Conservation Categories Workgroup Report

to the VCSI Science and Policy Committee

DRAFT

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Introduction

10 VSA Chapter 89 Section 2803 charges VHCB and ANR with a "review of the three conservation categories defined in section 2801 of this title and suggestions for developing any modifications or additions to these categories that maintain or complement the core concepts of Ecological Reserve Areas, Biodiversity Conservation Areas, and Natural Resource Management Areas in order to complete the conserved land inventory and inform the comprehensive strategy in the conservation plan. As part of this review, criteria shall be developed to determine the types of agricultural lands that will qualify as supporting and restoring biodiversity and therefore count towards the Natural Resource Management Area category."

To undertake this review, VHCB and ANR convened a working group of experts from state agencies and non-governmental conservation organizations. This group comprised:

- Gannon Osborn – Vermont Department of Forests, Parks, and Recreation
- Katie Michels – Vermont Housing and Conservation Board
- Robert Zaino – Vermont Fish and Wildlife Department
- Gus Goodwin – The Nature Conservancy
- Elizabeth Thompson – Independent Ecologist
- Britt Haselton – Vermont Land Trust
- Rosalind Renfrew – Vermont Fish and Wildlife Department
- Hannah Phillips – Vermont Department of Forests, Parks, and Recreation
- Keith Thompson – Vermont Department of Forests, Parks, and Recreation
- Bill Dell'Isola – Vermont Housing and Conservation Board
- Zack Porter – Standing Trees
- Gunnar Nurme – Vermont Department of Forests, Parks, and Recreation

This document represents our group's recommendations to the Science and Policy Group for responding to 10 VSA Chapter 89 Section 2803 (b) (1).

The group used a deliberative process that included both review and discussion of the conservation categories and their concepts, and consideration and "testing" of how the categories and their concepts would apply to specific examples of conserved lands in Vermont. Where possible, the workgroup sought to reach consensus on recommendations. However, in

some cases there was a range of opinions on a topic. This report notes important dissenting opinions where relevant.

Conservation category definitions in statute

For reference, the three conservation categories as defined in 10 VSA Chapter 89 Section 2801 are:

1. ***Ecological Reserve Area*** means an area having permanent protection from conversion and that is managed to maintain a natural state within which natural ecological processes and disturbance events are allowed to proceed with minimal interference.
2. ***Biodiversity Conservation Area*** means an area having permanent protection from conversion for the majority of the area and that is managed for the primary goal of sustaining species or habitats. These areas may include regular, active interventions to address the needs of particular species or to maintain or restore habitats.
3. ***Natural Resource Management Area*** means an area having permanent protection from conversion for the majority of the area but that is subject to long-term, sustainable land management.

Workgroup Recommendations

Based on our review, the workgroup recommends the following:

1. ***We do not recommend any modifications to the definitions of the three conservation categories in 10 VSA Chapter 89 Section 2801.***

The workgroup was in consensus agreement that it is not necessary to modify the text of the definitions of the three conservation categories. While the workgroup identified ambiguities in interpreting aspects of the language used to define these categories, we recognized that similar challenges and ambiguities will likely arise with any categorical definition, simply because the concept of conservation encompasses a continuum of protection frameworks, conservation purposes, and management approaches. Each category references a range of possible conservation activities, rather than a single, prescriptive type (or exclusion) of action. Rather than modify the definitions, we instead offer in this document our interpretations of the three categories and of key terms and concepts used in defining the categories, and our sense of the range of potential conservation objectives and management approaches included in each. We hope that our interpretations will help with the application of the definitions, and document assumptions for future land conservationists and stewards.

2. ***We recommend adding two (or more) conservation categories: One category to reflect permanently conserved agricultural lands that directly contribute to biodiversity***

conservation; and one or more categories to reflect other permanently conserved lands that contribute to important social or community resilience values but do not directly contribute to biodiversity conservation.

One of the tasks assigned in 10 VSA Chapter 89 Section 2803 (b) (1) is to develop criteria for how agricultural lands fit into biodiversity conservation objectives. The three conservation categories in 10 VSA Chapter 89 Section 2801 are each defined as "an area having permanent protection from conversion." In this context, we found it challenging to interpret the term *conversion* in a way that makes sense to describe the permanent maintenance of forests and other natural lands, while also encompassing the concept of permanent maintenance of agricultural lands. We agreed that it is therefore more straightforward to limit the application of the three defined conservation categories to lands that are primarily forests, wetlands, or other natural communities. Agricultural lands that support and restore biodiversity should be represented in their own category. Many workgroup members also agreed that this approach better reflects and elevates the unique biodiversity and other values that come from agricultural lands.

