

STATE OF VERMONT

**SUPERIOR COURT
Essex Unit**

**CIVIL DIVISION
Docket No. 72-12-10 Excv

Docket No. 30-6-11 Excv
(same as 294-12-10 Oscv)

Docket No. 19-4-11 Excv

Docket No. 31-6-11 Excv
(same as 76-4-11 Oscv)**

IN RE: APPEAL OF PLUM CREEK MAINE TIMBERLANDS, LLC

DECISION

Plum Creek Maine Timberlands, LLC, the owner of thousands of acres of timberland in the Northeast Kingdom, appeals two administrative decisions that have the effect of removing its lands from the Use Value Appraisal (UVA) program, which provides an owner with advantageous property tax benefits for maintaining forest land under an approved forest management plan.

The first is the Decision of the Commissioner of the Department of Forests, Parks and Recreation (FPR) upholding an Adverse Inspection Report in which the county forester concluded that logging occurred contrary to the approved forest management plan. The second is the Decision of the Director of the Division of Property Valuation and Review of the Vermont Department of Taxes (PVR) that, based on the FPR Decision, the owner's property is removed from the Use Value Assessment program and a land use change tax is due. The effect of the decisions is removal of 56,604 acres of the owner's land from the UVA program and loss of eligibility for a period of five years as well as imposition of a land use change tax.

Because the owner's lands lie in both Essex and Orleans Counties, there are actually four decisions on appeal in this case, two for each county. By agreement, the two Orleans appeals and the two Essex appeals were consolidated. The hearing commenced with a full-day site visit on May 28, 2013, and continued on May 29, 30, 31, and June 3 and 4, 2013.

Appellant Plum Creek Maine Timberlands, LLC was represented by Attorneys David L. Grayck and Kimberly B. Cheney. The State of Vermont was represented by Assistant Attorneys General Michael O. Duane and Thea J. Schwartz. The Court has considered the evidence presented at the hearing and the proposed findings and legal memoranda filed after the hearing. The Essex County Assistant Judges participated in making findings of fact.¹

¹ While the lands subject to removal from the Use Value Assessment program under the PVR Decision are in both Essex and Orleans Counties, the specific lands on which FPR found violations of the approved forest management plan, and for which fact finding was necessary, are in the Town of Lemington in Essex County.

Based on the findings of fact and for the reasons set forth below, the Court does not affirm the two administrative decisions. Rather, the Court determines that Plum Creek's harvest to date is in compliance with its approved forest management plan and has the potential to be in compliance if the harvest is resumed and completed in accordance with the approved forest management plan.

The Decision of the Commissioner of FPR is the initial critical decision because the Decision of PVR is dependent on it, and therefore it is addressed first.

On an appeal, the Vermont Supreme Court and this Court "treat decisions within the Department's area of expertise with substantial deference." *Jones v. Dep't of Forests, Parks and Recreation*, 2004 VT 49, ¶ 7, 177 Vt. 81 (citing *Sec'y, Agency of Natural Res. v. Upper Valley Reg'l Landfill Corp.*, 167 Vt. 228, 238 (1997)). In *Jones*, the Vermont Supreme Court reversed a Superior Court ruling overriding the Commissioner's decision. The Court stated "that courts are not a higher environmental agency entrusted with the power to make environmental law and policy, but rather exercise a narrow role in ensuring that the decisions of ANR are made in accordance with law." *Id.* ¶ 14 (citation omitted) (internal quotation marks omitted). The Court discerned "no basis to conclude that the Department's finding of a violation . . . was standardless, unsupported by the evidence, or contrary to law." *Id.* Thus, to the extent a finding or decision is based on departmental expertise, this Court will not overturn it unless it is not based on standards, or is unsupported by the evidence, or is contrary to law.

Findings of Fact

Use Value Appraisal Program; General Background

The UVA program was created in order to give a tax incentive to landowners to maintain their open land in agricultural or forestry use. 32 V.S.A. § 3751. An owner who meets the requirements of the program is able to pay property taxes based on the value of the property for its current use (farming or forestry) rather than at the standard that would otherwise apply; that is, the value if the property were put to its "highest and best use" value, which may be higher than farm or forest use if the property has development potential. *Id.* § 3756(a) (Cum. Supp. 2013).

This case concerns forest land, which is eligible for enrollment in the program only if the land is subject to a forest management plan signed by the owner and approved by FPR. *Id.* § 3755(b) (Cum. Supp. 2013). Under UVA laws, rules, and procedures, owners of enrolled land are required to file a forest management plan with FPR and obtain approval of the plan every ten years. *Id.* There are approximately 14,000 forestry parcels in Vermont enrolled in the program. The average parcel size is 110 acres.

Once enrolled, the forest land must be managed in accordance with the approved forest management plan. *Id.* If it is not, and the Director of FPR so determines after inspection and issues an Adverse Inspection Report, the owner must pay a land-use change tax, and the owner's parcel is removed from the UVA program and is not eligible for re-enrollment for a period of five years, resulting in loss of the favorable property-tax benefits for that period. *Id.*

§§ 3755(b)(3), (c), (d). In this case, Essex County Forester Matthew Langlais estimated that the tax benefit loss to Plum Creek would be approximately \$800,000.

All UVA plans require a map of the entire enrolled lands. The map delineates separate “stands” (areas within which the types of forest growth are similar) and outlines and numbers them. The creation of stands within a parcel for purposes of a forest management plan is done by taking aerial photographs of the owned lands and drawing outlines separating areas which are characterized by similar types of forest growth into stands.² As a result, the outlines of stands are not simple geometrical shapes; their outlines follow the growth patterns of vegetation, which are affected by topography, soil conditions, and other factors. The result is that stands can have highly irregular shapes. The stands within a parcel or unit of a parcel are like pieces of a puzzle that fit together within the outer boundaries of the unit or parcel.

The Northeast Kingdom has parcels of forestry land that are larger than parcels in other parts of the state. In 2007, the Essex County forester, Matthew Langlais, developed a procedure for large parcels that is a little different than the procedures generally used. Mr. Langlais, who graduated from the University of New Hampshire with a BS in wildlife management and forestry, started working for the State as a land stewardship technician in 1999 and became the Essex County forester in 2006. The following year, he proposed a Large Landowner Alternative strategy (LLA), which was discussed with FPR staff, landowners, and foresters. It has not been adopted or approved by any legislative or rule-making authority. It is described and included in FPR’s 2010 UVA Manual. It is available to landowners enrolled in the UVA program who own contiguous blocks of forestland of 5,000 acres or more

The purpose of the LLA is to accommodate large landowners with respect to the cost and level of detail that is required to prepare a forest management plan on the entire enrolled acreage initially and every 10 years. Instead of incurring the time and expense to do a specific inventory of individual stands in the acreage upon enrollment and every 10 years, large landowners are allowed to submit a “10-year concept plan.” It is based on stratified data, or a random sampling from groups of stands, without delineation of individual stands as required for a forest management plan. It involves a lower level of data collection, and does not require a stand-specific inventory of the type, quality, age, and size of the trees. The owner agrees to do no cutting of trees while the LLA “concept plan” is in effect.

When an owner wishes to harvest or engage in other forestry practices, the owner is then required to submit a map of stands and a stand-specific inventory in accordance with the usual requirements of the UVA program, and obtain approval of an amended forest management plan before any forestry activity can take place. Thus the expense of a stand-specific inventory and development of a stand-specific plan is deferred until an owner plans a harvest or other forest activity, but in the meantime, the owner does no cutting and has the tax benefits of the UVA program.

The Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMPs) apply to all lands enrolled in the UVA. The 2006 UVA Manual³ explains

² There may be other ways of identifying separate stands but this was apparently the method used in this case.

³ It is the 2006 UVA Manual that applies to this case, since the actions at issue took place prior to the adoption of the 2010 UVA Manual.

the basis for this requirement: “It is the obligation of the landowner to ensure that significant soil erosion and/or stream sedimentation does not occur on any lands enrolled in the Use Value Appraisal program.” Exhibit 22a, VERMONT AGENCY OF NAT’L RESOURCES, USE VALUE APPRAISAL PROGRAM MANUAL at 29 (2006). The Manual provides that the AMPs “shall be employed to the maximum practicable extent” on enrolled parcels. *Id.* at 30.

