

Dan Glazier Forest  
Rattlesnake Gutter Trust

Forest Inventory Report  
Spring 2010

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### Property Overview

Dan Glazier forest is approximately 57 acres of forested land that was acquired by the Rattlesnake Gutter Trust (RGT) in 2009. It is located in the northeastern portion of Leverett, MA just north of North Leverett Road and Moore's Corner.

This property has no legal road frontage and can be accessed via the power lines that run north/south and abut the western boundary line. The Metacomet-Monadnock recreational trail system follows these power lines and blazes can be seen from the access point to the property. This property has some evidence suggesting past land use. Stone walls are present near the western boundary and just beyond the southern boundary. A cellar hole and an abandoned road can be found near the southeast corner of the property. Barbed wire can also be spotted along some of the boundaries as well. These are indication that this property was most likely cleared for pastureland or agricultural use at one point in history. This was common throughout the state of Massachusetts and most of New England, due to the mass deforestation that occurred from 1700 to the mid 1850's from small sustenance farming.

The property boundaries along the north line are very clearly marked. This northern boundary has been recently flagged and is noticeably blazed and painted. The blazes and paint are present from the western corner to approximately  $\frac{1}{4}$  of the total length of the line. Stone monuments are present at all corners, except the southeast corner. The southern boundary is very well marked with iron pins that are spaced roughly fifty feet apart, along with flagging. The east and west boundaries are currently identified with flagging and no blazing or paint is present.

The terrain of this property varies from a very steep slope to a more gradual one. The property is located on the southern end of Diamond Match Ridge and consists of slopes facing all aspects except north. Some slopes contain stone outcrops and formations, these are primarily on the west facing slope and east facing slope.

The forest compositions, or stands, on the property are not atypical of a Massachusetts forest, with the exception of the chestnut oak found in Stand 2. Three stand types exist on the property, these being:

- Stand 1 – Central Hardwood - Located on the far western portion of the property and a small section along the northern boundary, this stand is composed of primarily hardwoods with some white pine and hemlock inclusions.
- Stand 2 – Hemlock-Central Hardwood - Located in the central region of the property, is composed primarily of hemlock with some hardwood species present.
- Stand 3 – Central Hardwood - Located along the eastern boundary of the property, which is composed of primarily hardwoods, mostly being birch species.

The forest on this property appears to be approximately 70-80 years old, with the exception of some specific trees. There is evidence on the property that suggests a large disturbance in the past. This

evidence coincides with the hurricane of 1938, which ravaged the countryside in north central Massachusetts. Since then the forests have rebounded and interesting specimens can be found throughout the property lending insight to the historic hurricane. Although, no invasive species have been identified on this property, their presence is likely. Alas, a recent clear-cut along the southern boundary may prove to be problematic area for invasives in the future. The proximity of this clear cut allows for a substantial amount of light to enter this portion of the forest, which can greatly alter forest composition and allow for more under story growth.

**Recommendations:**

The boundaries should be blazed and painted to avoid any future problems with trespassing or boundary disputes. The construction of a hiking/walking trail through the property is another recommendation that is feasible. There are stone formations both natural and manmade that are intriguing and worth walking to. There is a scenic view at the southern boundary of the property, which was created by the recent change in land use on the abutting property. Potentially this trail could be a spur path off the extensive Metacomet-Mondanock trail system which passes nearby. This would also create reasonable access to the property for future monitoring.

#### Detailed Forest Composition:

All data was obtained in the field and entered into NED-1, a United States Forest Service data collection program, for analysis. The field data was acquired using a 10 factor prism and variable radius plots. The plots were selected using a line-plot system. A total of twenty six plots were taken throughout the property in accordance with a grid pattern.

#### **Stand 1 – Central Hardwood**

##### Description:

This stand type consists of primarily hardwoods, such as red oak, black oak, and birch, with some white pine inclusions also present. It is approximately 11.5 acres and includes two separate locations on the property. The two locations are found at the western edge of the property and along the northern boundary. Rocky outcrops are present in each of these stands. The slopes of these areas have a southwest facing aspect and are moderately steep. The portion of the stand that is centrally located on the property is primarily steep and gradually lessens to the north and east of the stand boundary.

