

Grafton County Farm and Woodlands

Mission Statement: Grafton County shall endeavor to provide a working farm operation, maintaining woodland, wetlands and farmlands for cultural, historic, economic, educational, recreational, and rehabilitative purposes.

The dairy farm will be managed in a positive, safety conscious, productive environment for its employees, inmate labor, and the general public. The farmlands shall be utilized to grow crops and produce. The forest is recognized as a renewable natural resource to be managed and harvested on a sustainable basis.

The County Farm and the Department of Corrections will work together to utilize inmate labor on the farm as a rehabilitative resource while recognizing educational goals.

Overview

The Grafton County Farm, located in North Haverhill New Hampshire, consists of 757.7 contiguous acres of land. Land uses include; Grafton County Complex (Farm Buildings, County Courthouse, Nursing Home, Jail and Administrative Offices 30 acres; Field and Cropland, 239 acres; Natural Area/Floodplain (along the Connecticut River on Howard Island), 28 acres; unproductive/inaccessible/wetland areas, 34 acres, and Commercial Timberland, 426 acres.

The Farm Woodlands, for more than a century, have provided pasturage, lumber, firewood and timber revenues for the County Farm operations. In addition, the land supports significant wildlife habitat, public recreation environmental, educational and scenic values. Intensive forest management was initiated in 1982, per agreement with County Commissioners, County Executive Director(s), County Farm manager(s), and UNH Cooperative Extension Foresters. Since 1983, the woodlands have been certified as a N.H. Tree Farm, reflecting a commitment to and evidence of sustainable forest conservation and progressive, multiple resource management.

A comprehensive Stewardship Plan (in progress) builds upon previous plans (1977, 1985, & 1994, UNH Cooperative Extension), inventories (1991 & 2004), and more than twenty years of forest improvement and applied agriculture on County Farm Woodlands. The plan describes objectives of ownership, current conditions of the multiple resources, timber inventory data and valuation comprehensive maps, prescriptions for science-based, sustainable forest management and a schedule of recommended treatments for the next fifteen ± years.

I. Objectives of Ownership (draft)

Manage forest resources - timber, habitat, wetlands and water, soils, access and recreational utility - in a sustainable and exemplary manner.

- Provide periodic income for Grafton County Farm through the commercial sale of wood products, following best management practices, principles of silviculture,

- and standards of the N.H. Tree Farm Program.
- Protect and maintain unique and sensitive sites, including wetlands, flood plain forests, riparian habitat, talus slopes and fragile soils.
 - Utilize Grafton County Farm Woodlands for applied research, education and demonstrations, to illustrate the principles and benefits of sound and sustainable management of forest resources.

II. Current Resource Conditions

The Farm Woodlands are generally well-stocked with desirable, commercial tree species, well-suited to the typically dry and shallow soils on most acres. Northern red oak, eastern white pine, eastern hemlock, paper birch, and aspen are common and dominant stands though often in admixture. Size classes range through seedling/sapling (1-4" diameter), poletimber (6-10"), small sawtimber (12-16") and large sawtimber (18- 26"+); tree ages range from 1 to 125+ years.

Forest health is good and growth rates are 4-5% (above the 3% state-wide average.) There is little if any overmature timber, nor significant value loss due to low vigor windthrow insect or disease factors, or neglect. Invasive exotic species are not an issue on the woodlands, though barberry and honeysuckle are widely scattered in some areas. The floodplain forest Natural Area does have some increasing problems with invasives notably knotweed (aka Japanese bamboo).

The lack of desirable reproduction, particularly red oak and white pine seedling/saplings, is a notable and serious problem in nearly all woodland areas. Inherently difficult regeneration of those two species is compounded by current understood conditions: dense, shade-tolerant, persistent and abundant witch hazel and hawthorn, native shrubs that are excluding timber species. Preferential grazing/browsing of County Farm heifers (now excluded) for decades is to blame in large part; overcrowding of desirable seedlings/saplings by a robust population of deer, and lack of site preparation in conjunction with timber sales also contributed to the current situation. Prompt regeneration of desirable species needs to be a particular focus of management efforts and treatments for the foreseeable future.

Wildlife habitat is diverse and rich, with ample food sources (oak mast, hardwood browse, shrubs and berries, small mammal and bird prey base), cover (dense softwoods, aspen thickets), nest and den sites, water, and space. Wildlife known to inhabit or visit the woodlands include white-tailed deer, black bear, hawks and owls, furbearers, beaver and waterfowl, and a very large community of songbirds. Habitat management has been incorporated into active forestry since 1983, with regular input from professional wildlife biologists.