The purpose of the AMPs is to protect water quality during logging operations. “The AMP’s are intended to prevent ‘discharges’; that is mud, petroleum products and woody debris, from getting into our streams, ponds lakes and rivers. They are also meant to maintain natural water temperatures by requiring that trees be left along streams and other water bodies.” Exhibit 18, AMPs at 4. The AMPs call for three phases where they apply: planning for implementation in connection with a project, implementation on the ground during a project, and close-out, which involves stabilizing the site after a project.

History of the forestry land in this case

In 1998, Champion International Corporation, which owned 132,000 acres of forestland in northeastern Vermont, sold its lands, which thereafter became three parcels that were acquired respectively by the United States Fish and Wildlife Service, the State of Vermont, and the Essex Timber Company, LLC.

In silviculture, which is the art, science, and practice of establishing, tending and reproducing forest stands of desired characteristics, often to grow forest products of commercial value,⁴ there are four stages in the cycle of production: regeneration (establishment of a new forest), tree growth, tending (e.g., providing space if necessary), and harvesting. Forests can be managed with even-age management, so that all trees are of the same generation and will grow and be harvested all at the same time like a crop (or two even-age classes can be growing at the same time), or a forest can be managed with uneven-age management, in which case there is a variety of ages and sizes of classes of trees and more than two generations growing simultaneously in a stand, so that periodic removal of trees is done in a manner to maintain growth in the remaining multiple generations of growth.

Toward the end of its ownership, Champion had cut heavily to extract available forest products from the land without building value for the future. Thus, the forest was in poor condition for ongoing productivity. In addition, a significant ice storm in the area in 1998 had caused considerable damage. Work was needed to promote new growth of desirable species and a healthy forest. Any forest management plan would need to address these circumstances.

When Essex Timber purchased its portion of the former Champion lands, the Vermont Land Trust and the Vermont Housing and Conservation Board purchased the development rights and were granted a conservation easement. The easement runs with the land, and its primary objective is to establish and maintain the land as a productive forestry resource. It also requires that timber be harvested only in accordance with a forest management plan that fulfills the requirements of the UVA program. The easement also requires that forest management activities shall employ the AMPs. The Vermont Agency of Natural Resources, along with the Vermont

⁴ Promotion and maintenance of wildlife habitat can also be a goal of silviculture.

Housing and Conservation Board, also hold a public access recreational easement on the property that permits recreational use in a manner that simultaneously protects the land for the economic production of forest products.

In 2001, Essex Timber enrolled its acreage in the UVA. In 2007, its forest management plan was approved by FPR. In September of 2008, Essex Timber sold its holdings to Plum Creek Maine Timberlands, LLC. Plum Creek is the largest landowner in Vermont, and is quite possibly the largest landowner in the United States. It owns and manages timberland in 19 states. This was its first purchase of land in Vermont. Prior to purchasing, its foresters and managers became familiar with the requirements of the UVA program and the easements and restrictions that burdened the land.

Plum Creek owns 86,212 acres in northeastern Vermont, consisting of the 56,604 acres at issue in this case and 29,612 acres in other locations, also enrolled in the UVA program but not part of this case. The 56,604 acres span eight towns in Essex and Orleans counties. The State claims that Plum Creek owns a single parcel of 56,604 acres of contiguous land, but actually there are two separate portions bisected by a north-south ribbon of land 200 feet wide owned by Vermont Electric Transmission Company, Inc. (VELCO) on which is located a high voltage power transmission line running from Canada toward the south.⁵

In October of 2008, Plum Creek formally adopted the 2007 Essex Timber UVA forest management plan. Plum Creek representatives Mark Doty, Tim Dorrell, and forester Christopher Fife met with Essex County forester Mark Langlais to discuss Plum Creek's plans. Plum Creek Senior Resource Manager Tim Dorrell signed the forest management plan on behalf of Plum Creek, and it was approved by Mr. Langlais on behalf of FPR. Mr. Dorrell also signed a document in which Plum Creek elected to participate in the Large Landowner Alternative Strategy and agreed to its requirements.⁶

LLA concept plans require certain descriptions for the property but not as much information as required for a forest management plan. LLA concept plans are permitted to use "stratified random sampling" rather than the more detailed stand-specific inventory that is required for the regular UVA program. Once a large owner seeks to pursue activity, it must file an "amendment" to the concept plan. The amendment is called a "harvest prescription amendment" and must include stand-specific information from a cruise and meet all of the minimum standards for a forest management plan as described in the UVA Manual. A "harvest prescription amendment" must be approved by the county forester before harvesting activity is authorized. Harvesting must take place in accordance with the approved harvest prescription amendment. Plum Creek agreed to these requirements when its agent signed the document electing to participate.

⁵ The parties have addressed extensively the issue of whether the two areas bisected by the strip owned by VELCO constitute a single "parcel" under Current Use Advisory Board Rules for the UVA program, as ruled by the Commissioner. Because of the resolution of the appeals as described later in this Decision, it is unnecessary for the Court to decide this particular issue.

⁶ The Court takes no position on whether FPR had the authority to adopt the LLA in the absence of statutory authority or rulemaking. The issue has not been raised by any party in this case. It is not necessary to address it as the allegation in the case is violation of an approved final forest management plan.

After Plum Creek adopted the Essex Timber plan and the LLA Strategy was approved, Plum Creek's forester Christopher Fife started working with Daniel Kilborn, Stewardship Forester for the Vermont Land Trust, who was responsible for monitoring the Vermont Land Trust easement, which also required compliance with the forest management plan. Mr. Kilborn's approval was required for any harvest. Plum Creek began to submit harvest prescription amendments for specific areas within its holdings. Each area is called a "harvest unit" and has a name and consists of several contiguous stands. Plum Creek submitted amendments for harvest units in the towns of Averill, Brighton, Ferdinand, and other towns, and proceeded with work in these units in 2009.

In mid-2009, Plum Creek identified the Clough Brook North unit in the town of Lemington for harvest. The Clough Brook North unit includes six highly irregular shapes fitted together in the manner of puzzle pieces which are stands numbered 24, 34, 43, 44, 46, and 54. The Adverse Inspection Report in this case pertains to three of these six stands in the Clough Brook North unit.

The stands at issue in this case are:

#34, consisting of 137 acres, and is generally in the shape of a butterfly;
#43, consisting of 115 acres in the shape of an "H" with wiggly outlines; and
#44, consisting of 37 acres in the shape of a plump, rectangular chunk.⁷

In October of 2009, Mr. Fife contacted Mr. Langlais to arrange a site visit in connection with its application for approval of an amendment that would permit harvesting in Clough Brook North. Plum Creek had employed Landvest, a company that provided contract forestry services, and two Landvest foresters, both of whom had previously worked with Essex Timber on the same land, worked on this project. A draft Harvest Prescription Fact Sheet was prepared on behalf of Plum Creek and shared with Mr. Langlais, Mr. Kilborn, and Richard Greenwood (FPR Forester) in preparation for the site visit.

On the site visit, the participants walked a loop through the unit to see if the stands were described accurately and they reviewed the proposed prescription. Plum Creek agreed to changes in the prescription for a couple of the stands. On November 5th, after the site visit, Mr. Fife e-mailed updated maps to Mr. Langlais. Plum Creek obtained approval from Mr. Langlais and Mr. Greenwood for a heavy cut permit in a portion of the unit,⁸ and obtained Mr. Kilborn's approval as required for the construction of two winter roads.

An Amended Harvest Prescription Fact Sheet, Exhibit 22, was prepared which includes the forest management plan prescription for Clough Brook North that was approved on November 16, 2009 by Mr. Langlais after the site visit. The last page is a map that includes, on a portion of stand #43, an area outlined in red marked "OSR" ("overstory removal"). This became known as the "OSR box," and is discussed later. This resulted from notes and sketches made during the site visit by one of the Landvest foresters. It was sketched on the map without the use

⁷ These descriptors were not part of the evidence in the case, but have been adopted by the undersigned during review of the evidence to help distinguish them.

⁸ A special permit is needed for a heavy cut, or clearcut, in addition to the prescription.

of precise GPS data, but based on agreements reached with Mr. Langlais and Mr. Kilborn during the site visit.

Following approval, Plum Creek contracted with Landvest to lay out markings for the prescriptions on the ground. This included, for example, marking trees that were to be left standing with blue “X’s,” and marking required buffer corridors along streams. Plum Creek then contracted with a logger, a new one with whom it had not previously worked, to do the cutting pursuant to the prescriptions.

