do not attempt to obscure extension cord from view by tacking, nailing, or stapling to walls, ceilings, or similar structures.
 - When removing a plug from a receptacle, do not pull the cord. The plug should be held firmly and pulled.
 - Do not use an adapter to facilitate the use of a cord with a three prong plug in a two-hole receptacle without prior approval from the Operations Manager or Ranch Manager.

IX. Lawn Mower Safety Practices:

- Operating Precautions: An operator must be trained in the safe operation and maintenance procedures for each type of mower he/she may be required to operate. The following rules are to be observed:
 - Before the mower is put into operation, the area to be cut should be cleared of all debris including rocks, stones, pieces of wire, and sticks.
 - Mowers should be kept free from accumulations of grass, leaves, or excessive grease. An accumulation of such combustible materials could result in a fire or could damage the motor and working parts of the mower.
 - Mower blades should not be rotating while crossing loose gravel areas.
 - When cutting tall, heavy grass or weeds, the operator should proceed slowly to avoid choking or stalling the motor.
 - The operator should not reach under the housing, deck, or guards of the mower to attempt to make any adjustments or clear grass or foreign objects under the motor until the motor is shut off and the blade has stopped revolving.
 - Disconnect the spark plug when adjusting. A hot gasoline engine can restart on its own if the blade is turned while the plug wire is connected.
 - If adjustments require the motor to be running, extreme care should be taken to prevent any part of the body or clothing from coming in contact with moving parts.
 - A power mower should never be left unattended while running.
 - Fuel should be stored in an approved container.

- Flammable fuel materials should be stored outside or in an approved enclosure free of open flames or electrical sparks.
 - An operator should not refuel a mower while it is hot, running, or in a closed area.
 - Do not smoke while refueling equipment.
 - Riding Mowers:
 - To prevent tipping, avoid steep slopes, dips, and chuckholes.
 - Since riding mowers usually have a longer wheel base than tread width, it is recommended, if possible, to mow inclines vertically rather than horizontally.
 - Care should be taken when engaging the clutch while on an incline to avoid tipping backwards or forwards. If the incline to be mowed is considered too steep, it might be advisable to use a walking mower and to follow the procedure outlined above.
 - Riding mowers are meant for one person only. The operator should not allow others to ride with them on the mower.
 - Personal Protective Equipment: Operators should wear the following personal protective equipment and clothes:
 - Close fitting trousers.
 - Safety shoes.
 - Safety glasses.
 - Hearing protection.
 - Lawn Mower Maintenance:
 - Mowers should be allowed to cool and be cleaned before storing.
 - A routine schedule should be established for inspecting and lubricating mowers.
 - Mower blades should be periodically removed, sharpened, and repainted. This will help control the possibility of the blade becoming unbalanced.
 - When a blade is damaged from striking a rock or another foreign object, the blade must be either: reground and balanced or replaced.
 - Only experienced mechanics should make repairs.
- X. Safety Practices Using Ladders: To ensure employee safety, the following precautions on the care of ladders must be taken:
- Ladders must be maintained in good condition at all times. The joint between the rungs or steps and the side rails must be tight, all hardware and fittings securely attached, and the movable parts must operate freely without binding or undue play.
 - Ladders must be inspected frequently. If a defect is discovered the ladder must be withdrawn from service tagged “DANGEROUS – DO NOT USE” and sent out for repair or destruction.
 - Safety feet and other equipment must be maintained in good condition and rungs must be kept free of grease and oil.
 - Ladders stored in a horizontal position should be supported at a sufficient number of points to avoid sagging and permanent set.

- Wood ladders, when not in use, should be stored at a location where they will not be exposed to the elements.
- Users are cautioned to maintain the required safety distance when metal ladders are used in areas with energized electric circuits.
- The ladder base section must be placed on secure footing.
- The top of the ladder must rest against a rigid surface with ample strength to support the applied load.
- No ladder should be used to gain access to a roof unless the top extends at least three feet above the top support of eave, gutter, or roofline.
- Tops of ordinary stepladders must not be used as steps.
- The bracing on the back legs of stepladders is designed solely for increasing stability and not for climbing.
- When ascending or descending, the user should face the ladder.
- Use of two-section extension ladders:
 - The minimum overlap for the two sections in use should be:

<u>Size of Ladder (feet)</u>	<u>Overlap (feet)</u>
Up to and including 36	3
Over 36 up to 48	4
Over 48 up to 60	5
 - Extension ladders should always be erected so the upper section is resting on the bottom section, and the extension locks must be properly engaged.
 - Adjustments to extension ladders should only be made by the user, while standing at the base of the ladder.

XI. Safety Practices Using Scaffolds:

- The footing or anchorage for scaffolds must be sound, rigid, and capable of carrying the maximum intended load without settling, or displacement.
- Unstable objects such as barrels, boxes, loose brick, or concrete blocks, must not be used to support scaffolds or planks.
- Scaffolds should be erected, moved, dismantled, or altered by trained employees.
- Guardrails and toe boards must be installed on all open sides and ends of platforms more than 10 feet above the ground or floor.
- Scaffolds 4 feet to 10 feet in height must have standard guardrails installed on all sides and ends of the platform.
- A scaffold system must be capable of supporting a minimum of four times the maximum intended load.
- Scaffolds should be inspected daily for defective braces, brackets, trusses, screw legs, ladders, etc. Any damaged or weakened items must be immediately repaired or replaced.
- A ladder should be provided for safe access.
- Scaffold planks must extend over their end supports a minimum of 6 inches but not over 12 inches.
- The poles, legs, or uprights of scaffolds should be braced to prevent swaying or displacement.

- Head protection must be provided for workers that are exposed to overhead hazards.

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