N2S-LT-2

CPG # 26-____-PET

Aesthetic Assessment & Orderly Development Review

View from inside the Project parcel looking east at the proposed Project area.

Project Location:	Mountain View Drive, Jay, Vermont
Project Size:	3.75 MW
Prepared For:	Novus 242 Solar LLC
Prepared By:	Lucy Thayer, PLA
Bowman Project #:	24-228

February 4, 2026

Bowman

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Introduction and Scope of Work

Bowman was engaged by Novus 242 Solar LLC (the "Petitioner"), to conduct a visual impact analysis to determine the potential aesthetic impact of the proposed 242 Solar Project located off Vermont Route 242 in Jay, VT (the "Project"). This analysis is conducted in response to the requirements set forth for aesthetic review of energy transmission and generation projects under Title 30 Section 248 of the Vermont Statutes, governing the review of energy generation facilities and transmission projects. The Public Utility Commission ("PUC") adopted the Quechee Analysis, a two-step analysis as set forth originally for the review of aesthetics under Criterion 8 for Act 250 to determine that a proposed project will not have an undue adverse effect on a proposed project site's aesthetics and incorporated into Public Utility Commission Rule 5.400[1].

This visual impact analysis presents findings and conclusions of investigation as to whether alterations to the area's visual character are adverse, and if so, whether the changes are unduly adverse as defined by the Quechee Analysis. The methodologies for the aesthetic assessment of this Project include visual and spatial analyses of aerial photographs, satellite imagery and GIS data, field reconnaissance, site visits, and document research and review. The primary analysis assesses the Project's visibility and potential for visual and aesthetic impacts to public vantage points such as state or local roads. Locations that include neighboring properties and residential areas in close proximity to the proposed Project were also considered. We have used a combination of desktop review and field investigation to verify our analyses of the proposed conditions following completion of the proposed Project.

Report Organization and Contents

This report is organized around and relies on an extensive narrative of the Quechee Analysis as it applies to the proposed Project. This report is accompanied by a number of exhibits and plans as supporting documents which are referenced throughout the document or included as appendices. Town and regional documents referenced throughout this report are noted below.

- Town of Jay Community Development Plan, adopted June 19, 2017 (the "**Town Plan**")
- Northeastern Vermont Development Association Regional Plan for the Northeastern Kingdom 2015-2023, amended April 26, 2018 (the "**Regional Plan**").
    - The Regional Plan includes an energy plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 2291(28).
    - Assessment Report NVDA, dated June 20, 2023
    - Jay Energy Profile, dated May 15, 2017

[1] https://puc.vermont.gov/sites/psbnew/files/documents/5400-petitions-to-construct-electric-and-gas-facilities-pursuant-to-section-248.pdf

Project Background

Project Description

The Project is located in the Town of Jay in Orleans County, Vermont and will consist of the construction of a 3.75 MW (AC) single axis tracking photovoltaic generation facility. The physical location is a parcel off of Vermont Route 242 south of Mountain View Drive; the parcel is identified with the parcel id 08-2420044 and is owned by MM LLC. The parcel does not have an E-911 address. The Project will be located on a portion of the parcel that was previously disturbed for sand and gravel extraction.

The proposed array will occupy ±12.87 acres of leased land on the ±66.26-acre parcel. Access to the site will be from an existing gravel access drive off of Vermont Route 242, which will be extended into the center of the Project site. A small turnaround area will be added to the end of the drive within the array. Route 242, the closest public travel way is ±525-ft northwest of the closest panel in the array.

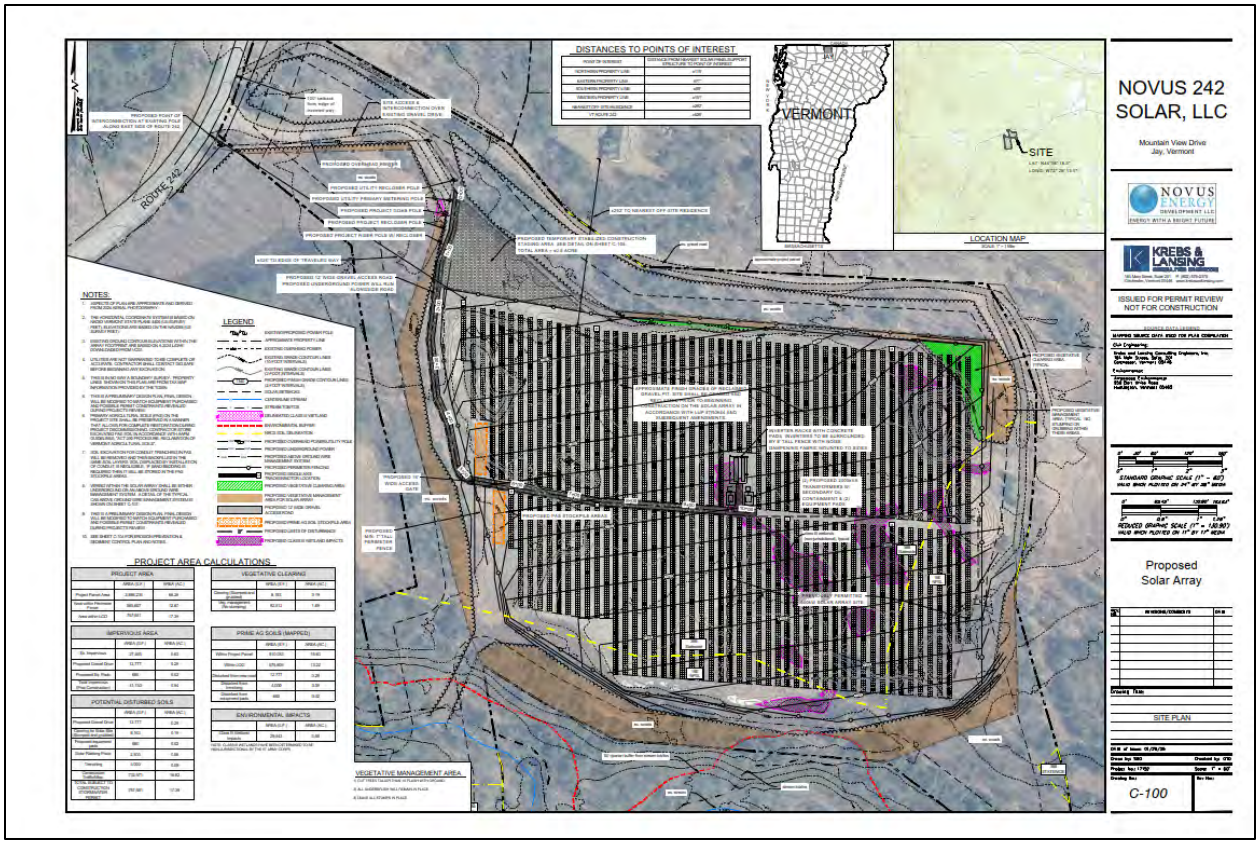


Image 1. Overall Site Plan

The single axis tracking system will be supported by pile-driven posts; the total height of the panels will be approximately 11-feet above ground level. The non-reflective photovoltaic modules will be oriented north-south. The electrical interconnection will be to the Vermont Electric Cooperative ("VEC") system at an existing pole near the Project site on Route 242. Electricity from the Project will connect to the site via approximately 6 new utility poles along the existing/upgraded access drive. The Project will be surrounded by a minimum 7-ft high fence, agricultural style perimeter fence.

The Project proposes ±0.19 acres of vegetative clearing and ±1.89 acres of vegetative management to prevent shading of the system. The Project area does not contain Class I or II wetlands or wetland buffers. The Project area does contain Class III wetlands, however, they are isolated depressions that lack any significant wetland functions and values. See Natural Resources Report, *Exhibit N2S-DB-2*.

Mapped primary agriculture soils are present on the Project site and ±0.4 ac of disturbance to prime ag soil is proposed for the new road, trenching and equipment pads. Prime ag soil stockpiles are proposed along the southeastern side of the array.

As part of the reclamation process related to the gravel and sand pit extraction site, there will be grading of the site where the array will be located that will create generally consistent slopes in the ±4% range.

The Project site is previously disturbed by a gravel and sand extraction operation and generally sits lower in elevation than its surroundings. The Project site is also surrounded by existing vegetation, which together with landforms, and topography of the Project site will screen the proposed array from public roads and almost all nearby locations. There will be potential partial visibility of the proposed array from two residential properties on a private road (Mountain View Road) directly north of the Project during leaf off conditions; however, these two residential properties currently have an existing view of the gravel pit. Even during leaf-off conditions the surrounding existing vegetation will provide substantial screening of the proposed array from these residences. Other nearby residents are buffered from the Project by existing blocks of wooded areas. There will not be Project visibility from nearby public roads including Route 242, Shallow Brook Road, Beadle Hill Road, or other nearby area roads due to site and area topography, landforms, and intervening vegetation that block the Project from offsite.

Aesthetic Assessment

The Quechee Analysis is a two-step process that begins with assessing the nature of the project, its context, and whether or not it will lead to an adverse aesthetic impact, and if it is adverse, if the project is unduly adverse.

The first step is to address questions about the project to test for adverse aesthetic impacts. The five questions include the following themes:

1. The nature of the project's surroundings.

2. The project's design and compatibility with its surroundings.

3. The colors and materials selected for the project and suitability for the context.

4. The project's visibility.

5. The project's impact on open space in the area.

If the conclusion from the first step of the analysis is that the aesthetic impact of the project is considered to be in harmony or compatible with its surroundings, then the aesthetic impact of the project is considered not adverse. If this is not the case, then the project is considered to have an adverse impact, and the second step of the Quechee Analysis is required to determine if the adverse impact is undue. An aesthetic impact is unduly adverse if any of the following is true:

1. The project violates a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area;

2. The project offends the sensibilities of the average person because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area; or

3. The petitioner has failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings.

The Quechee Analysis

Step One of the Quechee Analysis

1. Project Surroundings: What is the nature of the project's surroundings?

The Project is east of Jay Peak Resort on a portion of the Project parcel that was previously disturbed as part of an ongoing sand and gravel extraction operation. This past land-use is evident on the site, and the land interior to the Project parcel is lower in elevation (from extraction activities) and bordered by dense wooded areas on all sides. Aside from Jay Peak resort, the surrounding lands are largely forested and mountainous, with some residential and commercial development in the surrounding area.

Image 2. View from the west side of the overall Project parcel looking southeasterly toward the Project area.

Two residential parcels are located just north of the Project site. These residences are accessed from Mountain View Drive, a private road running on the Project's northern property line. One residence is at the intersection of Mountain View Dr and Route 242 and is about 515-ft from the Project. The second residence is farther east on Mountain Road and is the closest off-site residence to the Project, about 292-ft north of the Project Array. Aside from these homes, there is very little development around the Project – to the south and east there is a large expanse of continuous forest; to the north is Route 242, a small community of rural residential development, and undeveloped woodland beyond that; similarly to the west is a small residential community on Shallow Brook Road, with Jay Peak beyond.

The Town Plan notes that Route 242 is a noteworthy road corridor. While the Project parcel borders Route 242, there will not be visibility of the site from this corridor, therefore the Project won't impact scenic views along the road.

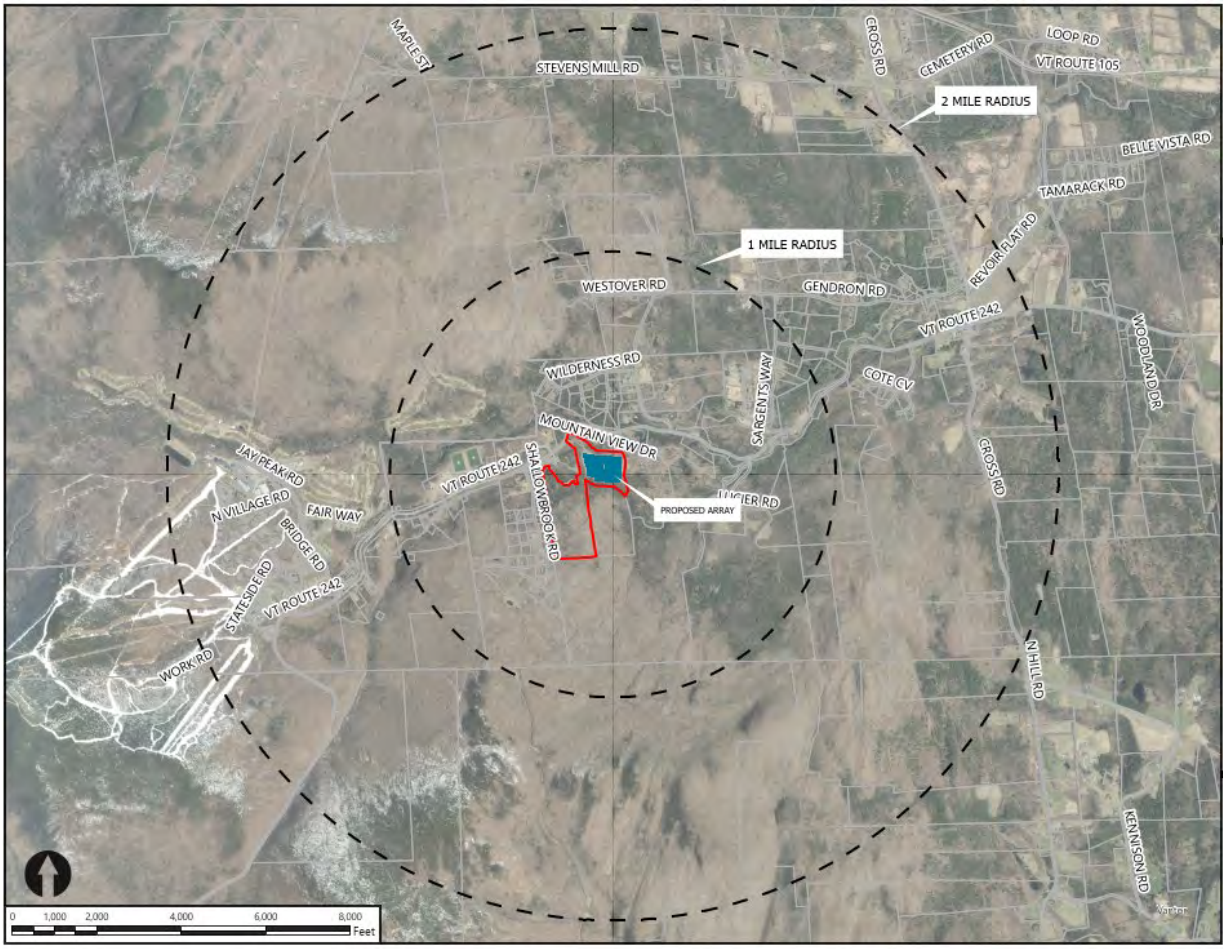


Image 3. Context map of the Project and a 2-mile radius of the surrounding area.

2. Project Design: Is the project's design compatible with its surroundings?

The Project is designed to be compatible with its surroundings. Notably, the Project is not visible from the nearby public roads in the surrounding area because of its location – it is set back from the road and screened from views by landforms, topography, and dense vegetation. This, combined with the relatively low height (approximately 11 feet) of the Project's components, limits views from the surrounding area roads. The existing site disturbance from the former gravel extraction operations are beneficial to the Project and generally allow the Project components to be set at lower elevations than the surroundings, even after reclamation site grading is complete.

There are no buildings included in the Project. Project components (transformers, inverter racks and secondary containment pads) are collocated in the center of the array and will not be visible offsite. Access to the Project site already exists and will be extended for the Project. The new utility poles will be similar in size and appearance to the existing utility poles on in the area.

3. Project Materials: Are the colors and materials selected for the project suitable for the context within which the project will be located?

The colors and materials of the Project are suitable for the context of the area. The array materials are either dark or galvanized steel in color. The module panels containing glass will be a dark blue color and treated with a low glare, anti-reflective coating. The Project will have a low profile (approximately 11'). The Project will connect to existing utility and road infrastructure, limiting the need for new infrastructure to complete the Project.

Image 4. View from inside the project looking south.

4. Project Visibility

To evaluate the visual impacts of the Project, we reference *In re Petition of Chittenden Renewable Energy, LLC. for Certificate of Public Good Pursuant to 30 V.S.A. § 248, 2016 Vt. 50, ¶21* that states "[i]n determining whether there has been an undue adverse impact, considering the sensibilities of the average person, the Board [sic] can and should consider all vantage points, including from private property." When considering views from private properties the ruling goes on to state "in addition to considering neighbors' interest, the Board [sic] ruled that the test definition of an average person meant

'*the average member of the viewing public who would see a particular project from the vantage point of the public*;' that is, while the Board [sic] must consider all vantage points, it does so from an *objective, as opposed to subjective and neighborly, perspective*." [2] (Emphasis added)

From where can the Project be seen?

A site reconnaissance conducted by Bowman on November 13, 2024, along public roads near the site yielded the conclusion that the array will not be visible from nearby public roads in the surrounding area. Limited partial and buffered visibility of the Project is expected during leaf off conditions from the two residences north of the Project off the private drive Mountain Rd, which currently have similar visibility of the extraction operation. However, visibility to the Project area will be partial and filtered due to the dense vegetation that includes many evergreen trees that help to screen the Project, even during leaf off

Image 5. View from south side of the Project at the approximate midpoint looking north at the Project and existing vegetation beyond that will serve to buffer the Project from the residence north of the Project.

[2] In re Petition of Rutland Renewable Energy, LLC. for Certificate of Public Good Pursuant to 30 V.S.A. § 248, 2016 Vt. 50, ¶22

conditions. Additionally, the Project slopes from northwest to southeast, which will further limit visibility of the Project from these locations.

Image 6. View from inside the Project on the eastern side looking southwesterly. Jay Peak is visible in the background of the photo.

Visibility of the Project is also expected from the upper portion of some of Jay Peak Resort's ski trails. These views will be mitigated by: 1) distance – the Project is ±2.8 miles to the summit and the Project will occupy a small portion of the user's field of vision in the greater landscape; 2) orientation – views of the project are unlikely during any lift rides up the mountain because users backs will be to the Project site and reduced on the ski or hike down as ski trails may not face the Project; and 3) duration from type of use – while mountain users are on the mountain, most users are recreating their way down the slopes (skiing, snowboarding, etc.).

Other than as described above, the Project is sited such that there will not be views of the Project due to the topography and landforms of the surrounding area combined with the existing, dense vegetation around surrounding the Project parcel. Other nearby residences in the surrounding area are completely buffered from the Project by existing blocks of wooded areas. As noted previously, there will be no Project visibility from nearby public roads including Route 242, Shallow Brook Road, Beadle Hill Road, or other

surrounding area roads due to site and area topography and intervening vegetation that block the Project from offsite. See also Appendix **B** for photos of the site and surrounding area.

5. Open Space: What is the project's impact on open space in the area?

The Project will not have an adverse impact on the open space of the area. The Project site is not identified as a planned or future open space and is not part of an open space network or scenic corridor as identified in the Town and Regional Plans. The Project site is located on a 'preferred site' in the Town Plan because it is located in a disturbed area, a former gravel pit.[3]

The Town Plan does not specifically define open space. Open space is generally referenced in the Town Plan with regard to conserving land resources and the preservation of open space, forestland, and agricultural lands that contribute to scenic resources. The Project isn't sited in a location with public vantage points, nor does it impact important viewsheds or vistas, and therefore is sited to preserve open space. Further, there are no identified, significant, or unique open space views that would be impacted by the Project.

Image 7. View from Route 242 northwest of the Project Array looking northeast. The Project access at Mountain View Drive is at the bend in the road visible in the photo.

[3] Jay Town Plan at pg 25.

6. Town Screening

The Town Plan references a solar screening ordinance, however, Boman confirmed with the Town Zoning Administrator that the Town does not have a solar screening ordinance that applies to the Project.

Conclusion of Step One of the Quechee Analysis

A review of the Project under Step One of the Quechee Analysis finds that the Project **does not have an adverse** impact to the visual or scenic quality of the area. This is due to the following mitigating factors:

(a) Compatibility with the area
   a. The Project is proposed on a previously disturbed portion of a former gravel extraction operation and is not visible from public roads;
   b. The Project uses existing utility and access road infrastructure such that the need for new infrastructure is reduced;
   c. The Town Plan identifies this site (former gravel extraction) as a preferred site.

(b) Lack of Project visibility
   a. Visibility of the Project is limited to two residential parcels just north of the site that may have partial, filtered, seasonal, leaf off views that will be buffered and screened by a dense block of mature evergreen and deciduous trees.
   b. There will not be views of the Project from any offsite public roads including Route 242, Shallow Brook Road, Beadle Hill Road, or other surrounding area roads due to site and area topography and intervening vegetation;
   c. Views from Jay Peak resort will be mitigated by distance, orientation, and duration of view, and will comprise a small portion of any user's field of vision.

(c) Project proposes no impact to Open Space as outlined in the Jay Town Plan.

Although it is Bowman's conclusion that the Project does not have an adverse aesthetic impact, our review continues through the second step of the Quechee Analysis to determine if the Project would have an undue adverse impact even if there were an adverse impact.

Step Two of the Quechee Analysis

If it was determined that the impact is adverse by the first step of the Quechee Analysis, the next step in the investigation is *whether the adverse aesthetic impact would be undue*. An aesthetic impact is unduly adverse if any of the following is true:

1. The project violates a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area;

2. The project offends the sensibilities of the average person because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area; or

3. The petitioner has failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings.

Community Standard

1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?

A review of the local and regional[4] planning documents yielded the conclusion that the Project does not violate any clear, written community standard intended to preserve the aesthetics or scenic beauty of the area. Neither Plan designates the Project area as scenic. The Project area is not part of the Town's open space resources as discussed in the Open Space section of this report. While the Regional Plan generally recognizes the importance of scenic resources within the area, it has not identified any specific scenic, open space, or conservation resources in the proposed Project area or that would be impacted by the Project.

There are no goals, policies or recommendations that the proposed Project would clearly violate in either the local or regional plan with regard to orderly development. See the Orderly Development section in this report for further exploration of the Project impacts with regard the clear, written community standards outlined in the local and regional plans.