We also note that the three existing conservation categories do not represent the full range of values and purposes for which lands might be conserved. It is important to have a category (or categories) to track additional types of conserved lands. Properties such as urban parks, agricultural lands that do not directly support or restore biodiversity, or heavily used recreational areas each support critical community resilience and health outcomes. While the accounting of these lands may be beyond the scope of the goals in 10 VSA Chapter 89 Section 2802 and its biodiversity-oriented conservation objectives, the workgroup agreed it was important to track the full measure of all the protected lands in Vermont.

3. ***We recommend applying the criteria of intent, management, and protection for determining how an area of conserved land fits within these three categories.***

Classifying Vermont's conserved lands within these three categories as currently drafted will likely present many case-by-case, specific challenges. Our working group felt practitioners would benefit from additional dimensions of information to interpret these definitions. Intent, management, and protection are the criteria used by Foster et al. (2023) in the report *Wildlands in New England: Past, Present, Future*, and we suggest following that use here.[1] For our purposes, we define these three as:

[1] Foster, D., et al. 2023. *Wildlands in New England. Past, Present, and Future*. Harvard Forest Paper 36. Harvard University. The analysis presented in this report has much in common with our work group's charge. It provides very valuable detail and reflection on the complexity of trying to categorize conserved lands. Note that Elizabeth Thompson, who served on our working group, is a co-author of *Wildlands in New England*.

- ***Intent***: There is a deliberate and evident conservation purpose. This may or may not be codified in binding documents.
- ***Management***: The actual on-the-ground management is consistent with the stated conservation intent. This may or may not be codified in a management plan.
- ***Protection***: Intent and management are either codified in perpetuity or are open-ended but expected to persist.

We describe the specific requirements for these criteria relative to each conservation category in the "Conservation Categories Interpretation" section of this report.

4. ***We recommend that the categorization of conserved lands be done at the scale of protection and management delineations, rather than solely at the parcel scale.***

The protective tools and management actions used in conservation are often applied at a fine scale. An individual parcel may have different protection conditions in different areas, which are often delineated using permanent legal tools. This is most apparent on state and federal lands, where one portion of a parcel can be a designated Wilderness or Natural Area that fits the category of an Ecological Reserve Area, while the rest of the same parcel fits the category of a Natural Resource Management Area. Many private land conservation easements have special treatment areas with additional protections or restrictions that would elevate sub-units of a parcel to Ecological Reserve Areas or Biodiversity Conservation Areas. We interpret that these conservation categories are intended to be applied at any scale. Accurately reflecting these sub-parcel scale distinctions is critical to fully assessing the contributions of conserved lands to supporting and restoring biodiversity in Vermont. In general, these management or protection delineations need to be permanent (a concept defined below) to qualify.

We also recognize, however, that both a lack of accurate spatial data and a lack of capacity to implement this approach may sometimes limit the practicality of this recommendation. When it is not possible or practical to map separate areas within a parcel, we recommend classifying the entire parcel based upon the least restrictive management/protection category present on the parcel.

<u>Interpretations of key, repeated terms</u>

"Permanent protection"

We interpret permanent protection as an enduring institutional commitment—either codified in binding language, or open-ended but expected to persist—to the maintenance of a desired use or condition. This can be strengthened by (but does not require) third party accountability and/or the durability of the protective instrument or framework.

Examples of lands with permanent protection include:

- Federal and state lands owned for conservation purposes.

- Land owned by non-profit conservation organizations (e.g. The Nature Conservancy, Northeast Wilderness Trust).
- Land protected by conservation easements held by non-profit conservation organizations.
- Land subject to Notice of Grant Agreements or similar restrictions (e.g. LWCF grant agreements).

Because they lack longevity and/or institutional intent, we do not interpret the following examples *by themselves* to represent permanent protection:

- Enrollment in the Use Value Appraisal Program.
- Ownership by a municipality.
- Private ownership, regardless of intent or land management plan.

While statutes, rules, et. cetera, that regulate general categories of natural resources (e.g. wetlands, river corridors, threatened and endangered species) are critical conservation tools, we interpret them as distinct from permanent protection through ownership or easement, and therefore do not consider them permanent protection tools.

