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Member of the Mountain Rescue Association

The *Corvallis Mountain Rescue Newsletter* is published monthly
to keep friends and members of the Unit informed of our activities.
Editor: Bob Freund

August 5	7:00 pm	UNIT MEETING Truck Work Party
August 16	TBA	UNIT CLIMB Three-Fingered Jack
August 20	7:00pm	TRAINING SESSION Tracking and Crime sceen Awareness
August 25	7:00pm	EXECUTIVE COMMITTEE MEETING
August 28	7:00pm	OMRC Meeting --- Salem
August 28	7:00pm	UNIT MEETING Training: Glacier Travel and Mountain Terminology
September 17	7:00pm	TRAINING SESSION Self Rescue
September 20/21	TBA	FIELD TRAINING Ice Practice on Eliot Glacier, Mt. Hood
September 29	7:00pm	EXECUTIVE COMMITTEE MEETING

MISSION REPORT 97-04: Injured Hiker, Olallie Butte, Marion County
Member-hours: 7.5
At about 1600 on Tuesday, July 23, 1997, a 33 year old male fell on a snowfield near the top of Olallie Butte suffering a fractured tibia and fibula. One of his companions hiked out and went to Olallie Lake to report the accident and a radio-telephone call was placed to the PSAP at Stayton. Detroit Ambulance was dispatched with a crew of five with the intention of affecting an evacuation. Thinking they had a patient with only a sprained ankle, they took minimal equipment the two miles to the patient. Rechargeable flashlights they carried went dark after about an hour. With help from the patient's companions, they managed to carry the patient below snowline (~6000 ft) in the dark before stopping for the remainder of the night.

When the ambulance crew had not reported for several hours, the Marion

County Sheriff's Office was alerted and a deputy located the ambulance but there was no sign of the crew. One member of the ambulance crew was diabetic and in questionable physical condition to participate in a ground evacuation. Marion County SAR was activated at 0144. While ESAR Post 18 and Posse were approaching the trailhead (about 0600), they asked that ground crews, including CMRU, to be put on stand-by. After arriving on scene about 0800, an assessment was made that the patient was not capable of being transported on horseback and that in the patient's interest a helicopter evacuation by hoist would be best. When it appeared a helicopter would be used, ground units on stand-by were released.

For the next several hours, they waited with the patient while each of the three military helicopter units in the state considered and then declined the mission. At noon, the on-scene coordinator decided to begin a ground evacuation. Ground teams were again called, but with mountain rescue teams from Portland, Corvallis, Eugene, and Linn County ESAR all reporting arrival times of more than three hours, it was decided to use just the personnel already on scene for the evacuation. Our participation in the mission was terminated.

UNIT CLIMB -- rock gear
Three-Fingered Jack is waiting for us - a rock climb - yeah! Bring your personal climbing gear, helmet and a day pack -- day parking permit too. We will meet at the PCT trailhead at 0700. It is estimated to be a 6-8 hr. climb to the summit, including a 6 mile approach hike.

DROP TEST - stressed
July's field practice consisted of a series of structured drop tests at the new drop tower located in Lebanon. This was our first opportunity really test our Tandem-Prusik Belay System under controlled, repeatable conditions with a known "standard" load. The tower is a bit over 7 meters (25 feet) high made with wooden power pole uprights and a wooden cross piece about 3 meters (10 feet) long and about 30 cm (1 foot) in diameter. Around the cross piece, there are three cables which form lifting and main anchors. There is also a loop of cable anchored in the ground directly beneath the center of the cross piece (not optimum placement; but hey, we got what we paid for!). The load is made by stacking sections of railroad rail (about 2 feet long) which measure about 30 Kilograms each.

This series of tests was set up to simulate a stopped load with Prusiks set -- as one might encounter "at the edge." The load was lifted until 3 meters of line were between the load and the Prusiks -- the Prusiks were then set. The load was then lifted 1 additional meter and dropped. Future tests will examine other scenarios. Since any of the equipment associated with a "drop" must be considered no longer suitable for rescue use, running many iterations can become quite expensive. We elected to run three drops before changing a variable. Following the drop, the Prusiks were disconnected from the main anchor and were labeled and set aside for further examination.