Shocking and Offensive

2. Will the project offend the sensibilities of the average person because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area?

The Project will not offend the sensibilities of the average person. The Project is proposed on disturbed lands of a former gravel extraction facility and it does not significantly diminish the scenic qualities of this area, nor is it out of character with its surroundings such that would offend the sensibilities of the average viewer. Further, there is an overall lack of Project visibility that makes the Project compatible with the area.

Mitigation

3. Has the petitioner failed to take generally mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?

The Petitioner has taken all generally available mitigating steps to improve the harmony of the Project with its surroundings. Mitigation of the project includes:

[4] See page 3 of this report for local and regional plans referenced herein and appendix for relevant excerpts of these plans.

1. Siting the Project in an area that is naturally buffered from offsite locations by natural topography, landforms and vegetation such that it is not visible from adjacent roads or the surrounding area, with the exception of potential seasonal visibility of the Project from a nearby residence;
2. Using existing infrastructure like roads and utility poles to reduce the need for new infrastructure; and
3. Proposing only minimal tree clearing to prevent shading of the array and providing mitigation (stockpiling) of prime ag soils.

Findings of the Quechee Analysis

When the Project is reviewed against the Second Step of the Quechee Analysis, it **does not** create an **undue adverse** impact on the visual resources or scenic beauty of the area.

1. The Project **does not** violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area;

2. The Project **does not** offend the sensibilities of the average person or significantly diminish the scenic qualities of the area; and

3. The Petitioner **has taken** generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings.

Orderly Development

In accordance with 30 V.S.A. § 248(b)(1), this section evaluates the Project with regard to the orderly development of the region with respect to any land conservation measures included in the local and regional planning documents. In evaluating whether an in-state electric generation facility will unduly interfere with orderly development of the region, Section 248(b)(1) requires due consideration to be given to the recommendations of the municipal and regional planning commission, municipal legislative body, and the land conservation measures in the town plan. If a duly adopted regional or municipal plan has received an affirmative determination of energy compliance under 24 V.S.A. § 4326, land conservations and specific policies contained in the plan are entitled to substantial deference. Section 248 defines "substantial deference" to mean that "a land conservation measure or specific policy shall be applied in accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy."[5] The NVDA has an enhanced energy plan, included as Chapter Two: Energy within the Regional Plan that has received affirmative determinations of energy compliance, while Town of Jay has not received this determination

[5] 30 V.S.A. § 248(b)(1)(C).

yet. Bowman has therefore given substantial deference to the land conservation and specific policies contained in the Regional Energy chapter while conducting this analysis as outlined by the PUC.

TOWN PLAN

Jay Town Plan (adopted June 19, 2017)

Scenic Roads, Resources & Parks

The Town Plan notes in the *Scenic Roads, Resources & Parks* section that:

> The Town of Jay is blessed with some of the most breathtaking scenery in Vermont. Due to The Town of Jay's high elevation, its views and vistas are both short and long distance. Many of the views in the southeast portion of the community are across hills and valleys within The Town of Jay. In most cases they are relatively short scenic distances of 2 miles or less. The characteristics of these views are those that are more or less typical of rural Vermont, wooded rolling hillsides, open pasture, farmland, and small valleys. [6]

And, "[i}n addition to views and vistas, The Town of Jay possesses some very attractive sites and road corridors. The most noteworthy road corridors are Route 242 (Mountain Road) …"[7]

The Project will not adversely impact these resources. The Project site is not readily visible from the scenic locations described in the Town Plan. There will not be short or long-distance views from Route 242 or the general surrounding area due to the topography of the Project site and the dense vegetation surrounding the site and in the area. While there will be some potential visibility from the top of Jay Peak, the substantial distance from this view (nearly three miles) is distinguished from the types of scenic views described in the Town Plan (short scenic distances of 2 miles or less), and existing views of the parcel from these areas are of an industrial gravel and sand pit extraction operation.

Energy Plan

In the section *Energy Plan*, the Town Plan notes:

> The Planning Commission recommends the development of renewable energy resources while considering the environmental, aesthetic and economic impact they may have on the community. Renewable energy projects are limited to outside the scenic corridor and subject to project and site review.[8]

This section also provides guidance on solar generation siting, noting that the Town in consultation with the regional planning commission, will identify areas most suitable for solar development. This map is shown in the Regional Plan section below.

[6] Town Plan at pg 16.
[7] Id at pg 17.
[8] Id at pg 22.

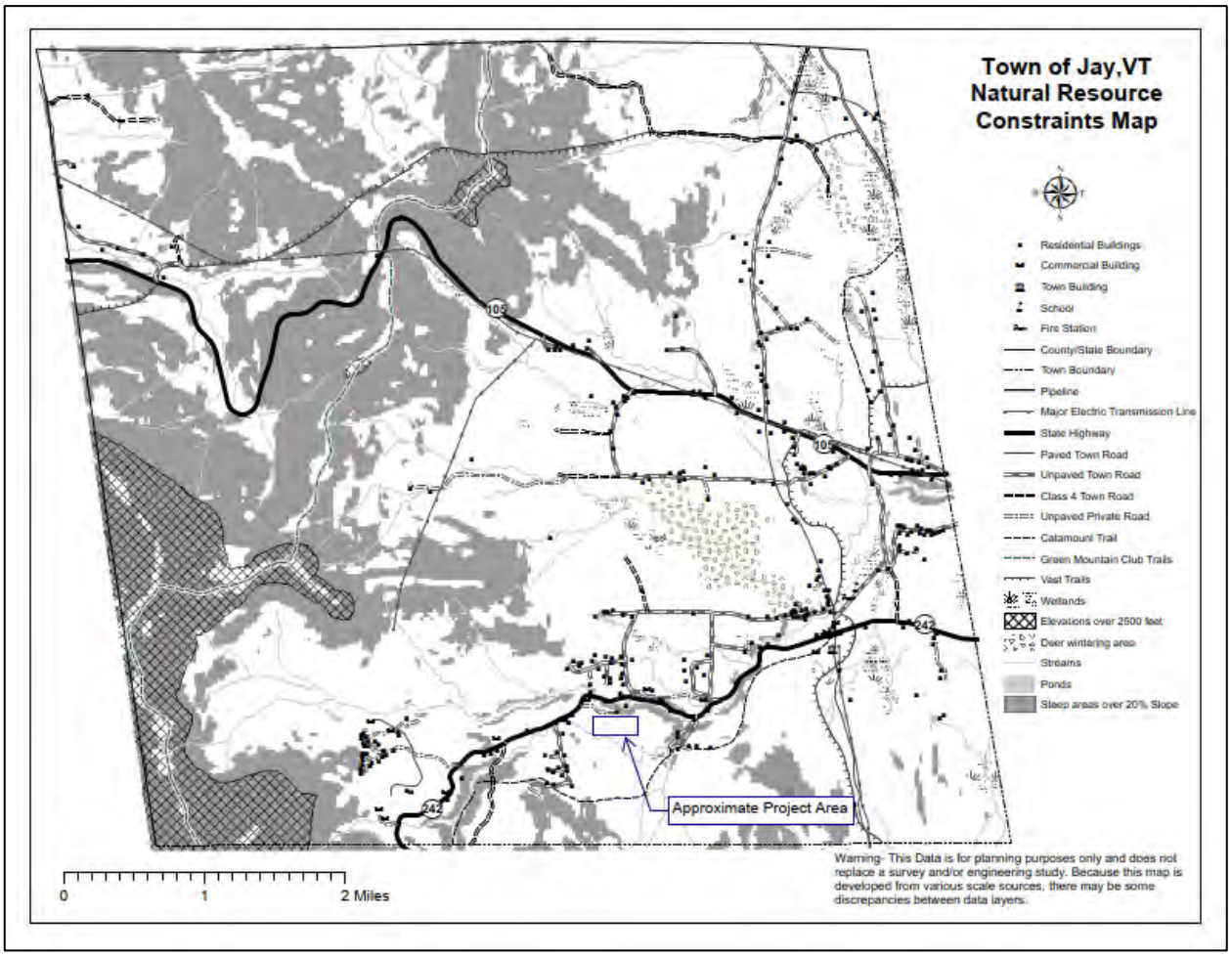


Figure 8. Jay Town Plan Natural Resource Constraints Map.

The solar facility siting section includes the statement that the Town recognizes the requirement for projects to be "located in close proximity to electric power lines capable of transmitting the load proposed to be generated and easy access from major transportation networks for construction."[9] The Town Plan notes that this needs to be balanced with the desire to "maintain the open landscape and scenic views important to Jay's sense of place, tourism economy and rural cultural aesthetic." The guidelines stipulate that new facilities shall not impact working farms, forest land, or impact scenic views, roads, or other areas identified in the Scenic Resource Inventory.[10] Scenic attributes identified in the Town Plan include:

> Views across open fields, especially when those fields form an important foreground; prominent ridgelines or hillsides that can be seen from many public vantage points and thus form a natural backdrop for many landscapes; historic buildings and districts and

[9] Id at pg 24.
[10] Id at pgs 24-25.

> gateways to historic districts; and scenes that include important contrasting elements such as water.[11]

The Town Plan references a Scenic Resource Inventory in multiple places; however, no inventory is provided in the Town Plan or on the Town website.

Preferred areas in the town include "facilities that are sited in disturbed areas, such as gravel pits, closed landfills, or former quarries" as well as "proximity to existing hedgerows or other topographical features that naturally screen the entire proposed array".[12] The Project meets both of these relevant preferred siting criteria and is not located within any described scenic attribute areas, and is therefore consistent with the Town Plan's energy section.

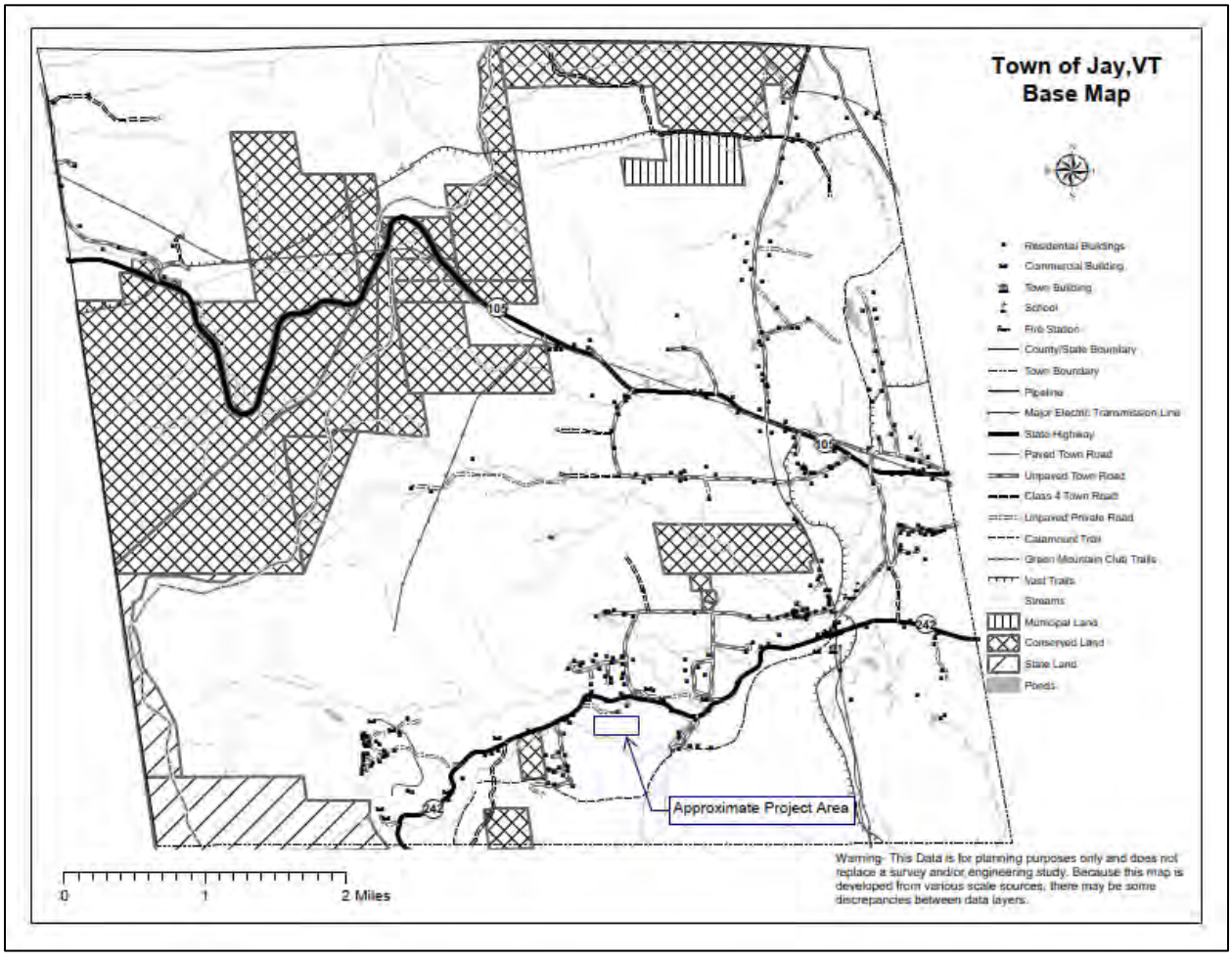


Figure 9. Base Map showing conserved, municipal, and state lands.

[11] Id at pg 25.
[12] Id.

The Town Plan does identify certain "prohibited (exclusion) areas"[13], which include Class III wetlands. The Project will impact Class III wetlands, however, the Class III wetlands within the Project site are isolated depressions that lack any significant wetland functions and are in areas required to undergo reclamation from the gravel pit operation separate from the proposed Project. Furthermore, The United States Army Corps of Engineers have determined that the Class III wetlands in the Project area are non-jurisdictional wetlands. The language in this section of the Town Plan notes that the prohibited (exclusion) areas are "in addition to those areas that do not meet siting requirements."[14] Bowman's reading of this language in the Town Plan is that those "exclusion areas" are intended to apply to areas that *do not* meet the "preferred area" requirements. The Project is located in a preferred aera, and therefore this language does not apply to the site. Further, the Class III wetlands on the site are non-jurisdictional, non-significant, and are subject to impacts from reclamation activities unrelated to the Project prior to Project construction.

In the *Land Use Plan* section, the Town Plan notes the importance of preserving the rural beauty of the area by conserving and protecting "open space, forestland, wetlands, critical areas, and agricultural production land."[15] The Project does not propose any impacts to any significant (Class I or II) wetlands or wetland buffers, nor does it impact forestland, open space resources, or critical areas.

A review of the Town Plan finds that while the Project does impact areas currently containing non-jurisdictional Class III wetlands, the site meets the definition of a "preferred site." Therefore, giving due consideration to the language in the Town Plan, my interpretation is that the Project **does not conflict with** any land conservation measures set forth by the Town.

THE REGIONAL PLAN

Northeastern Vermont Development Association, amended April 26, 2018

The energy plan is included as Chapter Two: Energy in Volume Two within the Regional Plan. The Regional Plan was reviewed to determine whether there are any land conservation measures with which the Project would conflict. The following sections and excerpts are related to the Project with regard to the Regional Plan stated vision and goals.

In the Regional Plan *Chapter Two: Energy*, there is a section on siting potential at page 58. This section provides the following.

> Siting Potential
>
> This plan is accompanied by a series of maps (Appendix C) that can assist in the process of identifying potential areas for siting and quantifying generation output. Underlying assumptions were made about suitability factors, such as slope and direction of land, elevation and wind speeds, and access to three-phase power. Additional statewide

[13] Id.
[14] Id.
[15] Id at pg 36.

layers identified known constraints and possible constraints, and a third layer has identified regional constraints:

Known constraints are areas not likely to be developed for renewable energy because they contain one or more of the following: vernal pools; river corridors; FEMA floodways; significant natural communities; rare, threatened and endangered species, national wilderness areas, wetlands (Class 1 and Class 2).

Possible constraints are areas that would likely require mitigation because they contain one or more of the following: agricultural soils; special flood hazard areas (outside of the floodway); protected (conserved) lands; deer wintering areas; Act 250 mitigated agricultural soils; hydric soils, and highest priority forest blocks.

Regional constraint: NVDA's regional plan has long held that rural areas should receive very little commercial or industrial development unless it occurs in an established industrial park, or in an area specifically designated in the local bylaw or plan as being well suited to such uses. Lands with an elevation of 2,000 feet or more merit consideration as a special class of rural lands that should be protected from any large-scale commercial or industrial development characterized by a constructed height of 100' or more, and an acre or more of permanent site disturbance, such as clear-cutting. These lands, as indicated on attached siting potential maps, contain one or a combination of factors that make them unsuitable to such development – contiguous forest cover; sensitive wildlife and plant habitat; conservation lands and recreational assets; managed forestland; and headwaters and ephemeral surface waters, which are highly vulnerable to erosion and man-made disturbance. This high-elevation forest cover must be kept unfragmented for the attenuation of flood flows, the benefit of wildlife habitat and linkage, and public enjoyment through passive recreation.[16]

In a memo from NVDA titled *Update and Readoption of Northeastern Vermont Regional Plan,* dated June 20, 2023, a map showing "Prime Ground-Mounted Solar Energy Areas" was included, see excerpted map below as Image 11 and Image 10 the Solar Potential Map for Jay. On this map, the Project is in an area identified as "prime solar" with "possible state constraint". The Project area does contain mapped primary agricultural soils that will be impacted; however, impacts will be mitigated (i.e. soils stockpiled for future use).

In *Chapter Four: Historic, Cultural & Scenic Resources* the Regional Plan identifies historic, cultural, and scenic resources to protect. There are no resources in this section that are impacted by the Project.

[16] Regional Plan at pg 58-59.

Chapter Seven: Natural Resources of the Regional Plan provides guidance for protecting important natural resources including significant wetlands (defined as Class I and Class II)[17]. The Project does not impact any significant wetlands or wetland buffers and is consistent with this section of the Regional Plan.

The review of the Regional Plan found that the Project **does not conflict with** any land conservation measures or other applicable provisions in the plan.

In summary, the Project is located in a "preferred area" for siting under the Town Plan and does not conflict with any provisions in the Regional Plan. As a result, the Project **will not** unduly interfere with the orderly development of the region.

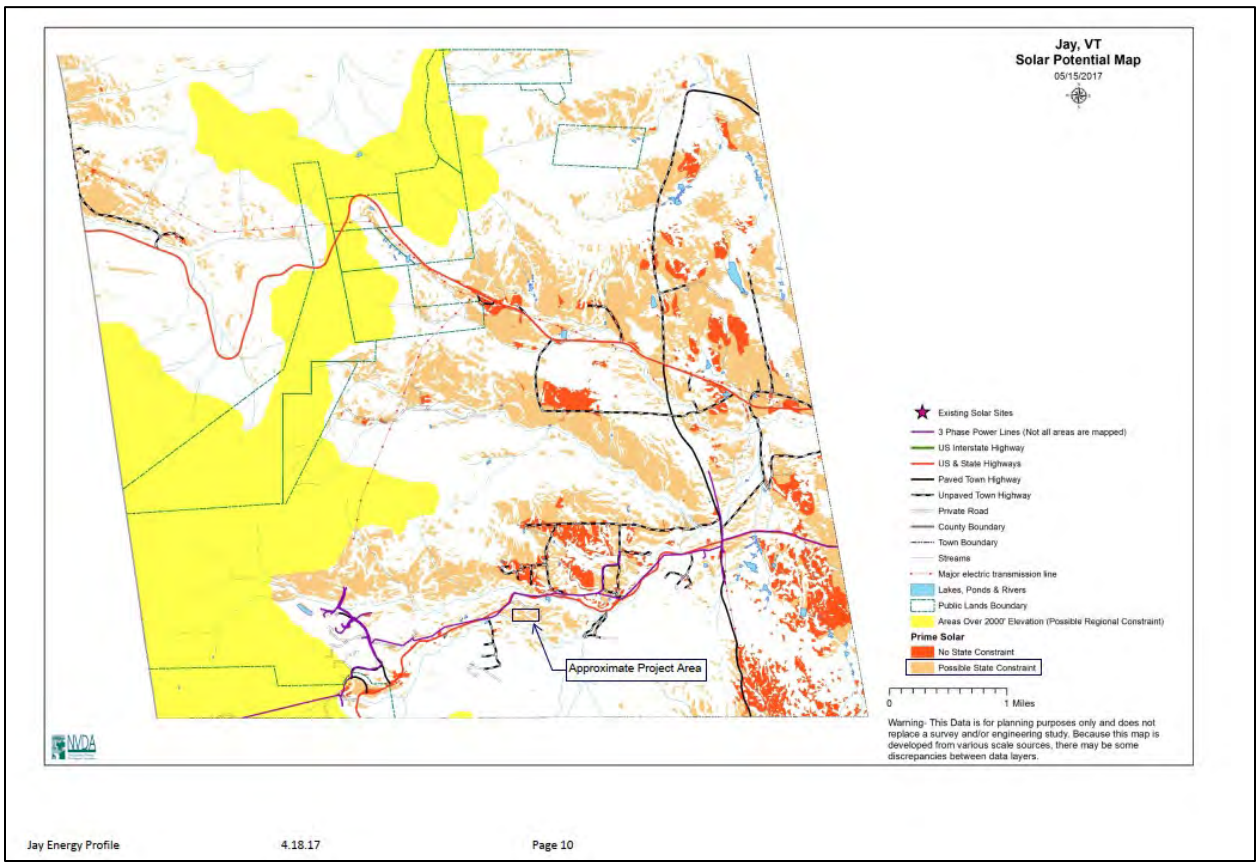


Image 10. Solar Potential Map excerpted from the NVDA's Jay Energy Profile.

[17] Id at pg 178.

