

Testimony to House Committee on Natural Resources, Fish, and Wildlife RE: Use Value Appraisal Program 1/5/22

Madame Chair and Members of the Committee:

Thank you for inviting me to testify about my report to Wild Forests Vermont titled *Incorporating Wild Forests into Vermont's UVA Program* as well as providing other thoughts about incorporating changes to UVA that would support wild forests on private land.

Introduction

My name is John Roe. I am a forest ecologist with over 30 years of experience in Vermont conservation work. Since 1987 I have worked as a senior program manager at The Nature Conservancy, Vermont Land Trust and the Upper Valley Land Trust. My work has included conservation planning as well as extensive experience negotiating easements and land acquisitions. I am now retired and speak to you today as a consultant who is the lead author on the report cited above, and on other UVA topics not explicitly covered in the contracted work, but for which I have expertise based on my decades of conservation work.

Many of my values completely coincide with Wild Forests Vermont's purpose and goals, but I am not a member of Wild Forests Vermont's (WFV) steering committee and I do not speak on behalf of WFV. My goal today is to provide you with the most important key information and conclusions of the report as an overview. I will not provide many details about methodology nor will I spend time on the benefits of wild forests. You have had prior presentations about the benefits of wild forests, and Jon Leibowitz will speak to it again today on behalf of WFV. My hope is to have a relatively quick presentation with in depth exploration of those areas the committee would like to know about through questions. I have submitted to the Committee both the full report as presented to WFV and a summarization prepared by WFV for wider distribution. I will refer to the summarization by page number and specific figure for visuals to help you follow my presentation.

Let me start with a clear statement that I do celebrate UVA and its role in conserving forests in VT. It has outpaced forest conservation fivefold compared to conservation work when measured in acres protected. It has succeeded in its purpose of preventing conversion to development.

Study Purpose

The primary purpose of the report was to look at the ecological and fiscal effects of various eligibility criteria for enrollments under a possible new wild forest category in the forest UVA program. The most important focus was to define various cost sidebars to different scenarios since the specifics of costs to UVA have been missing from prior discussions about changes. The report looked at maximum possible costs, least costs under various assumptions and likely costs if the program was capped to reflect Vermont Conservation Design (ANR 2018) old forest goals.

History of UVA

To understand UVA it is very important to also know some of the early history of the law, as how we view its operation is considerably narrower than its original intent. UVA was passed in 1977 on a House vote of 144 to 1. (I want to clarify for the record that there is a typo on page 11 of the original report where it was written as 411-1 vote – it was correctly reported on page 9 and within the old newspaper article shown in Picture 6 on page 10.) The law reflected a political consensus that UVA advanced a clear

public policy goal of reducing the conversion of farms and forests for development, that it was fair to all, and that the cost was to be absorbed by all taxpayers not just shifted to other property owners within a town. This cost shifting was the norm in other states and the press of the time shows the legislature purposefully took a very different route. The bill was very landowner focused not industry focused, and was largely aimed at equitable taxation for landowners who were struggling with increased taxes because the development pressure of the 60's and 70's was driving up land values. The press of the time stressed that if landowners kept their farms and forests rather than develop them then the state would tax them at a rate that was equitably connected to the productive value.

In a legislative sense we know these ideas, landowner focus and management flexibility, were important because:

- The law provided no management standards for farms.
- The law provided four methods of management standards for the forest land – a forest under the American Tree Farm System, a county forester approved plan, land under a federal forest improvement cost-share program, or land conforming with criteria for managed forest land as accepted by the board overseeing the operation of the program.
- Most importantly, only 50% of the forest land had to be under one of the approved management standards to be considered under active forest management and thus qualified for UVA taxation valuation.

It is hard to imagine such strong political consensus today, even though the problems are still relevant. I'd like to read the purpose section of UVA, which is the only part of the law that has never been amended:

The purpose of this subchapter is to encourage and assist the maintenance of Vermont's productive agricultural and forestland; to encourage and assist in their conservation and preservation for future productive use and for the protection of natural ecological systems; to prevent the accelerated conversion of these lands to more intensive use by the pressure of property taxation at values incompatible with the productive capacity of the land; to achieve more equitable taxation for undeveloped lands; to encourage and assist in the preservation and enhancement of Vermont's scenic natural resources; and to enable the citizens of Vermont to plan its orderly growth in the face of increasing development pressures in the interests of the public health, safety, and welfare.

