

Visitor Impact Monitoring Program 1996

Steven Petersen - Bio. Tech.
Henry Bastian - Bio. Tech.
Kevin Shakespeare - Bio. Tech.
Michelle Farnham - SCA

Introduction

The loss of vegetation at the major overlooks at Bryce Canyon National Park can be attributed to the improper use of designated trails by visitors. With over 1.6 million visitors per year (1.65 in 1995), it is imperative that visitor use be monitored in order to preserve existing vegetation and soils from further disturbance.

The VIMP program was started in 1994 to measure visitor impacts. At that time, social trail damage was very noticeable and with the increased visitation of 10% per year, monitoring these overlooks would provide data needed to determine if preventive actions were necessary.

It was determined from the data collected in 1994-1995 that barren areas were increasing at a rate of approximately 5% per year. As a result of these findings, fences are now being constructed around walkways at Sunset, Farview, and Inspiration to prevent visitors from wandering into vegetated areas. Construction of these fences will be completed this summer and could potentially show changes in next year's VIMP data.

Discussion

VIMP monitoring was conducted based on the methods described by Bob Foster et al. in "Visitor Impact and Monitor Program (VIMP) Transects, Bryce Canyon National Park," located in the Park's resource management files. With the absence of Bob Foster, this year transects were read by Petersen, Bastian, Shakespeare, and Farnham. This may result in some inconsistencies in the data collected.

Transect data was entered into a Quatro Pro spreadsheet found in the Toshiba Satellite laptop under VIMP96. Each of the 11 transects was mapped using GPS (Trimble Navigation equipment) and stored in Richard Bryant's resource mangt. computer (c:\vimp-gps) and on disk (filed in the VIMP folder).

This year's data was collected during fence construction at Sunset and Inspiration. While the fences should cause a decrease in future visitor impacts, construction running through the transects during this summer's data collection may show damage not caused by visitors alone.

Subject: Location directions for VIMP transects.

Note: Previous compass headings are incorrect. Headings from 1996 are corrected to the 14 degree declination.

Note: All transects are not 100 meters. They vary from 90 to 100 meters and will hereafter all be referred to as 100 meters.

Note: Slides were taken from the 0 meter stakes along corrected headings and then from the 100 meter stakes.

Note: It would be helpful to take slides along with you in order to monitor the vegetation changes and locate transect stakes.

Note: Old data sheets may be helpful.

Note: Distances are recorded in Normal Walking Paces.

Map Abbreviations and Legend:

Bb = antelope bitterbrush
Bc = bristlecone pine
Dg = Douglas fir
Es = Engellman's spruce
Ju = juniper
Lim = limber Pine
Mg = mountain mahogany
Ml = mountain lilac
Mz = manzanita
Pin = pinion pine
Po = ponderosa pine
Sb = serviceberry
Wf = white fir

p = normal walking paces

★ = stake

↘ = rim or dropoff

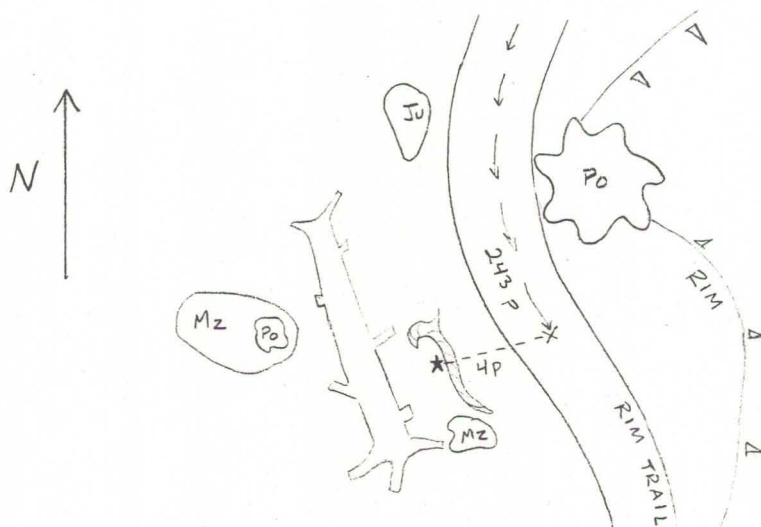
□ = stone column

—●— = pole fence

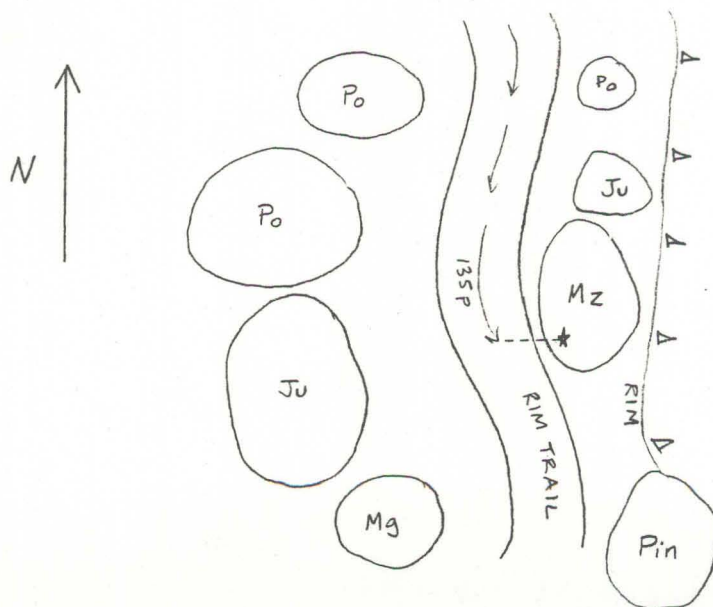
1-1 Fairyland:

From 0 meter stake, transect heading is 201°
(It is easier to find 100 m stake first.)

0 meter stake: From the southernmost stone column at Fairyland viewpoint, walk 243 paces (or 108 paces from the 100 m stake) South on the rim trail. Turn West (right, perpendicular to the trail) and walk 4 paces from the center of the trail to the stake (approx. 6 ft). Stake is found immediately behind (West) a limb of twisted dead wood (3" diameter). Further to the West is a large fallen (dead) ponderosa (30' in length, about 20" diameter).



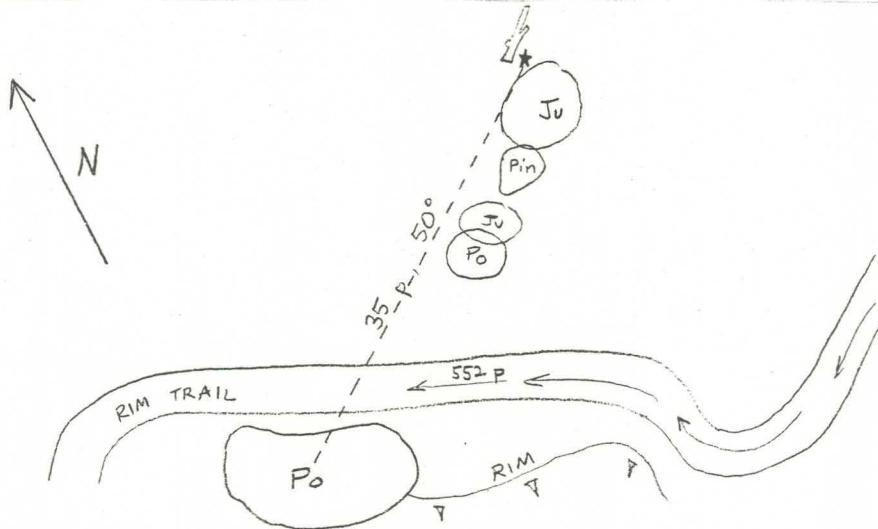
100 meters stake: From the southernmost stone column at Fairyland viewpoint go South along the rim trail 135 paces. At this point on the East side (left) of the trail is a Juniper tree located on the North edge of a manzanita clump. The stake is in the southern portion of the manzanita about 2 ft. off the trail edge.



