
research notes

Human Impact Monitoring

In the summer of 1985 the Northwest Alaska Areas (NWA) began a human impact monitoring program. Even here, with over 8 million acres of land, a small local population, and low numbers of visitors, the impact of humans can be seen. The project objectives were: 1) to document, monitor, and mitigate human impacts, 2) to assess the levels of human use which cause measurable impacts in various habitat types; and, 3) to measure recovery times of soils and vegetation once impacted.

The NWA parklands, which consist of Noatak National Preserve, Kobuk Valley National Park and Cape Krusenstern National Monument, are located 40 miles north of the Arctic Circle in the western Brooks Range. Dominant plant communities are arctic tundra, boreal spruce forest and coastal lowland. Three types of human-caused disturbances have become apparent in the parklands: regularly used campsites (including ranger stations), airplane landing strips on tundra, and snowmachine/ATV trails. Seven sites representative of these uses were identified for intensive monitoring. Several other sites were photo documented, only.

The variables identified as the most important in determining the degree of impact sustained were: the season in which the impact occurred, pattern and intensity of use, type of vegetation, soil moisture, depth to permafrost, slope, aspect and soil density. Herbaceous cover was measured using point intercepts along a line transect and by quadrat sampling with application of the Daubenmire cover classes. Shrub cover was determined by the line intercept method. Due to the variation in vegetation types no single sampling technique was chosen. Rather, combinations of several methods were used. Sorensen's similarity index provided a means of quantitatively comparing vegetation on disturbed and reference plots.

Human impact monitoring is a long-term project. As part of our written progress report, recommenda-

tions were made to management on minimizing site impacts. We have not set criteria for determining when a backcountry site must be closed to use, user limits, etc. – limits which are already in place at many other parks. Input from resource managers who have been involved with this sort of research or who have incorporated backcountry user limits into management guidelines, would be appreciated. Our research progress report is available to interested individuals.

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