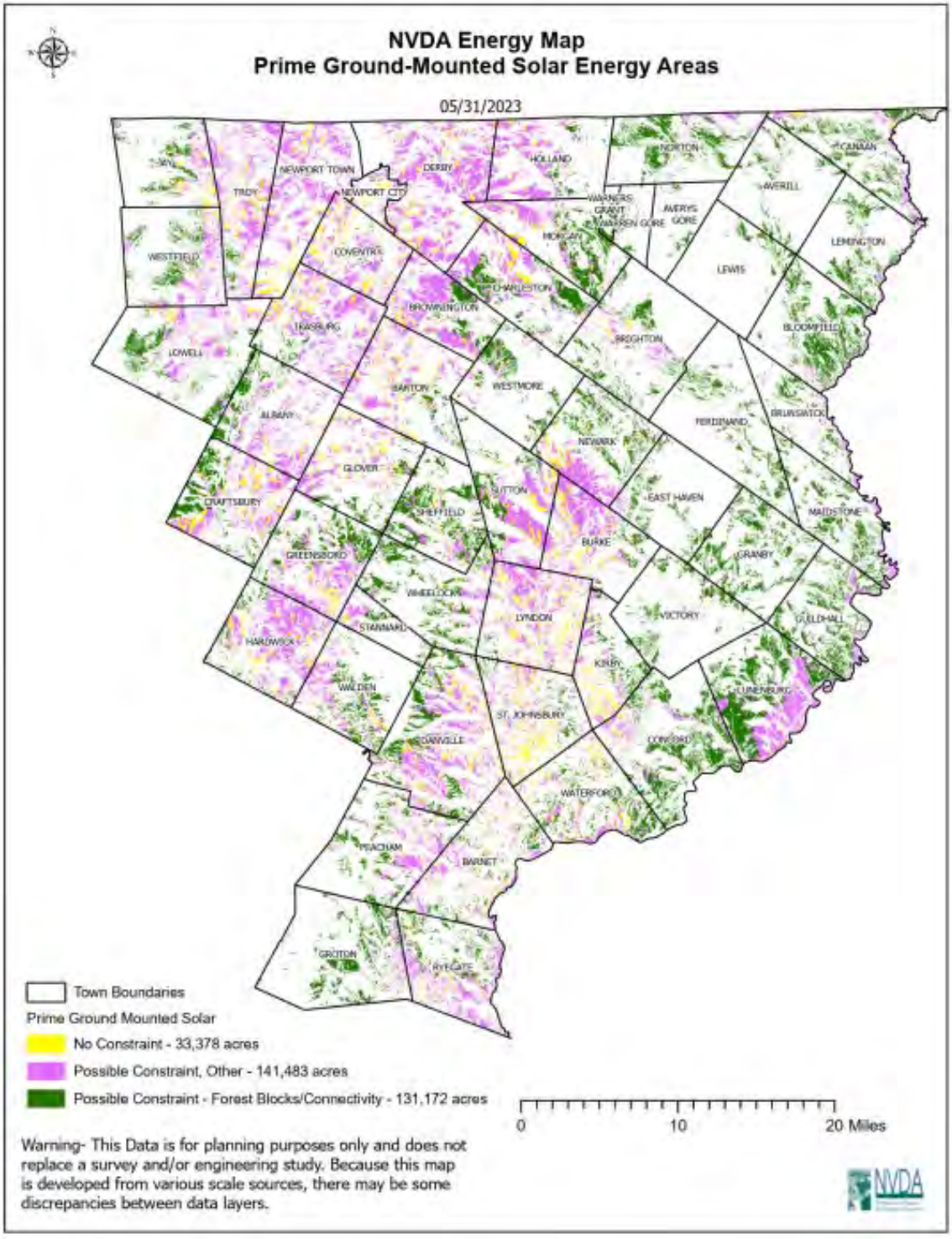


Figure 11. Prime Ground-Mounted Solar Energy Areas from NVDA titled *Update and Readoption of Northeastern Vermont Regional Plan*, dated June 20, 2023.

Conclusion

As noted in the Findings of the Quechee Analysis section of this report, the Project as proposed **does not** result in an **adverse** impact to the scenic beauty of the area. However, even if the Project were to be found to have adverse impacts by the PUC, the Project impacts on the scenic beauty or visual resources of the area should **not be considered unduly adverse.**

1. The Project **does not** violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area;

2. The Project **does not** offend the sensibilities of the average person or significantly diminish the scenic qualities of the area; and

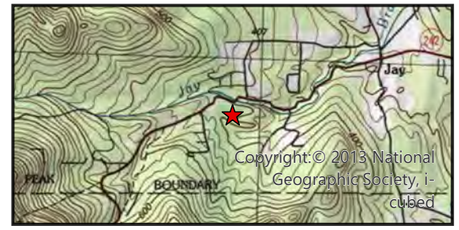
3. The Petitioner **has taken** generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings.

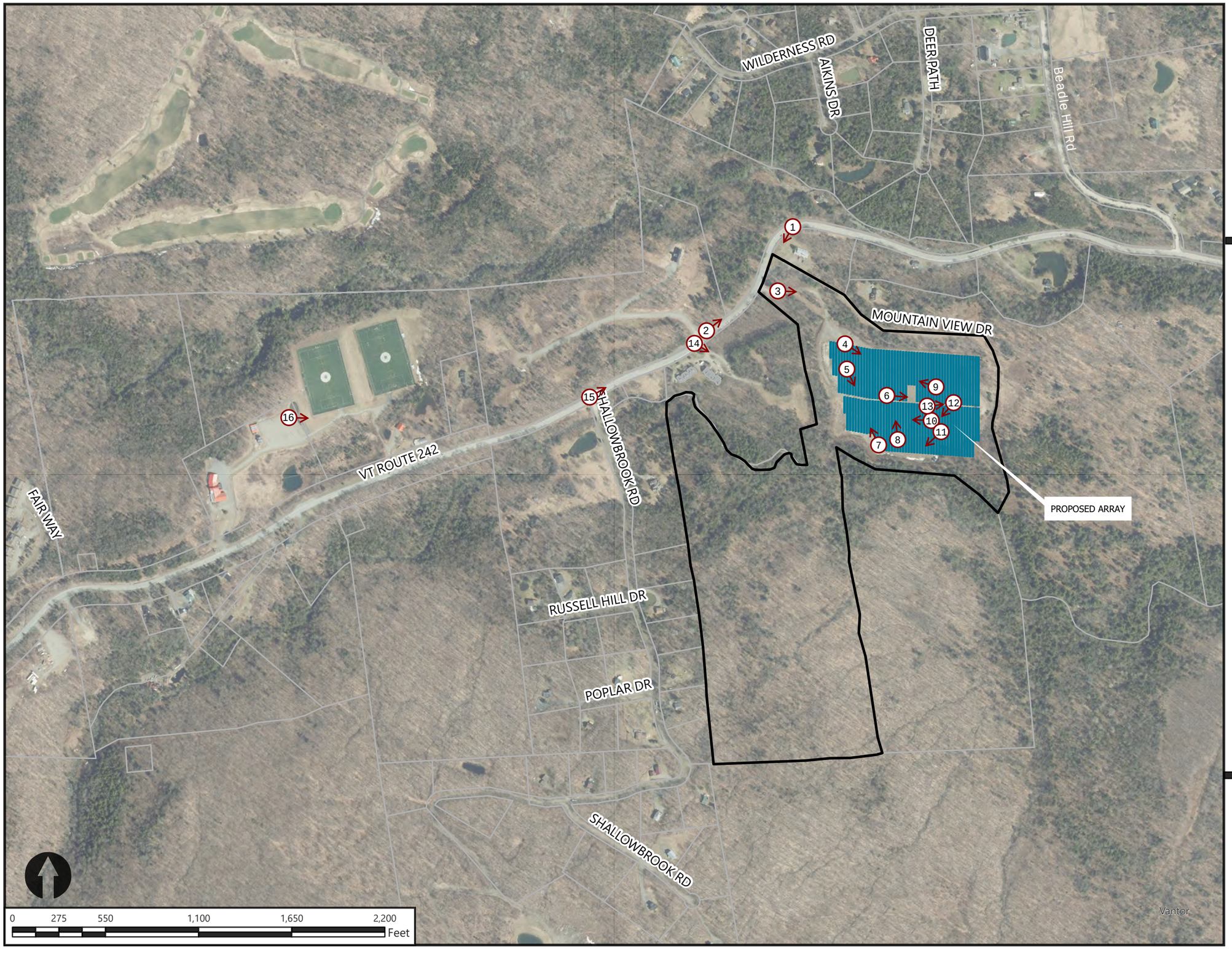
As noted above in the Orderly Development section, a review of Town and Regional documents finds that the Project meets the criteria for "preferred areas" for solar projects. Therefore, my interpretation is that the Project **does not conflict with any land conservation measures or other applicable provisions** in either the Town or Regional Plans and **will not** unduly interfere with the orderly development of the region.

Appendix A

tce
a Bowman company

Location





Legend

- Project Parcel
- Roads
- Tax Parcel Boundary
- PVcase PV Modules (full frames)
- Photo Number & View Orientation

* = Layer does not occur within the map extent.

** = FEMA Flood Zone layer contains FEMA-digitized data only. Some locations may not have data.

Sources: Aerial Imagery by VCGI (Various dates); Streams by VHD (2018); VT E911 Roads (2019); VT Significant Wetland by ANR (2021); Soils by NRCS (2021); Contours by VCGI & CCRPC (Various dates); RTE Species and Natural Community by VT Fish & Wildlife (2020); Uncommon Species by VT Fish & Wildlife (2020). Tax Parcel Boundary compiled by VCGI; Deer Wintering Area by ANR (2020); River Corridor by ANR (2019); Groundwater & Surface Water Protection Areas by ANR (2019); All other layers by TCE (2021).

Disclaimer: The accuracy of information presented is determined by its sources.TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and /or surveys by a registered surveyor. This map is not a replacement for survey information or engineering studies.

Novus
Mountain View Drive
Jay, VT

Photo Inventory Map

Project: 24-228
Prepared By: ERL / LET
12/16/2025
1 inch = 550 feet

Photo Inventory

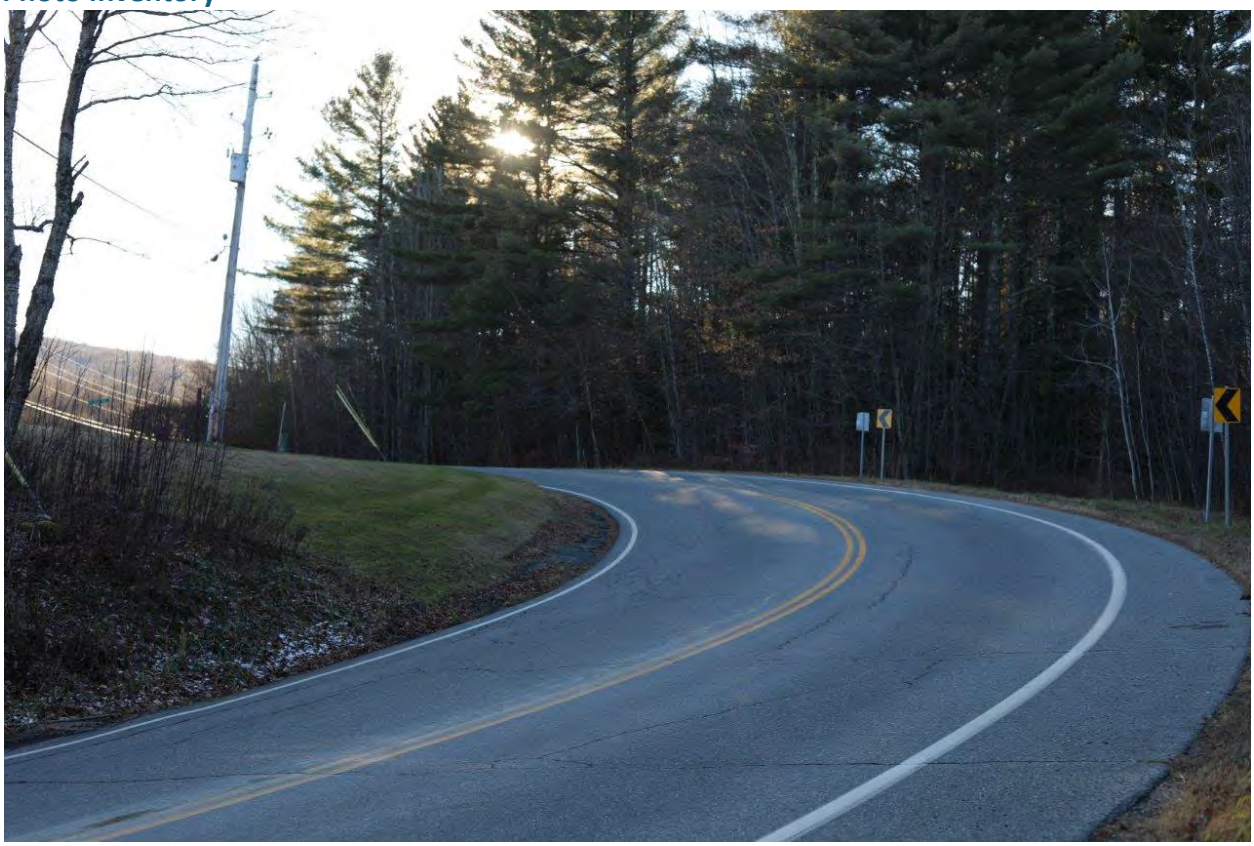


Photo 1: View from VT Route 242 approximately 500' north of project entrance looking southwesterly.

Photo 2: View from intersection of VT Route 242 and Jay Woods Drive looking northeasterly. The entrance drive to the project is at the utility pole before the bend in the road.

Photo 3: View from the Project access drive looking east toward the Project.

Photo 4: View from the northern edge of the Project Array looking southeasterly at the Project area.

Photo 5: View from inside the Project area looking southerly.

Photo 6: View from inside the Project area looking east.

Photo 7: View inside the Project area looking northwesterly. The access drive enters the site in the center of the photo.

Photo 8: View from southern side of the Project area looking north.

Photo 9: View from eastern side of the Project area looking northwesterly.

Photo 10: View from southeast side of the Project area looking westerly.

Photo 11: View from inside the Project site looking southwesterly.

Photo 12: View from inside the Project site looking southwesterly. Jay Peak is in the background.

Photo 13: View from eastern site of Project area looking easterly.

Photo 14: View from VT Route 242 and Jay Woods Drive intersection looking southeasterly toward the Project. The array will not be visible from this location.

Image 15: View from VT Route 242 and Shallow Brook Road intersection looking northeasterly. The Project will not be visible from this location.

Photo 16: View from athletic field parking lot looking easterly toward the project. The array will not be visible from this location.

Appendix C

JAY

COMMUNITY

DEVELOPMENT

PLAN

ADOPTED BY SELECTBOARD ON: ***JUNE 19, 2017***

strict conformance with these provisions. .Fiscal reasons are not a basis for modification of the standards.

Any new road, whether or not that road is proposed to be conveyed to the town, shall be constructed according to the minimums of these standards. If any Federal and / or State funding is involved in a project, the Vermont transportation District Office will be notified prior to any field changes taking place that would alter the original scope of the work.

Roadways

Soil exposed during ditch and slope construction or maintenance will be treated immediately following the operation as follows:

- Seed and mulch slopes less than 2.5%
- Placing biodegradable matting and seed on slopes between 2.5% and 5%
- Stone lining ditches with angular material on slopes greater than 5%

Culverts and Bridges

- All new driveways culverts will have a minimum diameter of 15 inches
- All new roadway culverts will have a minimum diameter of 18 inches
- Any culvert greater than or equal to 36 inches in diameter will be designed according to the latest Vtrans Hydraulics Manual. End treatment (inlet and outlet) will also be evaluated in accordance with this manual.
- All bridges (structures with spans greater than 6 feet) will have waterway openings designed in accordance to the latest Vtrans Hydraulics Manual.

Guardrails

When new road or culvert construction creates slide slopes steeper than 1 on 3, guardrails will be installed according to the AASHTO Roadside Design Guide.

Town of Jay Highway Names **(See Addendum VII in Appendix)**
Town of Jay Highway Map **(See Addendum VIII in appendix)**

SCENIC ROADS, RESOURCES & PARKS

The Town of Jay is blessed with some of the most breathtaking scenery in Vermont. Due to The Town of Jay's high elevation, its views and vistas are both short and long distance. Many of the views in the southeast portion of the community are across hills and valleys within The Town of Jay. In most cases they are relatively short scenic distances of 2 miles or less. The characteristics of these views are those that are more or less typical of rural Vermont, wooded rolling hillsides, open pasture, farmland, and small valleys. On the higher elevation portions of the community, vistas and views are much longer, many in the ten miles or greater category; some of the most breathtaking views in the town are from Jay Peak. Many views on the western side of The Town of Jay are to the northeast and southeast overlooking Canada and Newport.

The Mountain is a magnificent focal point in the Town of Jay. Jay Peak has 78 trails and glades. The Resort has snowmaking capabilities on a majority of the mountain that combined with legendary natural snowfall amounts allow for skiing deep into April. The Mountain averages 355 inches per season of natural snowfall. On mountain the 18 hole golf course (completed in 2006) is the center of the Jay Peak Resorts summer plan. This summer amenity is augmented by the numerous activities already on-property such as swimming, hiking, biking, eco-touring, sightseeing, fishing and volleyball. The completion (new in 2010) of the Ice Haus, an indoor ice skating arena allows for indoor public skating, hockey, and curling. (Completed in 2012) Jay Peak Resort's: "Hotel Two/Water park" Project is a 120 suite hotel, conference center with restaurants, and 60,000 square foot indoor water park. Permitted pending projects: The construction of an indoor recreation center with rock climbing, movie theater and arcade. Additional Townhouses.

Somewhat of a "hidden" natural wonder gem is the Jay Community Recreational Centre. This 240+ acre parcel of land is located off the Cross Road in Jay. The Jay Community Recreational Centre Committee, which is under the auspices of the Town of Jay, oversees the development and maintenance of this property. During warmer months the park offers miles of trails for walking, hiking and mountain biking, hunting during season and in winter months the park is open for snow shoeing and cross country skiing. Current projects completed include the expansion of the parking area on Cross Road, installation of a bridge connecting the lower Christmas Tree area to the upper section of the property for easier access, Future projects include clearing of the plateau in the lower Christmas Tree area for installation of such recreational areas as baseball and soccer fields surrounding a central pavilion.

In addition to views and vistas, The Town of Jay possesses some very attractive sites and road corridors. The most noteworthy road corridors are Route 242 (Mountain Road) and Route 105 between The Town of Jay and Richford. Specific scenic sites are present along the Jay Branch from Jay Peak to the village and in the valley along Cross Road and the village. The terrain covered by the Long Trail & Catamount Trail is also a valued natural and scenic resource.

Parks and Recreation

A recreation park is has been in development since the property transfer of 240+/- acres from the Vermont Land Trust to the Town of Jay in 2004. The Jay Community Recreational Centre Committee has been working on various projects at the parcel located on the Cross Road; a parking lot has been created, cross country and bike trails are continuously being expanded and maintained and a connecting bridge has been installed between the lower 40+/- acres to the upper 200+/- acres along with signage and creation of property mapping. You can hike, mountain bike, hunt, cross-country ski and snowshoe on the trails, depending of course on the time of year. No motorized vehicles (snow mobiles, ATV's etc) are allowed on the land except for maintenance work. The property is open year round to the general public.

Town Hall Grounds

The front of the town hall has become the "Village Center". The center of the site is a living "Town Christmas Tree". With The Town of Jay's orientation to winter sports and winter

Electric Utilities

The Vermont Electric Cooperative, a Rural Electric Administration affiliate, services all of the populated or potentially populated areas of the town.

Underground Utilities

The Town of Jay substation on the Cross Road feeds the electrical power distribution system of the community in an underground network than emanates from the substation. The power from the substation surfaces on riser poles several hundred feet from the substation. The underground feeder system at the substation creates an ideal environment for the continuation of underground utilities in the rest of the village area. To accomplish this, the underground 7.2 KVA line would be continued through the village and surface on the riser poles at the edge of the village.

The Town should study the feasibility and cost of underground power in the center of Jay to enhance the scenic nature of the Town.

COMMUNICATIONS

Telephone

Presently Hard Land line telephone service is provided by Fairpoint Communications. All lines serving the Town of Jay are not fiber optic. It is anticipated this will be updated in the future. While there are a number of Internet service providers at the present time, access is available by either Fairpoint or Comcast.

Wireless telephone and internet service is available throughout certain areas of the town. Future towers and transmitters should greatly improve reception. It is imperative that there be Town involvement and input on any future tower locations

The town Planning Commission supports upgraded or improved service for broadband and/or telecommunication service.

Energy Plan

Energy Resources

Energy for heating, lighting, and hot water is available from a variety of sources who all meet the current needs of the Town of Jay's residents for propane and fuel oil energy products. Heating oil and LP Gas is available from several distributors and dealers in Orleans County. Vermont Electric Cooperative in Johnson provides electricity in The Town of Jay. Lastly, fuels for the propulsion of motor vehicles are available in The Town of Jay and some of the surrounding communities.

Scarcities

At this time the Planning Commission does not know of any scarcities of energy product.

Costs

At one time, electricity was a relatively inexpensive source of energy. This, however, is no longer true as electricity prices have been on the increase. In addition, The Town of Jay's remoteness from the area's energy suppliers could have an impact on the price of energy in The Town of Jay.

While there does not seem to be any problem with regard to the supply of energy, rising energy costs could be a very real problem for some of The Town of Jay's families. Therefore, the Town of Jay Planning Commission recommends the following:

1. Conservation of energy

The Planning Commission strongly advocates the conservation of energy. This plan recommends the use of energy saving products such as insulation, efficient appliances, and, when necessary the use of winter weatherization products such as weather stripping, window plastic, and water heater wraps. New construction and the replacement of old appliances, doors and/or windows should always be done with energy efficient products. In addition, energy efficient behavior (shutting lights off when leaving the room, turning the thermostat down at night, etc.) should be taught and used, at school, home and in the workplace.

The Town of Jay recommends that energy audits be conducted in all Town of Jay buildings and necessary improvements should be made to make them more efficient. (See Addendum X for information from Efficiency VT

2. Development of Renewable Energy Resources

The Planning Commission recommends the development of renewable energy resources while considering the environmental, aesthetic and economic impact they may have on the community. Renewable energy projects are limited to outside the scenic corridor and subject to project and site review.