While there is a strong focus on productive use, the equivalent of our current term working lands, there is no expression of a primary purpose or a singular purpose and it clearly includes the conservation and preservation for both productive use and protection of natural ecological systems. Systems is a very broad term that includes hydrology and atmospheric processes, soil, water, connectivity and biodiversity. The purpose is not directive, it uses word like encourage and assist, and speaks to equitable taxation of undeveloped land and planning for orderly growth in the interests of public health, safety, and welfare. In the language of its time and with essentially universal legislative support, before conservation biology or landscape ecology even existed, before biodiversity was widely understood, before climate change or wild forest research, this was the clearest expression of "keep forests as forests for all their values" that there could have been.

One final piece of UVA history is important to understand so that discussions around UVA are not derailed by an inaccurate reading of the UVA law. In 2013 Bill No. 200 added a one sentence statutory purpose to any law that authorized the state to spend money, probably hundreds of laws in one bill to

meet the requirements of the bond world. Unfortunately, VFP&R has started using this single sentence addition to UVA to justify various perspectives, policies and actions - "The statutory purpose of the Vermont Use Value Appraisal Program in chapter 124 of this title is to preserve the working landscape and the rural character of Vermont." This interpretation of the actual purposes creates a shift in perspective, using none of the words of the actual UVA purpose, that should never be justification to create policy since that was not the origin of this language, nor was it likely legislatively discussed in that context; it was language created so that Vermont could borrow money.

I want to close this section on history with one very important point. We currently target the production of timber products part of the UVA purposes, so much so that over the decades we have slipped into a perspective that the forest part of UVA is about the effects on the timber industry. It is now critically important, during a time of climate transition where landscape resiliency is essential to our public health and safety, to rapidly target the ecological systems purposes of UVA. The original focus was on landowners and equitable taxation that gave them management choices so that large parts of Vermont forests stay intact forests. Good timber management is one way, but there are now other ways, including periods of forest regrowth or permanently wild forests, both of which are made essentially impossible by current UVA policy. Climate change, carbon markets and changing management norms (the silvicultural guides are no longer the cutting edge of exemplary forestry) are creating options for landowners, in addition to maximum timber revenue, as a way to maintain forests. We need to bring the state focus back to equitable taxation that supports landowners' **full** range of choices to manage their private property as forests while advancing the public good.

Study Scenarios

Three wild forest eligibility scenarios were modeled. The most expansive was called the ALL scenario. Under that scenario all parcels currently eligible to enroll in forestry current use would also be eligible to enroll under a wild forest category. The state's proposal, outlined for the committee this morning, makes a parcel that is at least 30% composed of steep slopes or natural communities qualifying for ESTA treatment under current UVA forest management plans fully eligible for wild forest enrollment. This scenario was called the ESTA scenario since it builds matrix forest (common forest types like northern hardwood forests) wild forest eligibility off of criteria that can already be treated as wild forest under UVA. The third scenario was one built around implementation of the Vermont Conservation Design plan. The wild forest eligible parcels had to be located within the highest priority forest blocks in the plan (Interior Forest, Connectivity, and Physical Landscape) using a buffered boundary to minimize problems around parcels bisected by the block boundaries. This was called the VCD scenario.

Table 1 on page 3 of the Overview provides the basic statistics for each of these three universes of parcels, all derived from the state's database of parcels with more than 20 acres of forested acres. Figure 1 on page 4 provides a map visualization of the eligible lands under the three scenarios. To give a sense of scale ALL includes approximately 15,600 existing UVA enrollments and 11,100 potential new enrollments. VCD is similarly 9,200 and 6,300 parcels. ESTA is 4,200 and 3,000. Total acres within each scenario are respectively 3.1M, 2.2M and .9M acres.

Each of the three universes of parcels was run through Deb Brighton's UVA database to attach current real costs for any new UVA enrollments under each scenario. Our analysis of the scenarios included both an end-point analysis, uncapped and also capped at the point of reaching VCD old forest goals by biophysical region, and a random selection of parcels by a random number generator to mimic 4 levels of reasonable expected range of landowner enrollments: 5,10,15 and 20% enrollments as wild forests. Unless the price of carbon were to skyrocket upward, I could not find data anywhere that indicates we

are likely to see 20% of eligible landowners enrolling. I chose Fryberg Maine, which roughly mimics VT land use as a whole state, to get data on open space enrollment levels in Maine. That category is broader than just wild forest, but it doesn't require a timber management plan and eligible public benefits are quite broad. Enrollment in that program was about 8% of the eligible landowners. Anecdotally, very few people sign up for Maine's forever wild category as it also requires a permanent forever wild easement.

