Tenderfoot Creek Experimental Forest (TCEF_MT_NRM), Northern Rockies Domain

Contact Person: Ward McCaughey, phone: 406-329-2125, email: WMcCaughey@fs.fed.us
Web Page: http://www.fs.fed.us/rm/main/expfor/tenderfoot.html
Locator Map: For larger image and additional maps go to
http://flbs.umt.edu/sitemaps/tenderfoot.aspx

History: The Tenderfoot Creek Experimental Forest (TCEF) is 9215 acres in size (3730 ha), and was designated by the USFS Rocky Mountain Research Station (RMRS) in 1961 for hydrology and ecology research in the lodgepole pine forest type, the 3rd most extensive forest type in the Rockies. A network of stream gaging and meteorological stations was installed in the early 1990s in association with a largescale experiment to study the responses of lodgepole pine ecosystems to manipulation. More recently, TCEF has become a site for flux tower studies of C dynamics.

Key Characteristics: TCEF is highly representative of lodgepole pine communities in the Northern Rockies with several habitat types distributed across the mountainous topography that ranges from 1840-2420 m in elevation. Other common vegetation types include open grasslands and wet meadows. Natural disturbance and experimental manipulations have created several age classes representative of different successional stages. While remote, access is good along well maintained USFS roads. Established partnerships exist with Montana State Univ and the Univ of Montana faculty, and partnerships with regional tribal colleges are in development.

Existing Infrastructure: Eleven stream-gaging stations installed in the early 1990s provide discharge, sediment and nutrient-flux data. Two weather stations (low and high elev) installed at the same time were updated to SNOTEL sites in 2001 and the data are web-accessible. Two eddy-flux towers were installed in 2005 by Dr. Brian McGlynn from Montana State University (a 110' tower overtopping a mature lodgepole pine stand, and 15' tall tower sited in a wet meadow) that are now part of the Ameriflux program. In 2005, the entire Forest was flown for LIDAR at a 1-meter resolution. In addition, permanent vegetation plots, and bird and small-mammal sampling provide legacy data. Other data resources include: spatially-explicit fish population and habitat surveys, stream-channel characterization; maps of forest stands, geology and soils; forest-fuels data; vegetation and biophysical data; and forest boundary and contour maps including DEM.

Facilities: Other than gaging stations and instrument shelters, there are no existing permanent facilities on the Forest. An administrative site of about five acres has been located on TCEF, but the site has not been developed. During summer months, two travel trailers that provide temporary quarters for field crews are parked at a site on the TCEF boundary with a third trailer to provide storage and a place for repairing equipment. RMRS is very willing to cooperate and collaborate in building of laboratory, educational, meeting and housing facilities on the designated administrative site within the Forest.