Solar & Wind Electricity Generation and Transmission Siting

The Town of Jay has developed community standards and siting standards for the development of solar and wind facilities for reference and use by facility developers and local property owners and for consideration in Section 248 proceedings (30 VSA §248). These standards are set forth below. In addition, The Jay Planning Commission in consultation with the Northeastern VT Development Association, will identify and map those areas of Jay that are most suitable for solar/wind facilitv development based on facility siting requirements and municipal energy, conservation and development policies and objectives

set forth in the Jay Town Plan, the Jay Screening of Solar/Wind Facilities Ordinance, and the Jay Land Use and Development Regulations.
Pursuant to 30 VSA Sec. 248, prior to the construction of a solar/wind facility, the VT Public Service Board (PSB) must issue a Certificate of Public Good. A Section 248 review addresses environmental, economic, and social impacts associated with a particular project, similar to Act 250. In making its determination, the PSB must give due consideration to the recommendations of municipal planning commissions and its-their respective plan. Accordingly, it is appropriate that Jay's Town Plan address these land uses and provide guidance to town officials, regulators, and facility developers.

The Town of Jay may participate in the Public Service Board's review of new and expanded generation facilities to ensure that local energy, resource conservation and development objectives are identified and considered in proposed utility development. This may include joint participation and collaboration with other affected municipalities and the Northeastern VT Development Association for projects that may have significant regional impact. H.40, passed in 2015 guarantees the host municipality automatic party status in the PSB~ permitting process. It is acknowledged that the PSB's prime focus is on administering state public policy and regulating actions that are directed at ensuring that utility services promote the general good of the state.

The Planning Commission, in consultation with the Jay Select Board, should develop guidelines to direct local participation in Section 248 proceedings for the review of solar or wind facilities located in Jay or in neighboring communities which may affect the town. The guidelines should reflect levels of participation or formal intervention in relation to the type, location, scale, operation, and magnitude of a proposed project, and it's potential benefits., detriments to and impacts on the community.

Community Standards

The following community standards are to be considered in undertaking municipal solar or wind electricity projects and programs, in updating Jay's Land Use and Development Regulations to address solar or wind facilities subject to local regulation, and in the review of new or upgraded solar/wind facilities by the Town of Jay and the Public Service Board (Section 248 review).

Plan Conformance: New solar facilities and proposed system upgrades should be consistent with the Vermont Comprehensive Energy Plan, the Vermont Long-Range Transmission Plan, and utilities Integrated Resource Planning (IRP).

Benefits: A demonstrated statewide public need that outweighs adverse impacts to local residents and resources must be documented for municipal support of new solar/wind facilities located within or which may otherwise affect Jay. Facility development must benefit Town of Jay and State residents, businesses, and property owners in direct proportion to the impacts of the proposed development.

Impacts: New solar or wind facilities must be evaluated for consistency with community and regional development objectives and shall avoid undue adverse impacts to significant cultural, natural, and scenic resources and aesthetic values identified by the community in the Jay Town Plan and the Scenic Resources Inventory. When evaluating impacts of a proposed solar or wind facility under the criteria set forth in this Town Plan, the cumulative impact of existing solar or wind facilities, approved pending solar or wind facilities and the proposed solar or wind facility shall be considered. It is explicitly understood that a proposed solar or wind facility which by itself may not have an adverse impact may be deemed to have an adverse impact when considered in light of the cumulative impacts of the proposed solar or wind facility and existing solar or wind facilities and pending already approved solar or wind facilities.

Decommissioning: All facility certificates shall specify conditions for system abandonment and decommissioning, including required sureties (bonds) for facility removal and site restoration to a safe, useful, and environmentally stable condition. All hazardous materials and structures, including foundations, pads and accessory structures, must be removed from the site and safelv disposed of in accordance wi th regulations and best practices current at the time of decommissioning.

Solar or Wind Facility Siting

Jay supports responsibly sited and developed solar/wind facilities within its boundaries. It recognizes that financial considerations require projects to be located in close proximity to electric power lines capable of transmitting the load proposed to be generated and easy access from major transportation networks for construction. However, the town desires to maintain the open landscape and scenic views important to Jay's sense of place, tourism economy and rural cultural aesthetic. Not all solar or wind facilities proposed can meet this standard. Projects must meet the following criteria in order to be supported by this Town Plan:

Siting Requirements. New solar or wind facilities shall be sited in locations that do not adversely impact the community's traditional and planned patterns of growth, of compact (downtown/village) centers surrounded by a rural countryside, including working farms and forest land. Solar or wind facilities shall, therefore, not be sited in locations that adversely

impact scenic views, roads or other areas identified in the Scenic Resources Inventory, nor shall solar or wind facilities be sited in locations that adversely impact any of the following scenic attributes identified in the Scenic Resource Inventory: views across open fields, especially when those fields form an important foreground; prominent ridgelines or hillsides that can be seen from many public vantage points and thus form a natural backdrop for many landscapes; historic buildings and districts and gateways to historic districts; and, scenes that include important contrasting elements such as water. The impact on prime and statewide agricultural soils currentlv in production shall be minimized during project design.

Preferred Areas: The following areas are specifically identified as preferred areas for solar or wind facilities, as they are most likely to meet the siting requirements:

- Roof-mounted systems;
- Systems located in close proximity to existing large scale, commercial or industrial buildings;
- Proximity to existing hedgerows or other topographical features that naturally screen the entire proposed array;
- Reuse of former brownfields;
- Facilities that are sited in disturbed areas, such as gravel pits, closed landfills, or former quarries.
- Areas specifically identified as suitable for solar/wind facilities on a map approved by the Select Board.

Prohibited (Exclusion) Areas: In addition to those areas that do not meet the siting requirements set forth above, solar or wind facilities shall be excluded from (prohibited within), and shall not be supported by the town, in the following locations:

Floodways shown on Flood Insurance Rate Maps

- Fluvial erosion hazard areas as shown in the Town of Jay Land Use and Development Regulations;
- Class I, II and III wetlands;
- A location that requires fragmentation of Jay's working landscape, including undeveloped forestland and primary agricultural soils (as defined in Act 250 and as mapped by the U.S. Natural Resource Conservation Service);
- Rare, threatened, or endangered species habitat or communities as mapped or identified through site investigation, and core habitat areas, migratory routes and travel corridors;
- Ridgelines: Jay Peak (Green Mountains);

- Steep slopes (>25)
- Surface waters and riparian buffer areas (except for stream crossings);
  Areas specifically identified as unsuitable for solar or wind facilities on a map approved by the Select Board.

  Topography that causes a facility to be visible against the skyline from common vantage points from public and private vantage points such as roads, homes and neighborhoods;
- A site in proximity to and interfering with a significant view shed identified in the Scenic Resource Inventory;
- A location where a site cannot be screened from the view of neighbors and thus prohibits them from exercising the peaceful enjoyment of their property;
- A site on which a solar or wind facility project can not comply with Jay' s prescribed siting and screening standards, including the screening requirements set forth in Jay' s Screening of Solar/Wind Facilities Ordinance;
- A site that causes adverse impacts to historical or cultural resources, including state or federal designated historic districts, sites and structures, and locally significant cultural resources identified in the municipal plan. Prohibited impacts to historical and cultural resources include:

  removal or demolition;

  physical or structural damage, significant visual intrusion, or threat to the use;

  significant intrusion in a rural historic district or historic landscape with a high degree of integrity;

  significant visual intrusion into a hillside that serves as a backdrop to a historic site or structure;

  creating a focal point that would disrupt or distract from elements of a historic landscape;

  a significant intrusion in a rural historic district or historic landscape that has a high degree of integrity;

  impairing a vista or viewshed from a historic resource that is a significant component of its historic character and history of use;

  visually overwhelming a historic setting, such as by being dramatically out of scale;

  isolating a historic resource from its historic setting, or introducjng incongruous or incompatible uses, or new visual, audible or atmospheric elements.

Mass **and Scale**

Except for solar or wind facilities located in preferred areas, solar or wind facilities larger than 10 acres, individually or cumulatively, cannot be adequately screened or mitigated to blend into the municipality's landscape and are, therefore, explicitly prohibited.

3. Land Use & Energy Conservation

Several development techniques are likely to result in the conservation of energy. Building on south facing slopes will generally make a house less expensive to heat. Earth sheltered homes may also be more efficient than traditional building methods.

V. NATURAL RESOURCES and CURRENT LAND USE

OPPORTUNITIES FOR DEVELOPMENT CONTROL

The above criteria, addressed in this plan create a situation which calls for: (1) Comprehensive Development and Land Use Regulations, (2) a carefully administered local planning - program, (3) a capital facilities development program that does not put a burden on existing tax payers, and (4) a clear sense of community direction shared by all citizens that will allow The Town of Jay to achieve its fullest potential while preserving its unique character.

Development Centers

A master plan is a dual-purpose document. It identifies limitations or constraints to community development while identifying opportunities that coincide with community goals ensuring development potentials can become realities.

One of the potentials in The Town of Jay is the presence of the designated growth centers at Jay Peak Resort and the Foothills at Jay. Every effort possible should be made to concentrate and regulate development in these two locations. The rationale for focusing development at the Ski Resort and the Foothills at Jay is as follows:

1. Maximum Utilization of Limited Economic Resources

Investments have been made in these areas already. These investments have postured these areas to generate economic activity. The Town of Jay should capitalize on these previous investments.

2. Exploitation of Site Potentials

The Mountain and the village have unique physical and geographic attributes.

3. Preservation of Open Space, Forestland, and Natural Environments

Encouraging growth centers will discourage the consumption of environmentally significant land resources for seemingly limitless commercial development.

amphibians and larger mammals such as deer, bear, and moose. Due to the largely underdeveloped character of Jay, these animals may be found in many areas of the town.

The most unique wildlife areas in Jay are its beaver ponds, deer-yards, and bear habitats. The most significant documented winter deer range in Jay is located west of Cross Road between Gendron and Morse Roads. Beaver ponds are located east of North Jay Road and along the western end of Route 105.

VI. LAND USE PLAN

Introduction

The Town of Jay Plan shall focus on preserving the rural beauty of the area by:

- Fostering wise land use practices in the Town of Jay, as outlined in the goals and recommendations section of this plan.
- Conserving the land resource in the Town of Jay, in particular the protection of open space, forestland, wetlands, critical areas, and agriculture production land.
- Preventing uncontrolled urban type sprawl, strip development and scenic desecration.

The Town of Jay will be guided by a Development Land Use plan, which will:

1. Preserve and Conserve 247 acres donated by the Vermont Land Trust for recreational purposes.

2. Focus commercial development in a village core. The core will possess the attributes and structure of a contained New England Village. By providing appropriate infrastructure, vehicular transportation systems and pedestrian amenities, the core will accommodate a higher level of commercial density than any place else in the community.

3. Create a recreational - mixed-use core at Jay Peak, which permits development at the high elevation of the resort in an orderly and restricted fashion. The uses in this mixed-use core shall be permitted in a manner as to produce minimum disruption to the natural state.

4. Link the newly created village district to town-wide residential areas and Jay Peak through a well-networked system of roads and streets organized in a structural hierarchy.

5. Encourage very low impact commercial development in the outlying town areas zoned for such. Commercial development will only be permitted in outlying areas provided they do not affect the conservation of open space, forestland, and any valued agricultural land

6. Encourage residential development in the rural remainder of the Town that does not consume land but rather sites housing with the intent of preserving the forest resources, landscape, open space, and natural environment of Jay. This development will be permitted according to the strictly stated criteria and standards in the current Development and Land Use Regulations for the Town of Jay.

7. Protect the unique ecological, visual, auditory and physical characteristics of Route 242, Route 105, Cross Road and Revoir Flats corridors. These scenic corridors shall be carefully managed because of their inherent traffic handling and topographic limitations and their environmental ambiance value.

8. Permit the orderly development of Jay Peak Resort without overburdening the physical, financial, or municipal resources of the Town of Jay.

9. Ensure that development in the Village Center District shall occur in an orderly fashion, linked directly to the allocation of sewer hookups, implementation of transportation improvements, and the development of appropriate capital facilities.

10. Protect all rare and irreplaceable natural areas, scenic resources, and cultural features by giving them priority status in any and all land use regulations.

11. Encourage agricultural development

The Town intends to provide for the protection and upkeep of rare, natural, and scenic resources of the community and will:

1. Work closely with the State to protect the natural and scenic resources of Jay such as the scenic corridors identified in the Development and Land Use Regulations. Acquisition by The Jay Community Land Trust Committee of such by gift or purchase should be encouraged.

2. Ensure the preservation and protection of the natural fish and wildlife, the flora and fauna of the area and their respective habitats, through the Development and Land Use Regulations.

3. Encourage the continued availability of appropriate land for agriculture and forestry.

4. Investigate the availability of State funded programs to maintain open spaces, productive agriculture, and forestland.

5. Encourage proper forest management to maximize the value of the woodland and minimize their destruction.

6. Endeavor to leave the maximum amount possible in open space on lands that are designated of significant value for agriculture, passive recreation or undeveloped condition, except within the confines of the Village Center District.

7. Recommend to the State that specific areas be designated scenic areas.

8. Establish with the State, and maintain "pull-off" areas for scenic viewing.

9. Discourage any development, which would detract from designated scenic areas.

10. Ensure minimal removal of trees within fifty (50) feet of the road edge consistent with highway safety.

11. Ensure that housing be situated to preserve the natural aspects and protect the natural resources of the site to the extent practical. (This can be done through Planned Unit Developments in the Development and Land Use Regulations.)

12. Ensure that a buffer strip be designated and maintained between the development and the natural area, when development is proposed to occur near a natural resource area.

13. Retain the scenic value of the highlands of the area.

14. Ensure that development in the non-village balance of The Town of Jay occurs in either a clustered manner or in a low density-minimal impact concept. The goal of this type of development shall be to preserve the extensive forestland resources of the community.

15. Encourage recreational amenities in the two (growth) development centers of the Town of Jay (the center of Jay and Jay Peak). Forest recreation activities will be encouraged in the non-development center balance of the community by preserving the physical environment that accommodates those activities.

The Town intends to provide for the Protection of the Environment and intends to:

1. Work to ensure through the planning process, that the design of any structure or any land use will not create soil erosion, pollution, excessive run-off or other disturbance.

2. Ensure that no structures are built in areas above 2,500 feet and slopes in excess of 15% which have severe environmental constraints and are considered fragile areas incapable of supporting structures or on-site sewage systems.

3. Ensure through the development review processes, that a buffer strip be designated and maintained between a proposed development and a natural or fragile area.

4. Ensure that interim erosion control measures be implemented whenever soil is disturbed for development.

5. Protect and monitor the quality of surface and ground waters within the town to assure potable water is in sufficient supply.

6. Ensure that new wells do not adversely affect or overburden any previously existing well or water system. State of VT regulates on-site potable water supplies. The State, Town or Local Water Board would regulate any municipal system.

7. Study measures and encourage the conservation of water.

8. Ensure the enforcement of flood hazard regulations. Flood hazard areas should be reserved for agriculture, recreation, or other purposes, which do not significantly impair the land's natural ability to handle floodwaters. See most recent flood hazard boundary maps in Town Clerks office.

9. Ban open dumping and littering in accordance with state and local regulations.

10. Control the use of pesticides and encourage their proper application and disposal.

11. Cooperate with private agencies, state and federal authorities to determine the occurrence of acid rain and participate in studies to help its control.

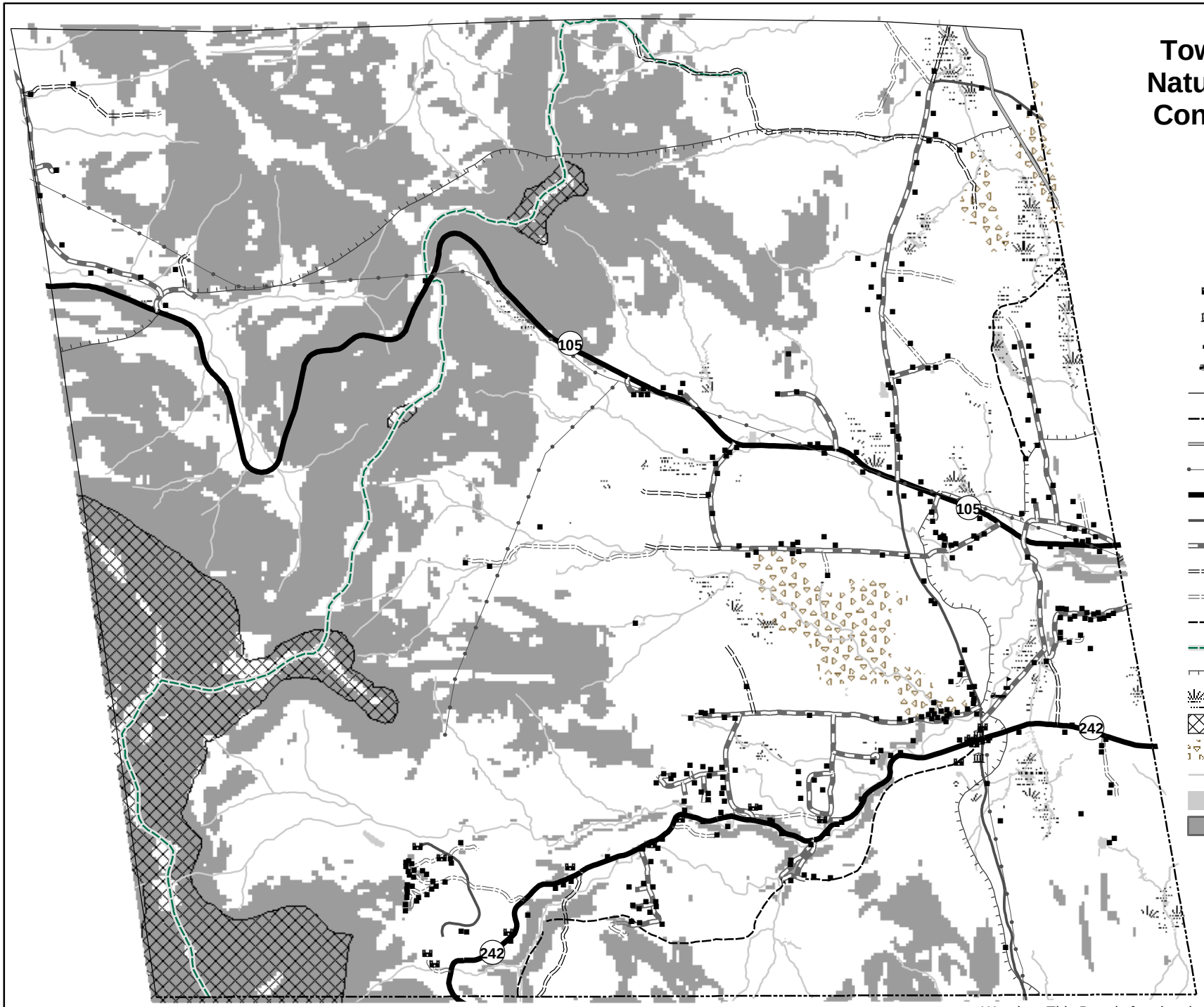
12. Protect the quality of Scenic resources and pastoral landscapes in all village and non-village development review decisions. Particular concern and attention should be given to visual buffers, open space preservation and view shed protection.

13. Ensure that development projects integrate natural features, forest environment, landscape character, and topography in their plans in order to retain the rural quality that is essence of Jay.

14. Utilize the Waste Water Treatment plant and sewer system for new development in growth areas along the 242 corridor whenever feasible.

