



# Field Team Risk Management Plan

Mt. Adams Center  
May 2006

Written by: Dana Scheffler

# Introduction

## Scope

This plan provides guidance for the trainings, preparations, and policies implemented for team leaders, team members, and field staff for all activities related to working in “the field” at the Mount Adams Center.

## Overview

It is impossible to eliminate all risk. Therefore, the goal of “risk management” is to implement reasonable and prudent actions and procedures that help to minimize the risks associated with the activities we participate in.

## Implementation

While this risk management plan wasn’t completed before field team leaders and members arrived, many of its components were in place before then. Most of the concepts contained within the plan have already been implemented. Those that haven’t will be by the end of this season.

## **Safety Awareness**

Awareness is one of the primary tools for managing risk. At the Mount Adams Center (MAC) the field teams focus on this in four ways:

- Mindset and Attitude
- Training
- Team Safety Binders
- Tailgate Safety Sessions

### **Mindset and Attitude**

Given the relatively small size of the field program, the MAC retains the ability to create a culture in which safety-based mindsets and attitudes are encouraged and developed in the teams. Through direct contact the staff models and demonstrates the non-negotiable importance of safety. This is initially passed on to the leaders during their training. Then they, in conjunction with the field staff, pass this ideal on to the team members throughout the season.

### **Training**

The leaders are introduced early, during their interview, to the importance of safety at the MAC. The reinforcement of this continues throughout their training as they are taught the skills to be able drive, work, and live safely in both front-country (readily accessible by car) and back-country settings. Leaders are trained, with regards to safety, in the following specific areas:

- 1) A Safe Place to Serve
- 2) Safety Awareness

- 3) Tailgate Safety Session
- 4) Environmental Hazards
- 5) Injury Prevention
- 6) Personal Protective Equipment
- 7) Physical Conditioning
- 8) Prevention of Repetitive Motion Injuries
- 9) Wilderness Advanced First-Aid
- 10) Reporting Injuries
- 11) Communication Plan
- 12) Vehicles and Professional Driving
- 13) Safe Driving Behaviors
- 14) Tool use and Maintenance
- 15) Chainsaw Use
- 16) Trail Building Skills
- 17) Fire Safety
- 18) Nutrition
- 19) Safe Food Handling
- 20) Treating Drinking Water (Back-country)
- 21) Stove Use and Maintenance (Back-country)
- 22) Map and Compass Use

While some of the aforementioned subjects are covered throughout the entire training period most take place during a specific time. As an example, the notes for the Backcountry Spike Training are included in Appendix A.

Field team members are trained in the same areas as the leaders with the exclusion of Chainsaw Use and Wilderness Advanced First-Aid. Most of the responsibility for training is passed on to the team leaders. This team based training style results in a 1:2.5 teaching ratio that lasts throughout the season.

## **Team Safety Binders**

The field teams use the Team Safety Binders as a way to stay focused on safety throughout the season. The binders contain:

- 1) Maps to the nearest hospitals and clinics
- 2) Team members' sealed medical release forms
- 3) Employee Incident Report forms
- 4) Tailgate Safety Session forms
- 5) Staff contact information

## **Tailgate Safety Sessions**

The Tailgate Safety Session Form is a tool that provides team members the time to methodically discuss the potential hazards that that the team will face in the coming work cycle. A new session is held at the beginning of each work cycle (four or five-day week, or 9-day hitch) and at the start of any day or project in which new hazards may be encountered by the team. An example of a Tailgate Safety Session form that has been completed follows.

## TAILGATE SAFETY SESSION

Conducted by: Elvis Presley  
 Project: Black Butte Trail

Date: 01/15/06  
 Team: Sisters Team

Type of Operation	Hazards	Risk Management
<i>Cleaning water-bars</i>	<i>Injuries from sharp / heavy tools</i>	<i>Focus on job, be aware of others</i>
<i>Building rock water-bars</i>	<i>Hurting back from heavy lifting</i>	<i>Lift with legs only</i>
	<i>Pinching fingers between rocks</i>	<i>Wear gloves, stay focused</i>
<i>Breaking rocky trail w/ pick</i>	<i>Being hit by flying rock chips</i>	<i>Wear safety glasses, gloves</i>
	<i>Pick head sliding and hitting head</i>	<i>Don't swing overhead, use helmet</i>
	<i>Injuring co-workers</i>	<i>Communicate with others</i>
	<i>Injuries from repetitive motion</i>	<i>Don't grip too firmly</i>
		<i>Use good form</i>
<i>Working in sunny location</i>	<i>Sunburn</i>	<i>Wear sun block</i>

### Job Hazard Analysis:

#### Required Personal Protective Equipment (PPE):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> helmet         | <input checked="" type="checkbox"/> 8" high leather work boots |
| <input checked="" type="checkbox"/> gloves         | <input type="checkbox"/> chainsaw chaps                        |
| <input checked="" type="checkbox"/> safety glasses | <input type="checkbox"/> poison oak / ivy block                |
| <input type="checkbox"/> ear plugs                 | <input checked="" type="checkbox"/> sun block                  |
| <input type="checkbox"/> long-sleeved shirt        | <input checked="" type="checkbox"/> pants                      |
|  | <input type="checkbox"/> other:                                |

#### Subjects Covered During Tailgate Safety Session:

Hazards and risk management associated with: Cleaning water-bars, installing  
water-bars, breaking rocky trail with a pick axe, working on a sun baked trail.  
Required PPEs. Good spacing while working. Good communication. How people  
are feeling, any signs of repetitive use injuries. Bing's wrists are feeling tender from  
last week still, going to keep him on mellower tools today.

