

ROCKY MOUNTAIN NATIONAL PARK

RANGER OPERATING PROCEDURE (ROP) DIVISION OF RESOURCE PROTECTION AND VISITOR MANAGEMENT	EFFECTIVE DATE May 1, 2006
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TYPE OF DIRECTIVE Backcountry Program	AMENDS N/A	INDEX B-1-a
TITLE SUBJECT Backcountry Travel & Patrol Procedures	RESCINDS N/A	CROSS-INDEX RMNP Backcountry Wilderness Plan, 2001
SUB-ACTIVITY Field Orientation ROP	SUPPLEMENTS Appendix A, Training JHA Backcountry Travel JHA Footwear JHA Technical Climbing JHA Trail Maintenance & Clearing JHA Chainsaw Use & Maintenance JHA Bear/Lion Encounter Backcountry Travel Plan, ROMO 7 NPS Occupational Safety & Health Program, RM-50B NPS Safety & Health for Field Operations; Handbook ROP A(1)(b), Employee training/orientation check list Mountain Rescue Association Handbooks on Situational Awareness & General Backcountry Safety Wilderness Ranger Field Guide, a publication by Arthur Carhart Wilderness Training Center.	DISTRIBUTION & SCOPE All Ranger Division employees and volunteers who engage in backcountry travel, patrol, and work assignments. As referred to in this plan, an <i>employee</i> includes volunteers who work under the Volunteer In Parks program (refer to DO #7 for additional direction on use of volunteers.)

In Memory of Those Gone Before In the Line of Duty

This Ranger Operating Procedure is dedicated to the memory of Ranger Jeff Christensen who lost his life on July 29, 2005 while patrolling the backcountry of Rocky Mountain National Park. His sacrifice will never be forgotten.



“If I ever die while at work in the mountains, do not cry for me because you will know that I died doing what I love”

Jeffrey Alan Christensen
1974 – 2005

I. PURPOSE & SCOPE

To establish policy and procedures for Ranger Division employees who are involved in backcountry travel and patrol operations within Rocky Mountain National Park (ROMO). This plan is intended to promote safe work practices and procedures that will enhance employee and visitor safety in the backcountry/wilderness. It provides an outline of employee duties and responsibilities when working in the backcountry and serves as a training guide and performance management tool for job requirements and expectations.

Contribute to NPS Strategic Plan and GPRA Initiatives on Visitor and Employee Safety.

- A. Mission Goal IIa2; Visitor Safety. Reduce the visitor safety incident rate by 10% by the year 2002 from the 1997 levels, by providing information to park users and employees on risks and hazards associated with recreational and work-related activities (preventive search and rescue.) Through education and awareness, promote a safety-conscious attitude and ethic.
- B. Mission Goal IVa6; Employee Safety. The NPS employee lost time injury rate will be at or below 4.49 per 200,000 labor hours worked. By maintaining a safe and healthful working environment and promoting safe work practices, the NPS helps prevent mishaps that result in employee injury and illness.

II. POLICY & AUTHORITY

The Chief Park Ranger has directed the development and implementation of this ROP. DO/RM-9 grants parks the authority to establish local procedures for specific resource protection operations.

III. BACKCOUNTRY DEFINED

The ROMO Backcountry/Wilderness Management Plan defines backcountry as all areas beyond 100 feet of developed sites (trailheads, parking lots, campgrounds, Hidden Valley sledding hill, and designated roads.) As applied to this ROP, however, the definition of backcountry is extended to one mile. In other words, one mile up the trail and one mile beyond developed areas.

The one mile definition allows employees to travel the short trails and walks that are frontcountry in nature (Lily Lake, Sprague Lake, Bear Lake, Lake Irene, Toll Memorial, Alluvial Fan, etc.) and to conduct routine business such as fishing license checks in easily accessed areas (Moraine Park, Horseshoe Park, Kawuneeche Valley, etc.) without filing a written travel plan. While no travel plan is required for these short distance excursions, the responsibility to communicate your plan or intentions to a supervisor or dispatch remain in effect

(refer to section VI on Tracking and Accountability of Employees; travel plans, tracking, and status checks.)

IV. PURPOSE OF BACKCOUNTRY TRAVEL & PATROL

Employees who travel and patrol the backcountry do so for a variety of reasons. Specific duties and responsibilities include general patrol of trails, crosscountry zones, and mountain peaks; public contact; enforcement of laws and regulations; visitor education with focus on Leave No Trace ethics, user safety and accident prevention; resource management projects; initial attack fire; wildlife management; search and rescue; and emergency medical services.

Today's ranger must exercise skill and initiative in a variety of disciplines. It is important that employees become intimately familiar with the park's backcountry so they may better inform and educate visitors regarding specific areas, recreational activities, and general hazards that are encountered. Conditions are constantly changing and must be monitored for reasons of resource protection and public safety. The degree of employee safety and effectiveness when responding to emergencies is often dependent upon their degree of familiarity with an area, peak or route.

Rangers are expected to skillfully and safely respond to many mountain search and rescue missions annually, often in the worst of conditions, darkness of night, and with a level of urgency necessary to protect human life. In the interest of employee safety it is critical that specialized backcountry skills (technical climbing, ski mountaineering, riding and packing stock, etc.) are maintained through frequent use and practice. It is also important that employees maintain a high level of fitness and acclimation to altitudes exceeding 14,000 feet. This comes only with regularly scheduled assignments in the backcountry.