15. Promote Recycling. Reduce, Reuse, Recycle.

Town of Jay,VT
Natural Resource Constraints Map



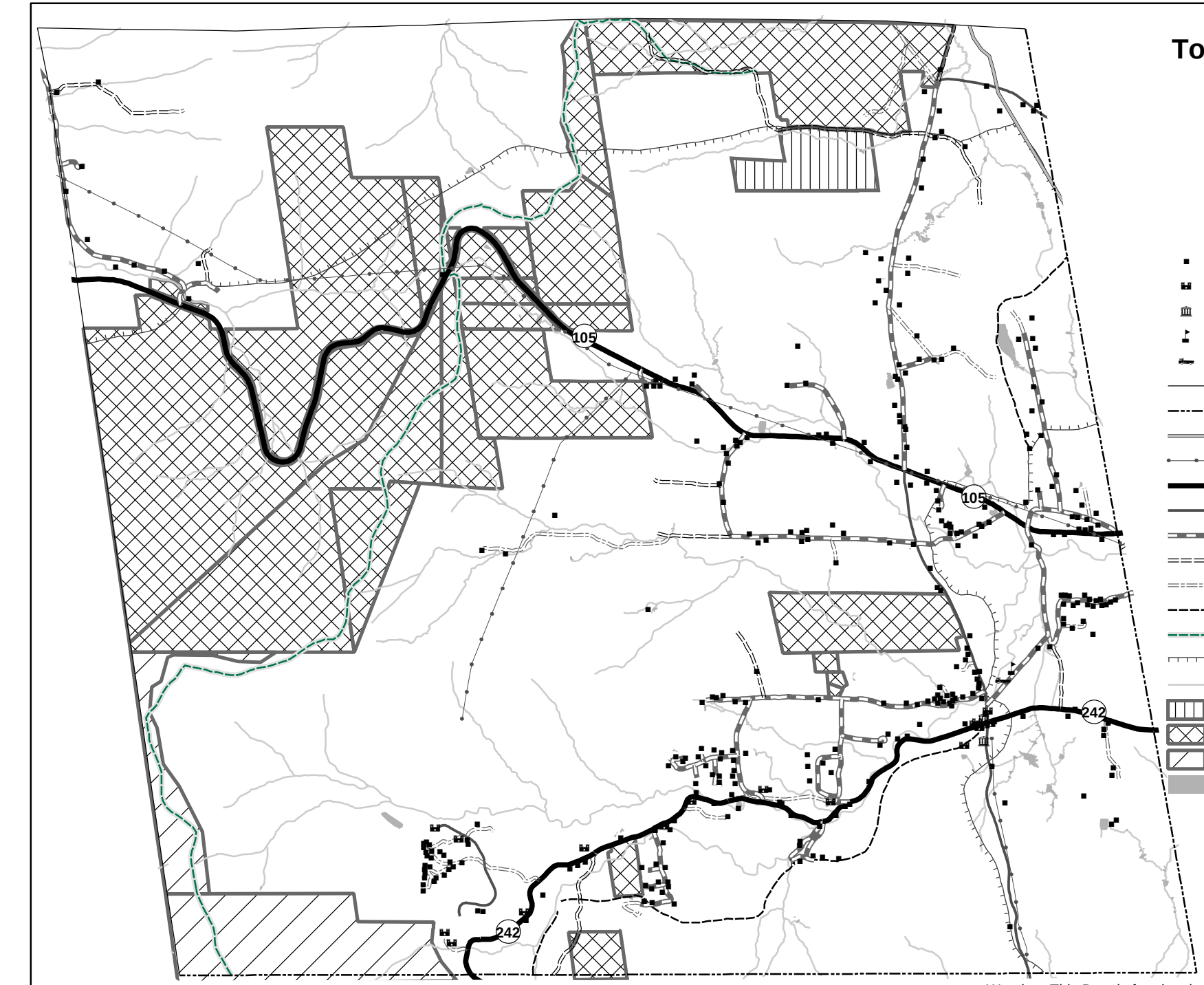
N
W E
S

- Residential Buildings
- Commercial Building
- Town Building
- School
- Fire Station
- County/State Boundary
- Town Boundary
- Pipeline
- Major Electric Transmission Line
- State Highway
- Paved Town Road
- Unpaved Town Road
- Class 4 Town Road
- Unpaved Private Road
- Catamount Trail
- Green Mountain Club Trails
- Vast Trails
- Wetlands
- Elevations over 2500 feet
- Deer wintering area
- Streams
- Ponds
- Steep areas over 20% Slope

0 1 2 Miles

Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

Town of Jay,VT
Base Map



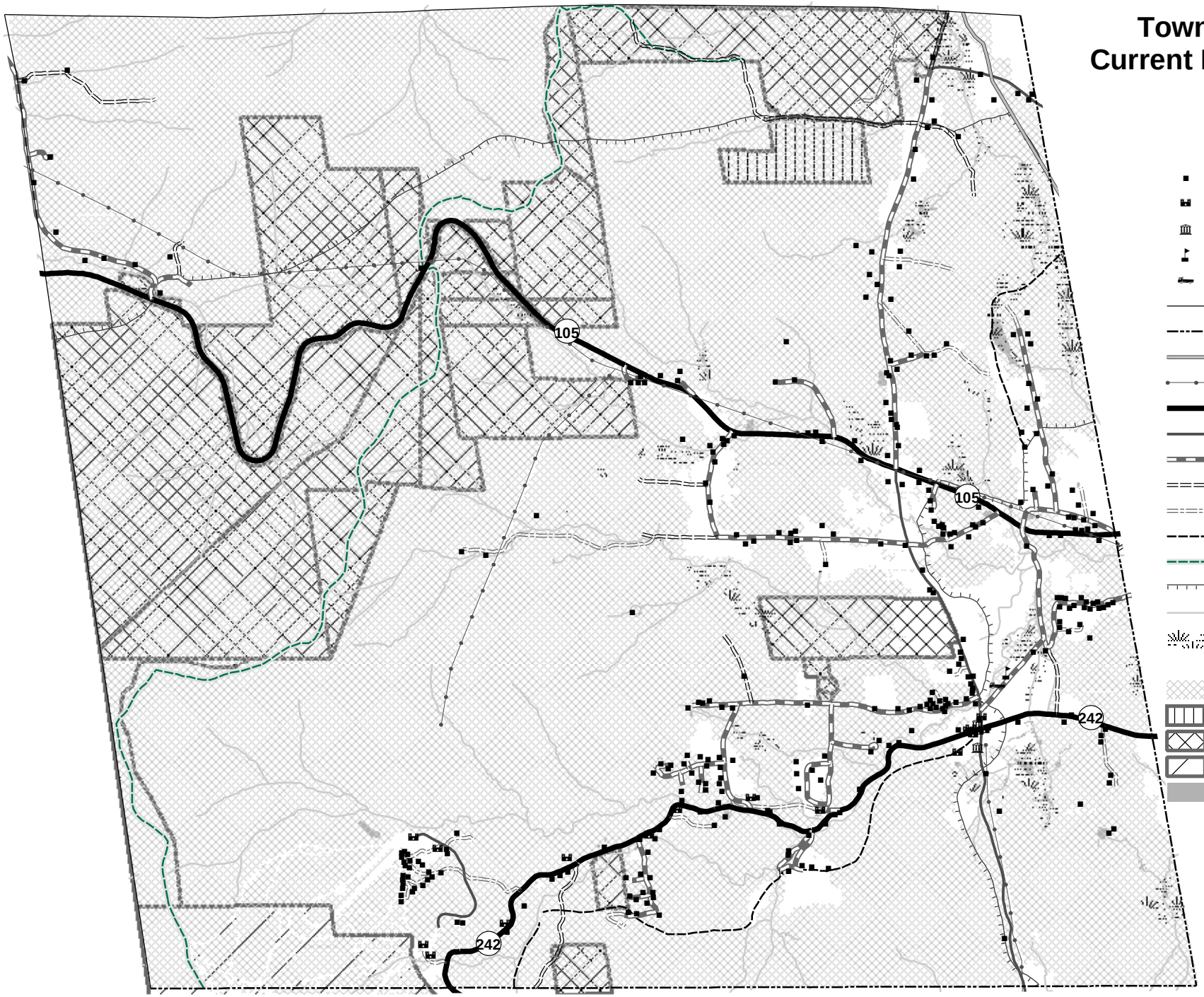
N
W E
S

- Residential Buildings
- Commercial Building
- Town Building
- School
- Fire Station
- County/State Boundary
- Town Boundary
- Pipeline
- Major Electric Transmission Line
- State Highway
- Paved Town Road
- Unpaved Town Road
- Class 4 Town Road
- Unpaved Private Road
- Catamount Trail
- Green Mountain Club Trails
- Vast Trails
- Streams
- Municipal Land
- Conserved Land
- State Land
- Ponds

0 1 2 Miles

Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

Town of Jay,VT
Current Land Use Map



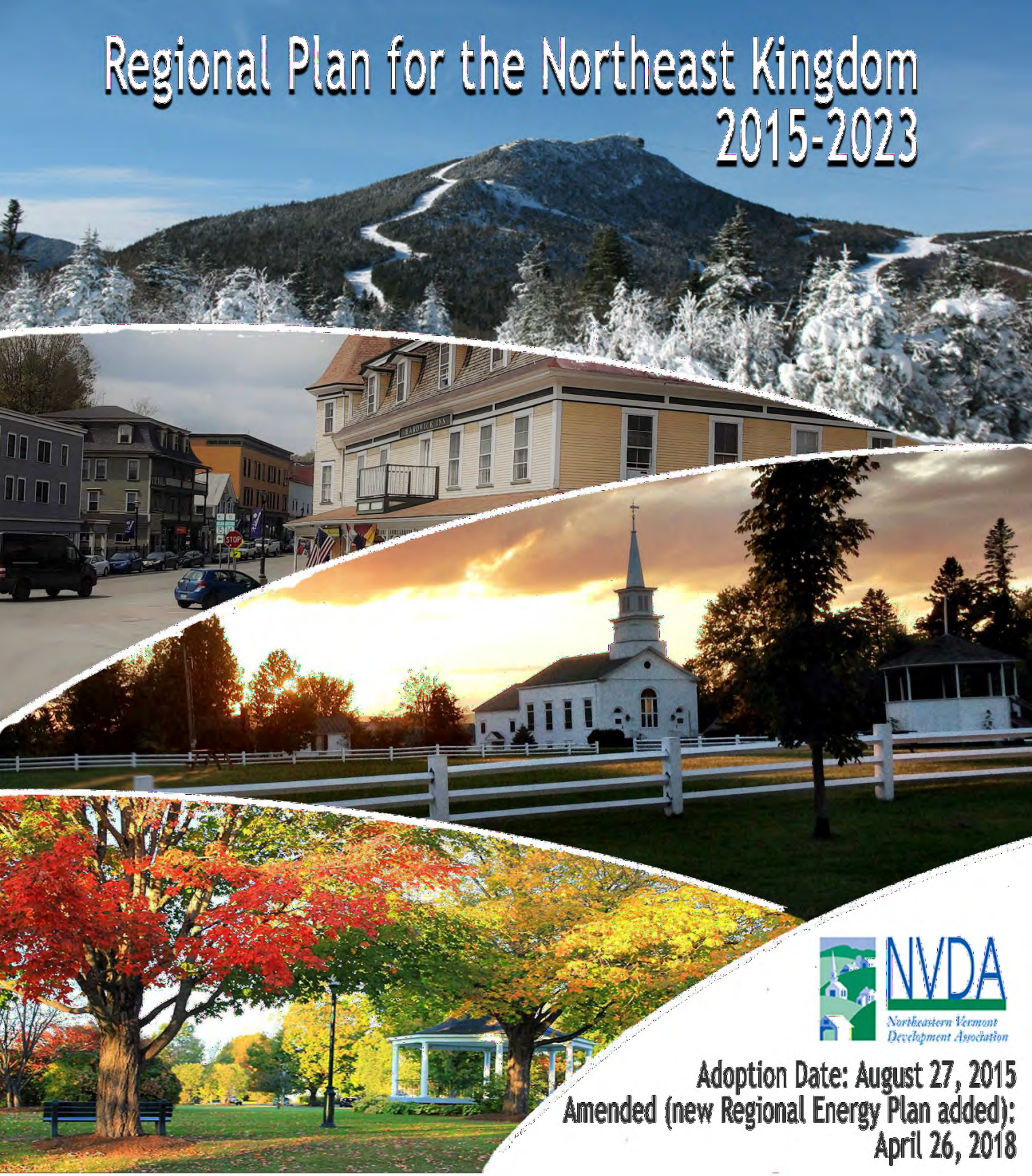
N
W E
S

- Residential Buildings
- Commercial Building
- Town Building
- School
- Fire Station
- County/State Boundary
- Town Boundary
- Pipeline
- Major Electric Transmission Line
- State Highway
- Paved Town Road
- Unpaved Town Road
- Class 4 Town Road
- Unpaved Private Road
- Catamount Trail
- Green Mountain Club Trails
- Vast Trails
- Streams
- wetlands
- Open Areas
- Forested Areas
- Municipal Land
- Conserved Land
- State Land
- Ponds

0 1 2 Miles

Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

Regional Plan for the Northeast Kingdom 2015-2023



NVDA
Northeastern Vermont Development Association

Adoption Date: August 27, 2015
Amended (new Regional Energy Plan added):
April 26, 2018

NORTHEASTERN VERMONT DEVELOPMENT ASSOCIATION

and in cold temperatures, battery storage, and affordability. Table 2.19 uses vehicle counts from American Community Survey to identify targets for achieving fuel switching goals for LDVs.

Table 2.19: Fuel Switching Targets for Light-Duty Vehicles in the Northeast Kingdom			
By Year	2025	2035	2050
Estimated number of light-duty vehicles	53,153	56,874	60,855
# of EVs	5,618	17,937	38,603
% of LDVs	11%	32%	63%

V. ENERGY RESOURCE ANALYSIS AND RECOMMENDATIONS

The 90x2050 projections – which will nearly eliminate the use of fossil fuels—will require transferring many of our uses to electricity. Therefore, even while electrical systems, appliances, and vehicles will likely continue to increase in efficiency, more electricity will need to be produced. Some of that will come from imported sources, such as hydroelectricity from Hydro Quebec and other providers, but much of it will also need to be generated by in-state renewable facilities as well.

90x2050 projections indicate that residential non-thermal electrical use alone could exceed 614,000 MWh by 2050. Additionally, conversion to light-duty EVs could require more than 135,000 MWh over that same period. Understandably, these projections counter earlier regional estimates, which showed only modest increases in regional electrical consumption to 462,353 MWh by 2020.[15] It is important to remember that the 90x2050 projections incorporate sweeping and long-range changes to the way we live and work.

Where – and how -- would energy generation occur? In support of the 90x2050 goals, each region has a set of generation targets. Because our region already generates a disproportionate share of energy relative to our low population, the Northeast Kingdom's new generation targets are the lowest in the state. (Table 2.19) While generation targets can be met through a variety of renewable technologies, the Northeast Kingdom does not have any generation targets specific to wind. Nevertheless, great care and consideration shall be given to the siting of new generation.

Table 2.19: In-state Generation Targets	
Regional	New MWh
Addison	172,978
Bennington	293,182
Central Vermont	418,530
Chittenden	845,236
Lamoille	185,927
Northeastern	18,680
Northwest	260,438
Rutland	439,276
Southern Windsor	194,612
Two Rivers	396,631
Windham	97,716

Policy Statements

This region has a responsibility to plan for adequate supply of energy to meet local energy demand. Planning activities may include the production, storage, siting, and distribution of energy. Individuals, businesses, organizations, and communities are encouraged to explore emerging energy supply, efficiency, and net-metering opportunities that meet accepted environmental standards in order to satisfy their power demand.

New industrial/utility energy development shall meet the highest standards required by law. Permitting authorities shall first consider current and historical land use and the culture of the region, community opinion, economic benefit, as well as the land owner's rights. Any development shall to the extent possible be done so as to mitigate adverse impacts to the region. Any utility-scale energy generation project deemed acceptable by the Public Utility Commission shall

[15] NVDA Wind Study Report, March 26, 2015

include a plan for distributing benefits to the towns in the region proportional to the adverse effects experienced by that town. Long term maintenance, safety issues, decommissioning, and land reclamation procedures required at the end of the energy project's life must also be included in the project plan.

This plan aims to balance environmental quality and important natural resources with energy production. Significant local and regional support and clearly demonstrated benefits should exist in any energy proposal. This is especially relevant when siting commercial- or utility-scale wind facilities, which could have impacts on neighboring communities. "Commercial" and "utility" are defined in this plan as:

Commercial-scale: facilities with a capacity of more than 10 kW (which would be considered residential), but less than 100 kW. These structures typically have a height of just over 120 feet. (The wind tower at Burke Mountain is 123 feet high.) These structures are referred to as "business-scale" in the Vermont Renewable Energy Atlas.

Utility-scale: Wind turbines with a capacity of 1MW or more. These structures are referred to "commercial scale" in the Vermont Renewable Energy Atlas.

The region has recently experienced a sharp increase in the number of renewable energy applications which will worsen already congested transmission, particularly in the Sheffield-Highgate Export Interface (SHEI), where several existing generators are frequently curtailed by the ISO. While NVDA encourages appropriately scaled renewable energy development, NVDA has a commitment to ensure that such development is sustainable and feasible and does not merely substitute one renewable resource with another. NVDA supports energy development that will not exacerbate curtailment at issue within the SHEI. It is unlikely that any single solution will solve congestion within the SHEI and, as such, it is anticipated that incremental progress will be achieved as partial solutions are implemented. In the meantime, NVDA will support projects that are consistent with the land use and conservation measures in this plan and in duly adopted plans of impacted municipalities. Additionally, we will expect project developers to work with utilities and other stakeholders to explore innovative strategies that shift generation away from the hours when generation exceeds load within the SHEI area or otherwise avoids exacerbating congestion on the grid. An example of such a project would pair a battery with a solar facility to control when the project's power is exported to the grid. In determining support for such a measure, NVDA will seek guidance from the long-range Transmission Plan and Integrated Resource Plans in the region and will consult with utilities, VELCO, and other stakeholders.

Siting Potential

This plan is accompanied by a series of maps (Appendix C) that can assist in the process of identifying potential areas for siting and quantifying generation output. Underlying assumptions were made about suitability factors, such as slope and direction of land, elevation and wind speeds, and access to three-phase power. Additional statewide layers identified *known* constraints and *possible* constraints, and a third layer has identified *regional* constraints:

Known constraints are areas not likely to be developed for renewable energy because they contain one or more of the following: vernal pools; river corridors; FEMA floodways; significant natural communities; rare, threatened and endangered species, national wilderness areas, wetlands (Class 1 and Class 2).

Possible constraints are areas that would likely require mitigation because they contain the one or more of the following: agricultural soils; special flood hazard areas (outside of the floodway); protected (conserved) lands; deer wintering areas; Act 250 mitigated agricultural soils; hydric soils, and highest priority forest blocks.

Regional constraint: NVDA's regional plan has long held that rural areas should receive very little commercial or industrial development unless it occurs in an established industrial park, or in an area specifically designated in the local bylaw or plan as being well suited to such uses. Lands with an elevation of 2,000 feet or more merit consideration as a special class of rural lands that should be protected from any large-scale commercial or industrial development characterized by a constructed height of 100' or more, and an acre or more of permanent site disturbance, such as clear-cutting. These lands, as indicated on attached siting potential maps, contain one or a combination of factors that make them unsuitable to such development – contiguous forest cover; sensitive wildlife and plant habitat; conservation lands and recreational assets; managed forestland; and headwaters and ephemeral surface waters, which are highly vulnerable to erosion and man-made disturbance. This high-elevation forest cover must be kept unfragmented for the attenuation of flood flows, the benefit of wildlife habitat and linkage, and public enjoyment through passive recreation.

The maps accompanying this plan do not carry the weight of zoning, and the siting of renewables on prime acreages (i.e. without known constraints) is not a foregone conclusion. Rather regional maps should be viewed as a starting point for our member municipalities to determine suitable and unsuitable locations for renewable energy development. This plan's siting considerations for each specific energy technology on the following pages should not be considered exclusive. They too should be seen as a starting point for creating effective local specification and constraints.

Our estimates for potential generation outputs are therefore deliberately conservative to account for the designation of local siting constraints. In most instances, only *prime* acreage (areas with no constraints at all) were used to calculate output potential. Even with a highly conservative estimate, potential generation vastly exceeds the regional generation target. This plan strongly encourages municipalities to conduct additional site investigations to identify local constraints (as well as preferred sites in addition to existing statewide preferred sites) in order to address the environmental, aesthetic, civic, economic, and cultural concerns unique to each community.

Table 2.20: Estimated Potential Energy Generation in the Northeast Kingdom

	MW	MWh
Residential rooftop solar generation	15.0	18,412.2
Small commercial rooftop solar generation	3.0	3,343.2
Large commercial rooftop solar generation	5.9	7,225.9
Ground mounted solar	652.6	800,340.3
Wind (residential scale only)	13.6	23,405.2
Methane Digesters	430.0	2,260,080.0
Hydro	2.9	10,238.6
Total Generation	1,123.0	3,123,045.4

Solar

Total output potential:	**829,321.6 MWh**
Rooftop assumptions:	NVDA assumed one out of every 10 residential structures (including seasonal, many of which are inhabited part-time year-round). The region has relatively few commercial structures, so NVDA determined small commercial suitable for solar (less than 40,000 sq. ft.) for solar to be 10% of all commercial structures, and large commercial

	structures suitable for solar (more than 40,000 sq. ft.) to be just 3% of all commercial structures. The number of commercial structures was determined with NAICS classification counts used for determining commercial thermal energy use. (See Appendix B.)
Ground mounted assumptions:	Approximately eight acres of land are required to produce one MW of solar energy. In order to account for contingencies (property owners not interested in leasing their land, interconnection costs that may be too high, and unsuitability of specific sites) NVDA estimated only 1MW for every 60 prime solar acres. Acres with possible constraints were not included in the calculation.

Overall solar resources in Vermont are quite good, and solar energy can be harnessed effectively for primary and secondary energy needs. The two main types of solar energy systems are photovoltaic (PV), which generates electricity, and solar thermal, which generates hot air or hot water for water and/or space heating. For some homeowners in our region, solar electricity systems have proven more cost effective than extending power lines to the home. A typical off-grid system consists of photovoltaic (PV) modules that convert solar energy to electricity, batteries that store the electricity (if off-grid), and an inverter that converts DC power to AC for use in conventional electric appliances. As a rough rule of thumb, a 1 kilowatt photovoltaic system can be expected to produce 3-3.5 kWh/day on average in Vermont.

Solar water heating systems typically utilize collectors to capture the sun's energy, a pump to circulate a solution through the collectors to extract heat energy, and a well-insulated storage tank to hold the heated water for use as needed (this can be integrated with an existing water-heating system). An appropriate size solar water-heating system can provide one-half to two-thirds of a household's annual hot water needs – typically 100% in summer, but as little as 25% in winter. In Vermont, these types of systems tend to pay themselves off in less than two decades.

Solar energy can also be harnessed through passive solar design (day-lighting and space heating) with Green Building Design. This includes orienting buildings close to true south, as well as using appropriate windows on the south wall, installing thermal mass (brick, concrete, or water) to store the sun's energy, and using appropriate levels of insulation. Through these designs, as much as 60% of a building's space heat can be derived from the sun. This type of heating is termed "passive solar" because no moving parts are needed, the collection and storage system is built into the structure. Green Building Design principles also attempt to maximize the amount of natural light a building receives, in order to reduce the energy costs associated with daytime lighting.

Active and passive solar systems are custom built based on the building site, building and purpose of the solar system. There are many factors that bear on siting solar systems. Many homes and businesses have good rooftop sites, or good sites nearby for ground mounted systems. Unfortunately, some do not, such as properties where there is limited southern exposure. One way to address this situation is through the development of "community-sized" PV projects or co-operative systems on the order of a few hundred kilowatts up to a few megawatts. There are a number of community solar sites in our region, which also allow renters and homeowners where rooftop solar will not work to take advantage of solar by "sponsoring" an off-site panel. Utility-scale PV developments are also becoming popular in other areas of the U.S. Often referred to as solar parks, farms, or ranches, these utility-scale PV installations are designed for the sale of merchant power (MWh) into the electric grid and can utilize several acres of land. Public concerns surrounding solar installations of this size usually focus on aesthetics and transmission line development.