#### People in Attendance:

- |                         |                       |           |
|-------------------------|-----------------------|-----------|
| 1. <u>Jane Austin</u>   | 6. <u>Cindy Brady</u> | 11. _____ |
| 2. <u>Steve Austin</u>  | 7. <u>Bing Crosby</u> | 12. _____ |
| 3. <u>Austin Powers</u> | 8. _____              | 13. _____ |
| 4. <u>Rosa Parks</u>    | 9. _____              | 14. _____ |
| 5. <u>Ti DeBowl</u>     | 10. _____             | 15. _____ |

## Injury Prevention

The previous section, Safety Awareness, focuses mainly on the idea of arming leaders and team members with information. This next section works at managing risk through a more direct approach. It is accomplished in two ways:

- Personal Protective Equipment
- Physical Conditioning and Care

### Personal Protective Equipment

Personal protective equipment (PPE) are items worn to protect a person from injury. They include the standard hard hat, gloves, safety glasses, earplugs, leather work boots, long-sleeved shirt, and pants. Additional, specialized items are chainsaw chaps, chainsaw helmets w/ear muffs and face screens, respirators, dust masks, kneepads, and personal anatomical braces. What follows is a list of when they must be used:

#### 1) Hard Hats

- a) Must be worn while working with or around chainsaws.
- b) Must be worn while working with or around tools extending constantly or momentarily overhead.
- c) Must be worn anytime there is potential for head injury from self, others, or due to location.

#### 2) Gloves

- a) Must be worn while loading and unloading tools.
- b) Must be worn while sharpening tools.
- c) Must be worn when risk from pinching, blistering, or blunt trauma is present.

d) Must not be worn when they hamper the safe control of a power tool, i.e. a chainsaw.

### 3) Safety Glasses

a) Must be worn when using or working near any tool that is being used in a way that could produce flying objects.

### 4) Ear Plugs

a) Must be worn when working around power or hand tools producing sharp or loud noises.

### 5) Leather Work Boots

a) Must be worn for almost all work performed.

b) Exception: for long approaches to work sites; during which regular hiking boots can be worn.

c) Exception: when working around water when rubber or neoprene boots may be necessary.

### 6) Long-Sleeved Shirts

a) Are required when operating a chainsaw.

b) A shirt of some type must be worn while serving at a project site.

### 7) Pants

a) Are required while serving at a project site.

### 8) Chainsaw Chaps

a) Well fitted, in good condition, and of the modern Kevlar style, must be worn by anyone operating a chainsaw.

## **Physical Conditioning and Care**

The way in which MAC teams serve is physically demanding and requires that people prepare beforehand to prevent injuries. The preparations we use for the team leaders consist of five parts:

- 1) Team leaders are contacted, once they have been accepted, and encouraged to begin a physical training program on their own, prior to their arrival at the MAC.
- 2) Once they arrive at the MAC, leaders are involved in some form of daily physical activity for the first three weeks of training.
- 3) During the initial weeks the team leaders meet twice with a physical therapist that trains them on ways to prevent repetitive motion injuries while working. (for the Repetitive Motion Injuries Report, see Appendix B)
- 4) The physical therapist teaches the leaders a routine for strengthening and stretching as well as performing an individual assessment on each of them.
- 5) The leaders are then given the goal of finding time to have three strength / stretching sessions and three aerobic sessions, per week, on their own, for the remainder of their training.

The preparations for the team members are similar in philosophy, but condensed due to the length of their training period. They don't receive an individual assessment. However, they do receive the attention of their team leaders who are responsible for ensuring that their team members are conditioning themselves appropriately. As well, the team leaders train the teams in the strategy of using pacing, breaks, diet, and hydration to prevent injuries while working.

## **Reporting Injuries or Accidents**

The accurate and timely reporting of service related injuries and accidents serves three goals:

- 1) It qualifies the member for the Worker's Compensation program.
- 2) It keeps the ESD112 informed and provides them with an understanding of the risks field teams face.
- 3) It provides the MAC with a body of data with which to isolate areas for improved training and risk management attention.

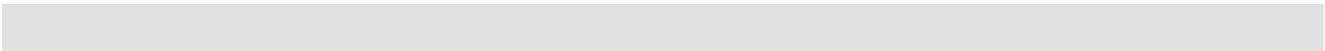
### **Employee Incident Reports**

Both leaders and team members are trained on the procedures for filling out Employee Incident Reports. Team leaders are given the following guidelines and expectations for what types of injuries require a report to be filed:

- 1) Any service related injury requiring a visit to a doctor, clinic, or hospital etc.
- 2) Any service related injury that requires a person to miss work.
- 3) Any work related injury that has or could have a lasting impact.