"Majority of the area"

We interpret this phrase as allowing for very limited conversion and development that supports the conservation purposes of the area. This can include the construction of public access infrastructure and structures that support sustainable land management. It can also include minor land conversion for aesthetic purposes or historical preservation/interpretation.

"Conversion"

We interpret conversion—as used in the definitions of Ecological Reserve Area, Biodiversity Conservation Area, and the Natural Resource Management Area—to mean the anthropogenic change of forests, wetlands, and other natural communities to permanent development (roads, buildings, lawns, etc.), maintained grasslands, or agricultural use.

We recognize that forests, wetlands, and other natural communities can be dynamic systems, and that successional changes are inherent processes. Successional changes caused by natural disturbances do not represent conversion. Human disturbances that affect the successional

stage of an ecosystem (i.e. timber harvest; installation of a "beaver baffle") would not be considered a fundamental change and also would not represent conversion.[2]

Conservation Category Interpretations

In this section we offer specific interpretations relevant to each of the three conservation categories.

1. ***Ecological Reserve Area*** means an area having permanent protection from conversion and that is managed to maintain a natural state within which natural ecological processes and disturbance events are allowed to proceed with minimal interference.

We interpret "natural state" as referring to the predominance of natural ecological processes such as growth, competition, predator-prey interactions, adaptation and selection, wind, water, fire, and succession. Ecological Reserve Areas may be in any current ecological condition, including a highly-degraded condition. Almost all of Vermont has been cleared or otherwise affected by past agricultural or forest management practices, but forests and other natural communities can rapidly recover. Therefore, maintaining a natural state is primarily about maintaining natural ecological processes rather than condition-based outcomes. We interpret "minimal interference" as implying a substantial measure of restraint in the extent, severity, risk, frequency, duration, and impact of management actions, with the goal of allowing natural processes to predominate and ultimately direct the condition of the site. Minimal interference management actions intended to restore natural conditions and processes (such as invasive species control) are consistent with Ecological Reserve Areas. We concur with Foster et al. (2023) that "humans have been part of nature for millennia and can coexist within and with Wildlands without intentionally altering their structure, composition, or function."

Criteria for identifying Ecological Reserve Areas:

> *Intent*: Clear intent to allow natural processes to prevail with "free will" and minimal human interference. Guiding documents, if they exist, may use terms and phrases such as "forever wild," "ecological reserve," "wild-land," "wilderness," "untrammeled," "free-willed land," "allowing old-growth forest conditions to develop," "natural processes to prevail," and "natural area."

[2] Our group recognized and discussed other definitions of conversion but applied this very simple interpretation for the purposes here.

Management: Current and future management allows environmental conditions and natural processes to prevail with minimal human interference. Planned interventions are rare and carefully designed to restore or accelerate natural conditions and processes rather than suppress or redirect them. [3]

Protection: Intent and management as an Ecological Reserve Area are codified in perpetuity or are open-ended but expected to persist.

Examples of Ecological Reserve Areas include:

- State-designated Natural Areas
- Federal-designated Wilderness Areas
- Easements held by Northeast Wilderness Trust
- Ecological protection zone in a Vermont Land Trust easement
- Highly Sensitive Management Areas (HSMAs) on ANR lands (note: HSMAs focused on active management for biodiversity goals or cultural preservation may fit other conservation categories)[4]

Data Crosswalk: We expect that this category generally aligns with lands identified as GAP Status 1, and with lands identified by Foster et al. (2023) in *Wildlands in New England: Past, Present, and Future*.

2. ***Biodiversity Conservation Area*** means an area having permanent protection from conversion for the majority of the area and that is managed for the primary goal of sustaining species or habitats. These areas may include regular, active interventions to address the needs of particular species or to maintain or restore habitats.

We interpret "primary goal of sustaining species or habitats" as any conservation that prioritizes the protection, maintenance, and/or restoration of any species occurrence, habitat, or natural community. The workgroup recognized that "species or habitats" very broadly includes both those species and habitats that are exceedingly rare in Vermont (e.g. grasshopper sparrow, Dry Pine-Oak-Heath Sandplain Forest) as well as those that are very common or even overabundant in parts of the state (e.g. white-tailed deer). Workgroup members offered differing opinions on

[3] We intentionally do not list management practices that meet this criterion, because that assessment is best done considering the specific place and the details of the proposed management intervention, in conjunction with the manager's intent. We do note that there was substantial disagreement in our workgroup about whether timber management to accelerate the development of old forest characteristics would qualify as "minimal interference." We did not attempt to resolve that, but do emphasize that the extent, severity, risk, and impact of a particular management action all must be considered when evaluating whether it is compatible with this category.