Siting policies for solar:

- NVDA has determined that the following types of locations in the region should be prioritized for future solar generation. Even though these locations are not shown on the

regional solar maps due to a lack of GIS data, these sites should be considered "preferred locations" for siting solar:

  - Rooftops of structures, residential and commercial. (Our conservative estimates show the region's total potential output from rooftop solar alone could amount to 23.9 MW, or 6.3% of the high end of the LEAP model projections for solar for 2050 of 377.2 MW).
  - Brownfield sites not located in a designated downtown or village center
  - Earth extraction sites (e.g. gravel pits, quarries), active or abandoned
  - Parking lot canopies and surface parking lots
  - Farms, where more than 50% of the power generated is used by the farm
  - Industrial parks, where more than 50% of the power generated is used by the tenants of the industrial park
  - Undersized lots and otherwise undevelopable land in existing industrial parks

- The Northeast Kingdom has a robust agricultural economy, and NVDA discourages siting ground-mounted solar in a manner that fragments productive agricultural soils, effectively removing farmland from production for decades. To this end, NVDA encourages municipalities to explore and identify local constraints that minimize farmland fragmentation. These measures may include agricultural overlays (regulatory), as well as conservation easements (non-regulatory). A number of land exploration tools, such as land evaluation and site analyses (LESAs) can help municipalities prioritize agricultural lands for protection. NVDA will assist local planning commissions to identify local constraints as appropriate.
- Notwithstanding the above concern, NVDA recognizes that successful integration of solar into active agricultural uses can help farms reduce expense, generate extra income, and remain viable. NVDA encourages on-farm solar that, to every extent feasible, uses existing farm structures, or is sited in a manner that supports grazing, the establishment of pollinator crops, or simply to create buffers between organic and non-organic production areas. NVDA will showcase best on-farm generation practices in the region and will cite "Guide to Farming Friendly Solar," produced by the Two Rivers Ottauquechee Regional Planning Commission, as a vital resource.

Wind

Total output potential:	**23,405.2 MWh**
Assumptions:	In accordance with Act 174 guidelines published in March of 2017, regional plans are allowed to submit plans to the Department of Public Service that do not establish targets for utility scale wind. This is especially important for the Northeast Kingdom, which has no targets for wind generation due to the existing level of production. When accounting for NVDA's regional constraint, the balance of prime wind acreages is just over 38,000. We estimate that new generation will be primarily farm- and residential-scaled. Even though no significant acreage is required for a farm- or residential scaled turbine, NVDA's estimate

REGIONAL ENERGY GOALS & STRATEGIES

An adequate, reliable, diverse, and secure energy supply will benefit the region.

- Promote a diversified energy portfolio for the region.
- Support the upgrade of regional transmission systems to continue to reduce constraints.
- Support the maintenance and upgrade of existing energy generation facilities and related infrastructure.
- Encourage local responders to plan for emergency energy resources (VEM Emergency Generator Grant Program generators).

Affordable energy alternatives will be available for the region's users that decrease the region's reliance on fossil fuel.

- Assist in the development of businesses that support alternative energy use.
- Work with Tier 3 energy service providers to promote the installation of cold climate heat pumps and geothermal systems by facilitating outreach and education on their benefits.
- Partner with Efficiency Vermont and Tier 3 energy service providers to increase the use of efficient wood heat and biomass systems.
- Support the development of small-scale renewable resources, such as wind and solar, and the use of supplemental sources (wood) to stabilize energy costs.
- Promote and support rail infrastructure as a cost-effective transportation resource for the energy industry.
- Encourage and support agricultural production of biofuels and oilseed crops and explore ways to broaden access to processing infrastructure.
- Identify potential users of district heating and wood heating systems and provide assistance to communities seeking to develop them.
- Encourage the legislature to increase incentives and rebates for efficient wood heat systems.
- Provide outreach and education among vendors, contractors, and the general public through venues such as tradeshows and workshops.
- Provide communities with an analysis of potential areas that are suitable for ground source heat pumps.
- Support upgrade and trade-out programs and incentives for older, higher emission wood burning stoves and boilers.

Decrease the region's reliance on single occupancy vehicle trips and gas/diesel powered vehicles.

- Continue to advocate for better telecommunications infrastructure so employees can work from home.
- Encourage local employers to reduce VMTs through programs such as ride sharing and Go Vermont.

- Support and expand access to liquid biofuels for use in commercial vehicles and heavy equipment.
- Support and expand the use of electric powered busses and vans among the public transportation providers serving the region.
- Work with cycling advocacy groups such as Local Motion by hosting safe on-road cycling workshops.
- Provide training to local zoning and development review boards to consider infrastructure for alternative transportation in their review of site plans.
- Provide technical and grant writing assistance to local planning commissions who plan for multi-modal circulation and better connectivity with alternative transportation modes.
- Promote the use of the region's cycling infrastructure such as the Cross Vermont Trail and the Lamoille Valley Rail Trail and support the efforts of local groups who work to maintain them.
- Support municipalities and local businesses to install EV charging stations at convenient locations, such as in front of restaurants, stores, businesses, or entertainment or recreational facilities, where users would want to park for periods of two to four hours. Explore and pursue incentives to defray the cost of installation and administration so that users pay only for electricity.

Net-metering capacity in the region will be maximized.

- Encourage municipalities to become "clean energy districts" and participate in the PACE program (Property Assessed Clean Energy). This would provide consumers with options to more affordably implement grid tied renewable energy systems.
- Support solar panel safety training programs for fire fighters and first responders.

Energy efficiency and weatherization will be an integral part of the energy portfolio.

- Assist municipalities in reducing their energy costs through conservation, efficiency, and weatherization programs.
- Support and promote the Energy Action Network (EAN) energy dashboard and educate communities about its use and benefits. Support crowdsourcing on efficiency and weatherization efforts at the local level (e.g. Vermont Community Energy Dashboard).
- Support Local Energy Committee/Coordinator efforts to reduce energy consumption, improve efficiency and weatherization, and develop new generation resources.
- Encourage municipalities to conduct energy audits and weatherization programs.
- Encourage businesses to make energy efficiency investments and develop energy efficient production methods.
- Promote energy efficient building design and construction methods (e.g. Green Building Design, LEED certification, and Passive Design).
- Promote Energy Efficiency Utility program resources by making web links available on municipal/regional web sites.

- Work with partner organizations and Energy Efficiency Utilities EEUs to offer workshops and educational opportunities to businesses on efficiency in new construction, retrofits, and conservation practices.
- Identify large energy usage customers (including large businesses, manufacturing facilities, and schools) as a target audience and encourage participation in commercial and industrial EEU programs.
- Facilitate strategic tree planting to maximize energy benefits by encouraging communities to participate in the ArborDay Energy Saving Trees Program.
- Support local zoning initiatives that incent the development of small and/or net-zero homes.
- Ensure that developments subject to Act 250 consider new energy requirements by encouraging the compliance with commercial energy stretch codes, particularly among proposed commercial uses that are high energy consumers.
- Showcase the cutting-edge work of local architects and contractors who incorporate green building practices through NVDA's web site and newsletters.
- Promote the use of the Vermont Home Energy Profile among prospective buyers and sellers of homes. Work with local contractors to become BPI certified in energy-efficient retrofit work in order to assist with these profiles.
- Ensure that local zoning administrators have information on Residential Building Energy Standards and Commercial Building Energy Standards (RBES and CBES). Host and facilitate training sessions for local officials. Encourage communities with zoning to require Certificates of Occupancy. Encourage the local adoption of "stretch codes".
- Work with local affordable housing organizations to promote and improve the supply of the region's net-zero and near-net zero housing supply, such as Vermod homes.
- Review local zoning bylaws and offer technical assistance to development review boards when evaluating the energy efficiency implications of site plans for proposed developments.

Weatherize at least 25% of the region's housing stock by 2020.

- Actively advocate for the continuation and expansion of funding programs that support thermal efficiency and renewable energy improvements, especially programs that are targeted to middle- and low-income households.
- Coordinate with and promote efficiency programs and weatherization assistance programs (such as Efficiency Vermont, NE TO, 3E Thermal, and Heat Squad) for low-income households and apartment buildings.
- Cosponsor and organize weatherization workshops for home and businesses with EEUs.
- Facilitate or sponsor a workshop for owners of rental housing (including farm labor housing) to encourage implementation of energy efficiency.
- Encourage residents to hire Efficiency Excellence Network (EEN) contractors when completing energy efficiency projects by including links to the EEN on municipal/regional websites.
- Make information available about lending programs that can improve the efficiency of older housing stock, such as Efficiency Vermont's "Heat Saver" loan and USDA Direct and Guaranteed Loan Programs, for single homes and multi-family homes.

Energy generation that provides the best cost-benefit to the region will be promoted.

- Promote wood-based energy generation to support the region's forest industry.
- Encourage the development of energy facilities and resources that help sustain local agriculture and forestry (i.e. grass/wood-pellets, small-wind, solar, farm-methane, wood-chip, biodiesel).

Environmental and aesthetic impacts of energy generation and usage will be considered.

There will be broad public participation in the decision-making process.

- Encourage the Vermont Legislature to develop policies that support the development of solar, small-wind, hydro-electric, farm methane, biodiesel and biomass generation facilities, while respecting current local land use and the culture of the region.
- Encourage the PUC to examine the long-term sustainability of proposed facilities.

Assessment of local needs and values on new energy development will be encouraged.

- Encourage towns to address energy development in town planning and zoning.
- Provide assistance to businesses/municipalities to develop cogeneration and other alternative energy strategies.

Reduce the region's carbon footprint through the expansion of a closed loop soil-to-soil regional food system that sustains and feeds the people of the Northeast Kingdom.

- Coordinate movement and storage of goods to achieve maximum efficiency.
- Redirect food scraps and other organics from the waste stream in a manner that maximizes efficiency and minimizes hauling.
- Support and further the goals and strategies of the NEK Food System Plan through its Leadership Group.
- Identify and publicize opportunities for shared truck space among existing growers and producers.
- Generate better awareness of existing distribution resources, such as freight service.
- Identify and publicize opportunities for shared storage space among existing growers and producers.
- Explore the feasibility of establishing a leased storage facility.
- Assess market demand for products and existing shippers and distributors already moving to external (New York and Boston) markets (including opportunities for backhauling).
- Identify infrastructure needed to maximize inbound, outbound, and internal freight movement.
- Promote the use of and increase the amount of on-farm power and community energy generation and the use of renewable energy for farming and food production (such as

anaerobic digesters, solar, wind, biomass, and biodiesel, in accordance with local and regional planning priorities).

- Support local incentives for siting solar installations away from most productive agricultural soils.
- Explore the use of compost heat recovery; identify challenges, opportunities, and funding sources.
- Provide and increase opportunities for onsite and commercial composting training and education, sustainable farming methods focused on reduction and reuse of wastes (closed-loop nutrient systems), and shared facilities and infrastructure to transfer and store compost.
- Establish a coordinated marketing campaign that dispels the perceptions around local food costing more and extols the long-range benefits of staying local (e.g. dollars re-circulated into the economy, food miles travelled).
- Explore the feasibility of a developing a "food miles" measurement that can be used in marketing local foods.

Chapter Seven: Natural Resources

I. OVERVIEW

The Northeast Kingdom is recognized for its diverse wildlife, large undeveloped areas, and vast woodlands. The region's natural resources (depicted in Figure 7.1 on the following page) provide residents and others a variety of benefits. The largest source of revenue in the region is from outdoor recreation, and much of the tourism industry relies on the healthy and scenic environment to remain viable.

Therefore, the natural resources in the Northeast Kingdom have intrinsic scenic and economic values that require careful consideration when making planning decisions. The overarching goal for the region is to balance local economic needs with the protection of the resources that so many of region's residents enjoy and depend upon.

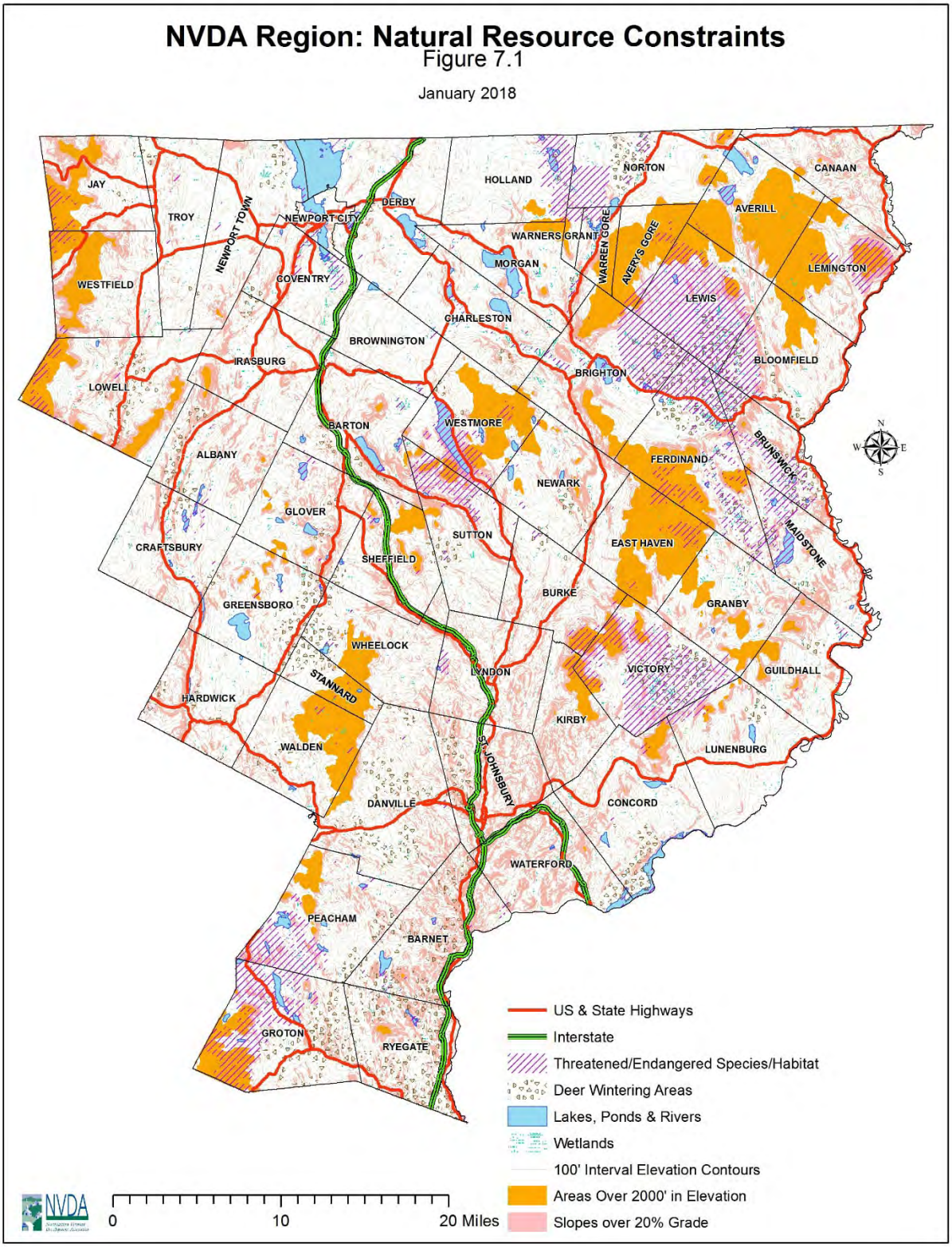
The Northeast Kingdom lies mostly within three physiographic regions:

- *The Northeast Highlands*, an extension of New Hampshire's White Mountains, make up most of Essex County and northern Caledonia County. On average, this area is cooler than the rest of the state. The growing season here averages less than 90 days and snowfall accumulation frequently exceeds 36 inches.
- In much of Orleans County and parts of Caledonian County the topography is primarily *rolling hills* interspersed with occasional plains of fertile agricultural soils. Both of these physiographic regions have extensive glacial deposits.
- The third region is the *Connecticut River Valley*, which extends the length of the region along its eastern border. Level topography and rich alluvial soils well suited for agriculture characterize this physiographic region.

The forests are mainly northern hardwoods with large stands of red spruce and balsam fir. Black spruce and succession species such as white pine and aspen fill recent clearings. The region contains some of the State's largest bog and wetlands complexes, with fabulous stands of red pine, black spruce, hemlock, northern white cedar and hardwoods dispersed throughout. Essex County has more wetlands than any other county in Vermont.

The majority of the region's water drains either north to Quebec as part of the St. Francois River watershed or east and south as part of the Connecticut River watershed. Much of the region's western edge drains north and west as part of the vast Lake Champlain basin. The region's lakes, ponds, streams and rivers are famous for the excellent and diverse fishing opportunities they offer. The more than 130 lakes and ponds found concentrated in the region represent a disproportionately high share of the State's total. This region is home to most of Vermont's larger, deeper lakes and the legendary 20-30 pound lake trout that have inhabited them since the last ice age.

This combination of forest and water resources creates prime habitat for many wildlife species, and draws many tourist and visitors to the Northeast Kingdom to enjoy them.


NVDA Region: Natural Resource Constraints
Figure 7.1
January 2018
JAY
TROY
NEWPORT TOWN
NEWPORT CITY
DERBY
HOLLAND
NORTON
CANAAN
AVERILL
WARNERS GRANT
WARREN GORE
AVERY'S GORE
LEMINGTON
MORGAN
WESTFIELD
COVENTRY
LEWIS
CHARLESTON
BROWNINGTON
IRASBURG
BRIGHTON
BLOOMFIELD
LOWELL
BARTON
WESTMORE
BRUNSWICK
ALBANY
FERDINAND
NEWARK
GLOVER
SUTTON
MAIDSTONE
CRAFTSBURY
EAST HAVEN
SHEFFIELD
BURKE
GRANBY
GREENSBORO
WHEELOCK
LYNDON
VICTORY
GUILDHALL
STANNARD
HARDWICK
KIRBY
WALDEN
LUNENBURG
ST. JOHNSBURY
DANVILLE
CONCORD
WATERFORD
PEACHAM
BARNET
GROTON
RYEGATE
US & State Highways
Interstate
Threatened/Endangered Species/Habitat
Deer Wintering Areas
Lakes, Ponds & Rivers
Wetlands
100' Interval Elevation Contours
Areas Over 2000' in Elevation
Slopes over 20% Grade
NVDA
0
10
20 Miles

Ground Water

Ground water is a critical resource for the rural areas of Vermont. Approximately 60 percent of Vermont's citizens depend upon ground water for drinking and general uses. According to the state Water Quality Division, in many rural communities nearly 100 percent of the public and private drinking water sources are from ground water. Ground water occurs in two general hydrogeologic settings, bedrock and unconsolidated aquifers. Igneous and metamorphic crystalline bedrock along with carbonate bedrock form the bedrock aquifers within the state. Unconsolidated deposits are comprised of glacial till, which is basically sand and gravel.

As ground water moves through these materials, the organic and mineral substances that are dissolved or picked up dictate the quality of water. These water sources often tend to be better quality than surface water because of the leaching process. However, toxic substances can stay with ground water for very long distances. Although groundwater quality is generally good, the resource is nonetheless fragile. Contaminated wells destroy property value. The cost of developing and installing new groundwater sources for public water supply is estimated between $500,000 and $1,000,000 (Water Quality Division, 2000). This cost is prohibitive for many towns in the Northeast Kingdom, making prevention and education critical management tools.
One way to avoid costly groundwater contamination cleanup is to begin a Well Head Protection Program (WHPP). This is addressed in the Water Supply section of the Utilities and Facilities chapter of this document.

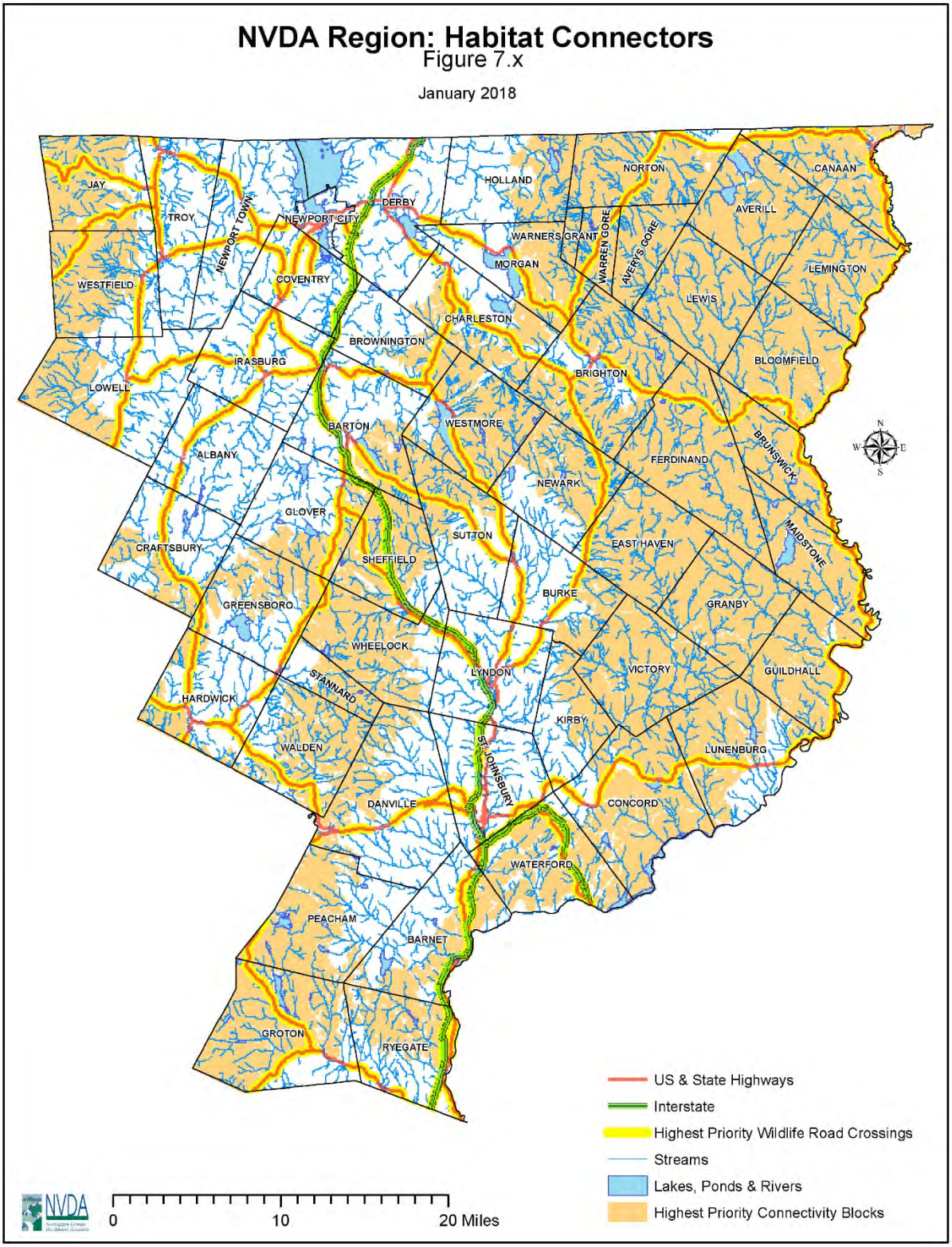
Wetlands

Vermont's wetlands are defined as those areas of the state that are inundated by surface or ground water with a frequency sufficient to support plants and animals that depend on saturated or seasonally saturated soil conditions for growth and reproduction. These areas are commonly known as ponds, bogs, fens, marshes, wet meadows, shrub swamps, and wooded swamps. Wetlands often occur in association with lakes, ponds, rivers, and streams, creating transitional areas between dry land and open water. However, wetlands can also be isolated from any obvious connection to surface water. In order to be classified as a wetland under Vermont law, an area must have wetland soils and wetland plants, in addition to at least seasonal water.
Wetland soils are often anaerobic and the plants have adapted to growing in such waterlogged conditions.