V. SAFETY

A. Philosophy

- Employee and public safety is our primary concern.
- All programs and employee activities must reflect this commitment.
- The commitment to and accountability for safety is a joint responsibility of all employees, supervisors, managers, and administrators.
- Backcountry travel and patrol in a mountain environment is inherently risky. At all times, personnel shall strive to maximize their margin of safety and will practice the concepts of situational awareness and risk management.

- Supervisors and employees are responsible for following safe work practices and procedures, as well as identifying and reporting unsafe conditions.
- It shall be the responsibility, and right, of each employee to speak out when safety concerns are observed and identified. If an employee does not feel that he/she can perform a task safely, this concern should be communicated to a supervisor immediately.
- There is nothing we do that is so important or urgent to justify unsafe decisions or actions.

B. Situational Awareness & Risk Management

An important element of work in a backcountry, wilderness setting is self-reliance and personal preparedness. Accordingly, park personnel are expected to assume a high degree of responsibility for their own safety, commensurate with the nature of activities they undertake. While safe practices and procedures will be emphasized in all aspects of the backcountry/wilderness program, employees are ultimately responsible for their own safety.

A safe and successful backcountry trip is dependent upon good situational awareness and the ability to anticipate, detect and act upon problems encountered (risk management.) Discretion and judgment are key elements of this process.

1. Situational Awareness

Situational Awareness is the ability to identify, process, and comprehend the critical elements of information about what is happening around you. It is dependent upon the degree of accuracy by which one's perception of the current environment mirrors reality. When we lose situational awareness we increase the potential for human error mishaps.

Perception vs. Reality

- View of the situation
- Incoming information
- Expectations & biases
- Incoming information vs. expectations

Factors that reduce situational awareness (loss of situational awareness usually occurs over a period of time and will leave a trail of clues.) Be alert for the following:

- Confusion or gut feeling (listen to your inner voice!)
- Lack of attention to surroundings
- Departure from established policy or procedure
- Failure to meet objectives or plans
- Ambiguity
- Fixation or preoccupation
- Insufficient communication
- Fatigue or stress
- Task overload
- Task underload
- Group mindset
- “Press on regardless” philosophy
- Degrading conditions, such as weather

Pay attention to current and changing conditions. What is your physical and mental status? Are you properly clothed and equipped for your trip? Observe your surroundings. Watch your footing. Evaluate current and changing weather. Regularly communicate your status.

Good situational awareness requires constant attention and processing of all the objective and subjective information that surrounds you. Situational awareness is an essential element to managing risk.

2. Risk Management

Risk management is a process that begins with effective situational awareness. Risk management helps ensure that critical factors and risks associated with backcountry travel and activities are considered during the decision making process. This proactive process must precede action.

Risk management should include the following five steps:

- 1) Identify hazards (Steep snow slope ahead!)
- 2) Assess hazards (Is snow hard or soft? Does slope exceed my skill and ability? Is my footwear adequate? Is an ice axe necessary and available? Is there a safe run-out zone? Could an uncontrolled fall result in serious injury?)
- 3) Make decisions (Do benefits outweigh potential costs? Do the benefits of going down the slope outweigh those of finding an alternative route? Should I turn around?)

- 4) Implement controls (Are controls in place for identified hazards? Has the best route down the slope been identified? Do other reasonable routes exist? Is my safety equipment ready? Have I contacted dispatch and advised of my plan to cross a hazardous area? Have I asked for status checks until I've cleared the hazard?)
- 5) Evaluate (Reevaluate your decision. Still a good decision? Are conditions different than anticipated? Reassess. Change the plan if necessary!)

C. Accident/Injury Reporting

DOI employees are required to immediately report to their supervisor every job-related accident or incident. In the backcountry setting, this may require an initial brief report via radio with in-depth follow-up at a later time. Supervisors shall ensure that an appropriate level of investigation and follow-up is conducted for each incident.

VI. TRACKING & ACCOUNTABILITY OF EMPLOYEES

The purpose of tracking and accountability procedures are to ensure that employees traveling and working in the backcountry return safely. In the case of an unplanned event, early medical intervention and rescue will be initiated and accomplished without unnecessary delay.

A. Communications Equipment

Effective communications are a life-link. Employees traveling and working in the backcountry are required to carry a park radio with fully charged battery. A spare battery will also be carried (either a second fully charged battery or a clamshell with batteries that are in good working condition.)

When traveling in a group, all persons are strongly encouraged to carry their own radio. An unplanned event may force the group to split up; anyone traveling on their own is required to carry communications.

As part of trip planning, employees should be aware of radio coverage in the area they will be traveling. A park Radio Coverage Map should be consulted (refer to ROMO Intranet/help/phones & radio/radio sites). In areas where radio coverage is marginal or absent, a supervisor must be contacted in advance of the trip to discuss use and check-out of a satellite phone. Note: If a known, small area of marginal or absent radio coverage is entered, such as the Trough of Longs Peak, it is permissible to contact

dispatch and advise that you are entering a poor radio coverage area and request a status check within a reasonable amount of time. In other words, advise dispatch that you should be back within radio contact in thirty minutes. Dispatch will monitor your status and attempt re-contact if you have not called in again. This procedure is in lieu of carrying a satellite phone and is only permissible when passing through known, small areas of poor radio coverage. These areas must be discussed in advance with a supervisor.