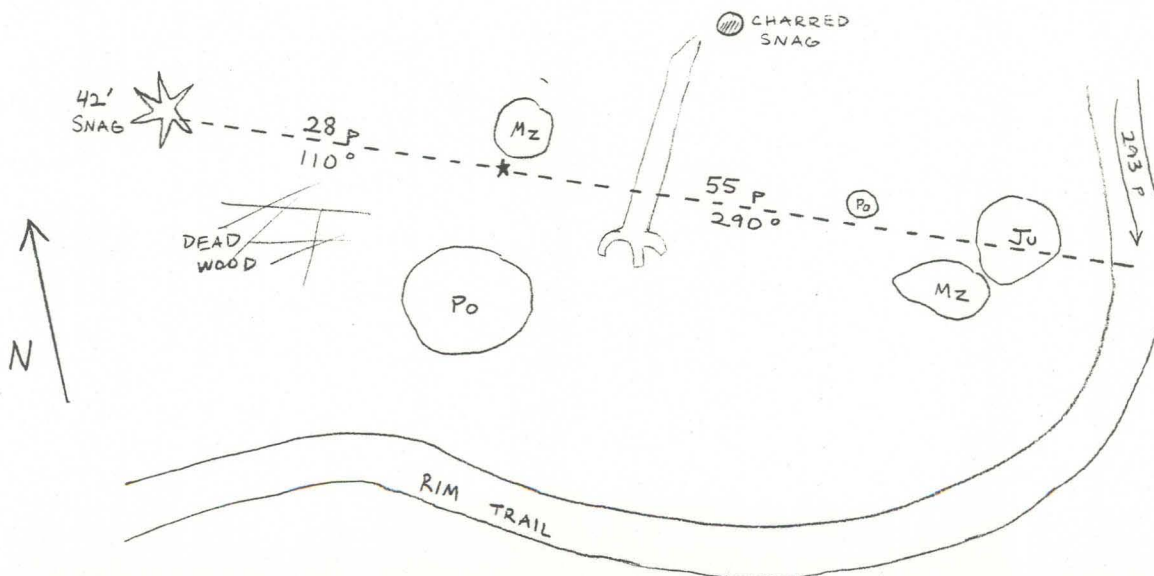
1-C Fairyland:

From 0 meter stake, transect heading is 65° .
(It is easier to find 100 m stake first.)

0 meters: From the southernmost stone column at Fairyland viewpoint, walk 552 paces south along the rim trail (260 paces from the "Rim Trail - Sunrise $2\frac{1}{2}$ miles" sign) to a large lightning struck ponderosa pine, missing its top half, adjacent to the rim on the South side of the trail. From the tree, take a heading of 50° and walk 35 paces (90 ft) to the stake. A large juniper tree is located directly to the South of the stake.



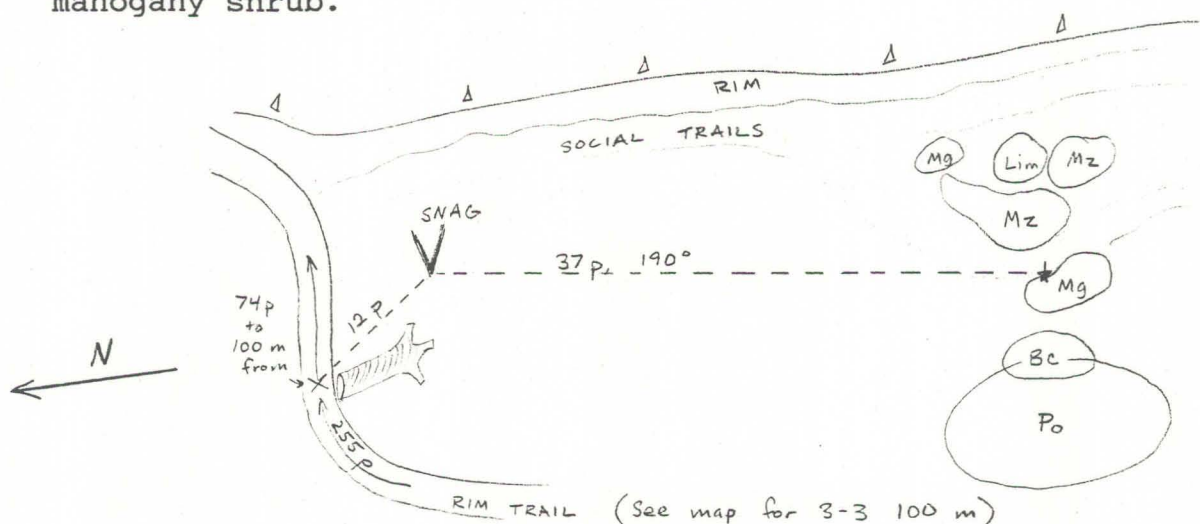
100 meters: From the southernmost stone column at Fairyland viewpoint, walk 293 paces South along the rim trail to a sign saying "Rim Trail - Sunrise $2\frac{1}{2}$ miles." Continue 47 paces past the sign, on the rim trail (a total of 340 paces from the stone column). At this point, take a heading of 290° and go 55 paces off the trail to the stake, in the direction of the largest dead lightning struck Ponderosa in the area. If there are problems locating it the above mentioned way, go to the lightning struck Ponderosa and take a heading of 110° and go 28 paces.



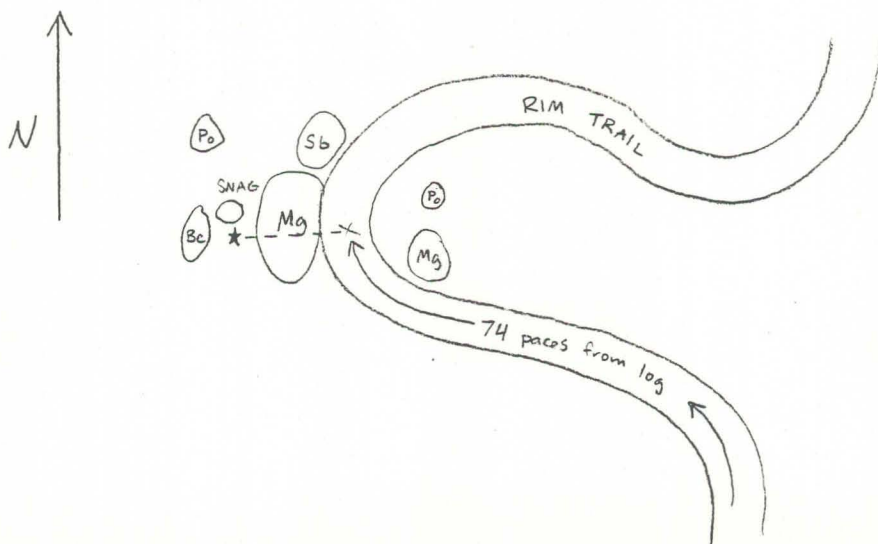
2-2 Campbell Canyon

From 0 meter stake, transect heading is 15° .