## **Vehicle Accident Reports**

Any accident involving a vehicle must be reported immediately.

- 1) Leaders are responsible for reporting vehicle accidents to the MAC staff as soon as communications allow.
  - 2) The driver is responsible for filling out all state, ESD, and MAC reports. They are also responsible for gathering witness reports.
  - 3) The MAC staff is responsible for informing the NSP program director as soon as possible and verifying that all reports have been filed.
- 

## **Transportation Issues**

It can be argued that driving is one of the most dangerous activities engaged in by our field teams. Because of this the MAC has opted to expend a substantial amount of resources towards reducing the risks associated with driving. We concentrate our energy in three areas:

- Driver Preparedness
- Vehicle Safety
- Vehicle Policy

### **Driver Preparedness**

To ensure that we have the safest drivers possible the MAC has adopted and developed a professional driver training and certification program. This program consists of the following components:

- 1) Driver pre-requisites
  - a) Must be 21 years of age.
  - b) Must have a valid driving license.
  - c) Must have a driving record deemed acceptable by the driving trainer.
- 2) Professional driver training
  - a) Classroom sessions on on-the-job driving, positive driving behaviors, driving risks and responses, and accident response.
  - b) Parking lot sessions on vehicle maneuvering, pre-trip vehicle inspections, and trailering.

- 3) Driving practicum (see Appendix C)
  - a) Participants must complete a “passing score” on a short, on-the-road, driving test.
- 4) Driver safety agreement (see Appendix D)
  - a) Agreements must be read, signed, and in member’s file before they can drive.
- 5) Follow up training activities
  - a) All drivers must participate throughout the year.

## **Vehicle Safety**

The MAC has taken steps to ensure that our members and staff are driving safe and dependable vehicles. There are five ways in which we do this:

- 1) Vehicle type
  - a) Vehicles must be chosen based on their safety records as well as their ability to safely handle the loads required.
  - b) Utility trailers must be used to carry gear and equipment instead of roof racks.
- 2) Daily vehicle check (see Appendix E)
  - a) Must be comprehensively checked prior to being placed into service each day.
  - b) Deficiencies in equipment related to safety must be remedied before proceeding.
  - c) Completed forms must be submitted monthly.
- 3) Maintenance
  - a) Vehicles must be maintained on a schedule with oil changed, tires rotated and inspected, and brakes inspected every 5,000 miles.

b) Maintenance and repairs must be performed by certified mechanics.

4) Vehicle binder

a) Must be in the vehicle and contain the following:

- i) Daily vehicle check forms
- ii) Driving policy
- iii) Accident response packet and instructions
- iv) Emergency contact information
- v) Vehicle registration and proof of insurance
- vi) Maintenance request forms
- vii) Vehicle specific operating information
- viii) Gas cards and receipts organizer

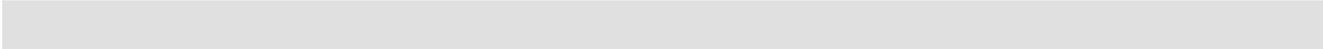
5) Vehicle safety kit

a) Must be carried in the vehicle and contain:

- i) Fire extinguisher
- ii) Vehicle trauma kit
- iii) Blanket
- iv) Flares
- v) Reflective triangle
- vi) Jumper cables
- vii) 4-way tire iron
- viii) Lighter / Matches
- ix) Water purification tablets
- x) Disposable camera

## **Vehicle policy**

The MAC vehicle policy consist of two parts; one which deals with what is appropriate use of the MAC vehicles, and the other that provides safety requirements for driving MAC vehicles. The five requirements are:

- 1) The vehicle must be safe to drive.
    - a) The vehicle must pass its daily check out.
    - b) The headlights must be on.
    - c) The vehicle is properly loaded.
  
  - 2) The driver is safe to drive.
    - a) They must be cleared to drive MAC vehicles.
    - b) They must be attentive, focused, and driving safely.
  
  - 3) The front passenger is alert and attentive.
    - a) Capable of relieving the driver.
    - b) Able to perform any extraneous activities for the driver.
  
  - 4) A spotter is used when reversing.
    - a) A spotter must be used when a trailer is attached.
    - b) A spotter must be used when visibility is poor for any reason.
      - i) Backing on to a roadway.
      - ii) Weather or darkness.
      - iii) Visual obstruction inside or outside the vehicle.
  
  - 5) Everyone is properly wearing a seatbelt.
    - a) Low and tight across the hips.
- 

## Medical Issues

Medical issues often are at the core of the problems that risk management seeks to limit. There are four areas in which the MAC focuses to deal with medical issues:

- Physician Medical Advisor
- Health Information Exchange
- Wilderness Advanced First-Aid Training
- Advanced First-Aid Kits

### Physician Medical Advisor

The MAC has established a relationship with a physician medical advisor. This is a licensed doctor who has volunteered to:

- 1) Write prescriptions for epinephrine for MAC trauma kits.
- 2) Provide the MAC with guidance and legal backing in developing its wilderness first-aid protocols.
- 3) Advise the MAC on medical issues pertaining to:
  - a) health information.
  - b) injury prevention.
  - c) injury recovery.
- 4) Advise MAC members on medical issues on a limited basis.