On January 15, 2010, Mr. Kilborn of the Vermont Land Trust sent a letter approving the plan for Clough Brook North and other units from the VLT perspective. Mr. Fife contacted Mr. Kilborn to arrange to meet on site to review progress of the active harvest, and a site visit was arranged for January 26, 2010.

On that day, Mr. Fife, Mr. Langlais, Mr. Greenwood, Mr. Lemire (Landvest Forester), Mr. Kilborn, and Mr. Costner from the Vermont Housing and Conservation Board met at the Lemington Town Clerk’s office and drove first to another harvest and then to the harvest site at Clough Brook North. Active logging was going on. They made a large loop through the unit, crossing in a zig-zag pattern through stands #34 and #43. The ground was covered with snow, and it had rained hard the previous day, saturating the soil and causing large amounts of water to flow freely and overflow stream beds and a road.

Mr. Langlais expressed concern about whether the level of tree cutting that had occurred so far in stand #34 was too heavy. In addition, there were concerns about AMP violations at stream crossings and at the landing. For example, the logging contractor had put down brush and crossed a stream at the top of the hill in violation of AMP standards, and had equipment closer to water than AMPs allow. There was a skidder rut near a stream, and more stream crossings than Mr. Langlais thought there should be. Mr. Langlais testified that he saw sediment and mud where equipment had crossed a stream; Mr. Fife testified that he saw no mud in the water although he acknowledged that there were AMP stream crossing violations.

When they arrived at the landing late in the day, they saw in the pile of cut trees, ready to go to the mill, 6-10 trees marked with blue “X’s.” While what they had seen throughout the site visit had raised some moderate concerns about whether there was full compliance with the forest management plan, this sight raised alarm with everyone, as it suggested excessive cutting in disregard of the prescription.

That night Mr. Fife went to the logger’s home and stopped all cutting on #34. He also arranged for reparations at the AMP violation sites, scheduled a meeting for the next morning, and then e-mailed Mr. Langlais and Mr. Kilborn summarizing what he had done and his plan for immediate action. The next day he arranged for Landvest to do a cruise of #34 to determine the extent of cutting to date and notified Mr. Langlais that he had done so. The logger removed all stream crossings that constituted AMP violations. Mr. Fife arranged for all foremen to have GPS devices,⁹ had the 50’ buffer zone from streams specifically marked (previously only the

⁹ It is extremely difficult to know what stand you are in at any particular location in the three stands of the unit, largely because the boundaries of the stands are irregular wandering lines and changes in growth patterns, which might otherwise help to define stand boundaries, are not distinct. This difficulty of determining stand location was

centerline of streams had been marked and loggers were instructed to stay 50' back), assigned a new Landvest forester to the unit, and required that all stream crossings be marked by the forester. Based on what they had seen, everyone—including Mr. Fife, Mr. Langlais, and Mr. Kilborn—had concerns about whether the level of cutting on #34 was too heavy and whether the outcome standards for the stand could be met if logging continued given the level of cutting that had already occurred. There was also concern about the AMP violations.

Mr. Fife also took action for other stands on which cutting continued by reviewing the AMP book page by page with logging contractors, providing GPS devices to all cutting equipment operators, and further marking trees. He notified Mr. Langlais of the actions being taken. After January 26, 2010, Plum Creek stopped work in stand #34 except for processing previously cut wood. On February 2, 2010, all work on the whole unit was completely shut down by Plum Creek and has not resumed since, pending resolution of the issues in this case: 1) whether excessive cutting occurred contrary to the forest management plan, and 2) whether the AMP violations constitute noncompliance with the forest management plan.

In response to what had been seen on the January 26, 2010 site visit, there was a lot of activity in the following three weeks related to the concerns about both overcutting and AMP violations.

Landvest conducted its cruise to measure the level of cutting that had occurred up to that point on stand #34.

A site visit was held on February 9, 2010 to address the AMP violations. In addition to Mr. Langlais and Mr. Fife, it was attended by Jeff Briggs, FPR Forester responsible for AMPs, and Reginald Smith from the Agency of Natural Resources, who is in charge of enforcement of AMPs for the State of Vermont. The locations and nature and extent of specific violations were reviewed on site, and remedial measures already completed were reviewed. There was too much snow to observe underlying soil and water conditions. It was left to Reginald Smith to determine whether enforcement action would be pursued.

On February 10 and 12, 2010, Mr. Langlais returned to stand #34. He walked the perimeter of what he felt had been cut too heavily and made a GPS map of it, and measured RBA within that area using the recognized technique of prism sampling. In applying the technique, he identified 36 spots in the 91 acres he identified, created a grid, downloaded it onto a GPS device, measured trees within a radius around the 36 spots, entered the data into a State forest examination software program, and obtained a measurement of remaining standing timber for the portion of the stand he suspected was cut contrary to the forest management plan. This process produced a measurement that was below the prescription for the stand.

On February 18, 2010, Mr. Briggs wrote to Mr. Fife specifically identifying AMP violations that had been found at the site visit on February 9th. Under the general heading of “Sediment/Slash in Brook,” 5 AMPs that had been violated were identified and 5 remedial actions were required to be completed for closeout: waterbar installation, removal of temporary

apparent on the site visit. When the undersigned judges asked at different spots what stand we were in, the foresters and others present often could only answer the question after consulting their GPS devices, into which they had loaded stand location information, rather than being able to answer from observation.

structures and restoration of channel; stabilization of banks and seeding and mulching; grading of log landing; and stabilization of exposed soil by seeding and mulching. There was no description of any discharges or degradation of water quality resulting from the violations.

Also on February 18th or 19th, two meetings were held on the issue of the extent of cutting on stand #34: the first at the Vermont Housing and Conservation Board office in Montpelier and the second at the county forester's office in Saint Johnsbury. In one of those meetings, Mark Doty, Tim Dorrell, and Christopher Fife from Plum Creek met with Mr. Langlais, Ginger Anderson (Chief of Forest Management for FPR), and Kathy Decker from FPR to review the measurements taken by both Mr. Langlais and Landvest following the January 26th site visit.

The prescription called for a residual basal area (RBA) measurement (described more fully below) after harvest of 30–40. Mr. Langlais measured 19 in the cut portion of the stand and determined that this meant that the stand had been cut contrary to the prescription. Landvest agreed that on the portion where cutting had occurred, the measurement was 19, but found that the RBA measurement for the stand as a whole was 35, and that the work was in compliance with the prescription for the stand. Mr. Fife was given a draft of an Adverse Inspection Report alleging that Plum Creek cut contrary to the forest management plan. The issue of the measure of RBA on stand #34 remains in dispute between the parties, and is addressed below.

On March 17, 2010 and April 13, 2010, Mr. Langlais conducted measurements for RBA on stand #43 using the same technique he had used for #34, and he did the same on March 26, 2010 for stand #44.

A site visit was held on April 19, 2010 for follow-up on the AMP violations. It was attended by Mr. Smith, Mr. Briggs, Mr. Saborin (ANR forester), and Mr. Doty from Plum Creek.

On April 26, 2010, Mr. Langlais sent to Ginger Anderson of FPR the Adverse Inspection Report that was later appealed and underlies this case. Plum Creek was not notified of this action or sent a copy of the Report at the time although the Report was apparently also sent to PVR.

The next day, April 27, 2010, Mr. Briggs sent a letter to Plum Creek notifying it that based on the site visit of April 19, 2010, Plum Creek was in compliance with the AMPs with respect to the previously identified violations. Plum Creek never received any notice of violation or enforcement action or communication of any kind from Mr. Smith, and has not had further AMP issues since, although it has continued harvests in other lands under the UVA not related to the 56,604 acres involved in this case.

In a letter mailed May 20, 2010, FPR notified Plum Creek of its “cut contrary” determination with respect to 139.54 acres on the three stands at issue in this case, and failure to implement AMPs. It gave notice of removal of acreage from the UVA for both reasons. By letter dated May 24, 2010, the Division of Property Valuation and Review notified Plum Creek that as a result of the FPR Adverse Inspection Report, its property would be removed from the UVA. The reference was to Plum Creek's property in the Town of Lemington. Plum Creek owns a total of 9,915 acres in Lemington. By letter of July 9, 2010, PVR notified Plum Creek of

the removal of 56,604 acres from the UVA program on the grounds that PVR considered all Plum Creek adjacent lands in the UVA to be contiguous and thus constitute a single “parcel.”