0 meters: To begin pacing to Campbell Canyon, either walk 60 paces to the rim trail at a 60° heading from campsite 60 post in North Campground or 12 paces, 60° from 3-3 North Campground 100 m stake. From this point, walk 255 paces North on rim trail to the summit where the trail levels off. A large, sawed off, dead log (25" diam) lies adjacent to the South side (right) of the trail at the summit. From this log, walk 12 paces South to a large standing "V" shaped snag. From the snag walk 37 paces at a 190° heading to the stake. The stake is located below the canopy of a mountain mahogany shrub.



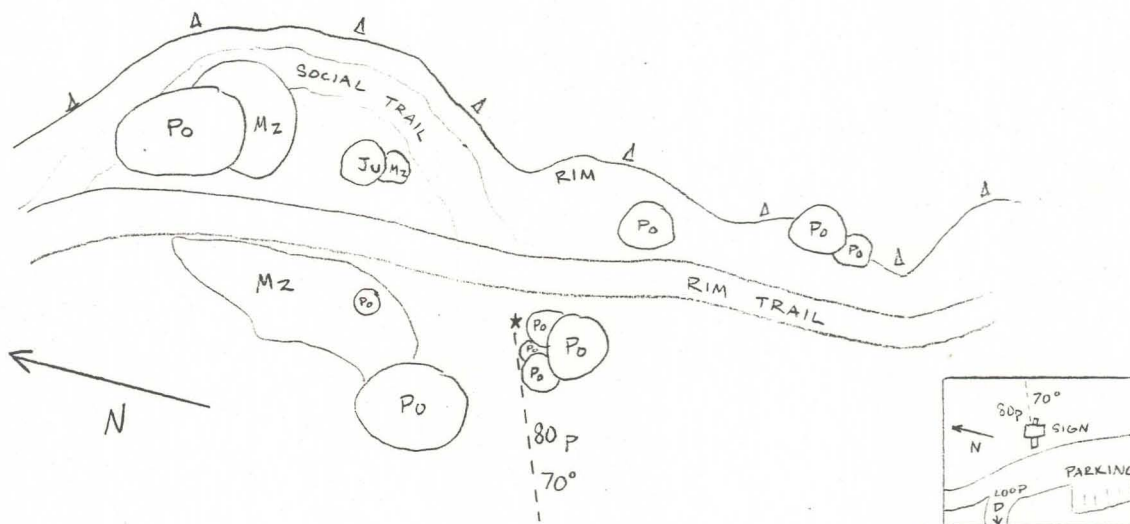
100 meters: From the large sawed off log, adjacent to the trail, described above, walk 74 paces North on rim trail, to a hairpin curve that faces West. Or, walk 342 paces North on the rim trail from 3-3 North Campground 100 m stake (towards Fairyland overlook). The stake is located 3-4 paces West from the westernmost point along the hairpin curve. The stake is on the South side of a snag, between a mahogany shrub and a bristlecone pine.



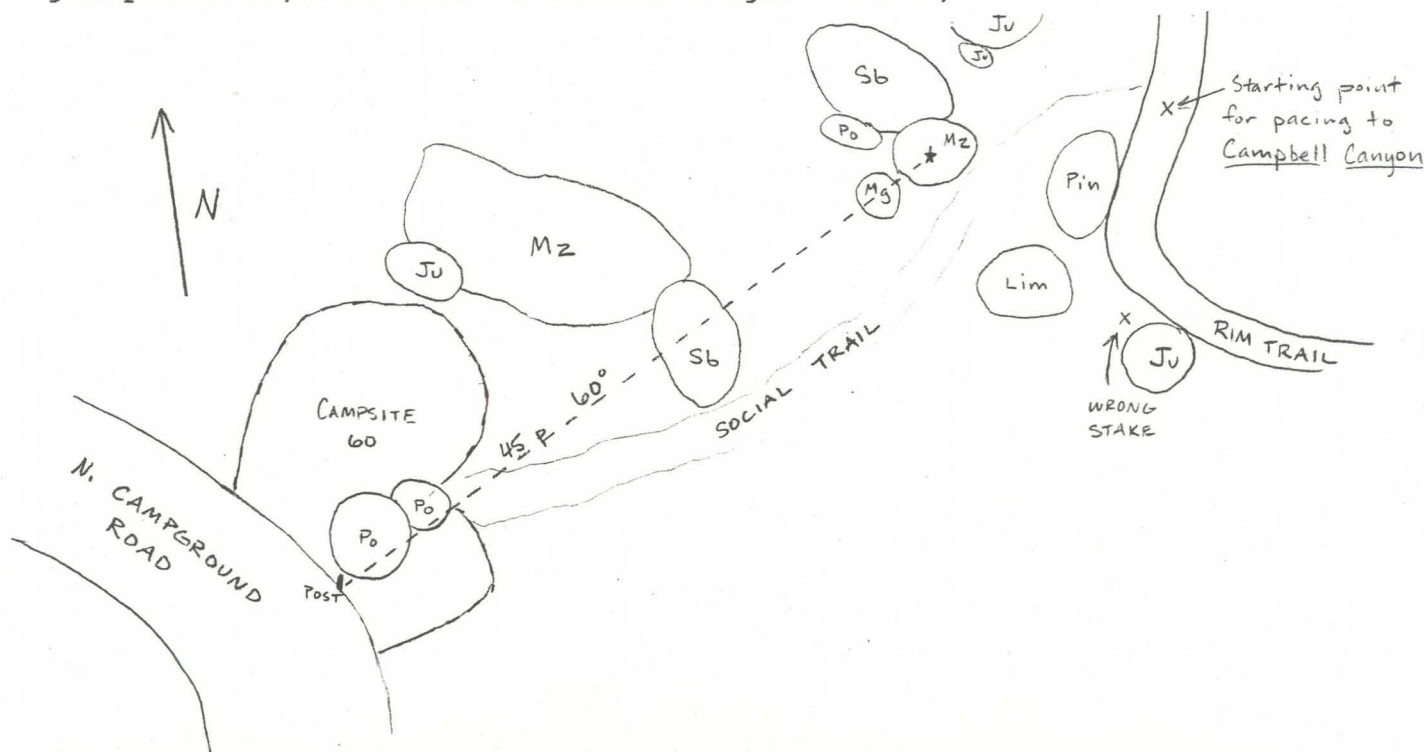
3-3 North Campground

From 0 meter stake, transect heading is 335° .

0 meters: From "Register at Entrance" sign just Southeast of North Campground Loop D entrance and Northeast of Picnic Day Use Parking, walk 80 paces at a 70° heading toward the rim trail to the stake. The stake is just North of a group of 4 ponderosas about 2 paces West of the rim trail.