Study Results

The main measure for determining how well each scenario supported ecological goals was how well it met the old forest goals of VCD for matrix forests, after accounting for existing wild forest. The VCD plan set an old forest goal for each of VT's 9 biophysical regions. Each scenario's distribution of parcels was tested against the distribution of the old forest goal. See Figure 2 on page 4 of the Overview. For the most part ALL and VCD scenarios tracked the distribution goals well. All three scenarios under-represent the Southern Green Mountains, but this does not represent a problem as much of the biophysical region is public land and 63% of the old forest goal is already met there – the highest percentage in the state.

The greatest representation shortfalls occur in the ESTA scenario. The two steepest areas of the state, Taconic Mountains and Northern Green Mountains, are over represented, but the greatest problem is the underrepresentation of the Northern Piedmont and the Champlain Hills. The largest discrepancy between ALL/VCD scenarios and ESTA is in the Northern Piedmont. The amount of existing wild forest is only 1.8% of the old forest goal for Northern Piedmont and only .9% of the old forest goal for Champlain Hills. The two areas where we most need to increase wild forest are the very areas ESTA fails to capture well. Wild forests need to be distributed through all of the habitat conditions, not just the least productive forest, so it is critical that any changes to UVA support the wild forest potential within the Northern Piedmont, which is ironically also the largest biophysical region of the state.

The likelihood of successfully meeting VCD goals can also be measured by what percent of the eligible owners would have to enroll in a wild forest category. Table 2 on page 5 shows the shortcomings of the ESTA scenario – it would take more than 100% of eligible parcels within both the Northeastern Highlands and the Northern Vermont Piedmont regions to meet the old forest goals. Overall, 46% of eligible landowners would have to enroll to meet old forest goals in the state, a number which excludes the two regions where it is impossible to meet those goals. And no region can meet VCD's old forest goals with less than 20% enrollment, which as previously discussed is likely a higher level of enrollment than will occur. These are simply unrealistic enrollment percentages. Comparatively, for the other two scenarios the average needed enrollment across bioregions is 17%; the highest enrollments needed to meet old forest goals would be 26% in the Northeastern Highlands and 21% in the Northern Piedmont.

The TNC resilient landscape mapping tool was used to measure other ecological values captured by the scenarios within the randomly selected enrollment modeling. In general ESTA scored very well as a percentage of acres in each category, but the total acres protected was far less than the other two scenarios. ALL was very inefficient at capturing acres that measured landscape resilience, diverse flow and recognized biodiversity (so called RFRB acres) as only 35% of the total enrolled acres were RFRB. However, because it sampled so many more acres the total RFRB acres was similar to the VCD scenario. We also used the TNC mapping tool to look at carbon. Because the ALL scenario captures additional forest acres outside of the VCD boundaries it captures the greatest amount of carbon, even if capped at the point of meeting the VCD old forest goals. VCD on a per acre basis captured carbon at a faster rate than the other scenarios.

I now want to really switch to the primary goal of the study, to look at costs. So if anyone's focus has shifted now would be the time to refocus – on Figure 5 and Table 3 on page 7 of the Overview. The cost of the three scenarios was analyzed in many different ways – this summary will only look at the big picture created by the side bars and a few key “take-away” summary points from the analysis.

The biggest fear in any discussions of UVA is the unknown of maximum costs. We did an end-point analysis of full UVA enrollment under each scenario universe. For ESTA, total enrollment would cost \$4.6M. For the VCD scenario it is 10.7M, which represents the cost of fully enrolling all remaining unenrolled land within the highest priority forest blocks of VCD – whether wild forest or standard forest management enrollment. This would be 573,000 acres. \$10.7M is the implementation cost of the VCD plan to keep all of those forested acres as forest. For ALL, the enrollment of all remaining UVA eligible parcels in the state, the total is \$18.9M. This is an unrealistic worst-case cost scenario, but it is still just a 29% increase over current costs. Given that this cost is still within the projected range of future per metric ton/acre/year for the acres represented by that enrollment, one could look at it big picture as a rational environmental implementation cost for carbon net-zero goals.

