July 17, 2012

Mr. George MacLeod

Orland, Maine 04472

RE: Clifford Woodlot Examination

Dear George:

I have completed a cursory examination of the Ordway Clifford Lot on the South shore of First Toddy Pond in Orland, whose approximate area is 213 acres.

My general impression of this woodland is that there has been no harvest activity for quite some time and the existing stands have matured beyond their most productive years and have been in various stages of decline for the past 25 years at least. My evidence for this assertion are the large number of very large trees (some in excess of 28 inches in diameter) that have been destroyed by windthrow due to either high wind events or advanced internal decay. Another indicator in these interior stands is the advanced development of regeneration that has colonized areas opened by the loss of larger trees. Much of this regeneration is from 20 to 30 years of age and composed mostly of balsam fir. There are some stands that are pole-sized that have resulted from very old clearcut harvests and some from former farmland as evidenced by the presence of an old rock cellar and fields bounded by rock walls in the western third of the parcel. Boundary lines are rather obscure in places and in need of maintenance. There are several old roads present and some are currently being used by ATV’s and perhaps snowmobiles in the winter. Two of these cross the tract from north to south and appear to continue on beyond the confines of the woodland boundaries. Primary access for a nice walk to the shore of First Toddy Pond where a sandy beach is present may be had by entering the forest on the old road almost directly behind the new house in the blueberry field. This old road, while in need of some culvert repair provides a pleasant walk through mature forest and crosses the outlet to what was once an active beaver pond. This old road continues on through a younger forest of pole-sized spruce, fir, tamarack and scattered white pine and intersects the most active ATV trail at a point within 20 feet of an old rock foundation – the remains of an old farmhouse. Turning left (northerly) and following the ATV trail will eventually bring one to the northern boundary where, by stepping into the old hemlock stand and crossing a spring-fed brook the pond will become visible.

I have traversed the entire interior of the woodlot and installed 64 sample points on a random grid throughout all forest types. I have computed what I consider to be a rough volume estimate as that is all that was desired. The average per acre volume (in cords) for all species and products has been computed at 32.05 cords per acre with an error of ±9.2% at the 90% level of confidence, or stated more simply, another sample of similar type would result in a value that would also not vary more than 9.2% nine times out of ten.

In terms of total stumpage value I have used the most recent (2009) record of average stumpage values for Hancock County prepared by the Maine Forest Service. Prices in units different from those reported (cords) were converted using standard conversion factors. The total value of the standing timber on the parcel would be between $117,352 and $271,052 and would average $194,202. Prices have changed somewhat since 2009 and may be better or worse, depending on what species and products would be harvested and the markets to which they may be sold. The distribution of value by product is shown in Table 1, below:

TABLE 1 – Distribution of Volume and Value for Clifford Woodlot



Where totals appear to be slightly off, the difference is due to rounding for the nearest cord or dollar. The distribution of volume and value by species and product is shown in Table 2, below:

TABLE 2 – Distribution of Volume and Value by Species and Product



The amount of volume present on each sample point is quite variable as some fallen trees are evident on some plots and not others. The graph below (Figure 1) shows the wide range in total cords per acre on the sampled plots.

FIGURE 1- Distribution of Volume for Sampled Plots



While this sample design was relatively simple and straightforward, a more detailed sample would be advisable prior to beginning any long-term management on this property. An appropriate sample size may be calculated, based on total volume of all species, by using a coefficient of variation of 45%. Pulpwood and sawtimber total volumes had CV%’s of 58% and 109%, respectively, which shows how much variability is present as one travels through the property.

I have identified several stands on the property and they are shown on the attached map. I have coded the appropriate stand number to each sample plot for further analysis, but given the limited number of plots in each stand, the generation of volume data would be too variable to be of much use at this time. The stands shown on the attached map are the result of initial efforts to separate out differences in forest composition and structure. While in the process of field data collection, it was discovered that there is a portion of land belonging to the adjacent owner to the south that was included in the original stand mapping. Stand 5 is wholly included in the other ownership, as well as portions of stands 2, 3 and 4. The exterior boundary shown in red is corrected (in a general fashion) for the adjacent owner’s exclusion. The general descriptions for each stand follow.