While cell phones can be useful, they should not be considered reliable. Cell coverage in ROMO is highly influenced by the carrier, terrain, etc.

B. Reporting In and Out of Service

Law enforcement and backcountry non-commissioned rangers are required to contact dispatch when they begin a tour of duty (in-service) and when they end a tour of duty (out of service.) Other non-commissioned personnel may have different standard procedures in place that ensure notification of supervisors or co-workers of daily work status. Either way, it is critical that employees understand and follow their established work unit procedure.

When entering and leaving the backcountry, all division employees shall notify park dispatch. In addition to filing a Travel Plan (item C below) employees will notify dispatch when they leave the trailhead and when they return.

C. Backcountry Travel Plan

Before beginning a backcountry trip or patrol, submit a "Backcountry Travel Plan," form ROMO-7. A completed Travel Plan can be dropped off in person, faxed to extension 1310, or emailed to ROMO Dispatch. In the event of an unplanned emergency or investigative response, the filing of a travel plan is not necessary; however, affirmative and accurate communications with a supervisor or Incident Commander is required to relay pertinent information regarding your response into the backcountry.

The submission of a travel plan is required for all Ranger Division employees and volunteers who are traveling or working in the backcountry, whether solo or as part of a group. If traveling or working in a group of two or more, only one travel plan is required for the group. If persons within the group split up, a deviation to the travel plan must be reported to dispatch.

Upon completion of a backcountry trip, it is essential that employees close out their travel plan with dispatch. If you fail to do so, a time intensive and

costly search may ensue, perhaps placing other employees at risk! For a multi-day travel plan, employees must close out *each day* of their plan and start each new day by calling in to dispatch.

D. Deviation from Travel Plan

Employees are empowered to change their travel plan when deemed necessary. For example, the practice of situational awareness may identify an approaching thunderstorm. Good risk management might prompt a decision to deviate from a planned patrol and seek an immediate route that takes them below treeline to safer and less exposed terrain. This deviation must be reported.

All deviations to travel plans must be reported to park dispatch immediately.

E. Status Checks

1. Trailed areas

Unless specifically requested, dispatch will not conduct periodic status checks on employees who are traveling or working on a designated backcountry trail. However, it is the responsibility of the employee to proactively report their status during the course of a patrol or trip. For example, employees should contact dispatch and report their arrival at a destination and when returning to a trailhead.

2. Off trail – Group

A group is defined as two or more employees. When traveling off trail in a group, dispatch will not initiate status checks unless requested to do so. Employees still have the responsibility to periodically contact dispatch and provide their own status checks. While the frequency of status checks is left to the discretion of the employee, they should be mindful that any potential emergency response will be greatly facilitated by information that is provided through periodic contact with dispatch.

Status checks should be called in to dispatch at decision points (i.e. upon arriving at a saddle between two peaks, when arriving at a destination, when departing a destination, etc.) Supervisors will monitor employees to ensure that periodic status checks are being initiated with dispatch during off trail travels.

3. Off trail - solo

When traveling off trail solo, dispatch will initiate a tracking schedule that will include two hour status checks. These status checks begin when the employee *leaves* a designated trail or developed area and ends when the employee *returns* to a designated trail or developed area. During off trail solo travel, it is still useful for employees to *initiate* periodic status checks with dispatch. This will ease the workload in the Communications Center.

4. High risk areas & activities

Status checks should be requested any time an employee is entering a known or suspected high risk area. For example, if crossing a known or suspected avalanche slope, dispatch should be contacted and given information specific to the area, the hazard, and the frequency of status check requested. For example: "We will be crossing a possible avalanche slope between Chasm Junction and Chasm Meadow and are requesting fifteen minute status checks. We will re-contact once we've cleared the area."

Status checks should also be requested any time an employee is engaged in a solo high risk activity, such as chainsaw use.

5. Winter conditions

When winter travel conditions prevail (the designated summer trail is no longer easy to follow due to snow depth and/or terrain features, *or* when limited visibility interferes with easy navigation along a designated summer trail) then the travel procedures outlined above in number 3, *off trail - solo* will be followed. This applies to persons traveling alone or in a group.

A good rule of thumb for determining "winter travel conditions" is to ask the following question: If a mishap occurs, will a search party be able to follow the summer trail and *locate me with ease*, even if my tracks are obscured by fresh or blowing snow? If the answer is no or questionable, then winter travel conditions prevail and you should request two hours status checks, consistent with the procedures for *off-trail solo* travel. Winter travel conditions are based more on the ability or inability to follow and/or navigate a known, designated trail than they are on the time of year or presence of snow. Remember, status checks are done for the benefit of those who may come looking for you. Make their job as easy as possible...your life may depend on it.

6. Loss of contact with employee

If an employee fails to answer or initiate a status check, or fails to call out of service, the Communications Center will make three more attempts at five minute intervals to make contact. If no contact is made, a dispatcher will notify the shift supervisor, Sub-district Ranger, District Ranger, or Chief Ranger, in that order. Supervisory Ranger staff will be responsible for initiating appropriate action that is intended to locate and ensure the safety of any employee who is unaccounted for. The supervisor will gather all available information regarding the employee, their patrol route, plan, weather conditions, area hazards, and other known information that will assist in determining an appropriate reaction or response (i.e. search urgency). Efforts to contact the employee will continue. Keep in mind that the inability to contact an employee does not necessarily prompt an immediate or even delayed response. This procedure shifts such decisions from a dispatcher to a supervisor.