Plum Creek appealed these decisions. The appeal of the Adverse Inspection Report was to the Commissioner of the Department of Forest, Parks, and Recreation Sarah C. Clark. On November 30, 2010, the Commissioner upheld the Adverse Inspection Report in a written Decision, which was appealed to the Superior Courts in both Essex and Orleans counties where affected lands lie. The subsequent Decision of March 31, 2011 of the Commissioner of the Vermont Department of Taxes, upholding PVR’s decision to remove the 56,604 acres from the UVA for five years and assess a land use change tax, was also appealed to the Superior Courts in both counties. By agreement, the Orleans appeals were transferred to Essex County and all appeals consolidated into this present action.

The Vermont Land Trust had Plum Creek hire an independent third party to inventory selected sites within the Clough Brook North unit and on other unrelated lands to check regeneration at the selected sites in connection with VLT’s monitoring of its easement. Dirigo was the contractor hired and it measured RBA at the requested locations. In general, its measurements taken at the locations in dispute in this case were similar to Mr. Langlais’s figures in the alleged cut-contrary subareas Mr. Langlais measured for stands #34 and #43, and closer to Plum Creek’s forester’s figure in the cut portion of stand #44.

In September of 2011, Plum Creek hired forester Robert Holleran to do a cruise of stands #34, #43, #44, and #24 for an independent evaluation of whether the harvest to date was in compliance with the forest management plan. Mr. Holleran obtained a degree in forestry from the University of Maine in 1982 and has been a consulting forester in Vermont for 30 years. He manages approximately 50,000 acres of forest land in Vermont, primarily southern Vermont. He has prepared hundreds of forest management plans for properties enrolled in the UVA. His typical client has 100–200 acres enrolled in the UVA, consisting of 4–5 stands. As a result, he measures basal area in all stands on each parcel every ten years. He has leadership roles in various professional forestry organizations in Vermont.

In conducting his cruise, he used the standard technique of prism sampling, which Mr. Langlais had also used. For the stands as a whole, he measured a plot for every 3 ½ acres; in the alleged cut-contrary areas, he measured a plot for every one acre. This is much more intensive sampling than is usually done for a forest management plan, which can be based on a plot for every 10 acres. His specific results and opinions are discussed below. In general, he concluded that the harvest to date on the alleged cut-contrary stands is in compliance with the forest management plan and the goals of the prescription for each stand is being achieved and will be achieved if the harvest is resumed and completed.

There is evidence that prior to January of 2010, Mr. Langlais notified Plum Creek that he had concluded that it was cutting out of compliance with approved plans at one or two other sites, but he did not file Adverse Inspection Reports. Instead, the issues were discussed and apparently resolved. It is a reasonable inference from the evidence that Mr. Langlais was worried that Plum Creek might be embarking on a pattern of cutting more heavily than its plans allowed, and since it owned a lot of land and was expecting to do a significant number of harvests over a long period of time, it was important to require compliance and set enforcement

expectations clearly. This would have been a legitimate concern. Despite this, there is no evidence that Plum Creek was seeking to circumvent program requirements or get away with knowing violations of the plan. If that were the case, it would not have invited Mr. Langlais, Mr. Kilborn and others to the January site visit on such transparent terms. The evidence showed that although mistakes were discovered on site, they were cause for concern to Plum Creek as well as to Mr. Langlais, and Plum Creek took prompt, reasonable, and responsible action to correct its methods of operation and evaluate the effect of the mistakes.

Facts relating to alleged violations on each of the three stands at issue

With respect to each of the three stands (#34, #43, and #44), FPR has made “cut contrary” determinations, i.e., alleged failures to cut in compliance with the forest management plan, and has also alleged AMP violations, which are also a basis for failure to comply with the forest management plan. In this section, each stand will be addressed separately and the facts reviewed with respect to both categories of violation.

The starting point is the Amended Harvest Prescription, Exhibit 22, which is the amended forest management plan approved by Mr. Langlais on November 16, 2009. This document includes pre-cutting descriptions of each of the six stands in Clough Brook North, desired goals, recommended silviculture treatments for achieving those goals within each stand, specific actions to be taken during the harvest, a Management Plan (Form 2, Pages 1 and 2) for each stand, and attached maps. As stated on page 3 of Exhibit 22, the “Desired Goal of Harvest” on Clough Brook North was:

- Capture value in declining timber;
- Retain good quality trees as seed source and retained value for the long term;
- Improve stand quality and provide openings for natural regeneration to occur where it is deficient;
- Protect and release¹⁰ desirable advanced regeneration; and
- Protect riparian zones and wetland habitat.

In other words, the general goals were to cut in a manner to change a poor quality old forest into a new forest through the creation of new growth. This would be accomplished by harvesting damaged trees and large trees that would inhibit the growth of desirable young trees, promoting the growth of desirable young trees, retaining trees that could provide seeds and shade for new growth in a desirable growth pattern, establishing even age management on the stands with both existing young trees and new growth, and optimizing conditions for growth for the future.

Stand #34 (Butterfly)

This stand consists of 137 acres and is more or less in the shape of a butterfly, with two areas protruding out like wings from a center body, which is a small valley. One wing is a slope that faces east, whereas the other wing is a west-facing slope. Each wing shows the effect of different weather conditions and past weather events with resulting different impacts on forest

¹⁰ “Release” means to free a tree from competition from either neighboring trees or the forest canopy by removing surrounding trees.

conditions. There was considerable ice damage on the western side from the 1998 ice storm. There was quite a bit of variation in the understory throughout the stand.

The pre-harvest description in the Amended Harvest Prescription includes figures for both basal area (BA) and acceptable growing stock (AGS). Basal area is used in forestry as a measurement of the amount of growing stock in a forest. The number means the square feet of area of growing stock per acre measured at a height of 4 ½ feet from the ground. AGS represents the portion that is of commercial value. Not every tree is measured. Measurements are taken from sample plots throughout the stand and extrapolated to estimate an overall figure.

For stand #34, the description portion of the Amended Harvest Prescription notes a total basal area of 82, with 35 square feet of AGS. The 35 number for AGS is low, and indicates a limited amount of saw logs and suggests the need to start a new stand. There was lots of damage to trees, particularly ice storm damage on the western side, as well as general crown die-back, with a majority of the overstory being unacceptable growing stock. There was quite a bit of variation in the understory in terms of stocking of trees of the acceptable type for regeneration, with small pockets of seedlings and saplings in a “patchy distribution around the stand.”

The prescription was for a goal of creating a new stand. The trees were not in condition to provide good quality timber for future harvest so the purpose of cutting was to create conditions for future growth. This was to be accomplished by a “two stage shelterwood” treatment, which is done to establish regeneration, and means that damaged and other trees would be cut to leave trees with good crowns and stems, appropriately spaced, to provide shade and to “throw” enough seeds for a new generation of trees to be started. It produces an even-aged forest.¹¹

The prescription specified that the shelterwood would be “irregular in distribution” and target certain species. Extensive cutting would be permitted in 1 or 2 patches where quality and stocking were not sufficient for shelterwood. Birches were to be promoted over beech trees; sunlight discourages beech and promotes birches, so open areas for sunlight were desirable. The prescription provided that, taking the patches into account, the “overall stand residual basal area” after treatment was to be 30–40.¹² This low level of density reflects the goal of focusing on establishing seedlings (and releasing young trees already growing) in order to create regeneration, or a new stand, but with some established trees remaining in a distribution pattern to provide seed and shade. When the goal is to create a new forest, the goal for basal area can be in a range of 20–80, depending on conditions; the goal for this stand was 30–40.

Of the total 137 acres, 16 acres were cut without any claim of cutting contrary to the prescription, 91 acres were determined by Mr. Langlais to be cut contrary, and the remaining 30 acres are uncut as a result of the shutdown of the project in February of 2010.

¹¹ A two-stage shelterwood treatment occurs in two stages: a first cut leaves the largest trees that have good crowns and stems and also leaves some mid-size trees to provide shade for the new growth; later, after there has been some growth and crowding becomes an issue, more trees are cut to ensure open spaces for more new growth while still retaining some shade. The second cut can be an overstory removal.

¹² Residual basal area, or “RBA,” is basal area measured after cutting has occurred.

Mr. Langlais for the State and Robert Holleran for Plum Creek gave different opinions about whether the cutting that occurred on stand #34 was contrary to the forest management plan. Their determinations of residual basal area at the time of shutdown vary considerably.

