"Shouldn't we be there by now?"

By Jim Benedict

How often have you wondered how long it will take your party to hike from the trailhead to your first night's camp. Or hike between campsites? Or how long it will take you to day hike to a lake and back to the trailhead?

Before heading out, you might be fortunate enough to know someone who has already hiked in the area. You might be able to inquire at a ranger station or a visitor center when you near your destination. Or that trail guide you bought might tell you how long it takes to hike from point to point.

All too often, though, the only estimate readily available to you is one based on the assumption that backpackers travel about one and a half to two miles per hour. But how does the steepness of a trail, the direction of travel uphill or downhill, or the size of your party affect a backpacker's travel speed?

Fundamental to realistic trip planning, and consequently to the quality of your next backcountry trip, is the ability to estimate how long it will take you to reach planned destinations. I was part of a wilderness research project in Yosemite National Park, California, in which some of the data collected can be used to estimate hiking times from one point to another on a backcountry trail.

It took an average of 35 minutes for backpackers to travel one mile-trail segments; 36 minutes for dayhikers. Surprisingly, the size of a party did not significantly affect travel times.

The time it would take a backpacking party to travel uphill or downhill on trails of varying steepness can be determined from the chart. The chart confirms the commonly observed fact that travel times for uphill travel are greater than for downhill travel, and that travel times increase as the steepness of the trails increase. And when traveling downhill on a trail, backpackers slow their pace or rate of travel as the trail steepens.

Estimating Your Time

Use a pencil and a ruler or map wheel to mark one-mile lengths of trail on a topographic map which covers the area you plan to visit. Next, by using the contour lines on your map, estimate to the nearest 40 feet the elevation gain or loss for each mile of trail and the changes in elevation on a sheet of paper.

For example, your first one-mile trail segment might rise 240 feet; your second, 640 feet; and so on. Do this for each one-mile trail segment and its associated elevation gain or loss.

In our example: The first one-mile uphill trail segment requires 36 minutes to traverse; the second segment, 51 minutes; and so on. To calculate how long it will take to reach your destination, just add together the travel times for each one-mile trail segment. If you're going downhill, simply use the downhill column.

In hilly or mountainous terrain, it is easy to become confused and enter the value from the uphill column instead of the downhill or vice-versa. Be sure you choose the correct column. Trail segments that cross over passes or down and up a canyon will have to be broken into shorter lengths in order to calculate your travel time.

The travel times found in the chart represent *averages*. Such averages hide the great variability in the travel behavior of backpacking parties. Many parties travel faster or slower than the average travel times. Use the values in the chart to calculate the time required to travel between points. Then adjust the calculated value based on such factors as age of party members, their physical condition, degree of acclimation to high altitude, interests in photography or nature study, or predilections for deep swimming holes.

Obviously, a party composed of individuals in good physical shape and acclimated to high altitude will travel faster than one whose members are out of shape and who have just arrived at high altitude from sea level. Judge your own abilities and interests and adjust your calculated estimates accordingly.

Elevation Gain Or Loss In Feet Per Mile Of Trail	Time In Minutes Per Mile Of Trail	
	Uphill	Downhill
0	29	29
40	30	30
80	31	30
120	32	30
160	33	31
200	34	31
240	36	31
280	37	32
320	38	32
360	40	33
400	41	33
440	43	33
480	44	34
520	46	34
560	47	35
600	49	35
640	51	35
680	53	36
720	55	36
760	57	37
800	59	37
840	61	37
880	63	38
920	65	38
960	67	39
1000	70	39

Uphill and downhill travel times based on the elevation gain or loss per mile of trail.