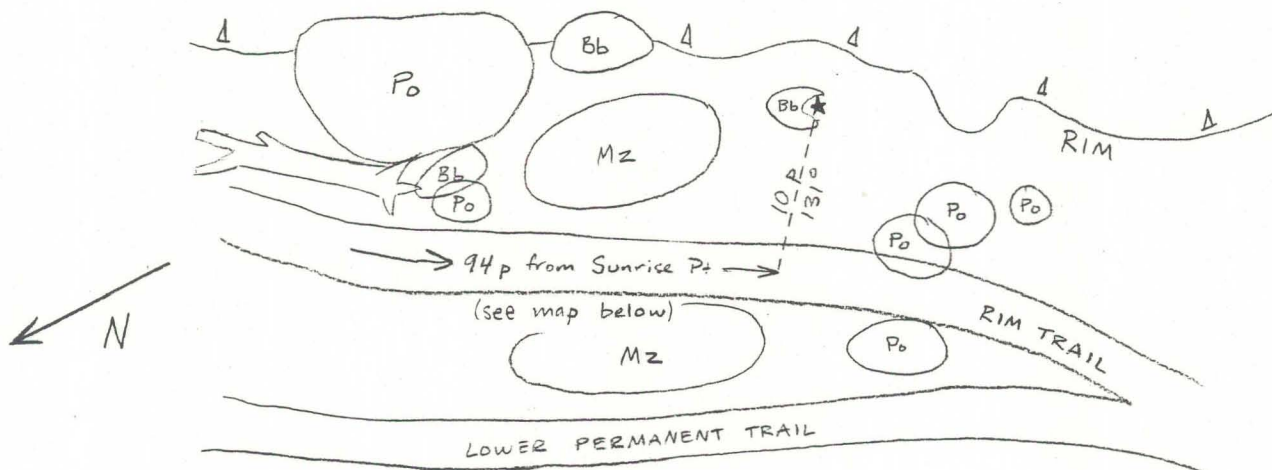
100 meters: From campsite 60 Post (Plastic Campsite Marker) in North Campground, walk 45 paces at a 60° heading up hill toward the rim trail to the stake. The stake is located in a manzanita Southwest of a serviceberry shrub. (Another stake can be found at a similar distance on a heading of 76° from campsite 60, next to a juniper tree, but this is not the right stake.)



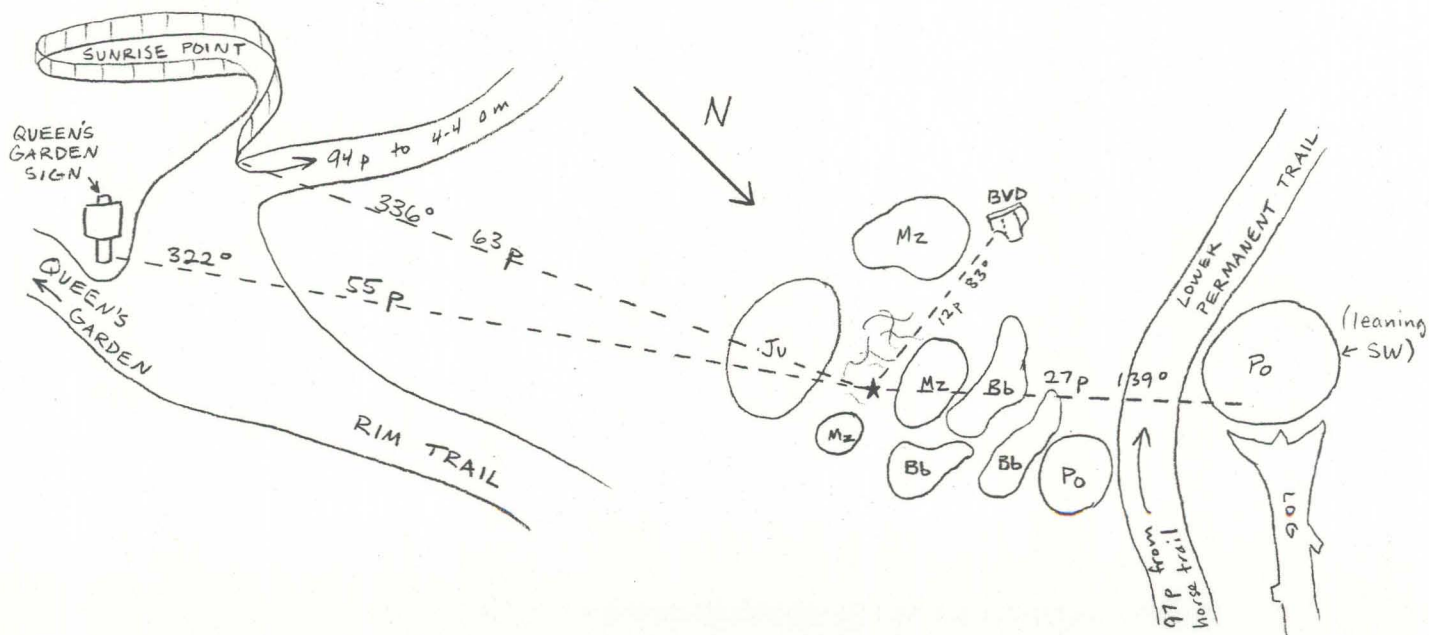
4-4 Sunrise

From 0 meter stake, transect heading is 10° .

0 meters: From the beginning of the metal handrail at the bottom of the Sunrise Point overlook, walk South along the rim trail 94 paces. At this point, take a heading of 131° and walk 10 paces to the stake. The stake is near the rim in a small lone antelope bitterbrush.



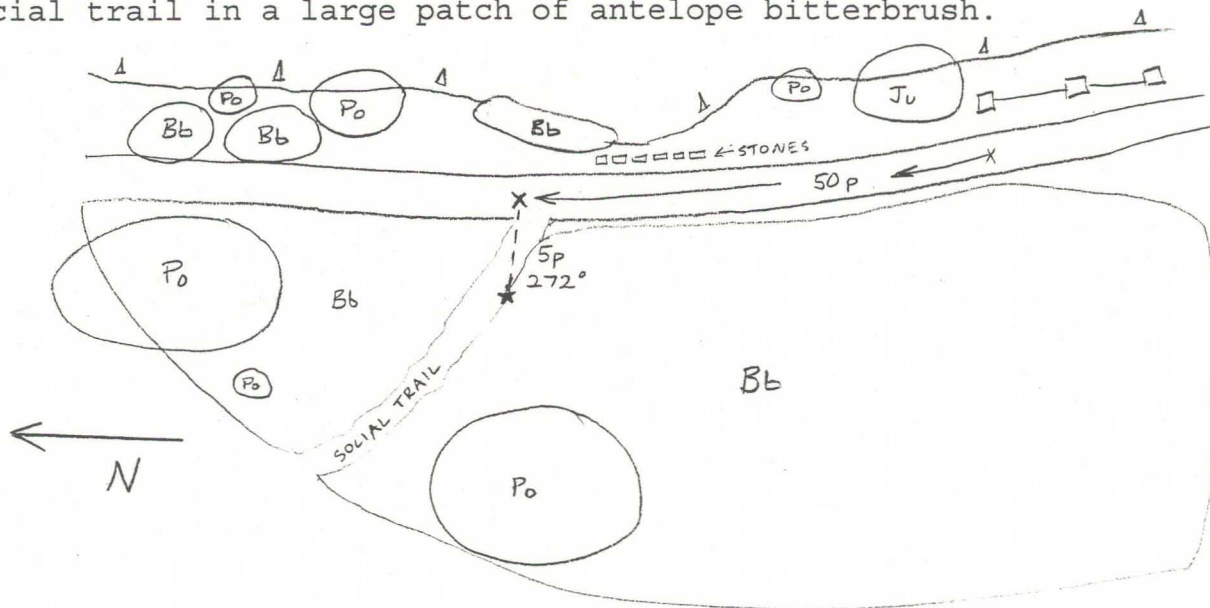
100 meters: From the beginning of the metal hand rail at Sunrise Point take a heading of 336° and walk 63 paces to the stake. The stake is in a area of dead manzanita west of a large juniper. Or from the rim trail sign which says "Sunrise Point - Queen's Garden Trail" located just South of the horse trail dropoff point, walk Southwest on the lower permanent trail 97 paces. To your right will be an overstory ponderosa which leans to the southwest with all of its limbs also facing that direction; from this tree take a heading of 139° and walk 27 paces to the stake.



