

1986 GAAR-FIREPRO SUMMARY FIELD REPORT

Nancy Van Alstine
Biological Technician
GAAR-FIREPRO 1986

Between June 17 and September 3, the 1986 GAAR-FIREPRO team, Nancy Van Alstine, Janet Christiansen, and Sheryl Stevens, with helicopter support by Bill Roberts, carried out the work of monitoring fires, collecting data on fire history and vegetation succession, and ground truthing from CIR photos for the Geographic Information System (GIS). When there were no fires to monitor (the major portion of the season), FIREPRO concentrated on ground truthing and did only limited work on fire history/vegetation succession. In addition, the FIREPRO team assisted in a vegetation mapping project associated with the ATV project in Anaktuvuk Pass and conducted a subsistence firewood survey at Walker Lake.

Fires:

There were six fires in GAAR this summer: A100, A309, A310, A313, A318, and A319, burning approximately 3000 acres. All occurred in limited action zones as designated in the Kobuk Interagency Fire Plan.

Fire A100, located on the Tinayguk River drainage, was reported on June 20 and was monitored on the ground on June 20, 21, and 22. It was burning predominately in scattered white spruce/shrub/moss/lichen. It was reduced to mainly smouldering by the 22nd and was declared out by June 27 after having burned approximately 390 acres.

The next five fires (A309, 310, 313, 318, and 319) were all detected on July 8, occurring after a period of hot, dry weather. Fires A309 and 310 were both located in the fire prone area southeast of Selby Lake. A309 was in black spruce/shrub/lichen/moss and burned approximately 2500 acres over a couple of weeks. A310 was a small (40 acre) burn in sedge/shrub/lichen/moss tundra that was out by June 9; it was the site of control plot WPA-3 of 1985. A313, just south of Pyramid Creek off of the North Fork of the Koyukuk, burned approximately 15 acres in old growth white spruce/shrub/moss/lichen; most of the activity occurred within the first day. Fires A318 and A319 were located off the John River, A318 just north of Mashooshalluk Creek and A319, 6.5 miles north of the mouth of Wolverine Creek, east of the John River; both were on steep slopes. A319, in scattered white spruce/shrubs, burned approximately 25 acres; most of the fire activity occurred here within the first day, with several days of smouldering. A318 burned approximately 65 acres in white spruce/shrub on a very steep slope. Activity on

A318 occurred over several months; it would appear to die out, and then smoke and occasional open flames would be observed again.

The FIREPRO team collected on-the-ground fire behavior and weather data at A313 on 7/9/86 and at A309 on 7/9 through 7/13. A310, A318, and A319 were monitored by over flights.

Individual Fire Reports (TF-1202) were completed for each fire and sent to the Alaska Regional Office. A copy is on file with the parks fire data.

Fire History:

As mentioned previously, a decision was made to concentrate this year's field work on ground truthing the CIR photos for the GIS. Consequently, fire history/vegetation succession data were collected only in a few sites. A burn plot, PCB-1 (mixed spruce/shrubs/moss/lichen) was sampled in an old burn (1971?) near Pass Creek, just west of Eroded Mountain. There was no suitable control site. Sets of paired plots were also done in the two burns from the summer of 1985. NFB-1/NFA-1 (white spruce/shrubs/moss/lichen) were done in burn B098 just east of the North Fork of the Koyukuk and south of Delay Pass. CDB-1/CDA-1 (white spruce/shrubs/lichen) were sampled in B201, southeast of Walker Lake.

Ground Truthing for GIS:

Data collection for the GIS was the focus of this year's field work. Ground truthing was focused on during this field season because last year's work concentrated on the fire history, leaving large areas of the park unsampled. Since the data collected in ground truthing will be used to generate a vegetation cover map of the park, it was important to fill in the gaps.

