Do the woods look different around the Cloquet Forestry Center? Yes!
The Cloquet Forestry Center is a working forest. We maintain an active silviculture program and sustainable harvesting regime to meet our mission of conducting applied education, research and outreach related to northern forests. Silvicultural prescriptions are developed for experimental and/or demonstration purposes and to maintain a diversity of ecological communities in a variety of developmental stages across our 3388 acres.

What were the prescriptions during 2016?
Prescriptions were developed for four stands at the CFC that became know as the Fisher, Rook, FAPPcatt, and Zebra stands. The latter three stands were dominated by high-density red pine while Fisher was a mix of aspen, red maple, red pine, Norway spruce, and birch. Fisher and Rook were sold as individual timber sales but FAPPcatt and Zebra were sold as one sale because of their proximity, the similarity of timber, and to minimize paperwork. Timber products produced included red pine utility poles and house logs, conifer bolts and pulp, aspen and maple pulp, and biomass chips of assorted species. Details about each prescription are below and a map of stand locations is on the reverse side of the page.

"Fisher" - Clearcut-with-variable-density-reserves - 20 ac  
**Forest type:** FDN33 - Mix of even-aged blocks of aspen, red maple, and paper birch (50-60 y.o.), and red pine (block of 85-100 y.o. and block of 40 y.o.) and Norway spruce (85 y.o.)  
**Goals:** Reset the age of the aspen while diversifying age, spatial, and compositional structures to promote fisher (Martes pennanti) habitat in this and adjacent stands. Adjacent “Fisher Management Area” stands include a decadent aspen stand to the south, a 35-yr old aspen stand to the north, and a mixed-conifer lowland, to the west, which drains north and connects to Otter Creek.  
**Prescription:** Growing-season clearcut of 13 acres of mixed aspen, red maple, and Norway spruce retaining all paper birch and white pine for structural and seed-tree purposes; also, retain <4 aspen per acre that are >16” DBH for future above- and on-the-ground den sites. Thin 2-acre reserve block of 40-yr old red pine to a BA of 110 ft²/ac. Thin 5-acre reserve patch of 100+ year old, uneven-aged red pine.  
**Purchaser:** Sappi North America  
**Operator:** Berthiaume Logging, Inc.  
**Harvest:** May 17 - 31, 2016  
**Vol. removed | retained:** 619 | 186 cords

“FAPPcatt” - Forest Adaptation Practices and Planning demonstration and experiment - 12.3 ac  
**Forest type:** FDN33 - Red pine (70 y.o.) dominant with scattered white pine (25.4 ft²/ac).  
**Goals:** Diversify spatial arrangement of even-aged red pine canopy to create variable growing conditions for natural regeneration of white pine and artificial planting (scheduled for 2019) of oaks and ponderosa pine.  
**Prescription:** Clearcut six one-half acre gaps and thin the matrix from 355 trees/ac down to 160 trees/ac (BA: 110 ft²/ac).  
**Purchaser:** Bell Timber, Inc.  
**Operator:** Berthiaume Logging, Inc.  
**Harvest:** Dec 16, 2016 – Jan 5, 2017  
**Vol. removed | retained** (proposed): 750 | 376 cords

“Rook” - Variable density firewise thinning - 13.4 ac  
**Forest type:** FDN33 - Red pine (90-170 y.o.) dominant in the canopy with smaller proportions of white pine and spruce.  
**Goals:** Create an aesthetically-pleasing, spatially-heterogeneous uneven-aged red and white pine woodland that has a low-likelihood of carrying a catastrophic fire to CFC buildings. Promote a compositional transition of the canopy to white pine dominance, in accordance with NPC stand development theory.  
**Prescription:** Thin red pine canopy trees from 190 ft²/ac to 80-110 ft²/ac (post-sale residual cruising estimate is 113 ft²/ac) while also removing a majority of understory biomass and ladder fuels (mostly balsam fir). Retain large-diameter red pines of good vigor (charismatic megaflora), well-formed 9-11” dbh red pines for future economic value, a majority of mature white pine as seed-trees, and all large-diameter standing and downed coarse-woody debris.  
**Purchaser:** Bell Timber, Inc.  
**Operator:** Berthiaume Logging, Inc.  
**Harvest:** May 31 – June 17, 2016  
**Vol. removed | retained:** 416 | 523 cords

“Zebra” - Strip-seedtree preparation cut – 12 ac  
**Forest type:** FDN33 - Red pine (65+ y.o.) dominant (190 ft²/ac)  
**Goals:** Implement a natural regeneration system for red pine that balances economic and ecological objectives and issues. The preparation cut aims to reduce canopy tree density in order to increase the structural integrity of the high-value reserve trees prior to the seed cut entry (2021) and final harvest (2026).  
**Prescription:** Clearcut 15’-wide strips 150’ apart to establish skid roads (future regeneration strips) and thin the even-aged red pine reserve strips to 175 tr/ac (BA: 115 ft²/ac)  
**Purchaser:** Bell Timber, Inc.  
**Operator:** Berthiaume Logging, Inc.  
**Harvest:** Dec 5 - 16, 2016  
**Vol. removed | retained** (proposed): 273 | 495 cords

Where did we harvest? (See map on reverse side of page)

QUESTIONS? Please contact Kyle Gill, CFC Forest Manager at kkgill@umn.edu or 218.726.6412