

Chapter 4—Resource Assessment

Resources-Current Conditions

Physical features and areas of current use were inventoried, measured and entered into a Geographical Information Systems (GIS) database. The GIS database allows for an inventory of current features, provides a tool for examination of relationships between physical features, and can be updated as physical features of the North Campus change.

Current use

The current uses of the North Campus fall into three main categories: 1) Research, 2) Education, and 3) Recreation. Compatibility of these uses is situational. See Appendix H for a detailed list of current uses, users and their needs.

Research: The North Campus has a rich history of ecological and geophysical research because of easy access from campus and its breadth of ecological, hydrological, and soil conditions. Research taking place on the North Campus has been funded in support by both state and federal agencies. Currently, over half of the dollars in Alaska's economy accruing from research and development are attributable to UAF (Dorman, n.d.). Some of this funding is directly related to research taking place on the North Campus. The area is used by faculty level investigators from across the UA system and for graduate student research. There are over 20 current identified research projects on the North Campus, and historically the area has been used for over 107 projects including theses and dissertations. Its potential for research, therefore, also depends on maintaining its current balance between trail access and relatively undeveloped conditions.

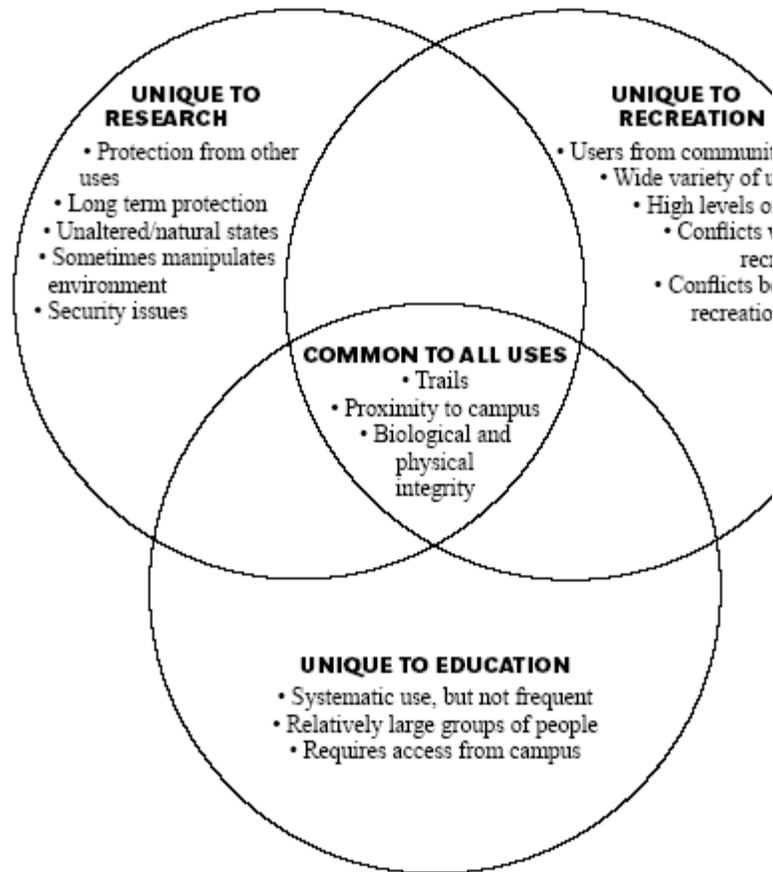
Education: UAF faculty use the North Campus for demonstrations and field activities associated with classes. Classes include, among others, art, biology, cross country skiing, military science, and natural resources management. There are two factors that make NC well suited for UAF courses: first, the unique resources found there; and second, the location, which allows students to gain easy access to these resources within the constraints of their class schedule.