Every town in the region contains wetlands that have been designated by the state as significant The Vermont Wetland Rules classify all wetlands into one of three classes. Classes One and Two are considered " significant" and protected under the Vermont Wetland Rules. All three wetland types are protected by Vermont's Act 250. The online Vermont Natural Resources Atlas contains an atlas layer that depicts the three classes of wetlands designated by the State. The information is found on the Watershed Protection layer of the Atlas, under the sublayer "Outstanding Water Resources" and "Wetlands." The Vermont Natural Resources Atlas can be viewed here: http://anrmaps.vermont.gov/websites/anra/

Wetlands provide important ecological functions, including flood and erosion control, and providing habitat for fish and wildlife. They aid in the maintenance of water supplies by trapping nutrients and sediments and recharging groundwater, and they provide recreational and educational opportunities.

Wetlands were once considered wastelands and were thought to be "improved" by draining and filling. As a result, nearly half of Vermont's original wetland resources have been lost, and hundreds of acres are lost annually. Human activities and development continue to encroach upon this finite resource. Agriculture and forestry activities as well as residential, commercial and industrial development all result in wetland alteration. Replacing new wetlands is costly and often impractical, so wetlands preservation is important.


NVDA Region: Habitat Connectors
Figure 7.x
January 2018
JAY
TROY
NEWPORT TOWN
NEWPORT CITY
DERBY
HOLLAND
NORTON
CANAAN
AVERILL
WARNERS GRANT
WARREN GORE
AVERY'S GORE
LEMINGTON
MORGAN
WESTFIELD
COVENTRY
LEWIS
CHARLESTON
BROWNINGTON
IRASBURG
BRIGHTON
BLOOMFIELD
LOWELL
BARTON
WESTMORE
ALBANY
FERDINAND
BRUNSWICK
NEWARK
GLOVER
SUTTON
MAIDSTONE
CRAFTSBURY
EAST HAVEN
SHEFFIELD
BURKE
GREENSBORO
GRANBY
WHEELOCK
VICTORY
GUILDHALL
LYNDON
STANNARD
HARDWICK
KIRBY
WALDEN
LUNENBURG
ST JOHNSBURY
DANVILLE
CONCORD
WATERFORD
PEACHAM
BARNET
GROTON
RYEGATE
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US & State Highways
Interstate
Highest Priority Wildlife Road Crossings
Streams
Lakes, Ponds & Rivers
Highest Priority Connectivity Blocks
NVDA
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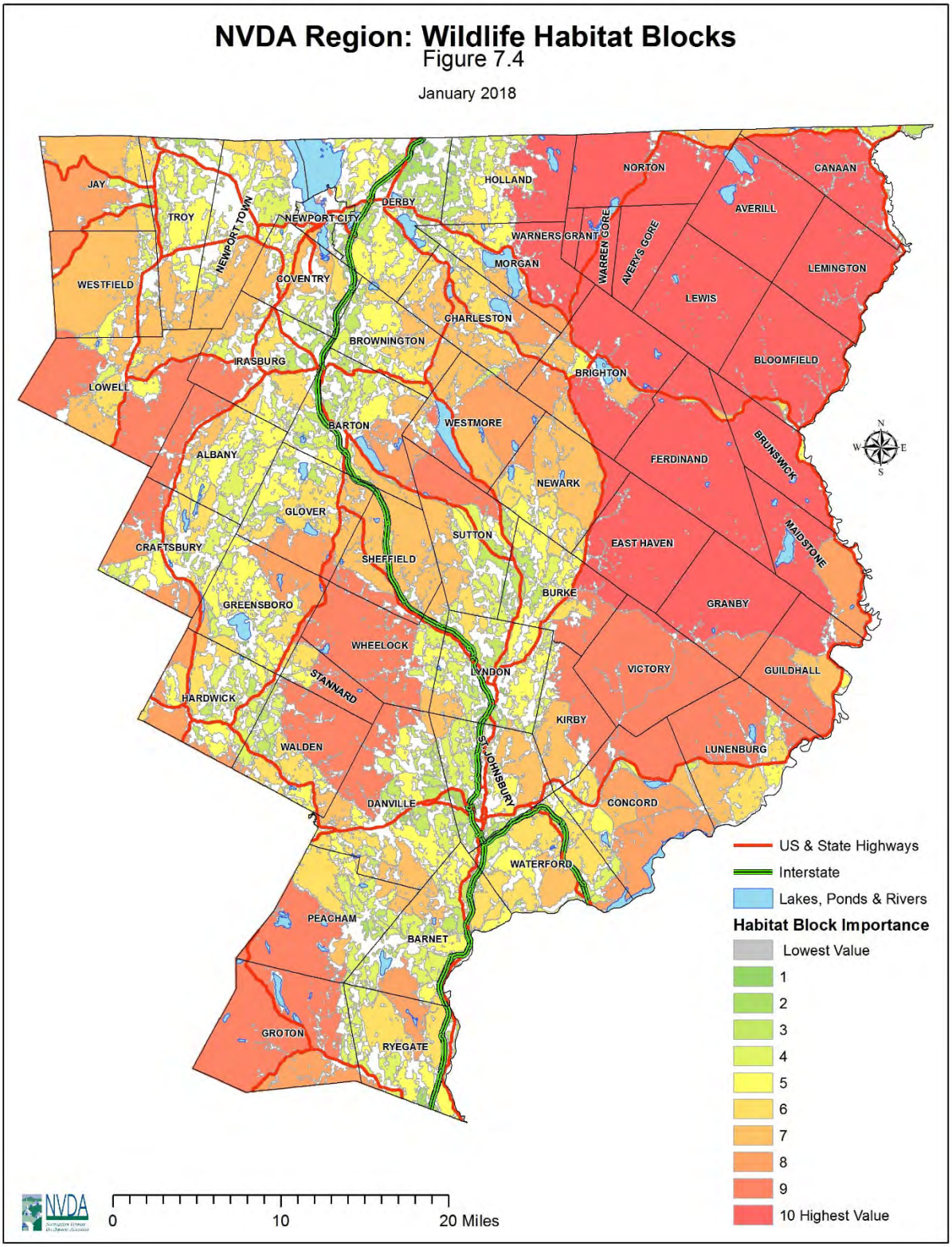
10
20 Miles


NVDA Region: Wildlife Habitat Blocks
Figure 7.4
January 2018
JAY
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NEWPORT TOWN
NEWPORT CITY
DERBY
HOLLAND
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AVERILL
WARNERS GRANT
WARREN GORE
AVERY'S GORE
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WESTFIELD
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CHARLESTON
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BLOOMFIELD
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BRUNSWICK
NEWARK
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SUTTON
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EAST HAVEN
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GRANBY
GREENSBORO
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LYNDON
STANNARD
HARDWICK
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ST. JOHNSBURY
DANVILLE
CONCORD
WATERFORD
PEACHAM
BARNET
GROTON
RYEGATE
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S
US & State Highways
Interstate
Lakes, Ponds & Rivers
Habitat Block Importance
Lowest Value
1
2
3
4
5
6
7
8
9
10 Highest Value
NVDA
0
10
20 Miles

Open Space

The Northeast Kingdom is composed of rolling hills, farmlands, lakes and rivers, forests, country roads, and compact village centers. These areas combined create an open, picturesque landscape unlike any other. Open space provides not only scenic beauty and wildlife habitat, but is necessary for the numerous outdoor activities enjoyed by the region's residents and visitors, and is key to the agricultural and forestry traditions of the region. The region contains more than 1,300,000 acres of land. Almost 200,000 acres are either publicly owned or have public recreation/access easements. Many recreational activities rely on private landowners allowing access to their properties, so it is the responsibility of users to respect the landowner and their land. Vermont landowner liability law (12 V.S.A. 5793) maintains "an owner shall not be liable for property damage or personal injury sustained by a person who, without consideration, enters or goes upon the owner's land for a recreational use unless the damage or injury is the result of the willful or wanton misconduct of the owner." Still, according to the Vermont Department of Forests, Parks & Recreation, posting of private land in the state doubled in the last decade from approximately 100,000 acres in 1988 to approximately 250,000 acres in 1997.

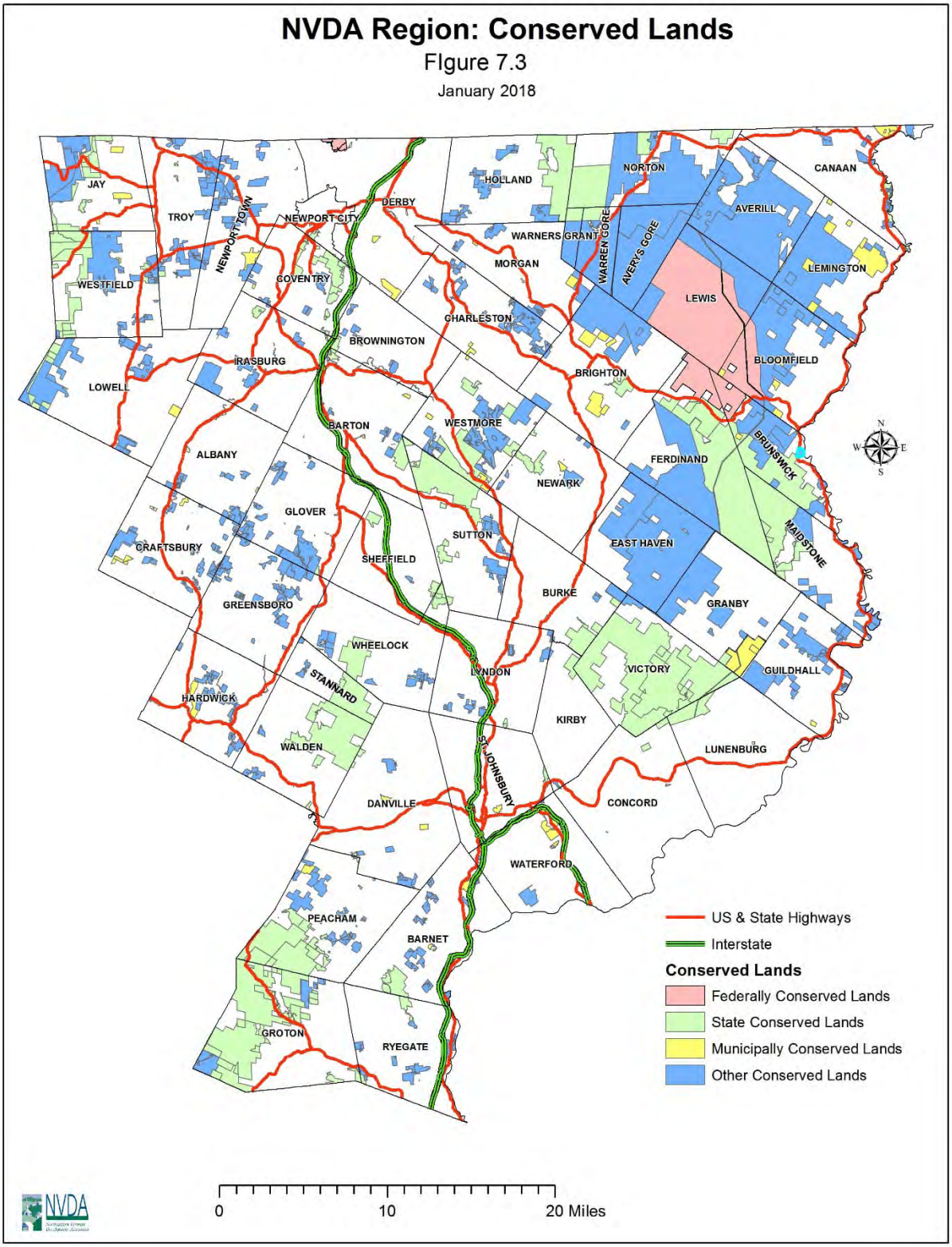
Public Lands

The region contains many conserved public lands. Recently, more than 132,000 acres of remote forestland, primarily in Essex County, was conserved by Vermont's largest land conservation project. Of this, 84,000 acres was resold to Essex Timber Co. LLC, with easements to ensure that these lands are conserved as a working forest for the sustainable production of wood products as well as to maintain public access. In the same transaction, U.S. Fish and Wildlife Service formed the Silvio O. Conte National Wildlife Refuge in the towns of Lewis, Ferdinand, Bloomfield and Brunswick totaling nearly 28,000 acres. The 23,000 acre West Mountain Wildlife Management Area was created in this land transfer, as well. The goals of this purchase were to protect public access to the land; conserve and protect biological diversity, wildlife habitat and natural communities; and conduct sustainable management and utilization of forest products.

Table 7.3: Public Lands in the NEK

Town	Parcel Name	Acres
Averill	Averill Mountain WMA	510
Newark	Bald Hill Wildlife Management Area	932
Troy	Big Falls SP	16
Holland	Bill Sladyk WMA	9,496
Norton	Black Turn Brook SF	593
Brighton	Brighton SP	152
Sutton	Calendar Brook WMA	340
Barton	Crystal Lake SP	16
Burke	Darling State Park	1,997
Groton, Peacham	Groton SF	23,706
Burke	Hazens Notch SP	307
Sheffield	Holbrook SP	202
Jay	Jay SF	3,877
Peacham	Levi Pond WMA	260
Jay	Long Trail SF	2,774
Lyndon	Lyndon State Forest	72
Maidstone	Maidstone SF	475
Wheelock, Sheffield	Mathewson SF	795
Rvegate, Barnet	Roy Mountain WMA	1,590
Westmore	Sentinel Rock SP	330
Irasburg	South Bay WMA	1,515
Walden, Stannard, Wheelock	Steam Mill Brook	10,421
Victory	Victory Basin WMA	4,970
Victory, Lunenburg	Victory SF	15,997
Barton	Wenlock WMA	1,994
Brunswick, Ferdinand, Maidstone	West Mountain WMA	22,738
Barton	Willoughby Falls WMA	130
Westmore, Sutton	Willoughby SF	7,300

Source: NVDA, 2002


NVDA Region: Conserved Lands
FIgure 7.3
January 2018
JAY
TROY
NEWPORT TOWN
NEWPORT CITY
DERBY
HOLLAND
NORTON
CANAAN
AVERILL
WARNERS GRANT
WARREN GORE
AVERY'S GORE
LEMINGTON
MORGAN
WESTFIELD
COVENTRY
LEWIS
CHARLESTON
BROWNINGTON
IRASBURG
BLOOMFIELD
BRIGHTON
LOWELL
BARTON
WESTMORE
BRUNSWICK
ALBANY
FERDINAND
NEWARK
GLOVER
SUTTON
MAIDSTONE
CRAFTSBURY
EAST HAVEN
SHEFFIELD
BURKE
GRANBY
GREENSBORO
WHEELOCK
LYNDON
VICTORY
GUILDHALL
STANNARD
HARDWICK
KIRBY
WALDEN
LUNENBURG
ST. JOHNSBURY
DANVILLE
CONCORD
WATERFORD
PEACHAM
BARNET
GROTON
RYEGATE
US & State Highways
Interstate
Conserved Lands
Federally Conserved Lands
State Conserved Lands
Municipally Conserved Lands
Other Conserved Lands
0
10
20 Miles
NVDA

NATURAL RESOURCE GOALS

- The overarching goal for the region is to balance local economic needs with the protection of the natural resource that so many of the region's residents enjoy and depend upon.
- The quality and quantity of the region's surface waters should be protected, maintained, and restored.
- The quality and quantity of existing and potential groundwater resources should be protected and improved.
- Significant wetlands within the region should be protected. The region's mineral and soil resources should be used in a manner that will support the sustainable growth and development of the region.
- A consistently high level of air quality should be maintained for the health, safety, and enjoyment of the region's residents and visitors.
- Adequate resource information for the region should be maintained to improve the region's ability to plan for protection of wildlife resources in the area.
- Critical wildlife habitat should be protected.
- The native biodiversity of the region should be maintained, and restored when appropriate.
- Private, public and community interests should be considered in matters affecting local recreation and open space.

NATURAL RESOURCE STRATEGIES

- Provide public education on state and local water quality issues as they relate to local planning and development.
- Discourage inappropriate development in flood hazard areas and floodplains. Support compatible land uses in flood areas, such as agriculture and passive recreation.
- Support the efforts of watershed organizations working in the region.
- Coordinate the region's basin planning efforts with local plans and related activities.
- Encourage and assist communities to identify and protect community water supplies. Education on water conservation and resource protection should accompany these efforts.
- Prevent the degradation of significant wetlands through public education.
- Minimize the negative impacts of mineral and earth resource extraction and processing facilities.
- Support development of new markets and uses for local mineral resources. Encourage the use of locally obtained minerals for building construction and highway construction and maintenance.
- Support efforts to reduce air pollutants generated in the region from the residential, commercial, industrial, and transportation sectors.

- Support broader state and regional efforts to minimize pollutants entering the region from out of state.
- Support local and state efforts that inventory, delineate and map important habitats and wetlands.
- Support local efforts to protect critical wildlife habitat and maintain habitat connectivity.
- Assist interested towns with planning and mapping for the protection of habitats and natural resources.
- Support state and local efforts to mitigate the impacts of the non-native species through ecologically sound methods (e.g. insect control, etc.).
- Support the protection of endangered and threatened native species.
- Maintain and improve the resource stewardship in the area by supporting and advocating for recreation and environmental education opportunities.

Appendix B: Municipal Energy Generation, Existing and Potential

I. EXISTING REWABLE ENERGY GENERATION

Table A is a summary of all existing renewable energy generation in the Northeast Kingdom, broken out by municipality. This information comes from the Energy Action Network's Community Energy Dashboard: https://www.vtenergydashboard.org/energy-atlas

II. NEW NET GENERATION TARGETS AND GENERATION POTENTIAL

The region's target for new net generation in 18,680 MWh. Municipal generation targets are based on each municipality's share of the region's population. Existing generation identified in Section I do not count toward this target. The regional target for new solar generation by the year 2050 ranges from 246.1 MW to 377.2 MW. There are no new generation targets for wind.

This analysis uses maps are produced by NVDA and, with relatively few exceptions, evaluates only prime areas (no constraints). Rooftop solar is calculated at 10% of residential structures (including seasonal residences); 10% of all small commercial structures, and 3% of all large commercial structures. Estimates assumed 4kw capacity for residential, 20 kW for small commercial, and 200 kW for large commercial. For ground-mounted solar, this estimate assumes a conservative 60 acres per 1 MW of ground mounted solar to account for contingencies, such as property owners not interested in leasing their land, interconnection costs that may be too high in some areas, and unsuitability of certain sites after site-specific investigation.

Given the regionally designated constraints on lands with an elevation of 2,000 feet or more, NVDA is not planning for additional utility scale wind. Wind generation capacity is calculated assuming an average output of 9.5 kW (residential) and is based on average capacity of existing installations in the region. NVDA's capacity analysis assumes a conservative average of 9.5 kW per every 25 acres of prime residential-scale wind, in order to account for contingencies, such as property owners not interested in leasing their land, interconnection costs that may be too high in some areas, and unsuitability of certain sites after site-specific evaluation. For towns that have no prime acreage for wind, capacity is determined by calculating 9.5 kW for every 75 acres of land with potential constraints. These towns are noted in italics.

