

YUKON-CHARLEY RIVERS NATIONAL PRESERVE

CENTRAL ALASKA NETWORK

Vegetation Monitoring Program

Summary Trip Report: Sam Creek Mini-grid

2 July to 7 July, 2007



Photo 1. Open *Picea glauca* stand at point 10 showing low gradient slopes at Sam's Creek. Despite non-cloudy skies, a smoky haze hangs in the air from the Woodchopper Fire.

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PURPOSE:

The purpose of this trip was to install permanent vegetation plots and to collect vegetation data at the Sam's Creek mini-grid study area according to the protocols established for the Central Alaska Network (CAKN) vegetation monitoring program. The shorthanded crew accomplished sampling protocols at 6 of the 25 sample points in this mini-grid during an unusually short work period of 6 days (3 grid-days and 3 travel days). This was due to several factors discussed in this report, most prominently being the helicopter evacuation that cut the trip short on the morning of July 6th.

PERSONNEL:

Jay D. Scelza – crew leader, navigation, soils, transects, tree/sapling measurement, and non-vascular plant data collection.

E. Fleur Nicklen – grid- and meta- plot data collection, photos, transects, tree/sapling measurements, and vascular plant data collection.

Paul Atkinson (Fairbanks IT Specialist)– [assisted crew on July 6th], plot setup, photos, transects, tree and sapling measurements.

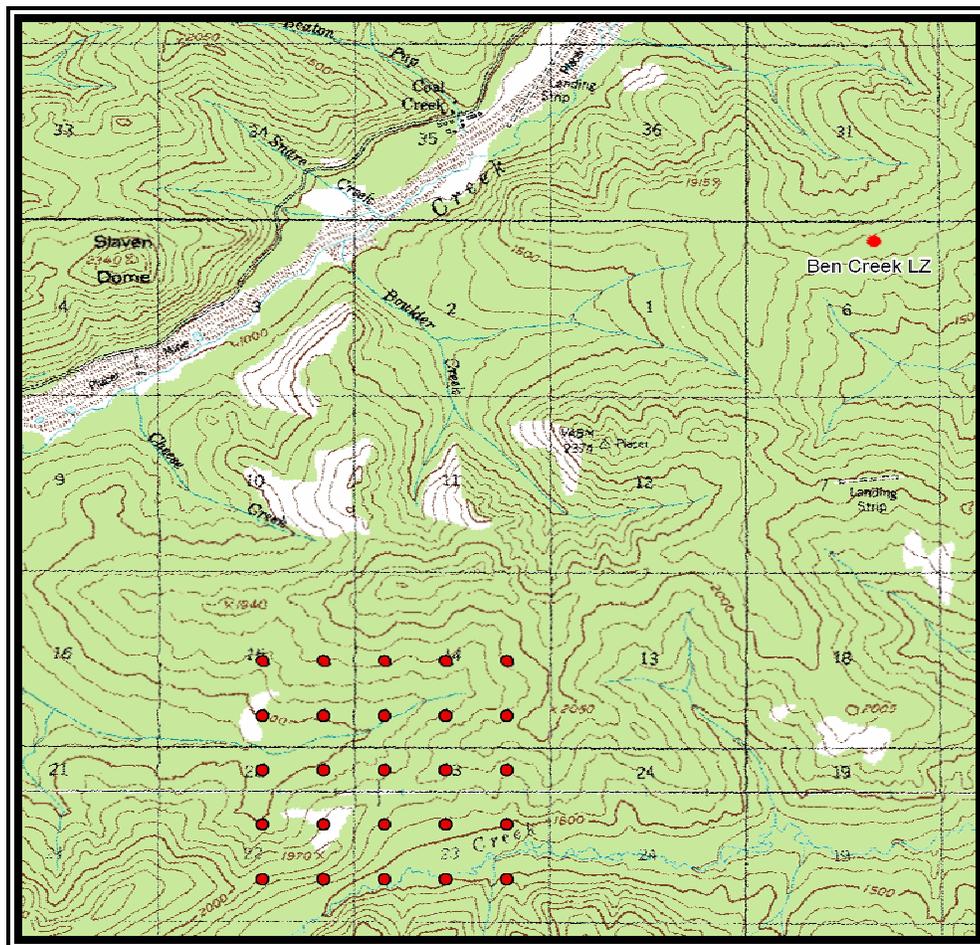
ACCESS TO MINI-GRID AND CAMPING POSSIBILITIES:

The Sam's Creek mini-grid is accessed via the Yukon River or fixed-wing into Coal Creek airstrip and then either helicopter drop off or on foot from the airstrip to the mini-grid. It should be noted that this 6 mile (each way) trip overland would not be possible for 3 crew members to complete in a single trip, given all the camping and sampling gear that must be brought along. It may be possible that the road heading southwest from Coal Creek Camp is drivable for approx. two miles outside of the camp and there is an aging diesel army truck that could be used to shuttle gear, making it a four mile hike with gear and an additional two without. Helicopter sling-load and/or crew drop-off is therefore highly recommended.

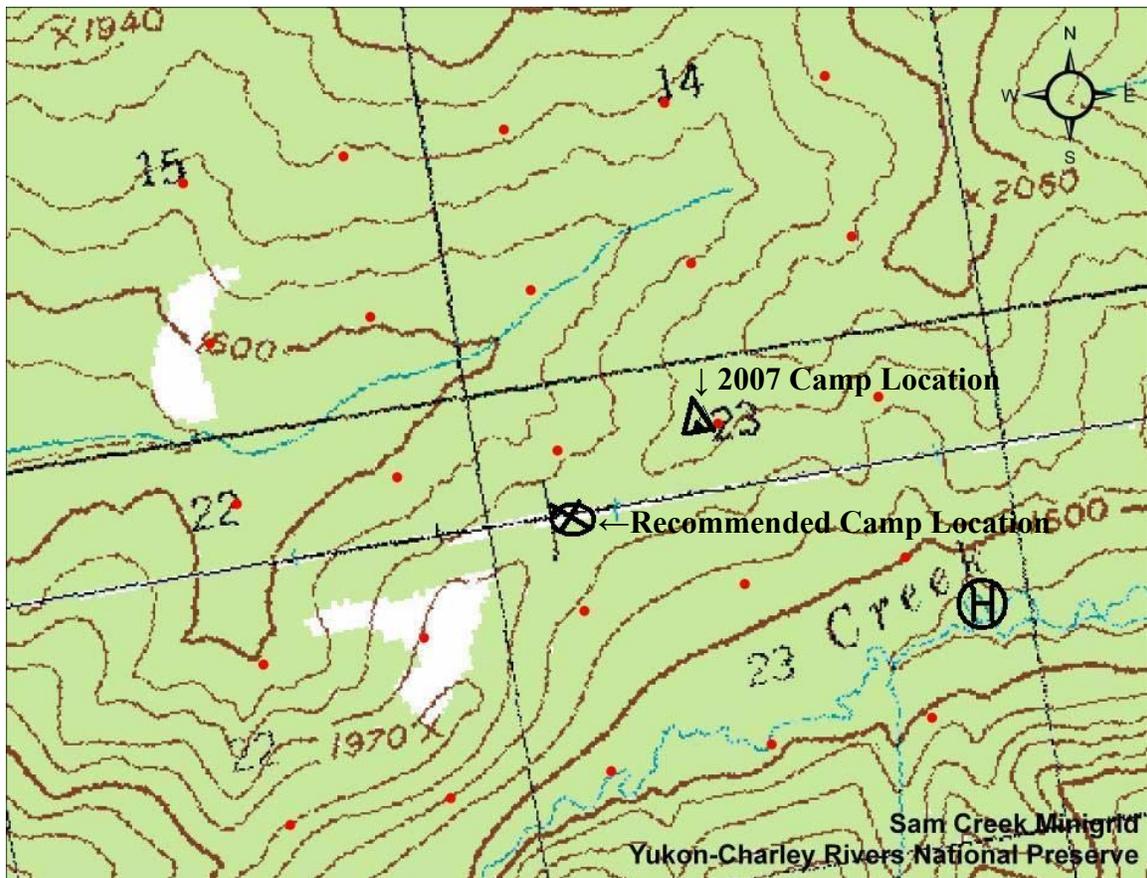
If unable to get a sling-load the only option is to camp along one of the creeks in the mini-grid. There was water flowing in the creek just near point 18, and that would be the best option for camping if coming in on foot due to proximity to the road and center of the mini-grid. Sam's Creek is a very scenic grayling-bearing creek and was used as a helicopter landing site when Paul Atkinson was dropped off and when the crew was evacuated on July 6th (photo 5). However, it would not be an ideal place to camp due to poor proximity to farther points and marshy habitat flanking it, but could serve as an alternate helicopter drop-off location for the crew and/or a water source.