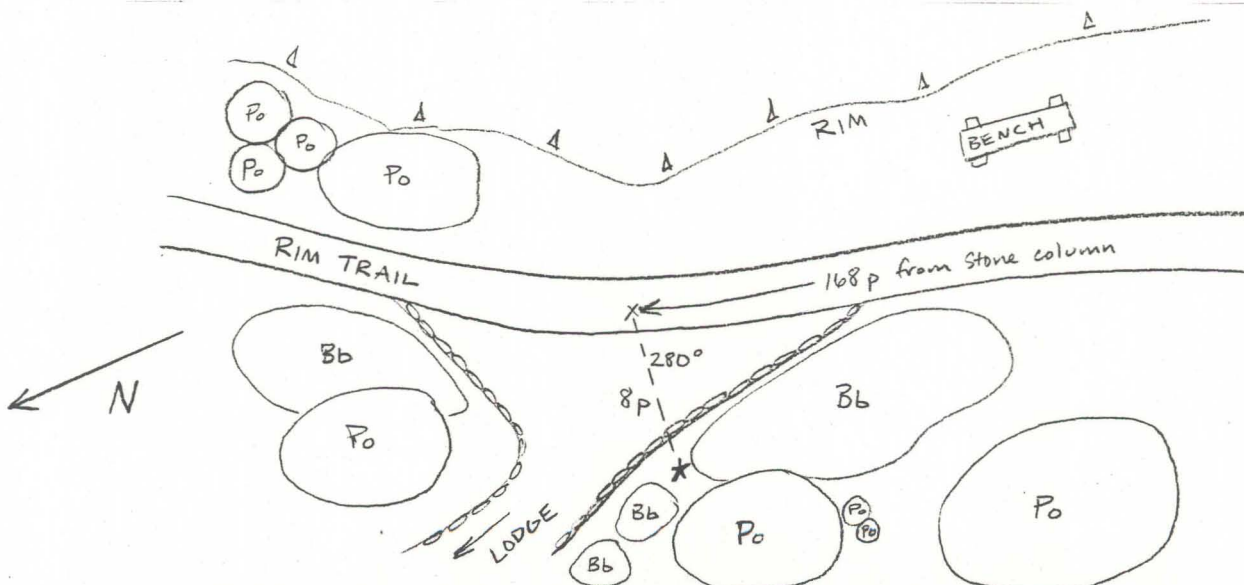
5-5 Lodge

From 0 meter stake, transect heading is 350° .

0. meters: From the northernmost stone column on Sunset Point, walk North along the rim trail 50 paces. Take a heading of 272° and walk 5 paces to the stake. The stake is located on the edge of a social trail in a large patch of antelope bitterbrush.



100 meters: From the northernmost stone column on Sunset Point, walk 168 paces North along the rim trail to a junction with a designated (stone curbed) trail heading to the lodge. From the center of the rim trail, midway between the borders of the junction, walk 8 paces on a 280° heading to the stake. The stake is located about 1 pace off to the West of the lodge trail among antelope bitterbrush.