It must be recognized that actions will vary dependent upon totality of circumstances. What may be a reasonable course of action/response in one situation may differ in another. Good judgment, experience, and available information will guide decisions. This approach is consistent with the manner in which all backcountry overdue persons or parties are addressed in the Park.

The District Ranger or appropriate work unit manager will ensure that all such incidents are reviewed.

7. Communications equipment failure

In the event of known communication equipment failure while in the backcountry, the employee has the responsibility to recognize that search efforts may follow and will attempt to intervene by exiting the backcountry as soon as possible or by locating another unit with good communication equipment (trail crew, etc.). Exiting the backcountry is preferred unless the exact location of the other unit is known and can be reached in a timely manner.

8. The employee's supervisor and division chief will be notified each time efforts are initiated to follow up on employees who fail to respond to status checks or fail to check out of service. In such events, dispatch is required to notify the supervisor and division chief.

VII. EQUIPMENT REQUIREMENTS & EXPECTATIONS

For backcountry travel and work, supervisors will ensure that a hazard assessment has been completed and reviewed with employees, and personal protective equipment (PPE) needs have been identified and addressed. OSHA standards 1910.132(a) and 1926.28(a) address the responsibility to provide employees with PPE, to the extent possible. Where PPE is not issued to an employee, it may be made available through centralized caches. It must be noted that not all specialized equipment can be provided by the park. For example, rock climbing shoes are a specialized personal item that is provided by the employee.

Employees who utilize their own equipment or PPE must receive supervisory approval beforehand. This complies with OSHA standard 1910.132(b) that requires an employer to ensure the adequacy and proper maintenance of PPE not provided. Such equipment must comply with general industry standards. The supervisor is required to review equipment items, determine suitability for work, and then monitor equipment to ensure ongoing serviceability. This review and pre-use approval of personal equipment shall be documented on ROMO form 21.344 and maintained by the supervisor in the employee's file. For Volunteers, refer to DO #7, Volunteer in Parks Program, section 8.3

Periodic audits to review and evaluate compliance with equipment requirements and expectations will be conducted and documented by supervisors and work leaders.

Every backcountry patrol will require different equipment depending on a variety of factors (time of year, current and predicted weather, location, purpose and length of patrol, etc.) When preparing for a patrol consider what may be needed to ensure your personal safety. Anticipate unplanned events; you may be required to change your plans and respond to an emergency elsewhere, possibly requiring a night out. You may also be asked to care for another person. While there is no expectation to carry "the kitchen sink", your equipment should reflect your ability to survive an unplanned night out in unexpected conditions.

The concept of *speed is safety* is a common and well-understood tenet to safe travel in the mountains. In other words the ability to travel fast and efficient, when necessary, often equates to safety. Consider the rapidly approaching thunderstorm that has been hidden from view behind the peaks. Your ability to rapidly "bail" and move to safer terrain is highly dependent upon changing gears and traveling fast. The amount you carry (weight and bulk) will impact your ability to safely do so. Experience is your best guide to striking this balance. Rely upon supervisors and more experienced coworkers to help develop what is right for you.

Adequate personal preparedness is highly dependent upon time of year, current and predicted weather, area and route of travel, nature of patrol, skills and

experience, and other factors that must be considered on a case by case basis. It is critical, and mandatory, that each employee give careful consideration to planning and preparation for each backcountry trip. A guiding philosophy to employee personal preparedness is this: *When on duty and traveling in the backcountry you must be prepared to ensure your personal safety and survival for up to twenty four hours. You may not always be comfortable but you will survive.* You may be redirected from a planned trip and asked to participate in emergency operations. This may require that you assist in caring not only for yourself, but for someone else (an injured or ill person.) What you plan for and carry during a recreational outing conducted on personal time is different than what may be expected of you when on duty. As an employee you are expected to provide emergency services and public safety...and do so professionally.

The most important essential of personal preparedness is *common sense!* Having the right gear is one thing, knowing how and when to use it is quite another. Most often, it's not a person's equipment that saves their bacon. It's experience, know-how, and good judgment.

A. Mandatory Equipment Requirements

The following requirements apply to all backcountry travel and patrol:

1. Park radio with fully charged battery
2. Spare radio battery, fully charged, or clamshell with fresh batteries
3. If traveling into an area with known radio dead spots (refer to radio coverage maps) an alternative form of communication such as a satellite phone should be carried; consult your supervisor.
4. Adequate clothing to provide protection from current and predicted weather (obtain a reliable forecast.) Consider the combined influence of temperature, wind, precipitation, sun, terrain, snow pack, altitude, etc. What happens if your socks get wet?

Equipment should include: Protective outer layer such as a Gore-tex® parka and pants. Layered clothing adequate for heat or cold. This may require a hat for sun protection or a stocking cap and balaclava for cold temperatures. Gloves and wicking socks should be considered appropriate anytime of year.

Consider an item of high visibility clothing that can be worn when traveling off-trail.