Photo 2. View from helicopter of a densely vegetated ridge, looking toward Sam's Cr. mini-grid from the NE.



Map 1. Ben Creek RAWs Landing Zone in relation to the mini-grid and non-existent Landing Strip. Coal Creek Camp and the Coal Creek Landing strip can be seen in the upper center.



Map 2. Sam's Cr. Mini-grid with locations of 2007 camp location, recommended camp location and helicopter landing spot on gravel bar. (note: compass rose arrow incorrect)

HIKING:

Hiking from camp to grid points in the Sam's Creek grid was generally easy due to the low gradient of the slopes. The main obstacle was the dense vegetation encountered in most of the mini-grid that the 2007 crew traversed. This was generally mixed spruce/hardwood forest with dense tall shrubs (photo 3). The easiest areas to navigate through are the open PICMAR dominated slopes (photo 1). This forest type occurred most often on north facing slopes, about 25% of the time we were hiking/working there, but do not always occur en route to points from camp. The ridge also provides some easy walking where sporadic moose trails can be followed. The soils on the ridges tend to be hard-packed and dry and the vegetation less dense than in other areas. There are numerous small drainages and the associated riparian areas tend to have the densest alder thickets that harbor swarms of mosquitoes, stirred up by hikers. These areas are obviously best avoided when at all possible. Sturdy leather hiking boots are recommended as knee-high rubber boots are not necessary. Plot shoes such as cros, sandals, or lightweight running shoes are recommended for comfort while working in plots. Frequently changing into dry socks will help keep feet from experiencing problematic symptoms.



Photo3. Typical dense vegetation, characteristic of many of the slopes at Sam's Creek.

WEATHER AND ENVIRONMENTAL CONDITIONS:

As is typical of interior Alaskan summers, we experienced an unpredictable mix of weather while working on the Sam's Creek mini-grid. While rainfall was minimal, the average daily high was in the mid 80's, with warm nights. Rain did occur as drizzle from time to time and thunder was common each afternoon. Overcast conditions existed regularly, occasionally all day. A smoky haze from the nearby Woodchopper Fire (roughly 10,000 acres at the time and 5-7 miles northwest of the mini-grid) was thick enough to partially obscure the sun on several occasions (photo 4). The smoke was heaviest on July 4th and 5th when crew members had mild respiratory complaints (coughing and nose/throat irritation due to dryness). On the morning of the 5th our tents showed a thin layer of ash on them, indicating that it may be worse than it appeared.