Mr. Langlais determined that the RBA for the 91 acres at issue (not the whole stand of 137 acres) was 19.7, well below the 30–40 prescribed. He therefore determined that it reflected a level of cutting heavier than and contrary to the forest management plan. His opinion is that it was inappropriate to measure RBA across the stand as a whole because shelterwood treatment calls for scattered distribution of trees with good crowns to provide sun and shade, and such result is not accomplished if the density is too great in one large area in the stand and too small in another. This is because where the density is too great, there will not be sufficient sun, and where it is too light, there will be insufficient crown cover to provide shade and new seeds. Therefore, he concluded that the goal of 30–40 RBA was to be achieved evenly throughout every part of the stand. He acknowledges, however, that post-harvest RBA in patches of up to two acres, which were allowed in the prescription, would be zero, but nonetheless determined that the 30–40 RBA should be achieved throughout the stand. His measurements and conclusions were the basis for the Commissioner's Decision.

His methodology for measuring RBA was to take measurements of trees at 36 points within the 91 acres (an average of one point for every 2 ½ acres), count the trees within a specified surrounding radius (which is standard in forestry practice), and from the inventory from those samples extrapolate to an RBA measurement for the 91 acres using a software program. He stated that there was a 2.63 standard error. He acknowledged that in counting and measuring trees at the sample spots, he did not include certain trees and testified that in doing so he was following the standards of the UVA manual.

Robert Holleran's measurement was 28.5 RBA in the 91 acres at issue and 47.4 for the stand as a whole, indicating compliance at the time of shutdown if RBA is measured across the stand. He disagrees with Mr. Langlais's conclusion about whether the cutting is in compliance with the prescription goal. His opinion is that it is standard practice to measure RBA after a harvest across the stand as a whole, and that there are no standards in the UVA manual or professional literature that call for measurement only in a cut area. He stated, and illustrated with photos, that the residual trees in the cut area are in good condition, have quality stems, and have good size crowns which provide the desired level of shading and seed production and distribution. Although he agrees that one cannot comply with an RBA goal by clear-cutting half a stand and having double density on the other half, he noted that the prescription for stand #34 called for an irregular distribution of treatment, with various pockets, which was appropriate for stand #34 because of the condition before harvest, which was non-uniform distribution of damage and variation of conditions throughout the stand.

He acknowledges that it was appropriate to stop the cutting after the site visit and measure and reevaluate whether the harvest would be able to be compliant with the plan. He agrees that his RBA of 28.5 in the 91 acres at issue was below the prescription, and that if the entire stand had been cut that much, it would have been out of compliance. His opinion is that not every individual subarea within the stand needs to be 30–40 to be in compliance. Moreover, he noted that the prescription was for an "irregular" shelterwood, meaning not uniform across the stand, which he would expect because of the variability within the stand and the fact that ice

damage would justify cutting more heavily on the western side where the ice damage occurred, which is where a significant portion of the alleged overcutting occurred.

Mr. Langlais testified that the term “irregular” referred to cuttings occurring at irregular intervals over time rather than meaning non-uniform over the stand, but that does not appear to be a reasonable interpretation in context, given that the prescription states that the shelterwood would be “irregular *in distribution*” (emphasis added) and would target certain species (which grow in variable patterns), and that patches of heavy cutting were specifically authorized based on quality and stocking.

The evidence shows that the level of cutting that had occurred in the 91 acre portion of stand #34 at the time of shutdown was heavy enough to raise legitimate concerns, and the evidence shows that within the 91 acres, the RBA was between 19 and 28.5, which is below the standard of 30–40. For Mr. Langlais, that was conclusive that stand #34 was “cut contrary” to the forest management plan. For Mr. Holleran, that was not the proper application of the prescription standard.

An important difference between the two foresters is whether RBA after harvest is to be measured within a subarea of a stand, or across the stand as a whole. As noted, Mr. Langlais’s opinion was that the stocking goal of 30–40 should be achieved evenly throughout the stand, whereas Mr. Holleran’s opinion is that RBA is to be measured across the stand as a whole, and not within specific subareas. His testimony that “stand” is the unit used by foresters, and that RBA is determined stand by stand by foresters, was unrefuted by Mr. Langlais. There is no evidence that either the UVA manual or any other professional forestry resource of the type consulted and referenced by both foresters supports the proposition that RBA is to be measured within a unit smaller than the stand for which a prescription is written, at least where there is no stand-specific specification for such a result.

Without any rule in the UVA manual or specification in the prescription, an owner would not be on notice that RBA would be measured other than by the stand as a whole, particularly where the particular prescription calls for a result of 30–40 “overall stand residual basal area.” The evidence is that foresters generally measure RBA across the stand as a whole for purposes of determining compliance with a forest management plan, and that is particularly appropriate for stand #34 for which the specific prescription stated an outcome of 30–40 “overall stand” RBA.

Apart from whether RBA is measured across a stand as a whole, the Court finds that Mr. Holleran’s methodology for measuring RBA produced a more reliable result, as it was based on measurements taken from a significantly greater number of sample plots. His additional explanation of the difference between his figures and Mr. Langlais’s is credible: that it was likely attributable in part to Mr. Langlais not counting all the trees in the sample plots, thereby producing a lower RBA measurement. While Mr. Langlais testified generally that his measurements were taken in a manner consistent with the UVA manual, the Court finds the quality and reliability of Mr. Holleran’s measurements to be superior.

The evidence shows that there can be quite a variation in RBA measurement results obtained by different foresters, even when they are using the same methodology. Variables include the number of inventory points taken (e.g., points per acre), where they are located

(across the stand or within a subarea), the location of the points (including or excluding locations along stand boundaries), selection of the size of trees counted within each inventory point, type of GPS device used, possibly the content of any software program used to process the data, and probably other factors. Differences on each of these variables are bound to produce different results. In addition, it is clear that all measurements in evidence were based on samples that were then used to extrapolate to an overall measurement, rather than being precisely accurate about what is on the ground in the forest.

The evidence is that measuring RBA is something that all foresters do on a regular basis all the time. It is a standard practice among foresters for describing the quantity of growing stock on forestland, and is used for a variety of purposes, private as well as public. Thus, it is not a calculation that is within the expertise of foresters who work for FPR as opposed to other foresters. While county foresters would normally be expected to have expertise in the area, determination of RBA is not exclusive to them, but is done regularly by other expert foresters for the same and similar purposes.

Moreover, the RBA measurement only indicates a numerical estimate of stocking level after cutting. It does not provide information about whether a treatment applied during a harvest has met the goal of the treatment, which in this case was regeneration of desirable species through providing seeds and shade from mature trees appropriately spaced across the stand and light and space for regenerative growth.

Mr. Langlais determined that the goal was not met because in his opinion the distance between the crowns of the uncut trees was greater than standards he used from published forestry guides. Moreover, he measured the level of regeneration immediately after the harvest and concluded that there was regeneration in only 15 percent of the plots examined. This was consistent with his view that cutting was too heavy.

Mr. Holleran's opinion is that the stem and crown quality of the seed trees that remained within the cut area is excellent, that the species are desirable (primarily yellow birch and maple which are desirable and little beech, which is undesirable), and that the distribution of the trees is appropriate and sufficient to provide spacing for shade and seed distribution. His opinion is that if the cutting continued, the overall result across the stand would comply with the prescription.

Overall, the Court finds Mr. Holleran's expert conclusions and opinions as a forester with respect to compliance on stand #34 to be more credible and reliable than those of Mr. Langlais. He has much more extensive experience as a forester in the field working over many years with parcels subject to forest management plans under the UVA. His measurement methods used more data, making his results more solidly grounded in facts, and he gave cogent explanations for how and why his results and opinions more accurately reflected conditions in the forest than those of Mr. Langlais. His opinions about the extent of regeneration that is present throughout the cut portion of the stand appeared to be well supported by his analysis and explanation of the photographic evidence taken during the site visit and his observations of what exists on the ground in the forest. The Court finds that both the quantity of data used by Mr. Holleran and the quality of his analysis make his conclusions more accurate and reliable. While Mr. Langlais's methodology was not incorrect, it appeared to consist of application of manual standards and

reliance on statistical measures without the depth of analysis and understanding demonstrated by Mr. Holleran.

It should be noted that Mr. Holleran's work had not been done at the time of the Decision of the Commissioner of FPR, and thus her Decision was made without that information.