5. Food/snacks sufficient to sustain energy for twenty four hours (energy bars, nuts, etc.)

6. Water and/or other liquid for hydration. Consider the need for water purifying capability.
7. Navigation. Depending upon area familiarity, the patrol route and weather, consider map and compass and GPS.
8. Signaling device such as a signal mirror, smoke, space blanket, etc.
9. Ability to kindle a fire (lighter or matches, fire starter.)
10. Headlamp with spare batteries
11. First aid kit (refer to EMS plan for requirements) and any personal medication needs
12. Cutting device (scissors or knife)
13. Protection from the elements (sunglasses or goggles, sunscreen, insect repellent, etc.)
14. Depending upon patrol route and weather, consider the need for bivouac gear to survive an unexpected night out. This might include space blanket, tarp, bivy bag, etc.

B. Helmets

1. 5th Class Terrain and Technical Rope Use

Employees shall wear UIAA approved climbing helmets during all patrols or operations where they utilize a static or dynamic climbing rope as any form of life line. Helmets are only required during the roped portion of the patrol or operation (see other considerations below.) Additionally, helmets are required on any climbs designated as 5th class or, in the case of mixed and ice climbs, are designated as AI 2, WI 2, or M2 and above by Bernard Gillett's *Climber's Guide to Rocky Mountain National Park* for both *The High Peaks* and *The Estes Valley* (both copyright 2001). This policy applies within Rocky Mountain National Park and during any operations outside the park during which the employee is acting as a representative of the National Park Service.

2. Other Considerations for Helmet Use

Regardless of whether the terrain or activities fall into the categories listed above, employees should consider the use of a UIAA approved helmets if the following hazards exist:

- If there is a high probability of objects shifting, falling, or rolling from terrain above.
- If there is a fall potential of 2 or more times the employee's height.
- In areas of loose, wet, or icy footing where a slip could result in a long tumbling fall.

Employees should use good judgment in determining whether the objective hazards within the areas in which they are traveling or working warrant the use of a helmet. As mentioned earlier, helmets are required in situations that fall within the first paragraph of this document. Otherwise helmet use is at the employee's discretion but supervisors should maintain an open dialogue on this topic and ensure that employees can justify and articulate their helmet use decisions.

3. Helmet Availability and Replacement

The park will provide UIAA approved climbing helmets to any visitor protection employees who might encounter the aforementioned hazards and/or situations during the course of their employment. Helmets will be inspected after each use and will be replaced if either of the following conditions exists.

- Cracks in the helmet's shell
- Damage to the helmet's suspension system (tears in the webbing or disconnection at its attachment points)

Employees may utilize their own UIAA approved climbing helmets provided that supervisors approve the use of personal equipment and check the equipment for its suitability and safety.

C. Footwear

Backcountry travel will require different footwear according to the type of patrol and terrain to be traveled. Refer to JHA on footwear for equipment requirements.

D. Equipment considerations for specific patrols

1. Ski and/or Snowshoe

In addition to the above mentioned mandatory equipment requirements the following items should be considered when conducting a ski patrol:

- Backcountry skis or snowshoes, boots, poles
- Ski skins
- Helmet (optional for backcountry ski trips)
- Avalanche beacon (mandatory when traveling in avalanche terrain)
- Avalanche shovel (mandatory when traveling in avalanche terrain)
- Probe poles (mandatory when traveling in avalanche terrain)
- Ski or snowshoe repair kit

2. Technical Climbing

In addition to the above mentioned mandatory equipment requirements, the following items should be considered when conducting climbing patrols (refer to JHA.)

- A helmet is required for all climbing patrols
- Climbing shoes and harness
- Rope and hardware necessary for the climb
- Other items (crampons, ice tools, etc.) specific to the route.

3. Horse Patrol

In addition to the above mentioned mandatory equipment requirements the following items should be considered when conducting horse patrol:

- Riding helmet
- Lead rope
- Field expedient spare halter
- Stock first aid kit
- Hoof pick
- Fly spray
- Cutting tool
- Hobbles (especially useful on overnight trips)
- Stock feed if traveling overnight

4. Snowmobile Patrol

In addition to the above mentioned mandatory equipment requirements the following items should be considered when conducting snowmobile patrol:

- Alternative over-snow transportation such as snowshoes and poles
- Avalanche beacon, shovel, probe poles
- Snow bungees
- Pac boots or other cold weather footwear
- Gauntlets
- Snowmobile helmet and balaclava (helmet is mandatory)

5. Multi-day Patrol

In addition to the above mentioned mandatory equipment requirements the following items should be considered when conducting multi-day overnight patrols:

- Sleeping bag, pad, bivy sack
- Tent or tarp
- Lightweight backpacking stove and fuel
- Extra food
- Extra clothing layers
- Personal hygiene items, toiletries, medications

APPENDIX A

TRAINING

Annual backcountry/wilderness training is required for employees who are assigned backcountry duties. The following agenda identifies training topics that are addressed. Additional subjects that cover current program needs and objectives may be added on a case by case basis.