Photo 4. Smoke from Woodchopper Fire on 6 July at midday, approx 1400

On the morning of July 6th during the morning check-in (0800) we were instructed by the dispatcher to wait in camp for further instructions regarding a possible evacuation. At 0900 we were called by the fire/helicopter crew and told we would be evacuated due to the Woodchopper Fire. It turns out that since the Woodchopper Fire was continuing to burn and increase its boundary to the south and west (in our direction) and since the contracted helicopter pilot was required to take two days off beginning the following day, it was deemed too dangerous for us to stay in the mini-grid without possible airlift. We were told that the fire had increased its perimeter by 700 acres toward our location in three hours the day before and so although we were not happy about it, we agreed it was a prudent decision. We spent the morning breaking down camp and preparing the sling load which was picked up at approx. 1300. We decided to hike down to Sam's Creek for helicopter pickup on a gravel bar in a small opening since it was much shorter than the hike back to the Ben Creek RAWS LZ. This was where Paul Atkinson was dropped off after determining that it was too far to hike from the Ben Cr. RAWS LZ. We arrived at the gravel bar rendezvous point at 1430 and after some waiting and two heli-shuttles were all at the Coal Creek airstrip by 1630.



Photo 5. Evacuation landing site on a gravel bar in Sam's Creek, just east of mini-grid. See map 2.

SAFETY CONSIDERATIONS:

Other than smoke inhalation or fire proximity during a bad fire year there are few notable dangers at the Sam's Creek mini-grid. If hiking in from the road, be sure to carry plenty of food and water because it will probably be a longer than expected hike. If carrying in all the gear for the grid, there will have to be considerations made as to how to safely plan such an endeavor to avoid over exhaustion. This could be done using an additional 2-person support crew (these could be volunteers) or by making two trips (would be very lengthy).

Occasionally there was insecure footing due to turf and moss hummocks and care should be taken in these areas. Some steep slopes exist in the south and east parts of the mini-grid near point 6 and sturdy footwear should be worn in this area.

PHENOLOGY OBSERVATIONS:

Four main vegetation types predominated in the Sam Creek mini-grid, only two of which we sampled. On the NW facing slopes were open black spruce-sphagnum plots. In these plots the phenology was surprisingly advanced for early July. *Vaccinium uliginosum*, *Oxycoccus microcarpus*, *Rubus chamaemorus*, *Eriophorum* sp, *Spirea stevenii* and *Geocaulon livildum* were all fruiting. On the S facing slopes a mix of white spruce, black spruce, birch, aspen and alder grew. In these areas *Epilobium angustifolium*, *Delphinium glaucum*, *Solidago*

multiradiata, and *Genianella* sp were still flowering. *Linnea borealis* and *Cornus canadensis* were in late flower, while *Rosa acicularis*, *Moeringia latifolia*, *G. lividum*, *V. vitis-idaea*, and *V. uliginosum* were fruiting. The vegetation had not begun to senesce and was at an excellent stage for identification. We did not sample the drier, lichen-rich, open spruce areas on the ridge that cuts through the mini-grid, nor did we sample the aspen stands that we saw in the SE corner the grid. The vascular plant diversity was quite low, with an average of 19 species per point. The non-vascular diversity was also low, averaging 22 species per point

GENERAL NOTES ON PLOT-WORK AND PLOT OBSERVATIONS:

A number of unfortunate incidents and extenuating circumstances occurred during this trip which severely shortened the duration and reduced the efficiency of the data sampling. Several things were learned in the course of these events and therefore this report should serve as a useful tool in the future to improve the human influenced factors, especially concerning planning and communication.

The trip began with a shorthanded crew due to SCA volunteer and 3rd crew member, Myles Robinson having sustained a knee injury on the previous mini-grid. As a result, Fairbanks IT Specialist Paul Atkinson was scheduled to be joining the crew for grid-days 4 through 10, but was not present for the first few days. The trip, beginning July 2nd, was planned not for Sam's Creek, but for a high elevation mini-grid named Upper Crescent (not sampled during 2007). The two person crew had flown to the Coal Creek airstrip on July 2nd and were waiting to meet the NPS fire-contracted helicopter (337) at the airstrip for transport to the Upper Crescent mini-grid that morning when they were contacted via radio by the dispatcher in Eagle and informed of a change in plans. Due to a military F-16 training crash 4 weeks prior in the mountains near the Upper Crescent mini-grid the military placed a temporary flight restriction (TFR) on the airspace in a 4-mile radius around the site, which encompassed the mini-grid. This was known about by the coordinating fire personnel and helicopter managers overseeing our transport, but through a series of as-yet-unclear miscommunications, the information wasn't relayed to the crew leader or his supervisor until the morning of the 2nd after the crew had left Fairbanks and landed at the Coal Creek Airstrip, unaware of the restriction.