[4] There was concern by one member of the work group that the durability of protection from public lands management plans (i.e. ANR long range management plans, GMNF forest plan) was not sufficient to qualify an area as an Ecological Reserve Area or Biodiversity Conservation Area.

whether management for common species and habitats should be appropriately included in this category. We note this disagreement but default to the seemingly inclusive language used in 10 VSA Chapter 89 Section 2801.

To sustain species and habitats, condition-based outcomes take precedence over allowing natural processes to prevail. We interpret "regular, active interventions" as being inclusive of management that intentionally alters the natural structure, composition, or function of an area to support or restore species and habitats. This could include controlled burns, timber management to create specific forest structural conditions, and brush-hogging to maintain shrub-dominated fields.

Based on the workgroup's interpretation of the term "conversion," we do not consider this category inclusive of agricultural lands that are managed to support and restore biodiversity.

Criteria for identifying Biodiversity Conservation Areas:

> *Intent*: Clear intent to maintain particular species, habitat types, or seral stages. Guiding documents, if they exist, may use terms such as "biodiversity," "habitat," and/or references to particular species, habitat types, or seral stages.
>
> *Management*: Management prioritizes sustaining particular species, habitat types, or habitat conditions. Interventions may suppress, redirect, restore, and/or accelerate natural processes to achieve species or habitat objectives, but interventions do not result in conversion. Management is subject to a management plan and approved by a qualified professional.
>
> *Protection*: Intent and management as a Biodiversity Conservation Area are codified in perpetuity or are open-ended but expected to persist.

Examples of Biodiversity Conservation Areas include:

- National Wildlife Refuges (note: some portions may qualify as Ecological Reserve Areas or Natural Resource Management Areas)
- Critical Plant and Wildlife Habitat Special Management Areas on ANR lands
- Green Mountain National Forest Remote Wildlife Habitat Management Areas
- Wetland Protection Zones (VLT)
- Portions of TNC Natural Areas managed as shrubland for golden-winged warbler

Data Crosswalk: We expect this category generally aligns with lands identified as GAP Status 2 as applied in the most recent version of the TNC-maintained Secured Areas Database prepared for the Northeast Association of Fish and Wildlife Agencies (NEAFWA). Designations of GAP 2 in

other contexts will likely not crosswalk consistently to this category and will need to be considered on a case-by-base basis.[5]

3. ***Natural Resource Management Area*** means an area having permanent protection from conversion for the majority of the area but that is subject to long-term, sustainable land management.

In contrast to Ecological Reserve Areas and Biodiversity Conservation Areas, which have very specific purposes and management restrictions, this is a very broad category of conserved lands which allows for a diversity of management strategies. Our majority consensus general assumption is that natural or forested lands with conservation protections fall into this category, unless they have additional protection conditions which elevate them as Ecological Reserve Areas or Biodiversity Conservation Areas.[6]

The term "sustainable land management" is defined in 10 VSA Chapter 89 Section 2801. We offer the following to help interpret that definition. "Management" means the set of choices and activities that humans impose on a piece of land, which can range from doing nothing—letting nature do the management—to conducting activities for multiple objectives that may include resource extraction while protecting/or restoring ecological function.

In practical terms, sustainable forest management means working in a manner that supports the natural communities that would be present without active management. This includes things such as encouraging the regeneration of naturally occurring species, protecting soil integrity, protecting wetlands, streams, and their upland buffers, protecting sensitive features, and, if needed, conducting restoration activities post-harvest to restore natural function, or other activities to support adaptive management.

Criteria for identifying natural resource conservation areas:

> *Intent*: Clear intent to manage for multiple goals and/or values in a way that does not elevate biodiversity, species, or habitats as the primary consideration.[7] Guiding

[5] The USGS definition of Gap Status 2 is "an area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive uses or management practices that degrade the quality of existing natural communities, including suppression of natural disturbance." We interpret this as a less stringent notion of biodiversity conservation than this category requires. In practice, however, TNC's use of Gap 2 in the Secured Areas Database prepared for NEAFWA was much closer to the concept of a Biodiversity Conservation Area.