A. TRAINING OBJECTIVES:

Upon completion of this training, rangers will:

- Have an understanding and compliance with the park's Ranger Operations Procedure (ROP), safety procedures and expectations while traveling or working in the backcountry.
- Have a basic understanding of the park's Backcountry/Wilderness Management Plan and be able to articulate this information to the public.
- Understand the common hazards associated with work in the backcountry.
- Understand the philosophy and principles of situational awareness. Be able to apply situational awareness to hazard assessment and risk management.
- Understand and comply with expectations and safety procedures on backcountry patrol. This includes personal preparedness, equipment requirements, travel requirements, and communications.
- Understand the backcountry permit system.
- Have an understanding and working knowledge of backcountry projects and tasks that are required of employees while on patrol
- Have an understanding and working knowledge of land navigation and the use of map, compass and GPS
- Be able to complete Backcountry Campsite Impact and Assessment and Monitoring System (BCIAMS)
- Understand, practice and demonstrate Leave No Trace ethics and principles

B. TRAINING TOPICS, WITH DESCRIPTION:

1. Wilderness Act of 1964

Refer to Wilderness Act

2. NPS Wilderness Management Policies

Refer to NPS Management Policies, 2001; Chapter 6

3. ROMO Backcountry/Wilderness Management Plan

Refer to subject document

4. Status of ROMO Wilderness: Designated, Recommended, Potential & why we care

5. Purpose and Objectives of Backcountry Patrol

Backcountry patrols are conducted for a variety of public safety and resource protection objectives. These include: visitor education; enforcement of rules, regulations and laws; safety education and prevention of search and rescue incidents; emergency response; trail maintenance and rehabilitation; campsite maintenance and rehabilitation; permit compliance; familiarity with backcountry areas and routes; maintaining fitness and acclimation to altitudes (necessary for safe work performance); condition assessments, resource monitoring and protection; wildlife and fisheries management; human waste management and facility maintenance; cabin and ranger camp maintenance.

6. Visitor Contact

While conducting backcountry patrols, rangers should attempt to make verbal contact with most persons and parties encountered on the trail and in campsites. The primary objective of these contacts should be to provide information, education and prevention of accidents, injuries, and violations. Ask visitors about their experience. Are they satisfied with backcountry signs and trails? Are they aware of the weather forecast? Do they find the trails too crowded? Is their campsite adequate? Do they understand our rules and regulations? Spend time interacting with our customers.

If fishing gear is readily visible, licenses should be checked (by law enforcement rangers) and fishing information given. The use of creel census cards provides a useful tool for initiating a friendly angler contact.

If overnight gear is evident, request to see their backcountry permit. Compliance with numbers in the party should be checked. If climbing gear is visible check where they are headed and ask questions about possible bivouac plans. Horse groups should maintain good control of their stock and should only be camping overnight in established stock sites. Be familiar with all of the regulations of the backcountry permit system. Non-commissioned rangers must exercise sound discretion and judgment when contacting visitors in these situations. Such

contacts will be addressed in depth during backcountry training. Under no circumstances should non-commissioned personnel attempt to enforce rules and regulations.

If violations are observed, ranger discretion is to be used just as in frontcountry contacts and situations.

7. Trail Maintenance

The park trail crew has primary responsibility for maintaining trails. However, you can do a great deal to assist with this important task. Water from spring run-off and summer storms can be particularly damaging to trails in a very short period of time. Pay attention to water bars and take the time to correct problems that are easy to resolve. Consider carrying a shovel during early season patrols and after storms to clean out water bars (shovels are also useful for reposting signs and cleaning designated and illegal fire rings.) Be sure to place sand, gravel, and other debris from clogged water bars back on the trail tread, below the water diversion. Major repair needs and problems should be reported to your supervisor and to the trail crew that may be working in the area.

In addition to water bar maintenance, rangers should have the ability to remove small trees and logs that fall across trails. Minimum tool requirements should be utilized. Very large trees should be reported to the trail crew working in the area. In the spring and early summer seasons, the designated trail should be marked through the snow with orange wands to prevent trail braiding and resource damage when soils and plants are wet and most easily impacted. To facilitate melt-out of the designated trail, use your shovel to spread a little dirt or gravel on the snow. Pay attention to trail braids and short cuts that may be developing. A little work with rock and/or woody debris may prevent continued use and resource impacts.

8. Litter

Be prepared to pick up litter and pack it out. Gloves are useful and small trash bags are essential. Litter is most commonly observed in the first several miles beyond the trailhead and in and around campsites. It may be useful to tie a small trash bag to your pack's waist strap and collect litter as you go; visitors will notice and appreciate your efforts. Spend time in and around campsites where trash accumulates. In designated fire grates sort through ash for foil, twist ties and other items of non-combustible trash. Pay attention to evidence of toilet paper; there may be a human waste issue to evaluate and mitigate.

9. Campsite maintenance

Rangers should visit all backcountry campsites along a patrol route. When leaving the trail, check for signing that directs users to campsites; is it adequate? Is it in good condition? Is the access trail to the campsite easily defined and followed? If not, are red arrowheads in place to direct users to the site(s)? How does the site present? Is it free of trash and camp furniture? If designated for fires, is the fire ring in good condition and clean? Are the ashes cool to the touch and safe? If the fire grate needs cleaning, evaluate the benefit of spreading ash through the surrounding area or scattering in a fast moving stream. Is the site dry or is water pooling in the tent pad? If a food storage device is present, is it in good condition? If this is a stock site, is the hitch rack in good, safe condition? Is this a campsite that you would enjoy using? If not, take action(s) to improve it or report it. Don't forget to walk around the perimeter of the site to look for evidence of trash, illegal fire rings, and human waste.