The dominant overstory species of this stand are red oak, black birch, and white pine. Other species found throughout the stand are hemlock, black birch, hickory, red maple and black oak. Mountain laurel is present throughout the stand and is very dense in some locations. Regeneration is scarce and consists of primarily red maple and hemlock saplings.

This stand shows evidence of the hurricane of 1938, pit and mound formations are numerous throughout. Also present in this stand are numerous stumps, which suggest that past harvests were made, primarily for small diameter firewood. This cutting occurred more than 20 years ago. The stand is generally healthy and no nonnative invasives were identified. A trail was found within the portion of the stand that is centrally located on the property. This trail was marked with red paint and continues off the property across the northern boundary.

In the farthest northwest corner of the property a small portion of red pine trees are present. They appear to be roughly seventy to eighty years old and may be the remains of an old plantation. It is likely that these pine trees were seedlings during the hurricane of 1938 and were therefore left virtually unharmed by the storm. Also found in this stand is a stone wall, it is located just inside the western boundary and follows a north/south line.

Composition:

	All Species	Black Oak	Red Oak	Black Birch	Red Maple	Eastern Hemlock	White Pine
Basal Area (sq-ft/ac)	123.3	20.0	23.3	36.7	10.0	10.0	23.3
% Basal Area	100.0	16.2	18.9	29.7	8.1	8.1	18.9
Stems/Acre	305.1	62.1	62.4	40.0	108.9	17.5	12.9

Diameters:

	All Species	Black Oak	Red Oak	Black Birch	Red Maple	Eastern Hemlock	White Pine
Medial Diameter	11.0	9.3	10.9	10.5	11.3	12.0	12.9
Average Diameter	7.8	7.2	10.2	7.0	10.0	11.9	6.9

Volumes (cords/area, board-feet(bdft)/area):

Cordwood	20.6
Pulpwood	5.8
Board Foot	3560

## Stand 2 – Hemlock-Central Hardwood

### Description:

This stand is classified as hemlock-hardwood; the primary tree species include hemlock, red oak, and red maple. It consists of approximately 35.5 acres and spans the majority of the property. It consists of areas with stone outcroppings, intermittent streams, and moderate changes in slope. A large portion of the southern boundary abuts a recent clear-cut, or change of use as pastureland on a neighboring property.

The slope of this property is moderately steep, with slope aspects facing in every direction except north. Two intermittent streams exist in this stand, both flowing in a southerly direction. The stream beds are easily identified and were both dry through the early spring months. Stone outcroppings are also present in this stand and can be seen almost throughout.

The dominant overstory species consists primarily of hemlock and red oak. Regeneration is scarce; it is composed of primarily hemlock and red maple saplings and small poletimber. Mountain laurel is present through portions of the stand and can be dense in areas; it is the dominant understory species of this stand. Wintergreen and partridgeberry can also be seen throughout the stand. The abutting clear-cut may have a significant impact on the portion of the stand that abuts it. The nearby disturbance allows for more sunlight to access the forest floor and more opportunity for shade intolerant species to take root. This may pose a future problem with invasives.

The general health of this stand is good, no woolly adelgid or other invasives have been identified. There is evidence of disturbance in relation with the 1938 hurricane; pit and mound formations are present along with downed and decaying trees running the direction that hurricane winds blew in. \

### Composition

	All Species	Red Oak	Chestnut Oak	American Beech	Red Maple	Eastern Hemlock	White Pine
Basal Area (sq.ft/ac)	107.8	16.7	3.3	2.2	12.2	63.3	10.0
% Basal Area	100.0	15.5	3.1	2.1	11.3	58.8	9.3
Stems/Acre	224.9	28.6	7.4	14.8	49.1	116.5	8.5

### Diameters (in.):

	All Species	Red Oak	Chestnut Oak	American Beech	Red Maple	Eastern Hemlock	White Pine
Medial Diameter	13.8	12.2	10.0	7.0	7.9	15.4	16.1
Average Diameter	8.2	9.7	8.8	4.8	6.5	8.4	14.2