[6] A small minority of work group members expressed concerns about the extent to which working forest easements fit within this category. They specifically referenced: Thompson, J. R, et al. 2023. Do working forest easements work for conservation? *bioRxiv*, 2023-08.

[7] There may be statutory or regulatory protection of certain features within Natural Resource Management Areas (e.g. wetlands, legally-protected species). We do not interpret these restrictions by themselves as affecting the conservation category of the area.

documents, if they exist, describe objectives for the management area that include terms like “resource production,” “multiple objectives,” “economic” or “cultural” values, or similar terms.

Management: Management ensures long-term conservation of natural resources with allowance to manage for multiple objectives (e.g. recreation, timber production, biodiversity protection). Management actions in natural resource conservation areas may suppress or redirect natural processes to achieve objectives for the management area. Management is subject to a management plan and approved by a qualified professional.

Protection: Intent and management as natural resource conservation area are in perpetuity or are open-ended but expected to persist

Examples of natural resource conservation areas:

- General Management Areas on ANR lands
- Green Mountain National Forest Diverse Forest Use Management Areas
- Working forest easements, outside of ecological protection zones

Data Crosswalk: We expect this category generally aligns with lands identified as GAP Status 3, except we do not interpret mining as allowed in Natural Resource Management Areas.

Interaction with Data Protocols

These conservation categories are ways of understanding and categorizing land conservation work. They should be viewed as descriptive, rather than prescriptive. These categories do not by themselves assign any restrictions to conserved lands.

These recommendations will need to be applied in order to develop a protocol for how to categorize the shapefiles of existing conserved lands and overall acreage in each category. We anticipate the Data Working Group will develop a methodology that reviews how existing data storage systems can address the recommendations of this group. In the sections above, we have described some examples of existing data classifications or types of conserved lands that match our interpretation of Categories 1, 2, and 3. We expect that representatives of the Conservation Categories Working Group will collaborate with the Data Working Group to assist in the understanding and application of our interpretations and recommendations.

Timing of category assignments: Categories will be assigned in the initial inventory for all conserved lands to date. For newly conserved lands, we anticipate that in most cases, this categorization will take place at the time a new, permanent conservation restriction is added to a parcel of land. This could include, but not be limited to: when a conservation easement is recorded; when a new Long Range Management Plan for state lands is finalized; or at the time

of purchase by a conservation organization. Because these categories are generally tied to either perpetual or long-term land management restrictions, and expected to persist, we do not anticipate a need for regular review of an area's categorization, beyond what stewardship obligations conservation organizations and land management agencies already have.

Conclusion: Areas of Future Work

To date, land conservation in Vermont has tended to be opportunistic, happening on a parcel-by-parcel basis. 10 VSA Chapter 89 Section 2802 sets forward-looking landscape-scale biodiversity conservation goals, using frameworks like Vermont Conservation Design that aim to ensure landscape-scale biodiversity and ecological *functions* are maintained. In developing the Statewide Conservation Plan, an analysis of gaps in the function of conserved lands—both in terms of specific protected land cover types, and the connectivity between parcels—will be critical for setting future priorities.

A topic the workgroup broached but did not fully explore is how the size and landscape context of the identified conservation areas relates to ecological function. The group interpreted that these three conservation categories can be applied at any scale. So, a one-acre parcel of land can have management and intent that aligns with the ecological reserve category, but if it were surrounded by parking lots, it may provide limited ecological functions. In general, our group felt like these landscape-level questions were better suited to be addressed in the forward-looking conservation planning process, rather than the inventory of existing conserved lands.

10 VSA Chapter 89 Sections 2801 and 2802 focus on the unique conservation attributes that are important to protect biodiversity in Vermont in perpetuity. 10 VSA Chapter 89 Section 2801 sets forth unique conservation categories for describing different levels of conservation protections. In developing this report, we considered other regional efforts to categorize conserved lands, such as by considering how our criteria map onto GAP status. This topic of interfacing with other categorizations of conserved lands needs to be ongoing: Vermont should remain aware of other state and national conservation goals, so that there are ways to contextualize and share our conservation successes.

This report is written with the assumption that conserved lands will be maintained and stewarded in perpetuity. Ongoing funding to support monitoring, stewardship, and maintenance is critical to ensure that the intent, management, and protection of conserved areas continues in perpetuity. In addition, funding and investment in data systems to track conserved lands, their conservation category, and their other attributes, will be essential to long-term conservation success.