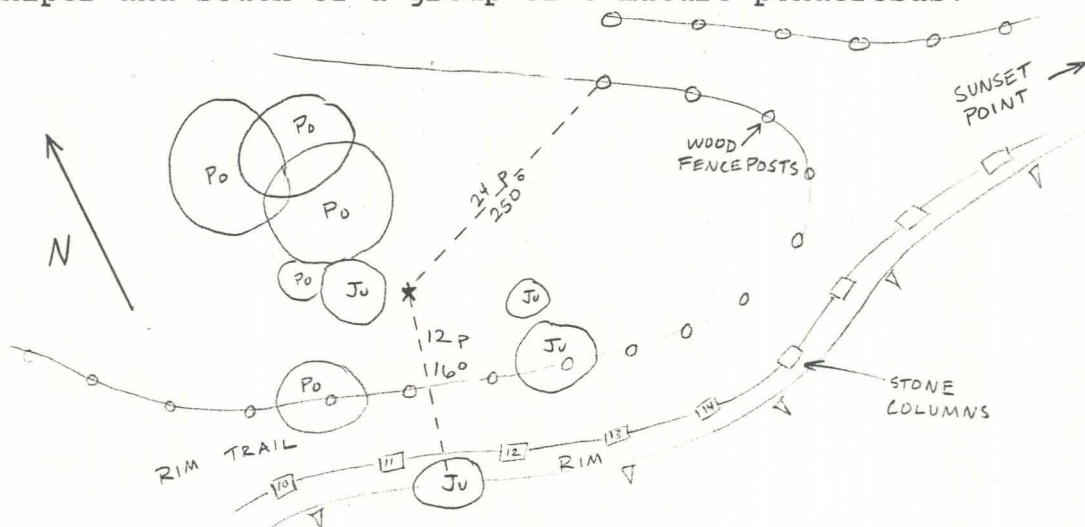


6-6 Sunset

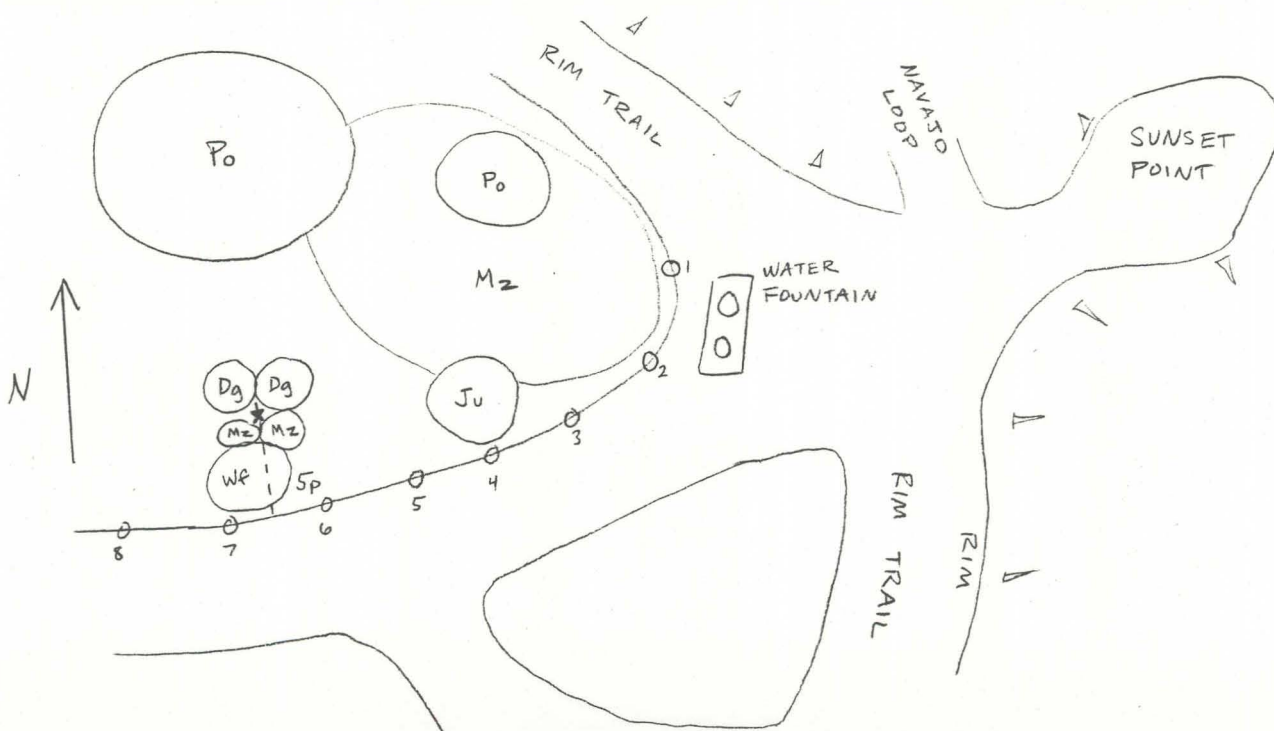
From 0 meter stake, transect heading is 75° .

Note: According to John Blade, this transect runs along what used to be an old designated trail that has since been relocated.

0 meters: Beginning at the southwesternmost stone column of the fence on Sunset Point, count columns heading Northeast. On the rim, between columns 11 and 12, on the South side of the fence, is a small juniper. From this juniper, take a heading of 16° and walk 12 paces to the stake. The stake is located just East of a large juniper and South of a group of 3 mature ponderosas.



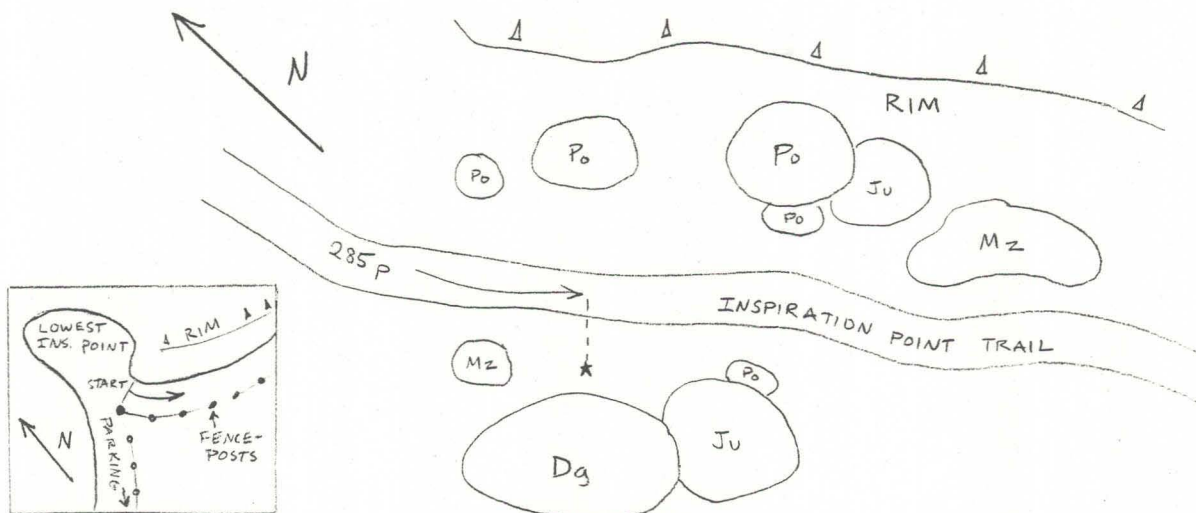
100 meters: Beginning at the first post of the pole fence located West of the water fountain at Sunset Point, count 7 fence posts to the Southwest. Between posts 6 and 7, walk into the fenced area, 6 paces North to the stake. The stake is located just North of a pole sized white fir tree, and South of two small Douglas firs.



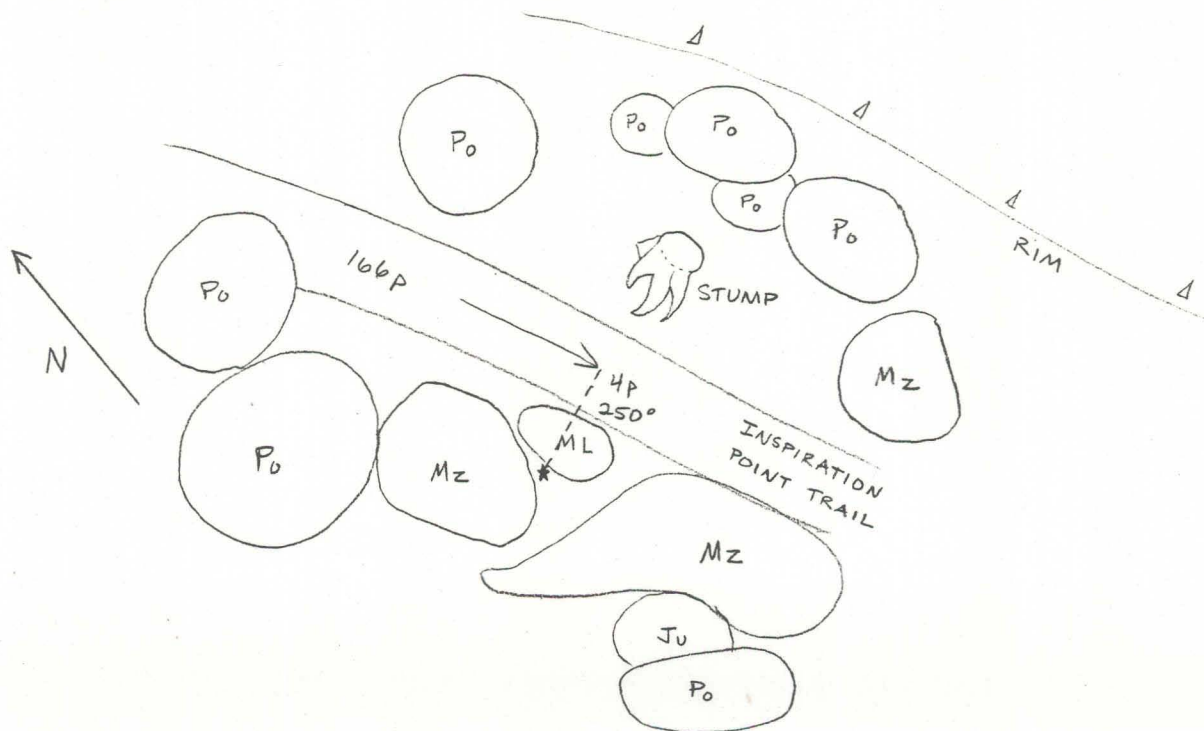
7-7 Inspiration

From 0 meter stake, transect heading is 345° .
(It is easier to find 100 m stake first.)