## Health Information Exchange

Given the location and nature of the activities that the MAC participates in, it is important that both the staff and the participants are well informed of the risks to personal health and individual's health histories. This is accomplished in three ways:

- 1) The MAC is responsible for informing the participants of the challenges and risks they may face through participation.
  - a) The recruitment coordinator discusses these challenges and risks with the applicants during their interview.
  - b) The field staff discuss these challenges and risks with the new members during their first week of training.
- 2) The participant is responsible for informing the MAC of any health concerns related to their participation in the activities of the program.
  - a) The participant reveals pertinent health information to the recruitment coordinator during the interview.
  - b) The participant fills out and submits the Medical Release Waiver (see Appendix F) prior to beginning service.
    - i) Requires emergency contact information.
    - ii) Requires information on current medical conditions.
    - iii) Requires information on prescription medications.
    - iv) Requires information on allergies.
    - v) Requires information on any other pertinent factors.
  - c) The participant discusses any potentially problematic health issues with field staff during the first weeks of training.
- 3) The MAC is responsible for:
  - a) Following up on any concerns raised by the Medical Release Waiver.
  - b) Seeking additional information from the physician advisor if necessary.
  - c) Keeping all health and medical information confidential.

## **Wilderness Advanced First-Aid Training**

Most of the MAC members spend the majority of their time serving at locations that are more than an hour from definitive medical care. By definition, this places them in a wilderness medicine situation. To prepare teams to be able to care for injuries in these settings we:

- 1) Provide team leaders with a Wilderness Advanced First-Aid course.
  - a) Five day, forty hour, course (see Appendix G).
  - b) Taught by industry-leading professionals.
  - c) Focuses on stabilization, treatment and evacuation guidelines of patients in backcountry environments.
  - d) Emphasis is placed on long term patient care management and specific injury evaluation.
- 2) Provide refresher first-aid scenarios for the team leaders
  - a) Leaders are required to participate in practical drills.
  - b) Drills are held in the beginning of July and September.
- 3) Require a minimum of two field staff be trained at the Wilderness Advanced First-Aid level or above.
  - a) Enables field activities prior to leader training.
  - b) Provides a link of understanding in the event of a field evacuation.
  - c) Permits staff to advise members up to their level of training on medical issues.
- 4) Provide basic first-aid training to the team members.

## **Advanced First-Aid Kits**

At the MAC the field teams are required to carry three different types of first-aid kits while they are in the field. Each kit has been designed to meet the needs of the user while also relying upon the training of the user and his/her ability to improvise in wilderness settings. The contents of each of the kits are as follows:

- 1) Member First-aid Kit – carried by a member, one per team.
  - a) 2 rolls, athletic tape
  - b) 10 sheets, 2x3 moleskin
  - c) 30 assorted adhesive bandages
  - d) 1 tube, antibiotic ointment
  - e) 24 prep pads, 10% Povidone iodine
  - f) 3 swabs, Tincture of Benzoin
  - g) 50 tablets, 200mg Ibuprofen
  - h) 1 bottle, Tecnu, Poison oak soap
  - i) 1 pair, tweezers
  - j) 1 pair, scissors
  
- 2) Vehicle Trauma Kit – carried in vehicle, one per vehicle.
  - a) 3 pairs, exam gloves
  - b) 1 CPR Microshield, mouth barrier
  - c) 1 pair, scissors
  - d) 4 prep pads, 70% Isopropyl alcohol
  - e) 12 prep pads, 10% Povidone iodine
  - f) 1 roll, athletic tape
  - g) 1 roll, Co-flex – Cohesive flexible bandage
  - h) 2 rolls, roller gauze
  - i) 1 triangular bandage
  - j) 2 sterile gauze pads, 5X9
  - k) 4 sterile gauze pads, 4X4

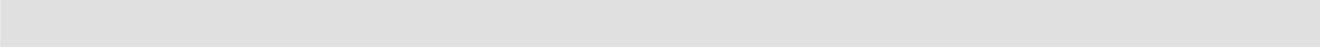
- 3) Team Trauma Kit – carried by a team leader, one per team.
  - a) 1 EpiPen, .3ml Epinephrine auto injector
  - b) 8 capsules, Benadryl, Diphenhydramine
  - c) 1 CPR Microshield, mouth barrier
  - d) 3 pairs, exam gloves
  - e) 1 reflective emergency blanket
  - f) 1 pair, scissors
  - g) 1 irrigation syringe
  - h) 1 thermometer
  - i) 8 prep pads, 70% Isopropyl alcohol
  - j) 12 prep pads, 10% Povidone iodine
  - k) 1 tube, antibiotic ointment
  - l) 1 Sam splint
  - m) 1 sterile gauze pad, 5X9
  - n) 4 sterile gauze pads, 4X4
  - o) 6 sterile gauze pads, 3X3
  - p) 1 sterile compress and bandage, 2X2
  - q) 2 rolls, roller gauze
  - r) 10 wound closure strips
  - s) 10 butterfly bandages
  - t) 3 triangular bandages
  - u) 1 roll, Co-flex, cohesive flexible bandage
  - v) 1 roll, athletic tape
  - w) 1 patient assessment guide

All three types of kits are intended to be used when needed. However, each type has guidelines for its use and restocking.