Tent Pads: The need for tent pads will be evaluated at each campsite. Tent pads are not always needed in every site. If tent pads are needed it may be necessary to harden the site to prevent site spread. Each site should be able to accommodate three tents of average size. Group sites need to be able to accommodate a party of up to twelve individuals. This may mean constructing six to seven tent pads. Tent pad size for individual sites need to accommodate a limit of seven individuals with up to three pads, each pad being approximately 8'X10'. Tent pad size for group sites need to accommodate a limit of twelve individuals with up to seven pads, each pad being approximately 9'X10'. (See ROMO Wilderness Management Plan for further details)

10. Signing

Take pride in your patrol area by ensuring that backcountry signs look sharp and adequately convey information to visitors. Signs should be plumb and straight. Check that posts are firmly in the ground. If they need to be reposted be prepared to return with a Sven saw, hatchet, shovel, and wrench to cut and place a new post (to established standards.) Check that information on signs is accurate, adequate and in compliance with backcountry sign standards. Watch visitors at trail junctions to see if signs are confusing. Requests for new or replacement signs should be routed through your supervisor to the backcountry sign shop.

11. Human Waste Management

Human waste management is a challenging issue in a backcountry/wilderness area that receives significant use. A balance must be struck between minimizing structures and facilities with the need to protect water quality and an aesthetic experience for users. It is preferable, but not always possible, to encourage users to practice Leave No Trace techniques for human waste. In areas of concentrated and heavy use, some type of facility is likely necessary. As a general rule, a pit toilet is needed at a group site or in camping areas that experience more than two hundred camper nights per month.

Currently there are numerous types of privies found throughout the backcountry of ROMO. It is the goal of the Park to work toward uniformity of backcountry human waste facilities, with a minimum requirement approach. This includes replacing existing structures with privies that are of standardized construction. Depending on privacy needs evaluated at each site, privies may take advantage of natural screening such as boulders or trees, or utilize screening that is constructed of posts and slats.

When relocating a privy many factors need to be taken into account. These include distance to trails and water sources, depth of the water table in the area of construction, predominant wind direction and visitor travel through the proposed area of construction. When an existing privy needs to be closed and relocated a Backcountry Project Proposal (ROMO 168) must be completed and submitted to the Wilderness Coordinator prior to new construction. Generally, the park wilderness crew will take care of construction and relocation.

It is the responsibility of rangers on backcountry patrol to stop at each privy and check for cleanliness. As a rule, do not pass by a privy without taking the time to clean it. Each facility should have a brush, a gallon bottle/bucket, and “green” cleanser to facilitate this task. If these items are absent, it is your responsibility to ensure that the next patrol is aware of the need. Details on cleaning standards and methods will be reviewed during backcountry training. Visitors are responsible for providing their own paper.

12. Hazard trees

Refer to the Hazardous Tree Management section of the ROMO Wilderness Management Plan.

13. Fire rings

Eradicate any illegal campfire rings and campfire remains you may find. Scatter the scarred rocks and disperse the coals (after checking that they are cold!) Be sure to remove all trash from the ashes before they are scattered. Rehabilitation of the site is critical so that others do not continue to build illegal fires in the same location. Your goal is to leave no visible evidence that a fire was ever there!

14. Impact mitigation/restoration is accomplished by:

- Using rocks and other debris to discourage use
- Re-vegetation
- Soil scarification
- Naturalizing an area (duff, brush, etc.)
- Barriers
- Restoration signs and closures

15. Law enforcement/officer safety in the backcountry setting

As always, employee/officer safety is paramount in all activities. Law enforcement rangers receive significant training regarding safe contact with violators. LE training at ROMO will include scenarios that address common backcountry violations and encounters, including the presence of weapons and other threats. Issues such as traveling and working alone without readily available back-up will also be discussed.

16. Visitor contacts; violator encounters for the non-LE employee

During annual backcountry training, violator contacts will be addressed for both law enforcement and non-commissioned staff. Scenarios will be utilized to highlight potential hazards. Techniques that will help employees identify “situations that shout watch out” will be presented, along with recommended courses of action.

ONLY law enforcement personnel should be enforcing rules and regulations!

17. Environmental hazards

- Weather
 - Cold
 - Heat/sun
 - Rapidly changing weather in the mountains

Clouds and visibility
Wind
Lightning

- Terrain

Footwear
Tripping hazards
Brush
Exposure and cliffs
Technical terrain

- Snow travel

Footwear
Slopes (slipping and sliding)
Avalanche
Tools (ice axe, crampons)
Snow bridges
Daily and hourly changes in snow pack

- Wildlife & other critters

Bear
Mountain Lion
Raptors (i.e. goshawk)
Ticks
Rodents (plague and hanta virus)

- Other

18. Situational awareness, hazard assessment and risk management

Refer to ROMO Safety Program handout.