0 meters: Beginning at the northernmost fencepost at the base of the trail at Inspiration Point, walk South (uphill) along the trail 285 paces (119 paces from stump described below). At this point in the trail, walk 5 paces at a 250° heading to the stake. The stake is about halfway between the trail and a large (dominant, about 50' high) Douglas fir twin with multiple forks in the northern twin.



100 meters: Beginning at the northernmost fencepost at the base of the trail at Inspiration Point (lowest viewpoint) walk South (uphill), along the trail 166 paces. At this point, there is a sawed off stump, approx. 14" in diameter on top, 2 paces from the eastern trail edge. From this stump, walk 4 paces at a 250° heading to the stake. The stake is between a mountain lilac and manzanita, about 4 ft west of the trail edge.

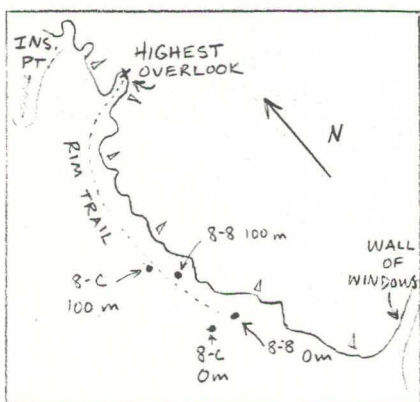


8-8 Wall of Windows

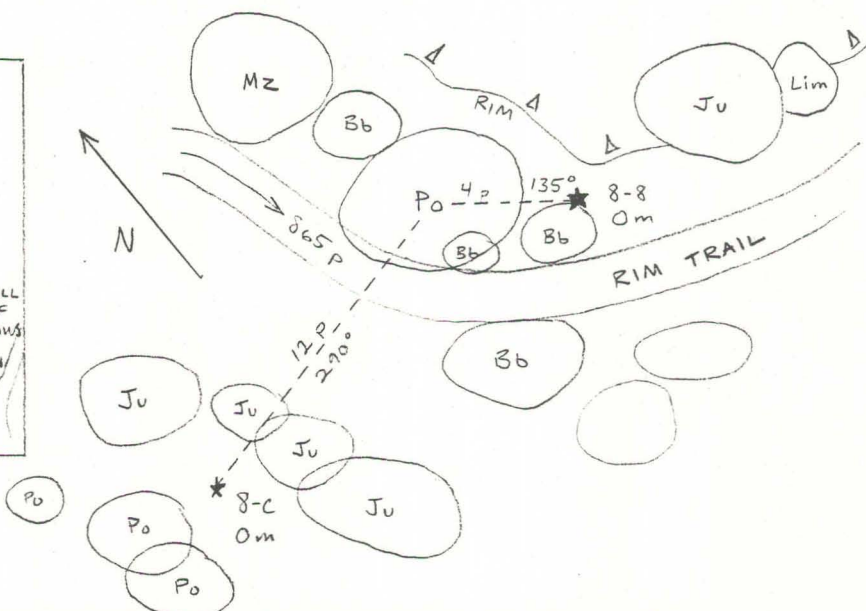
From 0 meter stake, transect heading is 347° .

This transect parallels 8-C, located on the East side of the rim trail. (It is easiest to begin with 8-C 100 m stake and use that as a reference for 8-8 100 m and continue from there to 8-8 0 m.)

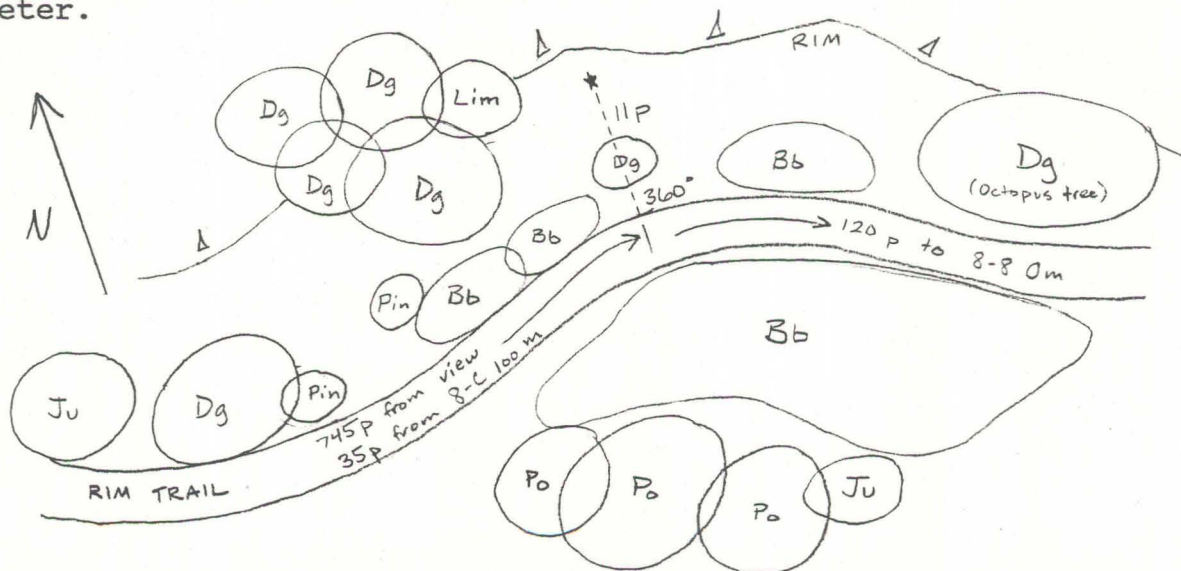
0 meters: Beginning at the northeasternmost edge, the farthest point out on the highest viewpoint at Inspiration, walk 865 paces Southeast along the rim trail (120 paces from Douglas fir of 8-8 100 m). At this point, there is a large ponderosa on the eastern edge of the trail. From this ponderosa, walk 4 paces at a 135° heading to the stake which is on the eastern edge of an antelope bitterbrush.



Relative positions of 4 stakes for Wall of Windows and Bryce/Inspiration



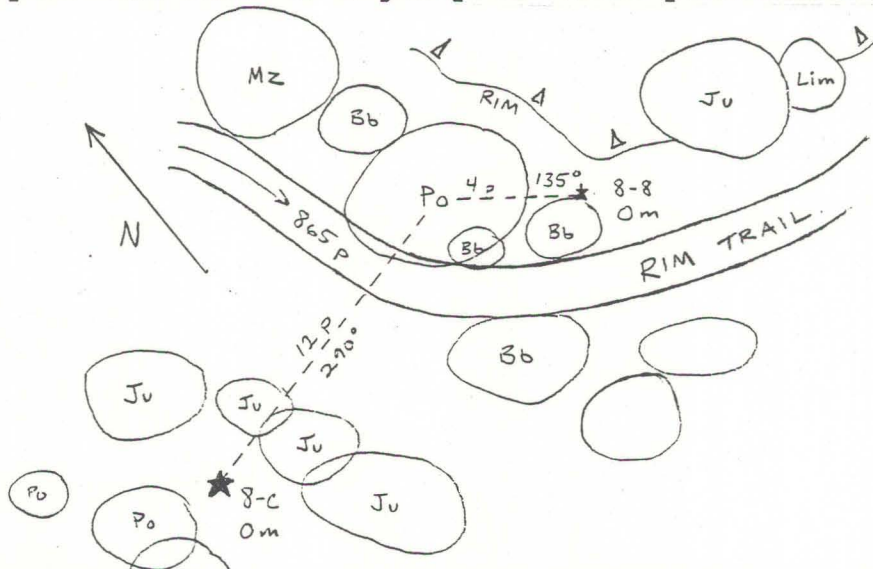
100 meters: Beginning at the northeasternmost edge, the farthest point out on the highest viewpoint at Inspiration, walk 745 paces Southeast along the rim trail (35 paces from pinion of 8-C 100 m). From this point walk 11 paces downhill due North 360° from the edge of the trail. The stake is 6 paces North of 8' Douglas fir, 3" in diameter.