AMP violations on #34:

In the Adverse Inspection Report, Mr. Langlais listed six instances of "AMP violations-discharge resulting" on stand #34. They include a landing located within 50' of a streamside protection zone, unnecessary crossings across a brook, lack of maintenance of a protective strip, skid trails within 25' of a streamside protection buffer, stream channel "excavated/alterd" to allow for the movement of water, and equipment in headwater stream and/or wetland causing rutting. All of these conditions were discovered at the site visit on January 26, 2010, and examined on February 9, 2010 by State Forester Jeff Briggs and Reginald Smith, ANR Environmental Enforcement Officer. In his follow-up letter, Mr. Briggs identified five ways in which there were AMP violations on the total project, all related to sediment or slash in brooks, but it is not clear which stand(s) were affected.

Plum Creek acted promptly to correct the AMP violations in the Clough Brook North unit and other areas. It instituted practices such as reviewing the AMP Rules with its logging contractors and holding "mud breakfasts" with the loggers for logger training, and hiring its own forester for planning and layout of harvests rather than relying on contractors.

Mr. Langlais expressed concern based on what he saw at the site visit about mud entering water and the possibility that a rut that was seen might create a new water channel. After the site visit, all evaluations of AMP violations were handled by Mr. Briggs and Mr. Smith. While it is likely that at some point on or before January 26, 2010 there was some level of slash or sediment in the water as a result of the AMPs not having been strictly observed, there is no specific evidence of how extensive any discharge of sediment or slash into the water was, nor is there any evidence of impact on water quality or environmental degradation.

Mr. Briggs wrote to Plum Creek on February 18, 2010 describing the specifics of what had been identified as violations, what remedial work had already been done, what further work needed to be done for closeout, and a plan to meet in the spring before the major runoff to determine what further work would be necessary. He noted that Reginald Smith was the person who would determine whether to pursue enforcement action.

Mr. Briggs wrote again on April 27, 2010 expressing satisfaction with what Plum Creek had done. Specifically, he wrote in bolded letters, "**This letter is to inform you that on April 19, 2010, I observed that all of the major remedial actions relating to the AMP violations have been accomplished and that you are now in compliance with the AMP's.**" He expressed confidence that the remaining work would be accomplished due to the good work being done by the contractor hired by Plum Creek. No enforcement actions were ever commenced against Plum Creek, and there is no evidence of any other violations discovered other than those seen on January 26, 2010.

It is true that there was a failure to meet all AMP standards on stand #34 as of January 26, 2010. There is no evidence that they had any identified harmful effect; rather, the evidence is that they were quickly remedied. It is noteworthy that there is no evidence from persons such as Mr. Smith or Mr. Kilborn, who may be knowledgeable about the effect of certain types of violations on water quality. At the site visit and in testimony, there was disagreement between the State and Plum Creek about where some of them had actually occurred and what had occurred, and there was no physical evidence to resolve such disputes (at other locations the effect of remedial seeding and mulching was visible). The evidence was that it is not uncommon for minor AMP violations to occur during logging operations, and the letters from FPR acknowledge that what it was seeking was education and compliance. There is no evidence of any impact on water quality following the remedial work, which was done promptly.

Stand #43 (Wiggly “H”)

This stand consists of 115 acres in an “H” shape that intertwines with the wings of the butterfly on stand #34. Prior to cutting, it had mixed wood types with a total basal area of 88 and acceptable growing stock of 35. The mean diameter of trees across the stand was 8.2 inches. It was weighted toward medium-size saw timber. It had high damage, with white birch being in severe decline due to disease. The majority of the fir was mature, and the majority of the stand was well stocked, with red spruce seedlings and saplings in the understory.

The objective was to promote regeneration for a forest with even-age management. The prescription called for two types of treatment. In 30–40% of the stand, there would be overstory removal (OSR) where the overstory was in severe decline and the understory was well stocked with seedling and sapling sized red spruce. The remainder would receive two-stage shelterwood treatment. The harvest would target the at-risk and mature stems. The harvest was to release quality growing stock and provide gaps to promote regeneration. OSR, shelterwood, and gap treatments all have as their objective creating new growth for a new generation of trees. The target residual basal area was 60.

It is common that where prescriptions call for two or more types of treatment within a stand, the locations of the different treatments may be generally indicated without being precisely specified. Examples are the prescriptions for Plum Creek harvests in Ferdinand, Maidstone, Averill, and Lewis. Sometimes a specific treatment type is prescribed for a very specific location. In this case, the “OSR box” was indicated on the map but without a specific GPS location. As previously noted, it came about as a result of discussions that resulted in the amendment to the type of treatment needed on parts of stand #43, which was variable, with pockets of differing types of trees scattered throughout the stand. Within what was shown on the prescription map as the “OSR box,” actual cutting included a mix of OSR, shelterwood, and gap treatments. In addition, there were some riparian areas within the box and the AMPs preclude cutting in riparian buffers.

Nearly all of #43 had been harvested when work on the unit stopped. Of the total of 115 acres, 75 acres were cut satisfactorily to FPR, and 40 acres were determined by Mr. Langlais to be cut contrary; he measured RBA at 23.3 within that area. He did not find the “OSR box” to be cut contrary, but his opinion was that OSR treatment was limited by the prescription to the OSR box, and that outside the box, which he believed to be specifically located as shown on the map,

the treatment should have been shelterwood only with no OSR. This is not clearly stated in the prescription, however.

Mr. Holleran points out that if the 27 acres of the OSR box had been completely cut, which it was not and could not have been due to riparian restrictions, the prescription would have allowed an additional 19 acres of OSR outside the box ($40\% \text{ times } 115 \text{ acres} = 46 \text{ acres minus } 27 \text{ acres in OSR box} = 19$). Only 8 other acres received OSR treatment. In his view, because of the diversity of types of trees throughout the stand and in the OSR box, it was not realistic for the OSR box to have complete OSR treatment. Rather, it made more sense to apply the three types of treatments (OSR, shelterwood, and gaps) across the stand because of the diversity and distribution of the trees, in order to replace the existing forest with a new forest. In his opinion, the work that was done was in compliance with the prescription, and observation and the results of his regeneration study show successful regeneration.

Mr. Holleran's measurement for the stand as a whole was 73.5, and his measurement for the 40 acre alleged cut contrary portion was 53.1. Again, his opinion is that RBA should be measured across the stand as a whole, and not within a subarea within a stand.

Both foresters addressed whether, despite their differing RBA measurements, the goal of regeneration was met by the cutting that occurred. Mr. Langlais concluded that there was regeneration at only 15% of his 39 inventory points (measurement occurred at one point per acre), with 4.18 standard error. In the Adverse Inspection Report, he wrote, "Neither regeneration plots nor residual stand basal area describes successful implementation of prescribed silviculture." Exhibit 32. Mr. Langlais' opinion was that to show regeneration, there should be 350 stems per acre immediately after harvest.

Mr. Holleran cites the 2006 version of the UVA Manual, Exhibit 22a at 29,, which was applicable to the cutting at issue and provides: "For newly-regenerated stands, the successful establishment of acceptable species must be not less than 350 stems per acre well distributed throughout the stand three years after the regeneration cut is made." Mr. Holleran did a regeneration study in October of 2012, three growing seasons after cutting on stand #43. Mr. Langlais accompanied Mr. Holleran on the regeneration cruise. Based on counting on 41 plots on the 40 acres at issue, Mr. Holleran determined an average of 12 seedlings per plot which extrapolates to 12,000 seedlings per acre. Mr. Langlais's criticisms of Mr. Holleran's technique were that Mr. Holleran used a recreational version of a GPS device, selected his inventory points with bias, counted seedlings not present immediately after the harvest, and counted sprouts as stems. The location of Mr. Holleran's plots are depicted on a map included in his report of his study, which is thorough. The Court finds that the regeneration results of Mr. Holleran are more reliable and show that the goal of regeneration was met according to the standards in the applicable UVA Manual.

For the same reasons described with respect to stand #34, this Court finds that Mr. Holleran's measurement of RBA on the stand is more reliable, and his opinions, based on both RBA measurement and extent of regeneration on the ground, are more solidly grounded in observation, analysis, and experienced application of forestry practice standards.

AMP violations on stand #43:

In the Adverse Inspection Report, Mr. Langlais listed five AMP violations, specifically that a protective strip was not maintained, skid trails and machinery were within 25 feet of the streamside protection buffer, equipment was in headwater/stream causing 1–2 foot rutting, equipment crossed brooks without crossing structures in place, and two unnecessary stream crossings. These violations were addressed by Mr. Briggs and Mr. Smith together with the violations on #34. They were closed out by prompt action by Plum Creek, and there were no enforcement actions pursued against Plum Creek. There is no evidence that the effects were anything other than short term, and they were promptly remedied.