Recreation: The diversity of environment-lake, forest, fen and field-and the trail system, provide opportunities for community outreach programs on the North Campus. Recreation in the NC has a long history. The proximity to campus makes it an ideal location for UAF faculty, staff, and students to engage in recreation activities while on breaks during the workday. The recreational opportunities provided on the NC provide valuable stress relief, opportunities for introspection, and physical fitness. The proximity to campus is especially critical in the winter months. The NC also provides training for the UAF Nordic ski and running teams, as well as community firearms courses.

There are several common themes among these uses:

- Proximity to campus is critical for all uses and users.
- All uses rely on the trail system.
- All uses have a vested interest in maintaining the biological and physical integrity, as well as the natural assets, of the area (see Figure 4.1).

FIGURE 4.1—Relationship among uses of North Campus.



Concentration of current uses

The concentration of current uses was also assessed, with GIS used to inventory their locations. In some cases the GIS coordinates were entered based on a description of the area provided by the respective user; in other instances the physical feature (e.g., trail, research plot) was recorded using Global Positioning Satellites (GPS). A description of the current concentrations, and maps displaying the concentration, follow.

Research

Inventorying current research was viewed as a critical task for the NCS. A GIS database has been developed to inventory and track current research and facilitates future research. The database containing this inventory will be made available to researchers as needed. Research information contained in the database includes the following:

- Location of the research area
- The shape of the research site
- Buffer area identified by researcher
- The type of research taking place

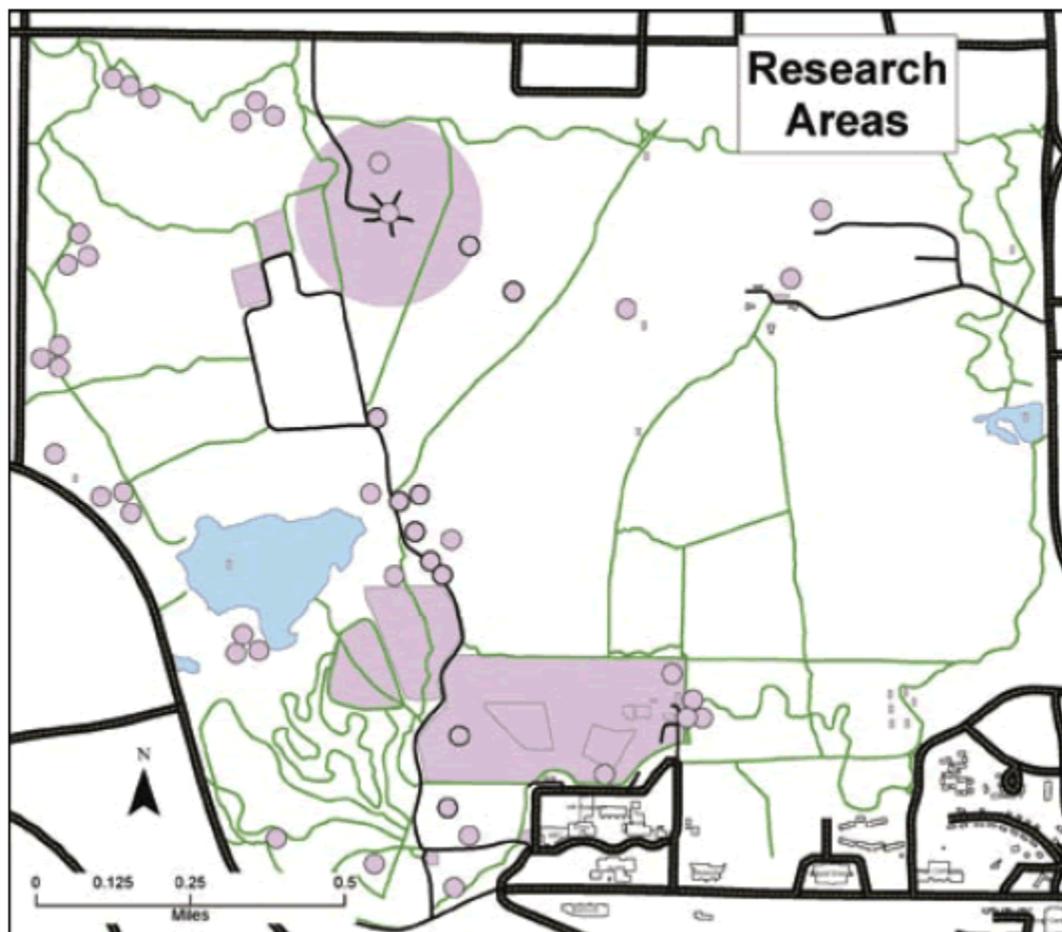
- Activities that pose threats to the research
- The timeframe, historic and future, of the research
- The principal investigator (PI) and their contact information