Test #	Load (Kg)	Description of Unit Under Test	Runout Distance
1	210	Tandem Prusiks: 8mm material used 1 year. Dry	9.75 in (25 cm)

2	210	Tandem Prusiks: 8mm material used 1 year. Dry	14.75 in (37 cm)
3	210	Tandem Prusiks: 8mm material used 1 year. Dry	9.75 in (25 cm)
4	210	Tandem Prusiks: 8mm material used 1 year. Wet	22 in (56 cm)
5	210	Tandem Prusiks: 8mm material used 1 year. Wet	18 in (46 cm)
6	210	Tandem Prusiks: 8mm material used 1 year. Wet	14 in (36 cm)
7	210	Tandem Prusiks: 8mm new material. Dry	7 in (18 cm)
8	210	Tandem Prusiks: 8mm new material. Dry	7.6 in (19 cm)
9	210	Tandem Prusiks: new material. Wet	14.25 in (36 cm)
10	210	Dog-n-Tails: 8mm material used 1 year. Dry	12.6 in (32 cm)
11	210	Dog-n-Tails: 8mm new material. Dry	6.9 in (17 cm)
12	300	Tandem Prusiks: 8mm material used 1 year. Dry *	50.25 in (128 cm)
13	300	Tandem Prusiks: 8mm material used 1 year. Dry *	62.5 in (159 cm)
14	300	Tandem Prusiks: 8mm new material. Dry *	49.5 in (126 cm)

* denotes partial or complete failure of Unit Under Test

Qualitatively, using a 200 Kg mass (simulating a loaded litter and one attendant) the Tandem-Prusik Belay System worked very well -- on dry or wet rope, with old or new Prusik material. Runout (distance the belay line ran until it stopped) varied from 7 - 22 inches. However, using a 300 Kg mass (to simulate two litter attendants) was another matter. The 8mm material of the shorter Prusik essentially failed in all three drops and the load was stopped by only the longer Prusik in two drops using old Prusiks. Both Prusiks failed in the third test using new Prusik material! It appears new Prusik material "grabs" quicker, resulting in shorter runout and a greater force. We also drop tested the Dog-N-Tails and it held -- here too the newer material resulted in shorter runout.

In addition, the tests gave us the opportunity to see how the "Double

Loop" or "Rescue" Bowline knot performed under a severe load. In each case, about 5cm (2 inches) of extension was noted when the knot was loaded, but only about 1-2 cm more extension was caused by the shock load of the 0.33 fall factor drop. Even after the fall, the knot could still be untied without difficulty.

PAGING THROUGH THE INTERNET -- only keystrokes away

If you have access to the Internet and a CMRU Call List, you can page CMRU personnel without needing special paging software. By going to the AT&T Wireless Services Home Page, you will have access to a "Send Page" button. Following the instructions, you can send a page to anyone in the Unit (or any other AT&T pager) for which you may have the pager number. To reach AT&T's Home Page, enter: http://www.attws.com and sit back! Remember, CMRU pagers are limited to 230 characters per page so don't be too verbose.

UTM COORDINATE SYSTEM -- part 2

In part 1 of this series, the basis of the UTM grid system was described. In part 2, we will use the UTM system to describe a location on a typical topographic map. Now that the entire state of Oregon has been mapped with 7 minute series topo maps with a UTM overlay, what follows will be based on the use of those maps.

The UTM overlay is typically printed in black with lines running roughly North/South and East/West. The North/South grid lines do not exactly match True North as described in text or shown with the North arrows in the map's legend. Grid North (GN) is usually within a degree or two of True North.

The black UTM grid lines show a spacing of 1000 meters (1 kilometer) and are numbered. Along the right and left edges of the map, the lines typically show a four-digit number. This is the distance, in kilometers, from the equator (North, in our case). Along the top and bottom the lines are typically numbered with a three-digit number. (Remember, the numbers increase from the West edge of the zone, but do not start with zero!) In the Northwest and Southeast corners of the map, the grid lines are typically shown with a six or seven digit number (zeros added) indicating distance in meters. Since the map scale for the 7 minute series is 1:24,000 each kilometer on the ground is represented on the map as (1 to 24,000 = 4.1667 x 10-5 km) or 4.1667 cm.