Primary access to the larger easterly block of Farm Woodlands is an improved truck road. This road can accommodate log trucks and tractor trailers. Farm trucks, tractors and pick-ups can travel several old farm roads to most internal areas, and a network of skid roads

provide good logging access to several maintained log landings. Maintenance is an ongoing need, particularly the main road.

The access network also provides recreational opportunities to the general public. Hunting and snowmobiling are most popular; hiking, birding, sledding, trapping and (increasing) ATV use are also noted. As more private land becomes fragmented, developed and/or posted, recreation on the Woodlands will become a more important public use.

Due to size, accessibility, diversity and management history, the Farm Woodlands are a valuable educational resource. Field trips, demonstrations, training of logging and forestry professionals, and hands-on youth education occur on a regular basis, and this capacity can be increased.

III. Timber Production

Since winter of 1983, commercial timber sales and cordwood cutting have occurred on all accessible acres of County Farm Woodlands, and several areas have been treated 2-3 times, Timber harvesting has produced over \$150,000 in net revenue to Grafton County Farm. All cuttings have been marked and supervised by Extension forester(s), focusing on increased forest value growth, regeneration and amenity enhancement.

Adherence to silvicultural principles quality, accelerated product development, and markedly increased Annual economic in controlled cuttings has improved timber growth of the County Farm Woodlands. Preliminary analysis of 2004 inventory data indicates a doubling of board foot volume since the 1991 cruise, despite substantial commercial harvests during that period (Cruise volume estimates have an allowable error of 29%; that is, 95% of the time actual volumes will be within this margin.) Increased timber quality, diameter increment and market development of residual timber have further contributed to an estimated timber liquidation value. While such estimates must be viewed cautiously it is projected that managed cuttings over the next 10-15 years will produce approximately \$150,000 of revenue for the County Farm.

It can not be overemphasized that commercial harvests must focus on securing desirable regeneration, principally red oak and white pine, More than 3/4 of standing timber value is attributed to these two species, Site preparation, seed years and adherence to silvicultural systems are critical to sustainable economic management of County Farm Woodlands. Continued Tree Farm certification and utility as a teaching/demonstration resource hinge on successful regeneration treatments as well.

For management purposes, the forest has been divided into eight compartments, based on topography, access, and timber types. All compartments, or portions therein, can support commercial sales over the next 10-15 years. Precise scheduling will depend on site conditions, logging capacity, markets and opportunity for regeneration in concert with income needs of the Grafton County Farm.

IV. Management Recommendations & Schedule (draft)

1. Continue active and sustainable application of forestry principles to enhance resources and satisfy objectives of ownership.
2. Complete comprehensive Forest Stewardship Plan to guide resource management over the next 15+ years (Summer 2004).
3. Maintain Tree Farm certification (reinspections due 2004, 2009, 2014, 2019).
4. Update and adjust Current Use Assessment categories and status with Town of Haverhill (Fall 2004)
5. Establish Woodlands Management Account, utilizing proceeds from sale of timber products to fund needed precommercial improvements (Summer, 2004/2005).
6. Prepare for commercial harvesting within Compartment 3, applying selection systems to secure desirable regeneration (Summer, 2005; anticipated revenue \$15-20,000).
7. Perform site preparation/understory control within Compartments 7 and 8 to encourage natural regeneration (Summer & Fall, 2004/2005).
8. Implement commercial timber sales within Compartments 1, 4, 5 and 7, as conditions become favorable for natural regeneration e.g. seed years, site preparations summer logging (Summer/Fall 2006-2014; anticipated revenues \$100,000).

GRAFTON COUNTY FARM WOODLAND

Timber Harvest Activity 1983 - 2004*

Year	Volume	Net Revenues
1983	110.2 MBF, 523 Cords	\$10,631
1984	9.4 MBF, 75 Cords	\$1,674
1985	133.7 MBF, 1155 Cords	\$13,746
1986, '87, '88	136.6 MBF, 1366 Cords	\$31,369
1989	11.95 MBF, 53 Cords	\$5,707
1990	4.7 MBF, 70 Cords	\$2,800
1992,'93,'94	26 MBF, 145 Cords	\$6,732
1995	15.9 MBF, 75 Cords	\$7,249
1998, '99	116 MBF, 213 Cords	\$17,070
2001, '02	60.5 MBF, 100 Cords	\$14,899
Total:	624.95 MBF, 3775 Cords	\$111,877

*(Preliminary Numbers)