Research support information includes:

- Contour lines
- Arboretum boundaries, vegetation classification, multi-band aerial image circa 1978, aerial image circa 1948
- Location of trails, including informal trails
- Areas used for education
- Visual bands aerial image, circa 2002

There are over twenty identified research projects currently operating in the area, including studies of soil temperature, forest growth, micro-meteorology, moss growth, forest litter decomposition, infra-sound, permafrost, and wildlife. While more details of these studies are contained in the research database, the specific place is not identified for confidentiality reasons. Although research occurs throughout the NC, there is a heavier research concentration in the Arboretum, the T-Field and Potato Field, and the Smith Lake area.

FIGURE 4.2—Reported areas used for research on North Campus



Roads and Utilities on North Campus

FIGURE 4.4—Roads and Utilities on North Campus

There are 3.8 miles of roads on North Campus, which are authorized for "any non-motorized use and authorized vehicles," and constructed to varying Department of Transportation standards. In addition, there are several areas on North Campus where power transmission lines exist.

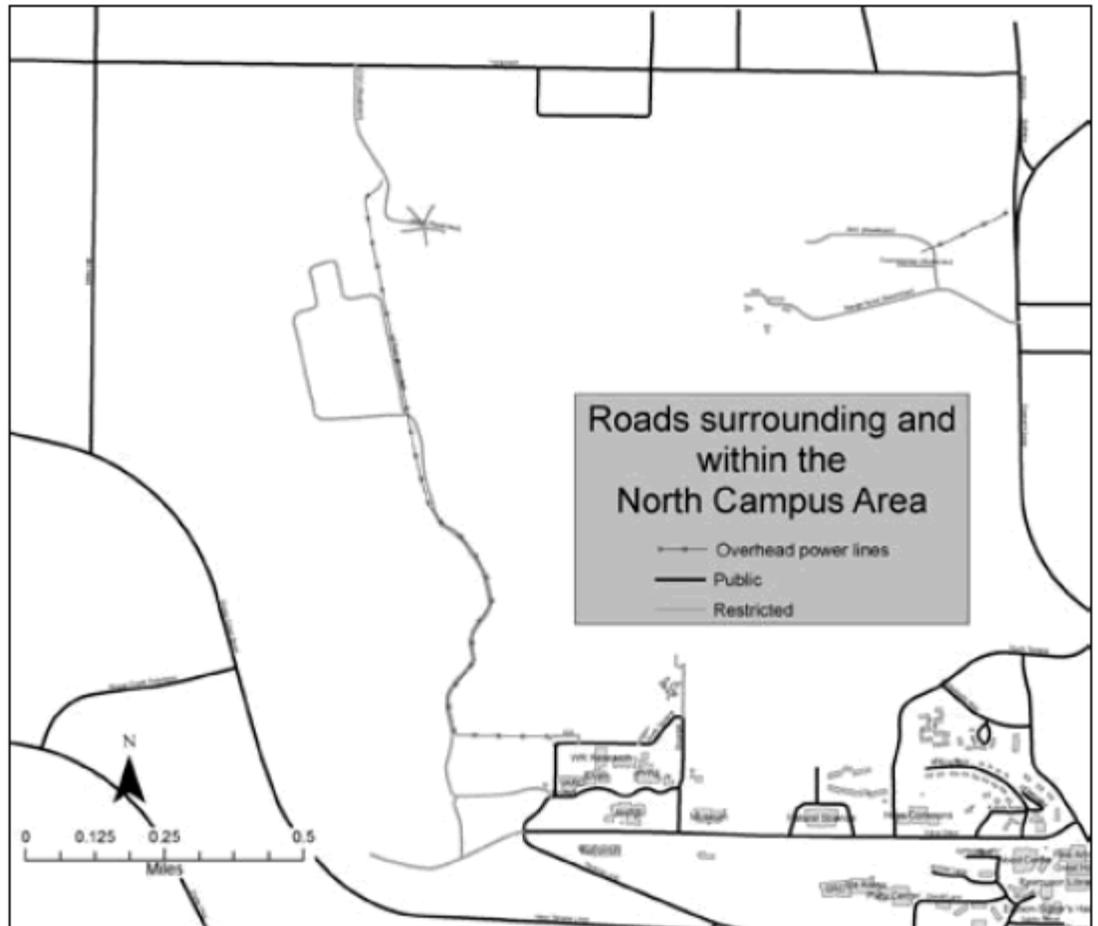
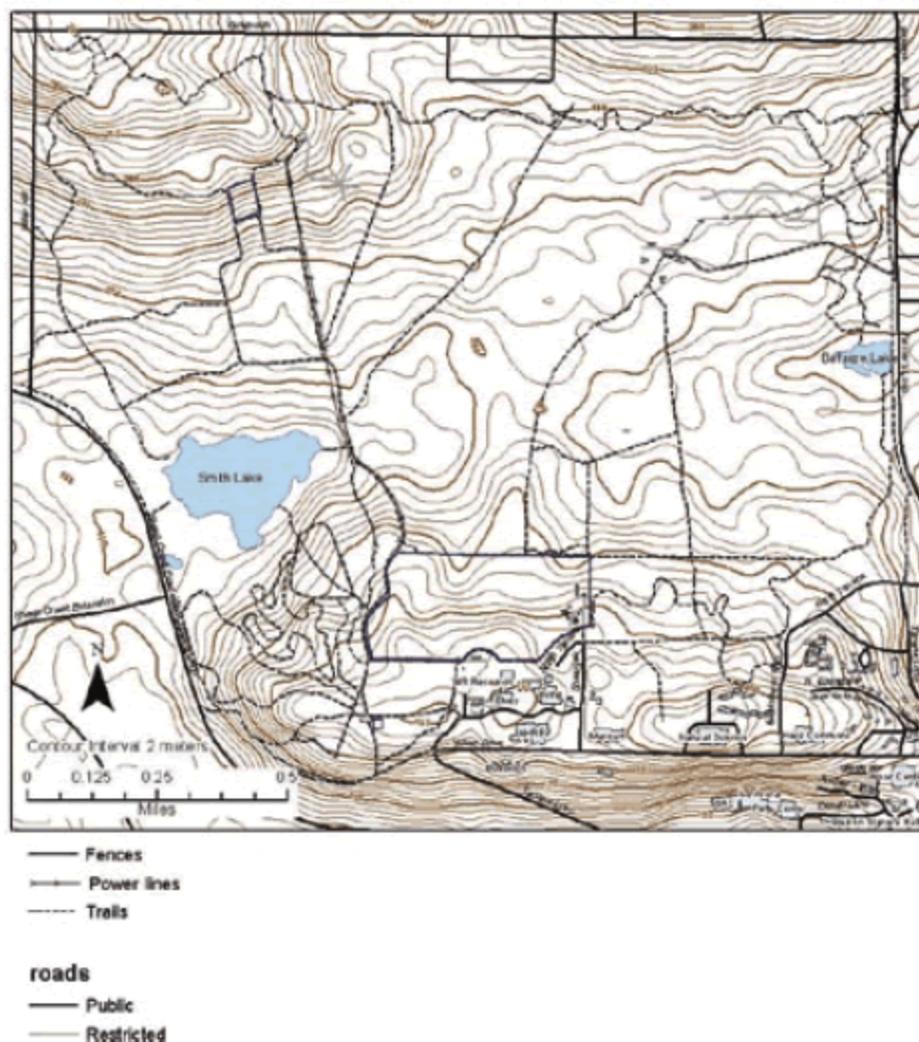