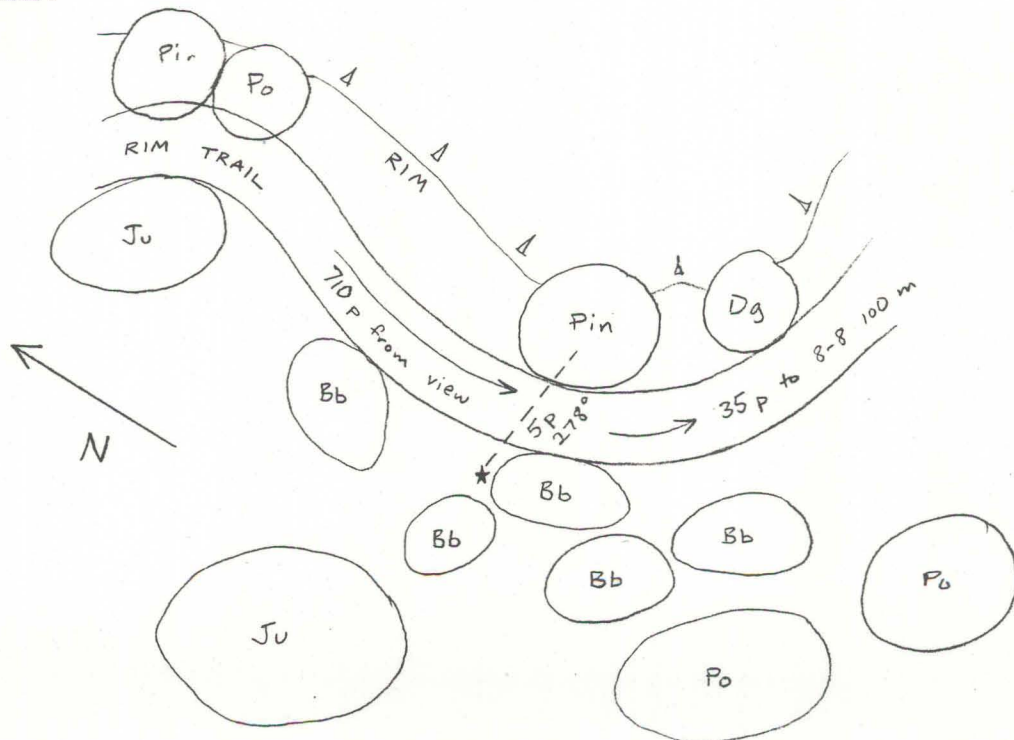
8-C Bryce/Inspiration

From 0 meter stake, transect heading is 338° .

0 meters: Beginning at the northeasternmost edge, the farthest point out on the highest viewpoint at Inspiration, walk 865 paces Southeast along the rim trail (120 paces from Douglas fir of 8-8 100 m). At this point, there is a large ponderosa on the eastern edge of the trail. From this ponderosa, walk 12 paces at a 290° heading to the stake. The stake is located west of a group of four junipers and east of a group of three ponderosas.



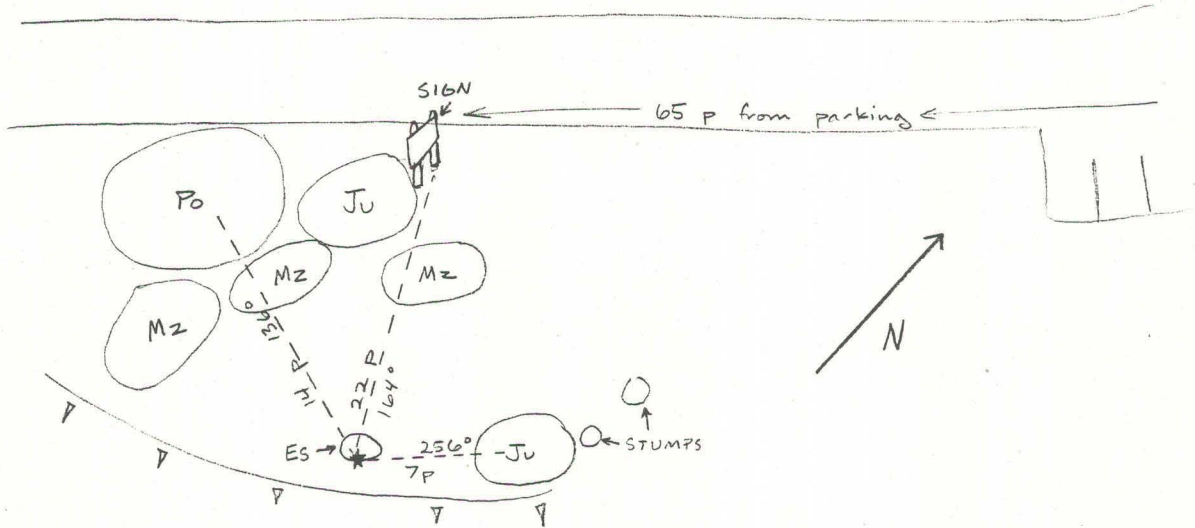
100 meters: Beginning at the northeasternmost edge, the farthest point out on the highest viewpoint at Inspiration, walk 710 paces Southeast along the rim trail. At this point, the trail curves to the West and there is a single pinion pine on the East edge of the trail (left). From this pinion pine, take a heading of 278° and walk 5 paces to the stake. The stake is located one pace off the West side of the trail on the North side of an antelope bitterbrush.



9-9 Swamp Canyon

From 0 meter stake, transect heading is 50° .

0 meters: From the "Swamp Canyon" road sign, located on the East side of the road, about 65 paces Southwest of the center of the Swamp Canyon parking lot, walk 22 paces at a 164° heading to the stake. The stake can also be found by walking 14 paces at a 136° heading from a large roadside ponderosa, just North of the sign. The stake is located under a 3' Engelmann's spruce found at the junction between the trampled social trail area and the rim dropoff.



100 meters: From the "Swamp Canyon Sheep Creek Connecting Trails" sign on the eastern edge of the Swamp Canyon parking lot, walk 59 paces at a 90° heading to the stake which is 2" East of 2 fallen logs (both about 12" in diameter, 12' and 37' long). The stake can also be found by walking 17 paces at a 350° heading from a large snag, about 70 paces Southeast of the parking lot.