- 1) Member kits are to be used freely without restriction.
  - a) Kit is refilled as needed by team at grocery stores.
- 2) Vehicle and Team Trauma kits are to be used only in the event of serious accident or trauma.
  - a) If the Trauma kits are used the staff must be notified.
  - b) Kits are refilled through the MAC.

3) The team leaders are responsible for ensuring that all three of their team's kits are fully stocked.

4) Logs of the medications found in the trauma kits and their expiration dates are kept in the MAC office.



## **Emergency Response**

The MAC uses four items to prepare a response to an emergency occurring with one of the field teams. They are the:

- Field Team Leader Emergency Response Worksheet
- Member Emergency Contact Information
- Emergency Communication Plan
- Field Team Emergency Response Information Packets

### **Field Team Leader Emergency Response Worksheet**

The leaders for each field team are required to fill out an Emergency Response Worksheet (see Appendix H) that prompts them to think about their actions in the event of an emergency. The worksheets cover the following areas:

- 1) Local sponsor contact information.
- 2) Radio use procedures.
- 3) Phone number for their local radio dispatcher.
- 4) Information on the closest hospital.
- 5) Closest locations where the cell phones and radios work.
- 6) Location of payphones.

- 7) Steps they will take in the event of:
  - a) Serious injury in a remote or backcountry setting.
  - b) Evacuation from the backcountry.
  - c) Lost member or participant.

One copy of the worksheet is kept in the team's safety binder with the team and serves as guidelines in the event of an emergency. A second copy is sent to the MAC and is kept with the team's emergency response information. If the information changes the team leaders are required to replace both copies with the updated versions.

### **Member Emergency Contact Information**

The MAC utilizes the AmeriCorps Medical Release Wavier (see Appendix F) to gather:

- 1) Contact information for two related or significant people.
- 2) Medically pertinent information for emergency workers.

A copy of this information is kept in two locations. One is in the member's file in the MAC office. The other is brought out into the field in a sealed envelope, marked confidential, and carried in the team's safety binder.

### **Emergency Communication Plan**

Each field team carries a cell phone and most teams carry a Forest Service or Bureau of Land Management issued VHF radio. Often times coverage for cell phones is poor on the jobsite. However, a combination of cell phone and VHF radio does provide an adequate level of communication.

The following six items are the components of the MAC Emergency Communication Plan:

- 1) Teams using radios are required to check in and out at the beginning and end of each workday with a central dispatcher.
- 2) Teams are required to check in with the MAC office on a weekly schedule.
- 3) A designated MAC staff member carries the emergency cell phone on Saturdays and Sundays (see Appendix I) when teams are working weekends.
- 4) Contact sheets for each team are posted in the MAC office. (see Appendix J)
- 5) Teams carry contact information for all staff. (see Appendix K)
- 6) Teams are instructed to make voice-to-voice contact with MAC staff in case of an emergency.

### **Field Team Emergency Response Information Packets**

There is an Emergency Response Packet for each team located in the MAC office. Each packet contains:

- 1) Detailed maps of the team's base camp locations.
- 2) Detailed regional maps of the team's worksite locations.
- 3) The team's Emergency Response Worksheet.

## **Working in Remote Locations**

Most of the MAC field teams spend their time working and living in remote locations. This requires special attention in five areas:

- Environmental Issues
- Camping Issues
- Lost Members or Participants
- Dealing with Difficult or Dangerous Strangers
- Requirements for Remote Work or Travel

### **Environmental Issues**

The Team Leaders are trained how to deal with a number of potential environmental challenges and hazards that could be encountered while in a remote location. The leaders are in turn responsible for teaching these same skills and ideas to their team members. Team leaders are taught:

- 1) All non-potable water must be treated through filtering, boiling, or chemical disinfection.
  - a) The MAC provides the means for both thermal and chemical treatment.
  - b) Leaders are taught how to use iodine to treat water.
  - c) Leaders are taught to bring water just to a boil to treat water.

- 2) To prevent, recognize the signs of, and treat:
  - a) Hypothermia.
  - b) Hyperthermia.
  - c) Dehydration.
  
- 3) How to recognize Poison oak / ivy and how to avoid contracting the related rash.
  - a) The MAC is creating a small Poison oak garden to facilitate recognition.
  - b) Teams are provided pre and post exposure lotions.
  
- 4) What to do in the event of a lightning storm.
  - a) Move away from higher ground, pinnacles, ridges, or lone trees.
  - b) Stay away from metal tools, cables, or equipment.
  - c) Seek shelter in a forested area.
  - d) Spread out from one another.
  - e) Crouch on insulating material such as sleeping pads.
  
- 5) How to avoid poisonous insects, rattlesnakes, bears, and cougars as well as how to treat the effects of them should the need arise.
  - a) Teams carry injectable epinephrine and Benedryl to counteract life threatening allergic reactions.
  