FIGURE 4.5—Topographical Map of North Campus



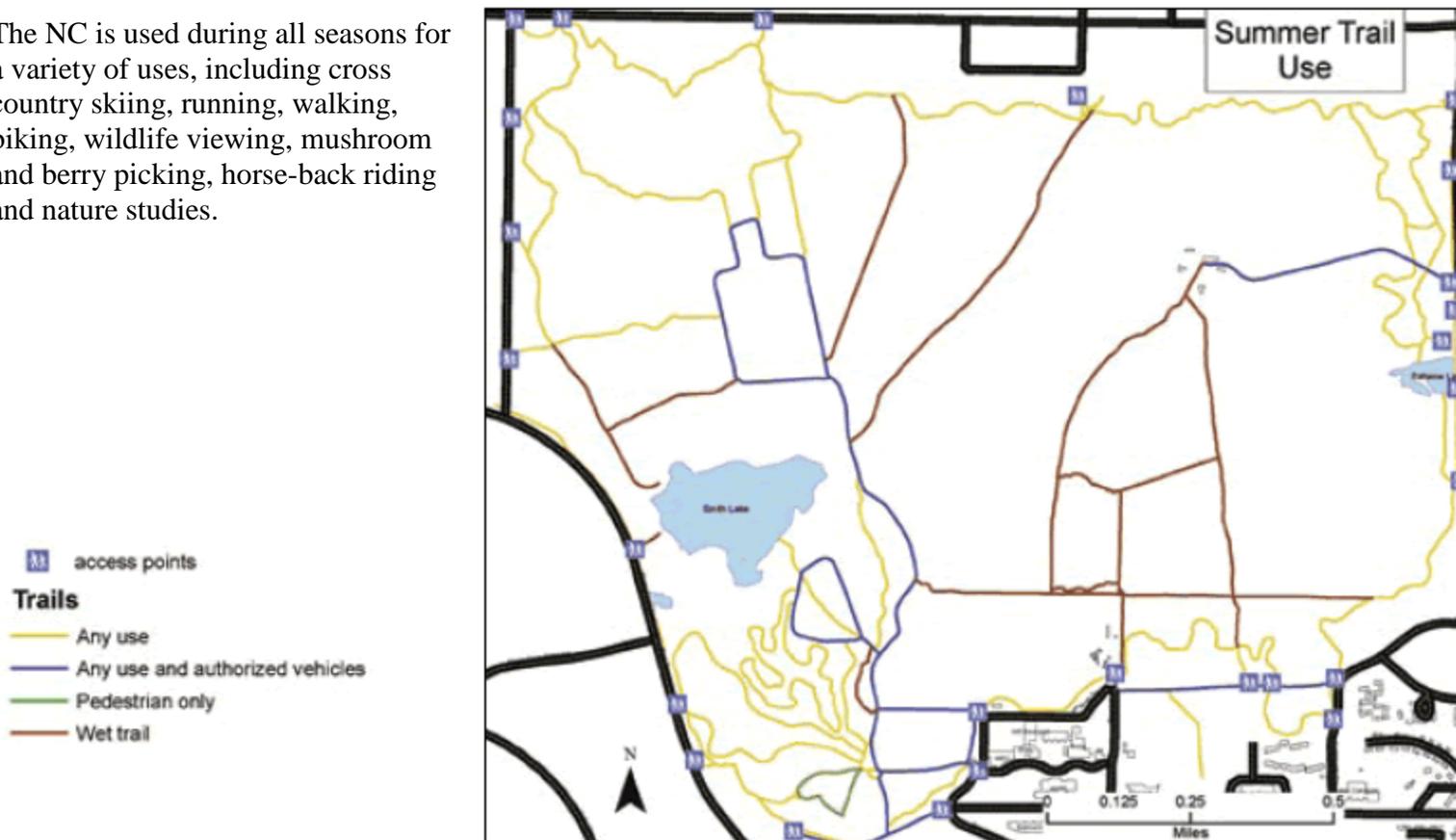
Topography and Soil Conditions on North Campus