Using a grid reading device, a square 4.2 cm on edge, with each edge divided into ten segments, one can interpolate distance to about 10 meters. The device which CMRU uses is a laminated grid of 100 squares (11 lines x 11 lines) which are numbered with the origin (0,0) at the bottom left. There is a small hole at the origin. The device is used by placing the origin in the Southwest corner of the UTM grid square and aligning the edges with the UTM lines. The distance between lines in the device represents a distance of 100 meters. It is fairly easy to "guesstimate" to within 1/10 of the distance between lines of the device -- that would represent a distance of (100m x 0.1) or 10 meters. Grid reading devices are included in each radio chest pack the Unit owns. Some compasses have a scale scribed on

their baseplate which can also be used.

To create a position description, measure east from the UTM gridline just west of the position (let's say the grid line is 534). If the location is between the fifth and sixth lines of the grid reader, the next digit of the easting component would be 5. (If it were between the second and third, it would be 2 and so on.) If it were three-quarters of the way from line five to six, the next digit would be 7 or 8 (depending on how you round-off 3/4). So the easting component would be: 53457 or 53458 (depending on which digit you chose). The northing component is measured north from the UTM grid line just south of the position (let's say the grid line is 4982). If the location is between the seventh and eighth lines on the grid reading device, the next digit of the northing component would be 7. If the location were one third of the way from line seven to eight, the next digit would be 3, and the full northing component would be: 498273. The full position description is the zone description, the easting component and the northing component. In this case it would be: 10 T 53457 498273. Some people put a zero in front of the easting component so there are the same number of digits in both components. Understand that this position description describes a location to 10 meter accuracy while a GPS receiver will usually provide another digit -- reading to 1 meter. The accuracy of that additional digit is a matter of discussion.

In the final part of this series, we'll explore how to use the Grid Reader to plot a location on the map if you are given its UTM coordinates. (For those who can't wait until next month, a hint: rotate the grid reading device 180 degrees so the hole is now in the upper right corner.)

ICE PRACTICE
This year, the Ice Practice will focus on glacier travel. On Saturday we will cover roped-travel, routefinding, belay systems, self-arrest, crampon techniques, avalanche awareness and, if time permits, self-rescue and edge problems. On Sunday we hope to retest. Meeting time and place will be arranged later.

SLEEP AND DRIVING -- check this out By Joy Linn
A couple of recent articles in the newsletter had CMRU members describing their long climbing treks. By getting up at 0400, the 24 hour day was started sleep deprived. Then hours of driving, a mountain was climbed, much scenery was enjoyed, a mountain was descended, and several hours of driving closed out a 24 hour marathon. Something about this disturbed me (safety conscious as I am) and then the news provided what I needed to write a short article.

The July 27th Corvallis Gazette-Times contained an article from the Knight-Ridder Tribune News Service. "Sleep deprivation may impair a person's ability to think and act just as much as alcohol intoxication does, say scientists at the Center for Sleep Research at the University of South Australia. ... The results [of their study] shows that when participants were awake for 17 hours, their hand-eye coordination was equivalent to when their blood alcohol concentration was 0.05 percent. After being awake for 24 hours, the researchers reported, subjects' hand-eye coordination was

similar to when their blood alcohol concentration was at 0.10 percent." This, without climbing a mountain during the 24 hours! Pretty surprising results.

There is good reason why CMRU lobbied for 12 hour field days on missions, which includes travel time from Corvallis to base camp -- members' safety! While I realize your own time is just that, I'd like all of you to come home safely from your various activities. I know most of you wouldn't have driven home if you felt you were intoxicated by alcohol, please consider if you are intoxicated by lack of sleep. For your sake and for other's on the road, please don't drive impaired.

CALL FOR PHOTOGRAPHS - Pix by Mardi Keltner
Our web site is getting a bit stale and needs some exciting new pictures and information. If you've had any mountain adventures this summer and collected good photos you'd like to be displayed on our site please loan them to Mardi so she can scan them in. Write the following information on the back of each photo: Your name (so the photo can be returned to you); where and when the photo was taken; the names of anyone in the photo. Any other relevant information (like what you were doing, funny stories, exciting adventures etc.) would be helpful. Web resolution is low, so pick out only photos that are crisp and not too busy. Good candidates are action photos of people in bright clothes. Bad candidates are photos like: one more pretty mountain, one more pretty sunset, and posed individuals or groups of people. Get the photos to Mardi by the end of August and she'll scan them in. If they look good, she'll put them up on our site.