- 6) To be aware of potential hazards from above such as rock fall and dead trees.
  
- 7) To be aware of the hazards of steep terrain.

## **Camping Issues**

Similar to the previous section, team leaders are trained to deal with the challenges and hazards associated with camping. Again, they are responsible for training their team members in how to stay safe in these areas. Team Leaders are taught:

- 1) How to choose a safe campsite that takes into account:
  - a) Dead trees.
  - b) Weather and prevailing winds.
  
- 2) How to set up a safe kitchen in which:
  - a) Members are taught how to set up and use stoves safely.
  - b) Dishes are washed with the three-tub system.
  - c) A hand washing station is set up.
  - d) Adequate space, equipment, and training is provided to be able to prepare food safely, i.e. cutting and slicing.
  
- 3) How to safely set up and use bear hangs to raise food ten feet off the ground and four feet away from trunks or branches.

## **Lost Members or Participants**

In the event that a member or participant becomes lost the team leaders will follow the steps laid out in their Emergency Response Worksheet. These steps include:

- 1) Bring remaining group together.
  
- 2) Gather all pertinent information.
  
- 3) Create and implement a search plan that includes rally points, return times, and well-informed searchers.

- 4) Communicate with the staff and local authorities if member or participant is not found within 3 hours.
- 5) Take care of remaining team members.

### **Dealing with Difficult or Dangerous Strangers**

While chances are low, there does exist the possibility that the team will encounter a person who poses a threat to them while they are beyond immediate assistance from law enforcement. There are five basic principles to dealing with these situations:

- 1) Avoid the person if possible.
- 2) Deescalate any confrontation.
- 3) Leave the area.
- 4) Seek help.
- 5) Stay together.

### **Requirements for Remote Work or Travel**

The following must be carried or be in place before beginning work or travel in remote locations:

- 1) First-aid kits
  - a) Team Trauma kit with epinephrine.
  - b) Member First-aid kit.
- 2) Communication equipment
  - a) Cell phone and / or VHF radio.

- 3) Access to transportation
  - a) A vehicle parked at the trailhead.
- 4) Medical release forms
  - a) Carried in the Team Safety Binder in the vehicle.
- 5) Communication plan
  - a) Established with the MAC office.
  - b) Contact information posted in the MAC office.
- 6) Emergency Response Worksheet
  - a) Submitted to and posted in the MAC office.
  - b) Carried in the Team Safety Binder in the vehicle.
- 7) Map of area
- 8) Proper clothing and equipment. For example:
  - a) Rain gear.
  - b) Warm clothing.
  - c) Camping equipment.
  - d) Food and Water.

## **Working Around Water**

The MAC field teams often live and work on or near water. This element creates additional potential hazards that must be taken into account. Three areas that the MAC focuses on are:

- Working in Proximity to Swift, Deep, or Cold Water.
- Crossing Water by Foot
- Swimming Requirements

### **Working in Proximity to Swift, Deep, or Cold Water**

When MAC field members are working near water the hazards must be assessed. Leaders must ask themselves:

- 1) Is there a chance that a member could fall into the water while working?
- 2) What would happen if a member fell into the water?

If the situation warrants it, precautions must be taken. Precautions can include but are not limited to the following:

- 1) Establishing work area boundary lines.
- 2) Using safety lines and tethers to physically prevent a fall.
- 3) Wearing life jackets and having throw ropes at hand.
- 4) Having a spotter.

## **Crossing Water by Foot**

Travel in remote areas often requires the ability to judge moving water hazards and execute safe river crossings. Leaders should be able to recognize and assess river hazards; they should know when dry crossings are appropriate and when it is better to wade; and they should be able and willing to decide not to cross a river if conditions are too difficult. The team leaders must use their judgment to make a decision while doing the following:

- 1) Studying and scouting the river for the best crossing.
- 2) Paying attention to:
  - a) Current speed.
  - b) Width and depth.
  - c) Water temperature.
  - d) In stream and down stream hazards.
  - e) Entrance and exit points.
  - f) Time of day.
- 3) Choosing the safest style of crossing.
  - a) Dry crossing on logs or rocks.
  - b) Wet crossing by wading.
- 4) Choosing the safest method of crossing.
  - a) One at a time or as a group.
  - b) In a line or in a row.
- 5) Taking appropriate precautions.
  - a) Ensure that all team members are briefed on what is happening.
  - b) Move slowly, with small steps.
  - c) Use spotters if necessary.
  - d) Decide whether packs should be buckled or not.
  - e) Adjust clothing and footwear.

## **Swimming Requirements**

Swimming during service hours or while on development trips is a privilege and should be treated with respect. For MAC members to swim safely the team leader must determine that the requirements have been met in following three areas:

- 1) Location Selection
- 2) Swimming Buddy or Observer
- 3) Swimming Rules

### Location Selection

For a swimming site to be acceptable it must meet the following criteria:

- 1) Have little or no current; slower than a slow walk.
  - a) No undertow.
- 2) The water, swimming area, and area down stream, are free of obstructions, under water hazards, and sharp objects.
- 3) Be of warm enough temperature as not to cause hypothermia.