The topography of NC includes a broad east-west bottom land between Smith Lake (west side) and Ballaine Lake (east side), with a northerly aspect slope that declines to the bottom land from the main campus and a southerly aspect slope that leads up to the north border (maximum elevation of 250 m) along Yukon Road. No slopes in NC are as steep as those of the main campus south of Yukon Drive. Significant portions of the low-lying land between Smith and Ballaine Lakes are often wet and virtually impassable in spring and summer and sometimes until freeze-up in fall. Soils are classified as Minto, Fairbanks, and Goldstream silt loams (USDA Soil Conservation Service, Alaska Agricultural Experiment Station 1963). Frost-action susceptibility, engineering properties, and other characteristics for each soil type are provided in Appendix I. The Natural Resource Conservation Service is in the process of updating and digitizing the Fairbanks Soil Survey. When that is completed it will be included in the GIS database. There are no reliable maps showing current wetland areas or permafrost coverage for the NC. FIGURE 4.5 Topographical Map of North Campus

Recreation

The NC is used during all seasons for a variety of uses, including cross country skiing, running, walking, biking, wildlife viewing, mushroom and berry picking, horse-back riding and nature studies.

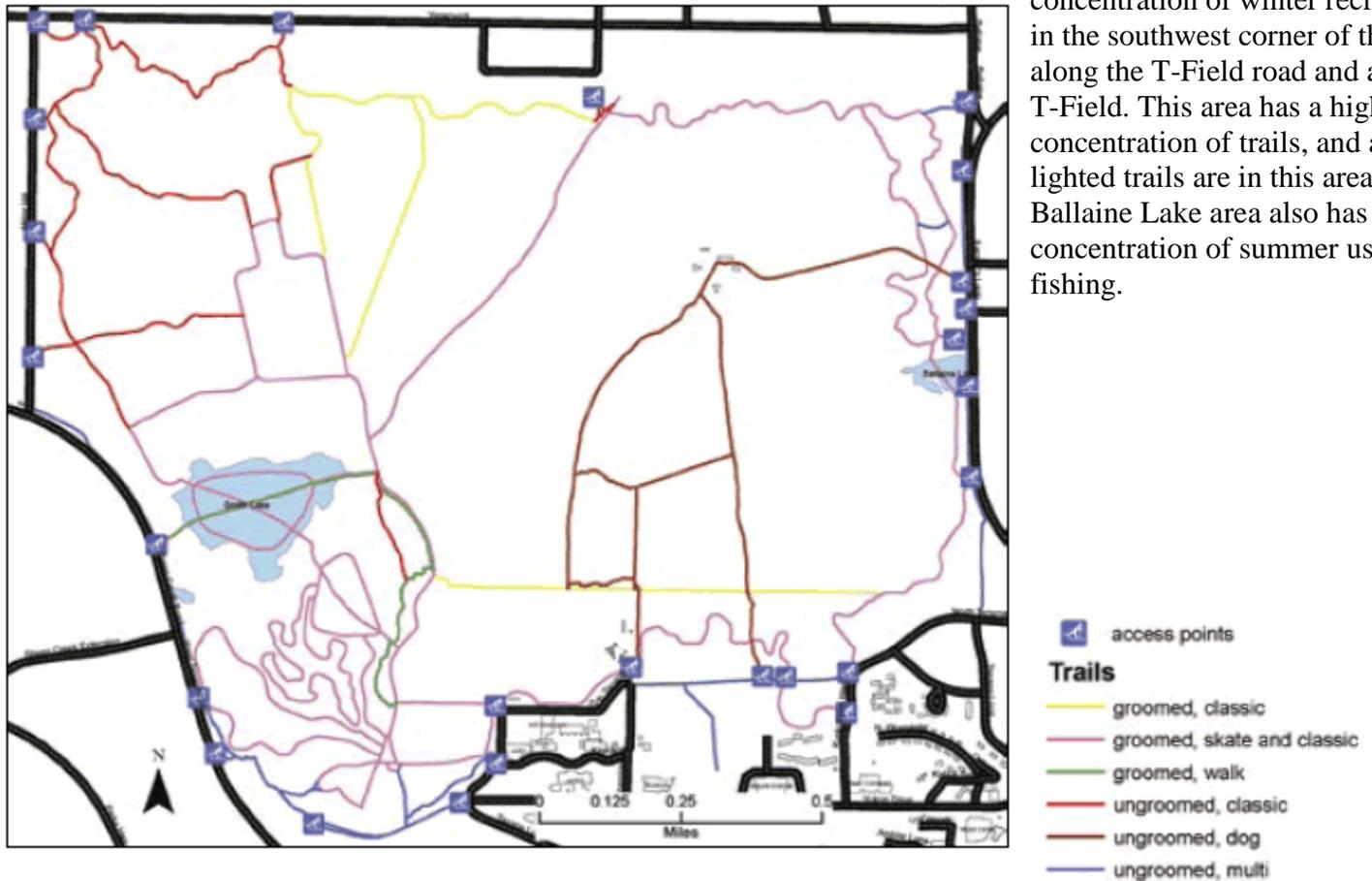
FIGURE 4.6—Map of summer trail use.