Stand #44 (Chunk)

This stand consists of 37 acres in a fat, rectangular, chunky shape. Prior to cutting, it had a total basal area of 97 and acceptable growing stock of 42, which was higher than #34 and #43 but still low. The mean diameter of trees across the stand was 7.6 inches. It was weighted toward small-size saw timber. It had a fair amount of acceptable stock for small saw timber. It had high stand damage, with many of the medium and large saw timber stems in decline, and beech bark disease.

The objective was to improve the growth of the good trees on the stand for a forest with even-age management. The prescription is actually different in the two places in the Amendment where the prescription is defined: it calls for shelterwood treatment in one location (Form 2, page 1), and in another it calls for intermediate thinning (Form 2, page 2), targeting the at-risk and mature stems, to release the trees in the small saw timber size class for growth, as well as open up gaps for regeneration. While this inconsistency appears to be an error, both treatments are oriented toward regeneration. The target RBA was 60, reflecting the retention of small trees for growth.

Of the total of 37 acres, only 8 acres had been cut when the work stopped, and all 8 acres were determined to be cut contrary. Mr. Langlais measured RBA within the 8 acres at 16.3, based on 8 inventory points (one per acre) with 4.60 standard error. Mr. Holleran measured RBA at 36 spots in the 8 acres. Mr. Holleran's projection was that if the remainder of the stand were cut, the RBA would be 60.5. Because of the greater number of measurement points used by Mr. Holleran, the Court finds that Mr. Holleran's RBA measurement is more reliable.

Mr. Langlais testified that the amount of regeneration evident directly after the cut was too low for the prescription. Mr. Holleran measured regeneration in August of 2012, after three growing seasons, and found 15,000 commercial stems per acre. His opinion was that the prescription was for some thinning and some regeneration, and that this is what occurred on the 8 acres, and that if the harvest were finished on the stand, the whole stand would be compliant and that regeneration is being successfully achieved as called for by the prescription.

For the same reasons described with respect to stands #34 and #43, this Court finds that Mr. Holleran's measurement of RBA on the stand is more reliable, and his opinions, based on both RBA measurement and extent of regeneration on the ground, are more solidly grounded in observation, analysis, and experienced application of forestry practice standards.

AMP violations on stand #44:

There were no AMP violations cited on #44.

RBA measurements for all three stands

Mr. Holleran, after hearing Mr. Langlais's testimony at the hearing, did some additional calculations regarding RBA measurements. For each stand he took Mr. Langlais's RBA figures for the land area in which Mr. Langlais's inventory points were located (only the alleged cut-contrary area) and added to those data from his own inventory points for the remaining land area in each stand (areas that he measured and Mr. Langlais did not). His results are shown on Exhibit 102 and show that even using Mr. Langlais's RBA measurements to the extent he made them, if RBA is measured across the whole stand, the results are:

Stand #34	38.3	(prescription was 30–40)
Stand #43	60.6	(prescription was 60)
Stand #44	106.2	(prescription was 60)

These figures provide further support for his opinion that if the harvest had been allowed to continue, each stand retains the potential to be in compliance with the forest management plan, and the Court finds this evidence persuasive.

Conclusions of Law

As noted at the beginning, a Department's determination based on its expertise will not be overturned unless it is "standardless, unsupported by the evidence, or contrary to law." *Jones v. Dep't of Forests, Parks and Recreation*, 2004 VT 49, ¶ 14, 177 Vt. 81.

In the Commissioner's Decision dated November 30, 2010, the Commissioner wrote that after considering Plum Creek's presentation, she determined that "Plum Creek did not provide adequate qualitative information or any quantitative data that would render the adverse inspection report erroneous in any way. . . . This violation is clear and undisputed by information provided by Plum Creek." Exhibit A, page 6. Specifically, the Commissioner determined that:

- AMP violations had been observed and 14 had been reported;
- on stand #44, the RBA in the 8.47 acres determined to be cut contrary was 16.3 when it should have been 60;
- the cutting map for stand #43 was for two separate treatments (OSR and shelterwood) whereas the post-cutting stand is "very homogenous" and under the prescribed stocking goals, and the result of the harvest was under the prescribed 60 RBA for the shelterwood treatment, missed the goal of releasing well-stocked seedling/sapling red spruce through an overstory removal, and only 15% of plots were stocked with regeneration;
- there is no indication that the cutting plan would have been modified "had the sale reached completion;" and

- on stand #34, the cutting that was done created two separate stands; the goals were not met; heavy cutting in one area and less in another is a misapplication and misunderstanding of silvicultural practice; RBA of 19.7 is equivalent to a commercial clear cut; and the trees left lacked the crown size necessary to provide shading conditions even if the RBA target was met.

In sum, the Commissioner upheld the facts as determined by County Forester Mark Langlais in the Adverse Inspection Report on all issues.¹³

In the hearing held before this Court, at the close of Plum Creek's evidence and again at the close of all evidence, the State moved for judgment as a matter of law. The Court deferred ruling. The Commissioner's Decision is entitled to a presumption of validity, but if the owner presents evidence to the contrary that is sufficient to overcome the presumption, the presumption dissolves and it becomes the role of the Court to determine the issue on a *de novo* basis. 32 V.S.A. § 3758; *Id.* § 4467; *Kruse v. Town of Westford*, 145 Vt. 368, 371–72 (1985) (citations omitted). In that event, the appellant, Plum Creek, has the burden of persuasion on all contested issues. *Kruse*, 145 Vt. at 372–73 (citations omitted).

In this case, Plum Creek presented the evidence of expert forester Robert Holleran that the RBA measurements across the stand showed compliance, that measurement of RBA across the stand is the appropriate way of measuring compliance with a forest management plan, and that on each of the stands the harvest would be in compliance if allowed to continue to completion. Plum Creek also introduced evidence that although there were AMP violations, they were temporary and remedied promptly and not severe enough to warrant enforcement action, and that Plum Creek was found in compliance at the first site visit following the discovery of the violations. The Court concludes that Plum Creek presented sufficient evidence to overcome the presumption. Therefore, the State's motions for judgment as a matter of law are denied.

The analysis proceeds with consideration of whether the State's evidence adequately supports the Department's determination and shows application of proper standards, or whether Plum Creek's evidence outweighs the State's evidence.

Cut-contrary determinations on stands #34, #43, and #44

As the findings show, the Court finds more credible the evidence presented by Plum Creek that it is proper forestry practice to measure RBA across the stand unless specified otherwise as long as prescription goals are met, that the RBA measurements taken across the stands show compliance, and that prescription goals can be achieved if cutting were to continue across the three stands. The Court has found Mr. Holleran's expert opinions to be the most credible and reliable with respect to both the standards to be applied and the overall determination of whether the cutting done is compliant with the prescriptions. *Pion v. Bean*, 2003 VT 79, ¶ 17, 176 Vt. 1 (citations omitted) (concluding that trial court "acted within its wide discretion" in rejecting one party's expert in favor of the opposing party's expert).

¹³ In the Decision, the Commissioner addressed three or four other points that are not germane to these appeals.

With respect to the application of standards, the State applied one standard that was without sufficient foundation (measuring RBA in only a portion of the stand) and applied another standard that was incorrect (measuring regeneration immediately after harvest rather than three years later). The first was critical to its cut-contrary determination. Mr. Langlais relied heavily at the time of the adverse inspection report and throughout the process on his measurements of RBA that were taken in only a portion of each stand—portions that he had already concluded by observation to be cut contrary. The evidence showed that there is nothing in the UVA Manual or professional resources relied on by foresters to justify measurement of RBA in that manner when determining compliance with a prescription target. No other forester testified in support of that standard.

Mr. Holleran, a highly experienced forester, testified that measurement across the stand as a whole is the norm. In this case, the prescription for stand #34 explicitly provided for a goal of 30–40 “overall stand residual basal area.” While the prescriptions for #43 and #44 did not contain the same language, neither did they include any terms that would have established a requirement that the goal was to be met in each and every subarea of the stand, particularly where the stands were variable to begin with and called for mixed treatments throughout the stand.