Training will define situational awareness and the human factors that influence good decision making. The ROMO “Fundamental Safety Beliefs” will be reinforced. Common scenarios encountered during backcountry patrols will be utilized to highlight the “process” of maintaining situational awareness and practicing risk management. Scenarios will include the following:

- Hiking above treeline with approaching thunderstorm
- Traveling on snow
- Encountering class 4 or 5 terrain
- Stream crossings

- Use of tools
- Other

19. Travel plans & status checks (i.e. flight plans and flight following)

Refer to ROP

20. Equipment requirements and expectations

Refer to ROP

21. Personal Preparedness & Survival

Refer to ROP and MRA handout

22. Communications equipment and use

Refer to ROP and Radio Coverage Map

23. Backcountry permit system and backcountry office procedures

To be developed

24. Map, compass and GPS. Introduction to land navigation

To be developed

25. BCIAMS

To be developed

26. Use of Backcountry Patrol Cabins and Ranger Camps (refer to Office Order #23, ROMO Intranet.)

27. Stock use for backcountry patrol

Refer to ROP and ROMO Barn training standards/program

28. Special patrols such as climbing

Refer to JHA (to be developed)

29. Tool maintenance and safety

To be developed (refer to Trail Crew program)

30. Food storage issues and methods

To be developed

31. Wildlife encounters (bear, cougar, goshawk, etc.)

Refer to JHA, park publications, and “ROMO Wildlife Procedures” version 2002

32. Concession operations, IBP’s, researchers

- Guiding
- Permit requirements
- Liveries and stock use

33. Exotics and weed free hay regulations

34. Leave No Trace Ethics and Principles

Public education is one of the primary duties of a backcountry patrol ranger. Every ranger should be knowledgeable in Leave No Trace principles and should be able to discuss these principles with the general public. Don’t forget to walk the walk!

The seven principles include:

1. PLAN AHEAD AND PREPARE

- It is your responsibility to know and follow the regulations of Rocky Mountain National Park.
- Be physically and mentally prepared for your trip.
- Know the ability of every member of your group.
- Be informed of current weather conditions.
- Know and accept risks associated with backcountry travel.
- Take responsibility for yourself and your group.
- Always leave an itinerary with someone at home.
- Choose proper equipment and clothing.
- Plan your meals and repackage food into reusable containers.

2. TRAVEL AND CAMP ON DURABLE SURFACES

While traveling:

- Stay on designated trails and hike single file.
- Never cut switchbacks

- When traveling cross-country, choose the most durable surfaces available: rock, gravel, dry grasses or snow. Spread out so that you don't grind a path where one didn't exist before.
- When stopping to rest, be careful not to crush vegetation. Sit on rocks, logs, or in clearings.

At camp:

- Be mindful where you pitch your tent. Use the tent pad at the campsite and camp only in the area indicated on your permit.
- Restrict activities to the area where vegetation is compacted or absent.

3. PROPERLY DISPOSE OF WASTE

- Use pit toilets where provided.
- If there is not a pit toilet nearby, urinate and defecate at least 200 feet (70 adult paces) from water, camp, or trails.
- Urinate in rocky places that won't be damaged by wildlife who dig for salts and minerals found in urine.
- Deposit human waste in cat holes dug 6-8 inches deep. Cover and disguise the cat hole when finished or pack out solid waste.
- Use toilet paper sparingly and pack it out along with sanitary napkins and tampons in an airtight container. Consider using natural toilet paper such as a smooth rock, pinecone or leaves.
- Wash dishes and yourself at least 200 feet (70 adult paces) from water sources, and use small amounts, if any, of biodegradable soap.
- Strain food scraps from wash water and pack out.
- Pack everything you bring into the backcountry back out.
- Inspect your campsite for trash and evidence of your stay.
- Pack out all trash-yours and others.

4. LEAVE WHAT YOU FIND

- Treat our natural heritage with respect. Leave all plants, rocks and historical artifacts as you find them.
- Don't build structures or dig trenches.
- Let nature's sounds prevail. Speak softly and avoid making loud noises. Allow for others to enjoy the peace and solitude of being in the backcountry.

5. MINIMIZE CAMPFIRE IMPACTS

- Campfires are prohibited in the Rocky Mountain National Park wilderness except at certain designated campsites where metal fire rings are provided.
- Campfires can cause lasting impacts to the backcountry. Always use a lightweight, portable stove for cooking.
- Enjoy the sounds and wonders of the darkness or use a candle instead of a fire.
- Where fires are permitted, use the metal fire grate. Don't scar large rocks by using them to enlarge the fire area.
- Where fires are permitted gather dead and down sticks from a wide area.
- Scatter unused wood.
- Do not snap branches off live, dead, or downed trees.
- Put out campfires completely.
- Scatter the cold ashes after removing any trash over a large area well away from camp.

6. RESPECT WILDLIFE

- Always enjoy wildlife at a distance.
- Never feed any wildlife including birds and small animals.
- Protect wildlife by hanging food or utilizing storage containers provided at designated campsites.
- Minimize noise
- Avoid sensitive habitats.

7. BE CONSIDERATE OF OTHER VISITORS

- Visit the backcountry in small parties whenever possible.
- Avoid popular areas during times of high use.
- Avoid conflicts.
- Minimize noise.
- Keep a low profile.
- Take breaks and rest off of the trail on durable surfaces.
- Yield to horse traffic.

For additional training aids refer to:

- Handbooks on Situational Awareness & General Backcountry Safety. Available through the Mountain Rescue Association (MRA) website.
- Wilderness Ranger Field Guide, a publication by the Arthur Carhart National Wilderness Training Center.

Approved _____ Date _____

Mark Magnuson
Chief Ranger