Previous year's ground truthing had been concentrated in the fireprone areas of GAAR: the "boot" area, Walker Lake to Selby Lake, and the lower North Fork of the Koyukuk, both areas south of the Brooks Range or at best its southern fringes. This year's ground truthing emphasis was shifted farther north into the Brooks Range. The 157+ (+12 associated with fire monitoring work and 4 associated with paired plots) ground truth sites covered a variety of elevations, slopes, exposures and moisture conditions within GAAR: from the Norutak Lake area in the south to the Killik and Itkillik River drainages in the north and from the Glacier River on the east to the Upper Noatak River on the west.

Vegetation Mapping: Anaktuvuk Pass

The FIREPRO team spent July 29 - August 6 and August 13 in the Anaktuvuk Pass area, ground truthing vegetation types from color IR photos and concentrating on those areas of concern to the

ongoing NPS-ATV study. This work was done to aid in a vegetation mapping project associated with the ATV study and being carried out by Emily Binnian of the North Slope Borough. Ground truthing was done in the drainages of the Anaktuvuk River, Contact Creek, Kollutaruk Creek, Masu Creek, Ekokpuk Creek, Giant Creek (Inukpasugruk Creek), John River, Akmagolik Creek, and Kongumavuk Creek. The 154 ground truth sites ranged from creek bottoms to alpine meadows to rock barrens, but focused on areas that have been or might be subject to ATV use.

Wood Survey:

The FIREPRO team, aided by park rangers, spent July 15-18 and parts of several other days at Walker Lake in a survey of the wood available for subsistence firewood needs. Using methods devised by Tony Gasbarro of the Cooperative Extension Service, University of Alaska, and George Sampson, Institute of Northern Forestry, the FIREPRO team focused data collection on the mosaic of black spruce, white spruce and paper birch stands on the southwestern side of the lake. Information was collected to determine the volume of live wood, particularly birch, and dead and down wood present in this area. Tree cores were taken to provide information on tree ages, growth rates, and site quality. Regeneration data were collected by tallying young growth. Data analyses were to be carried out in the autumn back in Fairbanks.

RECOMMENDATIONS FOR FUTURE WORK:

Fire History:

There are a number of old burns in which paired plots could still be sampled, some in which one vegetation type has already been sampled and other relatively small burns recorded in BLM reports which could be tracked down.

The most productive work that could be done, however, would be to establish permanent plots in some of this year's burns, which could then be sampled over the years. In particular, burn A310 would be a good site to put in a permanent plot since it was the location of control plot WPA-3 sampled in 1985 so there is "before burn" data.

No permanent plots have been established yet on fires in GAAR for several reasons. Due to the low number of fires in the park during the 2+ seasons of FIREPRO field work, there was a lack of good fire behavior and weather data. Since plot sampling is a time consuming process and personnel were limited, collection of fire behavior data was given priority. Safety considerations of crews working in dense vegetation also ruled against establishing permanent plots in some situations, i.e. when burning in tall shrubs on a slope as in B098 of 1985.

An additional concern over the establishing of permanent plots has been how to relocate the sites in the future. Depending on

the burn size, presence of prominent topographic features and presence of personnel who have been to the site previously, it may be difficult to relocate the site if it is marked only with a metal tag. Sites will have to be chosen bearing ease of relocation in mind; it will be vital to leave precise relocation directions in the park files. Some obtrusive means of marking the site, i.e. flagging, may be necessary in some situations.

Ground Truthing:

There are still more areas within GAAR that should be ground truthed, particularly in the west and northwest, including the Noatak, Killik, and Nigu River drainages. Helicopter fuel limitations, however, make it difficult to do much work in these areas on any one trip; there is enough fuel to get out and back to these western and northwestern areas, sometimes with refueling at a fuel cache, but fuel for actual ground truthing work is limited. In these areas, ground truth sites need to be selected so as to maximize the amount of different signatures that can be ground truthed with a minimum amount of helicopter use.

Another problem with ground truthing in the Noatak drainage results from the popularity of this river for float trips. Any work done there using the helicopter requires sensitivity to impacts on floaters and hikers. (We were observed by at least two groups on our one day of work in the Noatak area this summer.)

Other areas in which additional ground truthing work should be done include the Itkillik and Hammond Rivers.