Due to the sudden change in plans, the crew leader assessed the situation and decided to utilize the helicopter to get to nearby Sam's Creek, a grid that initially had helicopter assistance planned for late July, but was cancelled due to fire scheduling issues. It was decided to have the gear sling-loaded and dropped off near point 12 in Sam's Creek because of the ridge that seemed to exist there. However, it turned out to be more of a low slope in a dense forest. If using a sling-load in the future, instruct the pilot to have it (with plenty of water) dropped off in the largest possible opening on the ridge ~200 meters south of point 13, a seemingly better location.

As a two person crew, we were still able to complete two points in a day. This was due in part to the short and relatively easy hikes which took less time out of the workday. The additional gear the two person crew carried was much less significant than anticipated. With a typical 3-person crew it would have been more likely to complete 3 points day. However, it

is assumed that these would be long days due to the thickness of the vegetation. On the one grid-day that we did have a 3rd crew member it was slower going than usual. This was due to an unusually high number of saplings in the first plot (~212) coupled with the process of training and instructing the substitute crew member, who had never worked on this project before.

Table 1. Collection series for the Sam Creek mini-grid.

Collector	Identifier	Series
Nicklen	Vascular plants	EFN-07-085 to EFN-07-100
Nicklen/Atkinson	Digital Photos	142-4241 to 143-4324
Scelza	Nonvascular collections	JDS-07-180 to JDS-07-270
Scelza	Soils	5,10,17a,17b,18,22a,22b,23

Table 2. Date of completion of Sam Creek mini-grid points

<u>mini-grid point</u>	<u>Date Completed</u>	<u>Mini-grid point</u>	<u>Date Completed</u>
SC- 01	not done	SC -14	not done
SC -02	not done	SC -15	not done
SC -03	not done	SC -16	not done
SC -04	not done	SC -17	3-July-2007
SC -05	5-July-2007	SC -18	4-July-2007
SC -06	not done	SC -19	not done
SC -07	not done	SC -20	not done
SC -08	not done	SC -21	not done
SC -09	not done	SC -22	3-July-2007
SC -10	5-July-2007	SC -23	4-July-2007
SC -11	not done	SC -24	not done
SC -12	not done	SC -25	not done
SC -13	not done		

ACTIVITIES:

Monday, 2 July

Leave Fairbanks office at 0800. Flight takes 80 min.(important for budget considerations as supervisor planned on flights to Coal Creek taking only 60 min.). We called Eagle to inquire whereabouts of helicopter at 1130. We were informed of TFR over Upper Crescent grid and unsuccessful attempts to contact the military to ask for an exemption. Meanwhile crew begins making other plans, and talks to P. Atkinson in Fairbanks via satellite phone and instructs him of the change in plans which means going to Sam's Creek instead of Upper Crescent and to bring tree coring instruments and datasheets, along with maps. Helicopter 337 arrives with fire crew around 1300. After Atkinson and Souzzanas arrive for work on another project, our sling load is readied for drop off at point 12 in Sam's Creek. Crew is dropped off at Ben Creek RAWs Landing Zone at 1500 with very little food and water. After following GPS and map down at least one wrong ridge, we finally arrive at camp at 2000 and begin camp setup. Worked 11.5 hours.