Summer trail use classifications are based on the Skerland Trails Management Plan (Todd 2000), and maps drawn by Dixon Jones, Rasmussen Library, UAF, and the UAF Trails Club Map. The locations of the trails were updated in 2003. By showing this map, the MF not endorsing all of the trails shown on the map, or any other trails that may exist in the North Campus Area, as official UAF trails.

"Any use and authorized vehicles" refers to roads.

FIGURE 4.7—Winter trail use



Although recreation takes place throughout the NC, there is a heavy concentration of winter recreation use in the southwest corner of the NC, along the T-Field road and around T-Field. This area has a high concentration of trails, and all of the highlighted trails are in this area. The Ballaine Lake area also has a high concentration of summer use from fishing.

Special management areas

There are several areas within the NC, which have their own management structures:

- The Arboretum including the Exotic Tree Plantation, T-Field and Potato Field, is under the management of the director of the Agriculture and Forestry Experiment Station (AFES).
- The UAF Biological Reserve is under the management of the director of Institute of Arctic Biology (IAB).
- The CIGO site is under the management of the Geophysical Institute. It is likely the CIGO site will remain in operation indefinitely.
- Smith Lake was designated as a "park" by the Board of Regents in 1950. The action specifically prohibited tree cutting within 100 yards of the lakeshore.

The NCS proposes that the special management areas mentioned above adhere to the guidelines set forth in this plan for the North Campus. More stringent guidelines can be adopted, but with respect to infrastructure or changes to the environment, the guidelines in this plan must be followed.

The management of the areas listed below, although not actually located within the NC boundaries, should be considered by the NCS because:

- the UAF Experimental Farm and Georgeson Botanical Garden border the NC, receive high visitation in the summer, and encourage use of the North Campus trails. Future management plans of either entity that would increase or change use in the NC should be considered by the NCS.
- the UA Museum of the North, attracts high visitation to the University, and hence influences use of the NC. Museum plans that may result in increased use of the NC should also be considered.
- the proposed open space east of the museum that will highlight Alaska Native heritage and art, if implemented, will be integrated with the NC by connecting trail systems. Use and management direction of the open space will influence the NC, so management plans will also be considered by the NCS.

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