Mr. Langlais’s logic is correct when he argues that if a prescription is for 50 RBA distributed across the stand, an owner cannot satisfy that prescription by clear-cutting half of a stand and leaving the other half at 100 RBA; under those circumstances, the goal of the prescription could not possibly be met. That does not mean, however, that it is justifiable to determine noncompliance based only on measuring a subarea in a stand where there is no RBA specified for that subarea. The low measurement in a subarea may raise serious concerns, as it did in this case, but such a measurement calls not for automatic disqualification from the UVA, but for further investigation and analysis to determine whether the prescribed treatments are being applied properly, whether the goals of the prescribed treatment are being met in the stand, and whether the targets for that stand will be able to be met.

In this case, the State’s evidence showed that it relied heavily on RBA measurements (its own and Landvest’s) taken from plots in just a portion of each stand and rejected RBA evidence pertaining to the stands as a whole. In doing so, it imposed a standard that is not in the UVA Manual, is not a norm in forestry practice, and was not included in the prescription. The State is not entitled to deference with respect to the imposition of such a standard, as methodology for measuring RBA for purposes of compliance with UVA plans is not unique to state foresters but is a function carried out by private consulting foresters on a routine and periodic basis on all of the 14,000 forestry parcels enrolled in the UVA throughout the State.

The proper standard was not whether the RBA target was met in each and every subpart of a stand, but whether the prescribed treatment was being carried out and would result in the outcome prescribed for that stand. Mr. Langlais did also consider these perspectives, even though he relied heavily on the partial stand RBA measurements. His opinion is that there was too much distance between crowns of remaining trees according to written guidelines in forestry resource materials. Mr. Holleran’s opinion is that the quality of the stems and crowns and their distribution was appropriate for the prescription and the goal.

With respect to each of the stands, regeneration of a new forest was the goal. In evaluating whether that goal was being achieved, the State measured regeneration and found it deficient, but in doing so, it did not use the standard for regeneration established in the 2006 UVA Manual that is applicable to the project. The Adverse Inspection Report was based on evaluation immediately after the harvest. The Manual specifies that regeneration is measured three years after harvest and calls for 350 seedlings per acre. The State offered no evidence of regeneration at any time except immediately after the harvest. Mr. Holleran's evidence showed that the applicable standard for regeneration was easily met when the applicable standard was applied.

Not only were inappropriate standards applied, but the Court has found that the evidence of Mr. Holleran is both qualitatively and quantitatively superior to the evidence relied on by the State and thus renders the cut-contrary conclusion in the Adverse Inspection Report not supported by the evidence. Mr. Holleran's measurements and opinions are of the type that foresters who work with forestry parcels subject to forest management plans under the UVA routinely make, and are not uniquely within the expertise of a forester who works for the State of Vermont. His methods and analysis were based on much more data and a greater degree of knowledge, experience, and practical application of analytic methods and recognized and defined standards.

These conclusions, that the State applied inappropriate standards and that the State's cut-contrary determination is not supported by the evidence, do not run afoul of the Vermont Supreme Court's admonition in *Jones* that it is not the role of the trial courts to make environmental law or policy. This situation is akin to cases involving valuation of property for property tax purposes: while listers and appraisers who work on behalf of governmental entities make determinations of highest and best use and the fair market value of property, private appraisers also do so. The expertise of appraisers is not exclusive to persons who work for the government, and the same applies with respect to the expertise of foresters in determining compliance with forest management plans. Title 32, section 4467 and related case law make clear that while it is the appellant's burden to overcome the presumption of validity, and even when the presumption is overcome the burden of persuasion lies with the appellant, the State is no longer entitled to deference on issues requiring factfinding once the presumption is overcome and the factfinder is evaluating the weight of evidence of different expert witnesses.

The methodologies used by Mr. Langlais were not irresponsible. However, when the consequences of an adverse inspection are of the magnitude involved in this case—removal of over 56,000 acres from the UVA for five years based on a highly disputed situation involving a small portion of that land—then the evidence of noncompliance should be solid and based on proper standards. This was not a situation of flagrant clear-cutting contrary to a plan calling for growth of standing trees. It is a dispute over how to measure the density and distribution of trees that were undeniably left to grow, and whether the characteristics and distribution pattern of those uncut trees serve the goal of the prescribed treatment, which was to promote a healthy new forest for the future. The State's conclusions were based on methodologies that might be sufficient for initial evaluation, but are not as thorough as they should be where the consequences are so severe.

Consideration of all the evidence, which is now much more fully developed than it was at the time of the original Adverse Inspection Report and at the time of the Commissioner's Decision, shows that the harvest at the time of shutdown was not out of compliance with the forest management plan, and the outcome goals and standards of the harvest can be achieved if it is continued to completion. The standards applied in the Adverse Inspection Report and used by the Commissioner were either not applicable or not correct, and consideration of all the evidence admitted in this *de novo* hearing does not support the Commissioner's Decision. The evidence of compliance presented by Plum Creek is more credible and reliable than the evidence of noncompliance presented by the State.

AMP violations

This leaves the question of whether the AMP violations on their own support a finding of failure to comply with the forest management plan. It is undisputed that on January 26, 2010, there were violations of the AMPs that were observed by Mr. Langlais and others, and that some were also observed on February 9th at the site visit convened for the purpose of examining them.

While the evidence shows that there were violations, and that Mr. Langlais had concerns about the possible effect of discharge of mud into the water and the creation of a new channel as a result of a rut, the violations were evaluated by the FPR Forester who oversees AMP issues and the chief person in charge of AMP enforcement on behalf of the Agency of Natural Resources. FPR was satisfied with the prompt and responsible attention given by Plum Creek to remediating the violations, and found Plum Creek in compliance with AMPs at the first opportunity that the issue was reviewed. ANR never pursued enforcement action. There is no evidence that there was anything more than a few temporary violations of the sort not uncommon in logging operations. While Plum Creek is responsible for the actions of its contract logger, there is no evidence of willful disregard for the AMPs, nor is there any evidence of residual effect on water quality resulting from the violations. The evidence shows that a new logging contractor needed education, which he and all other loggers on Plum Creek sites promptly received.

It was reasonable for the State to be concerned about whether Plum Creek, who was a new landowner in the State embarking on extensive logging projects on thousands of acres in the Northeast Kingdom, would be sufficiently mindful of the obligation to maintain water quality in Vermont through compliance with the AMPs, and understandable that the State would seek to hold Plum Creek accountable for compliance from early on in its work. However, the UVA Manual recognizes by its terms that in the context of logging, AMP enforcement is meant to be realistic. What is required is maximum practicable compliance in furtherance of the goal of maintaining water quality.

The question is whether the level of AMP violations in this case, standing alone without any cut-contrary determination, is sufficient to support a finding of noncompliance with the approved plan, resulting in the removal of 56,604 acres from the UVA. The Court concludes they are not. There is simply no evidence that there was any detrimental impact on water quality of the type the AMPs are designed to prevent, despite the violations. In applying rules, an administrative agency is expected to act with fairness and proportion. Here, although there was a failure to observe some AMPs on a temporary basis, there is no evidence of harm to water quality or wildlife or soil erosion. The level of violations here simply do not support the severe

consequences of removal of over 56,000 acres from a program in which participation ensures the public of forest management of a type that State policy seeks to promote.

Summary

For the foregoing reasons, the Court concludes that the appellant overcame the presumption of validity of the FPR Commissioner's Decision by the introduction of credible evidence of compliance with the approved forest management plan on the three pertinent stands of the Clough Brook North harvest unit; that the findings of fact derived from the credible evidence presented at the hearing show that the Department applied incorrect standards and the credible facts do not support a determination that Plum Creek failed to comply with the forest management plan on stands #34, #43, and #44 of the Clough Brook North unit; and that the credible, persuasive evidence shows that appellant was in compliance with the plan at the time appellant stopped work in February of 2010 and that the harvest can be completed in compliance with the approved prescriptions for those stands. The Court also concludes that the AMP violations were not sufficient to support a determination of noncompliance with the management plan or removal of appellant's lands from the UVA program.

Because the Decision of the Director of the Division of Property Valuation and Review was made in reliance on the FPR Commissioner's Decision of noncompliance, and that determination is now reversed, the Decision of the PVR Director must also be reversed. Thus, all four administrative Decisions on appeal in this case are *reversed*.

Dated this ____ day of January, 2014.

Hon. Mary Miles Teachout
Superior Court Judge

Hon. Calvin Colby (as to facts)
Assistant Judge

Hon. John Noble (as to facts)
Assistant Judge