Weather: Slightly overcast in am, then sunny and warm at night (Max: 84, Min: 50 deg F)

Tuesday, 3 July

J. Scelza and F. Nicklen leave camp with all sampling gear at 0800 heading for SC22. Do point SC22, which is in dense mixed hardwood/PICGLA habitat on a north facing, low angle slope from 0900 to 1500. Do point SC17, which is in a more open PICMAR dominated habitat, from 1600 to 2045. Arrive back at camp (which is very close) at 2120. Worked 13 hours.

Weather: Clear, hot late in the day. (Thermometer left in cook tent) Very warm overnight (Max: 101, Min: 57 deg F).

Wednesday, 4 July

Similar to the previous day, J. Scelza and F. Nicklen leave camp with all sampling gear at 0800 heading for SC23, which is in dense mixed hardwood/PICGLA habitat on a north facing, low angle slope and sample that point from 0930 to 1530. Do point SC17, which is in a more open PICMAR dominated habitat, from 1610 to 2010. Meet P. Atkinson shouting 'haaaay bear' near camp at 2045. Arrive back at camp at 2120. Worked 13 hours.

Weather: Mild in the early am. Thunderheads passing by, but only tiny amount of rain (Max: 91, Min: 60 deg F)

Thursday, 5 July

P. Atkinson, J. Scelza and F. Nicklen leave camp at 0815 and head SW down ridge toward the far corner of the mini-grid to point SC5. Start SC5 at 0915, instructing P. Atkinson in several of the simpler tasks such as photos, tree and sapling measurements and data entry as we go. This point is in an extremely densely vegetated area on a north facing, low angle slope and contains over 200 saplings. We finish SC5 at approx. 1600. We begin SC10, which is in an open PICMAR dominated at 1650 and finish it at 2025. Worked 13.5 hours.

Weather: Thunder heavy in pm, but no rain. No direct sun due to haze from fire, light breeze all day (Max: 85, Min: 45 deg F).

Friday, 6 July

Got news of the helicopter pilots mandatory 2 days off (July 8 and 9) and that due to the growing Woodchopper Fire, we would be evacuated today. Packed up camp and prepared equipment for sling load which Paul Atkinson was qualified to hook to the sling line. Helicopter 337 picked up load at 1300 and crew began hiking out to Sam's Cr. Arrived at Sam's Cr. pick-up point at 1430. Arrived at Coal Cr. Camp at 1730. Worked 8 hours.

Weather: Sunny, but hazy due to smoke from fire. Light rain late in day.

Saturday, 7 July

Packed up once more and left Coal Cr. Camp. Waited for Wrights Air Service pilot who was due at 1000, but was delayed due to bad weather. Left Coal Cr. Airstrip at 1400, landed at FAI at 1507. Took Eagle Cab back to office. Finished unpacking gear at Fairbanks office at 1650. Worked 8.5 hours.

Upon arrival at Fairbanks office it is noticed that the tablet PC screen had cracked, which must have happened in transit on the 7th of July. It was packed in its leather sleeve inside a padded backpack, however the screen-side may have been facing the outside of the pack, up against the shoulder harness. During all the packing and unpacking (helicopter, plane, carts and vehicles) the crew did not always instruct the loaders (pilots, etc.) to be careful with that pack, and it is assumed to have been loaded below heavier things that could have caused the pressure crack. Be extremely mindful of where the tablet PC is *at all times*, and pad it generously to avoid this happening in the future.

Weather: Partly cloudy.

CONCLUSION AND FUTURE CONSIDERATIONS:

In addition to the recommendations mentioned above, it would be preferable to amend the working routine while at YUCH in general and on the Sam's Cr mini-grid specifically to complete the grid points to the satisfaction of the project. For example, adding a crew member to assist in data collection, having additional help with gear shuttling/resupply or working in one mini-grid beyond one maxi-flex period. See also "2007 Supplemental Crew Leader Report: Recommendations for Sampling at YUCH" for more suggestions.