## Swimming Buddy or Observer

To meet MAC requirements members must swim with a buddy or with a capable swimmer observing them. The following requirements apply:

- 1) If the buddy system is not being used, the swimmer to observer ratio must not exceed 5:1.
- 2) Swimmers must stay within conversation distance of the observer and their buddy.

## Swimming Rules

The team leader and / or the observer are responsible for ensuring that the following rules are adhered to:

- 1) All people who are swimming are capable swimmers.
- 2) No diving.
- 3) Only thigh deep wading is permitted in swift water and the ocean.
- 4) No swimming alone.
- 5) A flotation device is on hand.

## **Boating Requirements**

At times, MAC field teams use boats to access work areas. As well, boats are sometimes used during team development trips. Before boating the team or trip leader must ensure that the requirements in the following areas are being adhered to:

- Location Selection
- Personal Flotation Devices and Helmets
- Pre-trip Safety Meeting
- Appropriate Leader to Participant Ratio
- Ability and Training Level of Trip Leaders
- Basic Equipment
- Rescue Equipment
- Acceptable Boats
- Limiting Factors to Proceeding
- On the Water Procedures
- Boating Company Requirements

## **Location Selection**

The requirements for selecting an appropriate location can be broken into four parts:

- 1) Class of water.
  - a) Must be class two (2) or lower unless trip is professionally guided.
  - b) The American Whitewater Association defines class two (2) as: Straightforward rapids; wide, clear channels evident without scouting. Occasional maneuvering. Rocks and medium waves easily avoided by trained paddlers. Swimmers seldom injured. (see Appendix L)
- 2) Trip Leaders must have first-hand familiarity with the location and the water volume.
- 3) The challenges posed by the location must not exceed the skill level and maturity of the group.
- 4) The type and quality of equipment used must be designed for the class of water at the location.

## **Personal Flotation Devices (PFDs) and Helmets**

For MAC boating there are five requirements regarding PFDs:

- 1) They must be worn by anyone on a launched boat.
- 2) They must be Coast Guard approved.
- 3) They must be type I, II, or III. (see Appendix M)
- 4) They must have a buoyancy rating of no less than 13 pounds.

- 5) They must be well fitted to the individual.

Helmets are required for anyone boating on swift water (class 1 or higher).

- 1) They must be designed for use on water.
- 2) They must be well fitted.
- 3) They must be in good functioning condition.

### **Pre-trip Safety Meeting**

Immediately prior to launching the boats, a safety meeting with the entire group must be held. The following subjects must be covered and explained in detail:

- 1) River communication signals.
- 2) Paddling commands.
- 3) What to do if someone goes over board.
- 4) What to do if you go overboard.
- 5) Proper floating position.
- 6) How to use a throw rope.
- 7) Techniques for getting someone back into a boat.
- 8) Hazards of foot entrapment and how to avoid it.
- 9) Hazards of strainers and how to avoid them.

## **Appropriate Leader to Participant Ratio**

For MAC boating, the leader to participant ratio should be no less than 1:5.

## **Ability and Training Level of Trip Leaders**

For MAC boating, trip leaders need to meet the following minimum requirements:

- 1) Be comfortable paddling a class above the location's class.
- 2) Have a solid understanding of river hazards and their avoidance.
- 3) Be able to hold an effective pre-trip safety meeting.
- 4) Have the skills and ability to affect a rescue.

At least one trip leader per trip must also meet the following advanced requirements:

- 1) Be certified in Swift Water Rescue.
- 2) Have a depth of experience in the activity.

## **Basic Equipment**

In addition to first-aid and communication equipment the MAC boating trips should have the following boat specific equipment:

- 1) Bow, stern, and flip lines on rafts.

- 2) Bow and stern lines on canoes.
- 3) Bow and flip lines on inflatable kayaks.
- 4) Spare paddle and / or oar.
- 5) Spare inflation pump.
- 6) Repair equipment and supplies.

## **Rescue Equipment**

MAC boat trips should carry the following rescue equipment in addition to the standard equipment:

- 1) One throw-rope per boat.
- 2) An extra life vest and helmet (swift water trips).
- 3) One set of pulleys and carabineers for setting a z-drag rescue.
- 4) One whistle per participant.

## **Acceptable Boats**

Boats used for MAC trips must be:

- 1) Of a stable, modern design.
- 2) In good, working condition.
- 3) Designed to handle the class of water to be encountered.

## **Limiting Factors to Proceeding**

The following factors must be assessed by the trip leaders and considered as grounds for altering or ending the trip:

- 1) Strong offshore winds.
- 2) High, choppy waves.
- 3) Weak paddling skills.
- 4) Time of day.
- 5) Weather.
- 6) Boat traffic.
- 7) Energy level.
- 8) Trip leader's situational comfort and / or skill.

## **On the Water Procedures**

While MAC trips are on the water the following procedures apply:

- 1) Lead and sweep boats should be established.
- 2) Trip leaders should be in the lead and sweep positions or in the boats immediately adjacent to those boats.
- 3) Boats should never be out of sight of one another, instead staying within conversational distance from the boat in front and behind.

- 4) Unacceptable behaviors:
  - a) Standing while moving.
  - b) Ramming.
  - c) Boating alone.
  