The next unknown people fear is that enrollment as wild forest will be so extreme that it drives up the cost of the program too much. I would argue that relatively few will enroll, but even at 5% enrollment the cost still could be significant. Therefore, if the goal is to cap the program of wild forest enrollment to limit costs, then making the cap be when VCD old forest goals are met in each biophysical region would be a rational public policy cap rather than picking an arbitrary number. We calculated a worst-case cost (column 3 in table 3) where meeting VCD old forest goals was **solely** through new enrollments first, rather than any conversion of existing enrollments. For ESTA it is \$4.4M, but that is not really realistic because as argued before it is not possible to fully meet VCD old forest goals through that scenario. For VCD it would be \$6.2M and for ALL it would be \$11.1M. In some biophysical regions the ratio between ALL and VCD expands to ALL being 2 times the cost of VCD.

The last side-bar calculation of the end-point analysis is determining what would be the likely least cost. This would be a mix of new enrollment and a change in category of an existing enrollment. We assumed that the probability is the same between an enrolled versus unenrolled property owner that they choose to embrace wild forest enrollment. This translates into about 60% of the landowners are enrolled and could switch management categories without additional UVA program annual cost. Here the least cost is the VCD scenario at \$1.7M, followed by ESTA at \$2.1M and ALL as \$3.1M. My guess is that a capped program's true long-term cost lies somewhere between the least and highest capped costs, weighted to the least cost end. For VCD this would be well less than the \$4M represented by the midpoint.

The sampling methodology gives a rough estimate of actual enrollment reality if one thinks of the increasing levels of enrollment as reflecting a span of years. Even to get to the 5% enrollment level is likely to take at least a couple of years so as the annual increase in cost based on Figure 5 is likely to be well under \$500,000 even for the ALL scenario. The sampling methodology, when combined with how much of the goals are met at each enrollment level indicate that in a program capped at meeting VCD goals coupled with a 15-20% enrollment is likely to cost between 1.6M and 3.8M – the range created by ALL and VCD scenarios in the sampling modeling.

Administrative costs will probably increase modestly for any of the scenarios, but the expected increase in annual enrollments are well within historical numbers of program operation. Landowner costs are significantly higher for the ESTA scenario as that requires detailed field work while VCD is just a mapping exercise to determine eligibility. Details are in the full report.

KEY COST SUMMARY POINTS

1. A 10% enrollment in VCD would cost just over \$1M, would bring all VCD old forest goals to at least nearly 50% complete except for in the Vermont Valley, and would create 174,000 acres of new wild forest – a 126% increase over current levels largely on public lands. This represents an average annual cost of \$7 per acre.
2. Cost of completing the VCD goals in the Champlain Hills and Vermont Valley with targeted enrollments, the two biophysical regions currently with the least old forest land, would be extremely modest – between \$191,000 and \$400,000.
3. A \$5 million dollar increase in UVA annual cost, just a 7.6% increase, is probably more than enough to fully meet VCD old forest goals under either the VCD or ALL scenarios.

Report Summary

1. The ESTA scenario supports some ecological values very well, some of which can currently be met under existing policy, but its representation of matrix forest within VCD forest blocks is not strong enough to be pilot program. It would need significant changes in the future to meet those VCD matrix forest goals within the highest priority blocks. The climate transition urgency seems to indicate changes more directly supporting VCD old forest goals would be stronger.
2. Both the ALL and VCD scenarios can relatively easily meet VCD old forest goals but ALL will be more random in its approach and be more expensive. ALL does create more acres of wild forest and the benefits those bring – particularly in carbon sequestration.
3. ALL creates parity between UVA timber production and wild forest for landowners. VCD targets conservation planning goals for climate resilience more directly.
4. A very small annual investment of probably well under \$1M will most likely greatly increase the amount of wild forest in Vermont, and the eventual cost, over more than 10 years of program growth to meet VCD old forest goals, is probably well under \$5M.

Easements and Permanence

In discussion up to this point there has been resistance from the state and others around forever-wild easements and allowing parcels subject to such easements to automatically qualify for UVA enrollment. Some of the concerns seem ill defined, but centered on the fact that not all forever-wild easements are the same, and the fact that the state does not want to get involved in monitoring easements. Based on a career of crafting easements I feel most of those concerns are a red herring since there is no difference between easements that are forever wild and ones that allow forest management.