Stand 1 - This stand on the northeasterly half of the property is primarily composed of hemlock, red spruce and white pine of sawtimber size. While heavily stocked, portions of this stand are in the regeneration initiation stage of development as numbers of large, dominant trees die and fall to the ground. Existing new trees, primarily balsam fir, are occupying the openings created by the demise of larger individuals. A portion of this stand on the easterly side contains a swampy area dominated by cedar.

Stand 2 – Located directly to the east of the abandoned beaver impoundment, this stand is easily accessed by the old road leading into the woods from the newly-constructed house in Stand 6 (blueberry field). Resulting from previous attempts at agriculture, this stand is composed principally of a mixture of pole-sized tamarack, red spruce and scattered white pine. There is much dead material (generally balsam fir) that has fallen to the ground but not in sufficient amounts to impede passage on foot. It is in this stand that the old cellar is found.

Stand 3 - This stand is an abandoned beaver flowage and now consists of cattails and aquatic vegetation in the interior portion with advancing alders, winterberry, red maple and old, dead cedar on the periphery. The old dam formed by the woods road has been breached and provides an outlet for water that flows into a small stream that eventually finds its way to Toddy Pond.

Stand 4 - Stand 4, directly behind the new dwelling, is composed primarily of a mixture of pole-sized cedar and spruce and fir. This stand is gradually making the transition from poles to small sawlog trees and as one might expect, contains the remains of dead trees that haven’t been able to keep up in the race for sunlight. There are also patches of 10 to 15 year-old mixed conifers taking up spaces where several of the larger trees have blown over.

Stand 5 - With the exception of a small segment, this stand is almost entirely on the land of the adjoining owner.

Stand 6 - This is the open blueberry field fronting on the Back Ridge Road. Numerous patches of annual and perennial vegetation pervades the blueberry field and in places has extinguished any blueberry growth. To maintain this field in blueberries, some cultural treatments, like mowing, should be applied.

Stand 7 - The most majestic of stands on this property, Stand 7 contains a mixture of conifer species dominated by white pine and red spruce. There are some hardwoods present, but mostly in the southerly portion of the stand. The pine and spruce are of sawlog size and appear to be healthy. Vigorous patches of small regenerated seedlings are present throughout the stand.

Stand 8 - Stand 8 contains part of the shoreline of First Toddy Pond and this portion of the shore is rocky and somewhat weedy. Scattered white pine are present, but most of the larger trees besides pine are hemlock and occasional hardwood of large pole to sawlog size.

Stand 9 - Located in the southeast corner of the tract, this stand is composed of tolerant hardwoods like red maple, beech, and yellow birch with an understory of sapling-sized spruce and fir. There are occasional large white pine in the overstory.

Stand 10 - Adjacent to the previous stand, but westerly, Stand 10 is a pole-sized hardwood stand containing a mix of red maple, gray birch and white ash.

Stand 11 - This is a mixed-up stand of gray and white birch, red maple, red spruce, balsam fir with the occasional yellow birch, white ash and white pine. It appears to be the more advanced product of a general decline of the remnant conifer overstory. The principal species mentioned above are medium poles and the stand is quite dense.

Stand 12 - Large red spruce, white pine and gray birch dominate this stand, but in patches of windthrown trees from the overstory are thickets of balsam fir with occasional red spruce. Given sufficient time to recover and develop, this stand will become a fir-dominated softwood stand with the occasional red maple.

Stand 13 - This is a mixed stand consisting of red spruce, red maple and the occasional gray or white birch with a white pine, hemlock or cedar occasionally found. Mostly trees of sawlog size are present, but like some of the other stands, this one has also had some windthrown large trees, but not quite as extensive as some other portions of the forest.

Stand 14 - This stand borders a sandy beach on First Toddy Pond and the overstory is principally large hemlock of rather poor quality. The quality may be the result of wind stresses as its exposure is directly toward the lake in a northerly direction and is in the path of strong winds from both the northeast and northwest.

Stand 15 - Stand 15 is dominated by sawlog-sized red spruce and a mix of both tolerant and intolerant hardwoods with pole-sized balsam fir and occasional white ash the advanced understory.

Respectfully submitted,

R. H. Greene, GF #476, LF #23 (Maine)

Consulting Forester