- 5) Prior to crossings, all of the limiting factors to proceeding should be considered.
  - a) Crossings should be made with the group in a tight pod.
  - b) Should be made quickly.
  - c) Should not exceed the ability of the group.
  
- 6) If the weather could deteriorate, the distance from shore should be decreased. If caught by weather:
  - a) Travel in a tight pod no more than one to two boat lengths apart.
  - b) Get paddlers into kneeling position (canoes) for more stability.
  - c) Lash boats together for increased stability.

## **Boating Company Requirements**

Prior to contracting with a boating company to run a guided trip the following must take place:

- 1) A copy of their license and insurance is on file in the office.
- 2) It must be confirmed with the company that the trip will run on water that is rated less than class five (5).
- 3) The company must have a verifiably good safety record.
- 4) All safety equipment and procedures must be in place.
- 5) The guide to participant ratio should not exceed 1:7.

## **Risk Management Responsibilities**

This final section outlines the responsibilities of the different positions involved with the MAC field teams. It is broken into:

- Staff Responsibilities
- Sponsor Responsibilities
- Team Leader Responsibilities
- Member Responsibilities

### **Staff Responsibilities**

- 1) Training team leaders and members in safe practices.
  - a) Providing training in safe use of tools.
  - b) Providing training in safe front-country and back-country techniques.
  - c) Providing training in safe driving techniques.
  - d) Providing training in safe chainsaw techniques.
  - e) Providing training in remote and front-country first-aid techniques.
- 2) Providing appropriate equipment.
  - a) Personal protective equipment.
  - b) Safety equipment.
  - c) Safe vehicles.
  - d) Safe and dependable tools and gear.
- 3) Providing direct and indirect oversight to team leaders and members.

- 4) Staying in communication with sponsors and teams.
  - a) Regular phone check-ins.
  - b) Scheduled site visits.

### **Sponsor Responsibilities**

- 1) Training teams in safe practices.
  - a) Continuing training in safe use of basic tools.
  - b) Providing training in safe use of specialized tools.
- 2) Providing safe housing.
  - a) Maintaining a structurally, mechanically, and electrically safe house.
  - b) Maintaining fire extinguishers and alarms.
  - c) Ensuring an adequate level of security.
- 3) Providing direct oversight to the whole team.
- 4) Staying in communication with MAC staff and team.
  - a) Regularly interacting with the team.
  - b) Informing the MAC staff of and responding to any problems with the team.

### **Leader Responsibilities**

- 1) Training team members in safe practices.
  - a) Providing training in safe front-country and back-country techniques.
  - b) Providing training in safe tool use.
- 2) Providing direct oversight to team members.

- 3) Reporting problems, safety concerns, and incidents to MAC staff and sponsors.
- 4) Staying in communication with MAC staff and sponsor.
  - a) Regular phone check-ins with MAC staff.
  - b) Regular interaction with sponsor.

### **Member Responsibilities**

- 1) Safety awareness.
  - a) Of self.
  - b) Of group.
- 2) Reporting problems, safety concerns, and incidents to team leaders.
- 3) Active participant in the pursuit of safety.

## Works Consulted

COTI Instructor's Guide to Teaching Crew Leadership for Trails  
Colorado Outdoor Training Initiative, 2005

Examining Your Organization's Risk Management Culture  
Kurt Merril, 2005

Fitness and Work Capacity  
U.S. Forest Service, 1997

Florida Programs Manual  
Hurricane Island Outward Bound, 1998

Health and Safety Code Handbook  
U.S. Forest Service, 1999

Leadership and Administration of Outdoor Pursuits  
Phyllis Ford and Jim Blanchard, 1993

Lightly on the Land, The SCA Trail Building and Maintenance Manual  
The Student Conservation Association, 2005

Medical Screening in Adventure Programing – How Far Do You Go?  
Catherine Hansen-Stamp and Charles Gregg, 2002

Mission Accomplished, A Practical Guide to Risk Management for Nonprofits  
Nonprofit Risk Management Center, 1997

NWSA – Mt. Adams Center Residential Risk Management Plan  
Jim Wells, Garry Hanley, Peggy Sandberg, Scott LaBar, 2004

OES Wilderness Risk Management Plan

Jocelyn Berkshire, 2001

Serve Alaska Youth Corp Field Guide

Southeast Alaska Guidance Association, 2004

Student Conservation Association Emergency Response Plan

The Student Conservation Association, 1999

The National Outdoor Leadership School Wilderness Guide

Mark Harvey, 1999

Trail Construction and Maintenance Notebook

U.S. Forest Service, 2004

Transportation Safety Program

Jim Wells, 2002

Wilderness Educator Notebook

National Outdoor Leadership School, 1999

Wilderness Medicine Handbook

Wilderness Medicine Institute of NOLS, 2005

Wilderness Risk Management Conference Proceedings

The Wilderness Risk Managers Committee, 2001-2005

Wilderness Risk Management in Small Programs

High Mountain Institute, 2002

Wildland Fire Chainsaws, S-212, Student Handbook

National Wildfire Coordinating Group, 2002