It is critically important that any parcel subject to a forever-wild easement held by one of the entities eligible for conservation current use be eligible for current use valuation – such an easement is the ultimate expression of permanent forest protection, is in keeping with many of the purposes of current use, and is exactly parallel to the existing conservation category in UVA. The situation is no more complicated than how easements that allow forest management and production of timber have been incorporated into UVA. The state sets minimum standards for acceptable UVA forestry which the county forester oversees. The land trust holds the easement and is responsible for enforcing the terms of the easement if the forestry standards are more specific than the state standards, which they often are. The parties coordinate and have separate roles, but the state is clearly not in the business of overseeing easements.

The situation with forever-wild easements would be exactly analogous. If the easements meet a minimum standard defining a wild forest set by the state, and the easement is held by a qualifying entity under current existing UVA standards, then the land would qualify for enrollment in UVA under a forest reserve category. The state would hold a lien, just as they do now for UVA enrollments, that gives them the power to enforce their standards. The qualifying land trust would hold the easement and oversee enforcement of the more detailed aspects of the forever-wild easement. Just as now for both forest UVA and conservation UVA, the landowner would have to have an approved management plan focused on maintaining the ecological values of the parcel.

I know that it is the details of what uses and management would be allowed under the forever-wild easement is what makes people nervous. However, if we learn from how we operate the forestry current use I think that concern is overblown. There are some large basic aspects of forever-wild easements over which there is pretty universal acceptance, and the list is short: they must be focused on protecting the parcel's biodiversity, they prohibit structures, they prohibit the extraction of timber products, they prohibit conversion of the forest, and they allow natural processes to create habitat. These could be the minimum state standards to qualify for forest reserve category. The issues where different perspectives are validly held, and often passionately debated, tend to be around the amount and type of invasive species control, intensity and types of allowed recreation, the extraction of firewood for personal landowner use, and how to deal with existing roads. This variation in approach could be dealt with in management plans and be enforced by the easement holders, just as we do with other easements.

It is important to stress that there will be no old forests created without the use of easements because the timeline of an aging forest is so different than the timelines of human lifespan and land tenure. However, I do not think that an easement should be a requirement of enrollment in a wild forest or forest reserve UVA category. The process of easement development is too slow. We need to start placing future old forests on the landscape now if their ecological benefits are going to provide climate resilience. The first step of insuring permanency for these forests is to use the existing tool we currently use in UVA, a lien held by the state on the land. Instead of changing penalties for withdrawal, simply use the lien to prevent any withdrawal from the UVA wild forest category for a significant period of years so that it cannot be changed by a future owner. My choice would be a minimum of 40 years. It is long enough to match carbon markets, it exceeds the length of typical land tenure, it is long enough to prevent people from gaming the system to avoid taxes, and it is long enough for permanent easements to be arranged between a land trust and a landowner. The lien approach puts the land on a track toward permanent wild forest while not unfairly changing the rules of UVA penalties and withdrawal for other existing UVA enrollments.

Enlarge the ESTA categories for UVA management plans

Currently we have no way for landowners to create exemplary forest management plans where a portion of their forests are allowed to mature outside of normal silvicultural guidelines, let alone set them aside for wild forest purposes. There are also situations where it is difficult to protect high quality examples of common forests, but which are a long way from approaching old forest condition. This is because the ESTA rules prohibit any natural communities that are ranked as S4 or S5 natural communities – the more common natural communities. This is entirely arbitrary and built around a fear of too many landowners choosing to passively manage their forests. This is not in keeping with the history of UVA that it should be centered on landowner tax equity and management choices. It is also detrimental ecologically because it nearly eliminates a landowner from being taxed equitably if they choose to manage their forest according to our evolving knowledge of what constitutes exemplary

forest management for common as well as rare forests. And it makes it exceedingly difficult to maintain mature habitat sprinkled throughout our landscape to help species that thrive under mature forest conditions. This is important in creating source habitat to maintain the function of those mature forest species within our less mature forest landscape. The state should be leading in helping landowners maintain their forests beyond just growing commercial timber and the quickest and fastest way would be to allow landowners to submit management plans where the range of management is open for all natural communities, not just rare ones. This is an arbitrary line that is contrary to private property rights and equitable taxation at use value – in this example, well managed forests that can enhance biodiversity values, enhance carbon sequestration and enhance climate resilience.