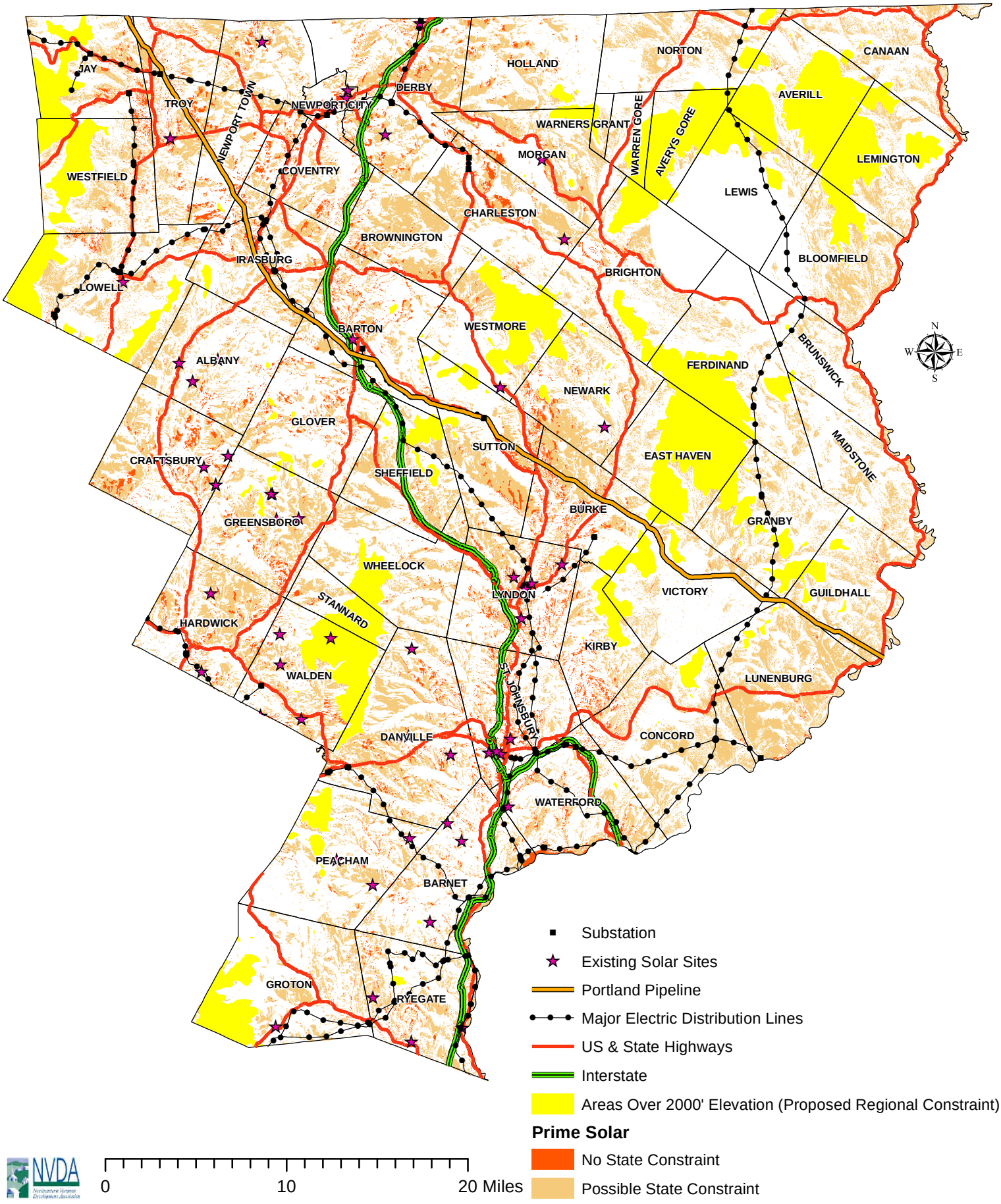
Methane generation estimates were based on data from the Vermont Farm to Plate Atlas, as well as local knowledge of dairy farming in the area. Hydro estimates were based on a capacity study based on existing dams only.

This estimate assumes no locally designated restraints, which may reduce generation capacity. Nevertheless, our analysis found that potential generation significantly exceeded new net generation targets, and that each municipality had sufficient land was available for solar and wind development.

NVDA Region: Solar Energy Potential

Figure x.x

January 2018



Memo

TO: Department of Housing and Community Development,
Agency of Natural Resources
Agency of Agriculture, Food and Markets
Chairs of the Legislative Bodies of the Northeast Kingdom
Executive Director of Northwest Regional Planning Commission
Executive Director of Central Vermont Regional Planning Commission
Executive Director of Lamoille County Regional Planning Commission
Executive Director of Two Rivers-Ottauquechee Regional Commission

FROM: David Snedeker, Executive Director

DATE: June 20, 2023

RE: Update and Readoption of Northeastern Vermont Regional Plan

The Northeastern Vermont Development Association is proposing to re-adopt the Regional Plan for the Northeast Kingdom 2015-2023. The current plan expires August 27, 2023. Per 24 VSA 117 § 4348b, the following assessment report is included:

(A) The extent to which the plan has been implemented since adoption or re-adoption.

Since adoption of this Plan in 2015, the Northeast Kingdom has continued to experience limited yet incremental growth. As noted in the Plan, the natural beauty and wholesome quality of life in the Northeast Kingdom continues to drive growth and change. The Regional Plan notes that while we are "within a day's drive of more than 70 million people, the region has become a recreational playground for many out-of-area visitors. Others are seeking to permanently escape the rigors of urban life elsewhere and relocate to the region." Climate and affinity migration, which intensified during the pandemic, as well as major recreational investments such as the completion of the Lamoille Valley Rail Trail, have intensified those outside interests noted in the 2015 plan, presenting both challenges and opportunities.

As noted in the 2015, we recognize that the cumulative effects of unplanned or uncoordinated growth will have a deleterious effect on our rural communities -- and may negatively affect local economies and the quality of life our residents have come to enjoy and expect. Therefore, our overarching goals remain unchanged:

- **We strive to retain and strengthen existing businesses while creating new economic and employment opportunities for residents from all walks of life.** To this end, we have engaged in public and private partnerships to expand commercial and industrial opportunities such as the repurposing of the Bogner Building in Newport. NVDA also receives and administers funds from EPA to remediate brownfields and provides grant writing and administration to support economic and community development projects. NVDA's region is part of the 115 municipalities of the Northern Vermont Economic Development District (NVEDD), which consists of

Caledonia, Essex, Franklin, Grand Isle, Lamoille, and Orleans Counties. The district maintains an approved Comprehensive Economic Development Strategy approved by the Economic Development Administration.

- **We must provide quality educational opportunities and skills training for all jobs seekers to make the region's workforce more attractive to employers.** NVDA has supported Do North Coworking to facilitate KickstartNEK, a 10-week program that uses the nationally recognized Co.Starters curriculum to guide emerging ideas and small businesses through a process to build a sustainable and profitable entity. We also supported and sponsored the Forest Products Accelerator.

- **With an economy that is to a great extent linked to our natural resources base, we will continue to embrace strategies to protect the environmental quality in the Northeast Kingdom.** We continue to provide technical support to regional Tactical Basin Planners, local water quality associations, and municipal conservation commissions. We have also worked with our towns to provide ongoing technical assistance on instilling best practices for promoting flood resilient development.

- **Our regional goal to expand housing availability continues to be shared by every local community, and the upgrade of existing, substandard housing is a particularly urgent priority.** The high cost of heating our older, often substandard housing stock remains a challenge. During this period, our partnerships with local energy committees, HEAT Squad, and Northeast Employment Training Organization expanded participation in weatherization efforts. Like the rest of the state, the availability of quality, affordable housing has been severely strained in this post-pandemic economy. To that end, we have supported and served on a local housing commission and have assisted municipalities in applying for Bylaw Modernization Grants to eliminate needless barriers to housing.

- **We encourage our communities to work with their local, regional, and state agencies and officials to revitalize downtowns, village centers, and cultural institutions to preserve our cherished way of life.** Our communities continue to participate in the Downtown Designation and Village Center Designation programs, which provides incentives for reinvestment in traditional centers of development. Hardwick, which has maintained a Village Center Designation since 2003, became a Designated Downtown in early 2023, joining St. Johnsbury and Newport City. Our region currently has 38 Village Centers. NVDA also provides outreach and support to applicants seeking tax credits through the Designation programs.

- **Local communities and state agencies must continue to upgrade public infrastructure in a coordinated manner, to protect the health, safety, and welfare of local residents.** To this end, we assist communities with feasibility studies and master plans. We also direct communities to wastewater planning programs with the Department of Environmental Conservation and community facilities planning and construction programs, such as USDA Rural Development. Through emergency planning, we work with communities to develop and implement Local Emergency Management Plans and Local Hazard Mitigation Plans.

- **We strive to provide a reliable and safe transportation system with improved access to destinations within and outside the region for a greater number of people.** NVDA coordinates the Transportation Planning Initiative (TPI) through an annual contract with VTrans to provide a statewide framework for public involvement in planning improvements to Vermont's transportation system, with communities represented through regional

Transportation Advisory Committees (TACs). The TAC prioritizes projects, identifies local and regional transportation needs, and provides the platform for public involvement in the planning and development of the state's transportation system. NVDA also supports our communities with traffic counts, speed counts, and bike/pedestrian counts, Municipal Roads General Permit reporting and compliance, and training for local road foremen. NVDA serves on the board of directors for Rural Community Transportation (RCT), the nonprofit transportation serving the Northeast Kingdom and Lamoille County. We also co-facilitate RCT's Elders and Persons with Disabilities committee with the Lamoille County Regional Planning Commission.

(B) An evaluation of the goals and policies and any amendments necessary due to changing conditions of the region.

The readoption changes no plan policies, goals, or objectives. The purpose of the plan readoption is to give the NVDA the time it needs to deeply engage with the towns and the public in a substantial update to the Regional Plan. Without readoption, the current plan will expire on August 27, 2023. Readoption will allow the NVDA to take the time that is necessary to update the regional plan, which we anticipate will take 18 to 24 months after the current plan is readopted.

The current Regional Plan (as well as its prior iterations) contains all the required elements of 24 V.S.A 4348a and has served the region well as a resource to local planning commissions as well as Act 250 and Section 248 hearings. In 2018, the plan was amended to receive substantial deference in Section 248 hearings.

NVDA's current Regional Plan for the Northeast Kingdom is here: http://www.nvda.net/regional-plan.php

C) an evaluation of the land use element and any amendments necessary to reflect changes in land use within the region or changes to regional goals and policies;

The vast majority of the Northeast Kingdom remains forested, and the region still retains a substantial holding of agricultural lands. The land use element of NVDA's Regional Plan strongly supports the statewide goal of maintaining traditional centers of development while minimizing the fragmentation of surrounding open lands. While the Land Use plan acknowledges that recent development patterns may be contributing to incremental sprawl, the Plan proposes to work with Towns to identify and implement strategies that reverse the current suburbanization trend. The Plan also promotes an economically vital mix of commercial and residential uses in established centers of development, as well as a variety of housing types at different price points to support long-term sustainability.

Our land use classifications remain in the Plan remain unchanged, including the Plan's specifications for sensitive rural lands containing one or more of the following attributes:

- State natural areas and fragile areas: The region has two such areas, which are both designated as National Natural Landmarks, the Willoughby Cliffs area and the Barton River Marsh;
- Lands managed by the Department of Forest Parks and Recreation;
- Highest priority forest habitat blocks;
- Forested coverage of Site Class 1, 2, and 3 soils of 25 acres or more;
- Headwaters;
- Upland areas of 2,000 or higher;

As stated in our 2015 Plan, lands containing one or more of these attributes shall not be developed, as their best uses are a combination of forest and conservation purposes. Appropriate uses include sustainable forestry and logging practices, maple syrup production, wildlife habitat, and passive recreation.

NVDA is aware that the Department of Housing and Community Development (DHCD) is developing guidelines for all 12 regional planning commissions to map future land uses in a consistent manner. NVDA staff participated in an advisory group to develop recommendations, and those recommendations were shared with the Vermont Association of Planning and Development Agencies. Last week, VAPDA sent the recommendations to the DHCD. The new Regional Plan, which is currently under development, will adhere to whatever guidelines are ultimately adopted by the regional planning commissions. However, we do not anticipate that our land use goals and strategies will change.

(D) Priorities for implementation in the next five years.

Priorities for implementing the plan include continuing to work with member municipalities to enact the policies set out in the Plan; guiding growth into compact settlements while preserving and encouraging agricultural, natural resource, silvicultural, and recreational activities; fostering economic opportunities through new and expanded businesses that enhance the region's economic base; and completing the Regional Plan amendment to reflect current needs and trends.

(E) Updates to information and data necessary to support goals and policies.

The updated Regional Plan will use information and data in a more meaningful way. While the current Regional Plan has a wealth of data, it can feel overwhelming to the citizen planner. Our substantial update to the Regional Plan therefore proposes to make the content more accessible, while still meeting state requirements for content. We intend to clearly explain the key issues affecting the NEK from a single voice. (The current regional plan has an entirely separate Transportation Plan, making it difficult for readers to see the interrelated goals and impacts between transportation, land use, energy, housing, and utilities and facilities.) Our new plan will break down these silos by organizing core planning concepts and issues around major themes that include equity, sustainability, community empowerment, and relevance and usefulness to the community. Supporting the last theme, the Plan will contain case studies on local actions and outcomes. Additionally, data will be integrated into the plan more thoughtfully to support the plan's narrative and recommendations. Relevant data tables and studies will be available to readers in appendices.

We also anticipate that an update to the information in the housing element will be necessary to meet the requirements of Act 47, also known as the HOME Act.

Information accompanying the energy element has been updated and attached to this Report and Assessment. The standards for regional plans to receive Substantial Deference from the Public Utilities Commission in Section 248 proceedings have been revised since the update to the Regional Plan in 2018. While not all the information regarding new projections for weatherization and fuel switching is available, we believe that this interim update will allow the updated and readopted Regional Plan for the Northeast Kingdom to continue to receive Substantial Deference.

A copy of the Regional Plan, as well as the Update and Assessment Report is being electronically mailed to all parties identified in 24 V.S.A 4348a, 30 days prior to the first hearing. If you have any questions about readoption of the Regional Plan for the Northeast Kingdom, please contact me at dsnedeker@nvda.net or 802-748-8303.

Two Public Hearings are Scheduled:
St. Johnsbury: Thursday, July 20th, 36 Eastern Avenue, 6:00 p.m.

Newport: Friday, July 21st, Gateway Center, 4:00 pm

NVDA Regional Energy Plan Assessment and Report – June 2023

Note: *NVDA is proposing an update and readoption of its regional plan in accordance with 24 V.S.A. § 4348b. If readopted, this plan will remain in place until a new regional plan is proposed. Since NVDA last amended its energy plan to meet the requirements for Substantial Deference under Act 174, the requirements for certification to receive Substantial Deference from the Department of Public Service have changed. This Assessment and Report, which accompanies the readopted plan, addresses the updated requirements.*

NVDA's Energy Plan aims to guide the region's energy development for the next eight years in support of Act 174, aligning with Vermont's 2022 Comprehensive Energy Plan (CEP), and Vermont's 2021 Climate Action Plan. *To meet state energy and climate goals, Vermont is planning for a major shift away from fossil fuels in the transportation and heating sectors to renewable sources of energy, efficiency in all sectors, and increase in-state renewable energy generation.* Equity and justice must be integrated into all planning aspects; and as regional goals, objectives and actions are considered and implemented, it is critical to consider to three questions to empower more inclusive decision-making in the NEK:

1) Who is helped? *2) Who is harmed?* *3) Who is missing?*

NVDA strives to be consistent with the following state goals and policies:

- Greenhouse gas (GHG) reduction requirements under 10 V.S.A. § 578(a)
  - 26% from 2005 levels by 2025
  - 40% from 1990 levels by 2030
  - 80% from 1990 levels by 2050
- The 25 x 25 goal for renewable energy under 10 V.S.A. § 580
  - 25% in-state renewables supply for all energy uses by 2025
- Building efficiency goals under 10 V.S.A. § 581
  - e.g., reduce fossil fuel consumption across all buildings by 10% by 2025
- State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b
- The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005

In addition, NVDA's Energy Plan aspires to follow the overarching goals and principles detailed in the **Energy Equity Project (EEP) Framework**:

- Everyone has continuous access to energy.
- Everyone lives in a healthy, safe, and comfortable home.
- No one spends more than 6% of their income on energy bills.
- Those who are most impacted have the most powerful voice in decision making and receive a share of benefits.

Ultimately, NVDA's Regional Energy Plan strives to improve the outcomes for **environmental justice populations**, as defined by Act 154, meaning "any census block group in which: (A) the annual median

NEK Siting Guidelines for Renewable Energy Generation

NVDA Energy Maps have been updated to be consistent with the Climate Action Plan and 2022 Act 174 standards, with an emphasis on the value of forest lands for sequestering and storing carbon. NVDA Energy Maps, available online at NVDA.net, can be used to identify areas unsuitable for development, but more importantly guide decision-making around identified potential (and preferred) areas for renewable energy development to meet regional energy demand, reduce energy burden, and contribute to the state energy and climate goals.

Underlying assumptions were made about suitability factors, such as slope and direction of land, elevation and wind speeds, and access and proximity to grid-related infrastructure. Additional statewide layers identified known constraints and possible constraints, and a third layer has identified regional constraints:

Known constraints are areas not likely to be developed for renewable energy because they contain one or more of the following: vernal pools; river corridors; FEMA floodways; significant natural communities; rare, threatened and endangered species, national wilderness areas, wetlands (Class 1 and Class 2).

Possible constraints are areas that would likely require mitigation because they contain one or more of the following: agricultural soils; special flood hazard areas (outside of the floodway); protected (conserved) lands; deer wintering areas; Act 250 mitigated agricultural soils; hydric soils, highest priority forest, connectivity, and physical landscape blocks, and highest priority surface water and riparian areas.

Regional constraint: NVDA's regional plan has long held that rural areas should receive very little commercial or industrial development unless it occurs in an established industrial park, or in an area specifically designated in the local bylaw or plan as being well suited to such uses. Lands with an elevation of 2,000 feet or more merit consideration as a special class of rural lands that should be protected from any large-scale commercial or industrial development characterized by a constructed height of 100' or more, and an acre or more of permanent site disturbance, such as clear-cutting. These lands, as indicated on NVDA's renewable energy maps, contain one or a combination of factors that make them unsuitable to such development – contiguous forest cover; sensitive wildlife and plant habitat; conservation lands and recreational assets; managed forestland; and headwaters and ephemeral surface waters, which are highly vulnerable to erosion and man-made disturbance. High-elevation forest cover must be kept unfragmented for the attenuation of flood flows, carbon storage/sequestration potential, the benefit of wildlife habitat and linkage, and public enjoyment through passive recreation. It is NVDA's position that no further development of industrial-scale wind turbines should take place in the Northeast Kingdom (see the 2018 Energy Plan for more details).

The maps accompanying this plan do not carry the weight of zoning, and the siting of renewables on prime acreages (i.e., without known constraints) is not a foregone conclusion. Rather regional maps should be viewed as a starting point for our member municipalities to determine suitable and unsuitable locations for renewable energy development. NVDA strongly encourages municipalities to conduct additional site investigations to identify local constraints (as well as preferred sites in addition to existing statewide preferred sites) in order to address the environmental, aesthetic, civic, economic, and cultural concerns unique to each community.

Equity Strategies for Renewable Energy Access & Affordability

Renewed efforts across Vermont are focusing on reducing energy burdens and improving access to heating and cooling, broadband, healthy and affordable food, transportation options, and reliable well-compensated work. All these efforts increasingly depend on clean, reliable, and affordable energy

infrastructure, as do many of the recommendations in this plan. Black, Indigenous, People of Color, (BIPOC), as well as low-income, and rural Vermonters have largely been left out from major economic, social, and environmental benefits associated with investments in climate resilience and renewable energy infrastructure. BIPOC Vermonters were seven times more likely to have gone without heat in the past year, over two times more likely to have difficulty affording electricity, and seven times less likely to own solar panels than white Vermonters (Act 154 Sec 1.10), while rural and low-income communities consistently carry the highest energy burden.

For healthy communities to thrive, local leaders should look to programs and policies that encourage locally generated and managed fossil-fuel-free energy, while prioritizing access and affordability for historically underserved community members. Providing renewable power and services close to where it is used, also known as distributed energy resources (DERs), has multiple benefits including the potential to lower costs for consumers, improve the reliability and resilience of the grid, and increase equity among community members. DERs like community-owned solar and utility-led energy programs that promote energy savings and energy storage are both strategies that can lead to improved health and equity in Vermont communities, and are explored in more depth below. NEK communities are encouraged to work with NVDA to assess local potential renewable energy projects and adopt an enhanced energy plan that identifies and prioritizes energy efficiency and generation goals and renewable energy siting that is desirable and beneficial to the community at large.

- **Community-Owned Solar** has the ability to provide a number of meaningful benefits to participants and their communities, especially increased access for low- to moderate-income households, greater bill savings, resilience, community ownership and wealth-building opportunities, and equitable workforce development. For rural areas, solar arrays can have a positive multiplying effect when combined with agriculture, also known as agrivoltaics. Additionally, siting renewable generation (possibly combined with storage) in proximity to key food resources like food shelves, community gardens/fridges, grocery stores, etc. can be a way to improve access to local, more affordable, and healthier food options.
- **Utility-led Energy Programs:** Increasingly, distribution utilities must play a role in providing fossil fuel-free energy infrastructure and storage to ensure reliable, affordable clean energy for all. Some utilities offer programs for income-eligible Vermonters to help lower the cost of energy at home. For example, and further detailed by the Vermont Department for Children and Families, a household of four earning less than $50,000 a year can receive a 20-25% discount on their monthly energy bill.
- **State-led Energy Programs:** The Vermont Clean Energy Development Fund (CEDF), with its Affordable Community Renewable Energy (ACRE) program is encouraging distribution utilities to connect more income-qualified customers to renewable energy. Programs like these will help thousands of eligible community members reduce energy burden costs while growing new Vermont community solar.

SECTION 3 – NEK PATHWAYS: GOALS, OBJECTIVES & ACTIONS

The following policy pathways outline NVDA's recommended goals, objectives, and actions for achieving the targets and challenges addressed in Section 1 & 2. Furthermore, these pathways are aligned with the goals of Vermont Climate Action Plan and Comprehensive Energy Plan. NVDA regional energy planning aspires to internalize the overarching goals and principles from the Energy Equity Project (EEP):

- Everyone has continuous access to energy.
- Everyone lives in a healthy, safe, and comfortable home.
- No one spends more than 6% of their income on energy bills.
- Those who are most impacted have the most powerful voice in decision making and receive a share of benefits.
    - Use Vermont's Guiding Principles for a Just Transition (Scoring Rubric)
    - Use Initiative for Energy Justice Scorecard (+ Interactive PDF)
    - Use the EPA Environmental Justice Screening and Mapping Tool
    - Use UVM's Vermont Environmental Disparity Index

GOAL - Move the Region's Energy System to meet the goals of Vermont's energy and greenhouse gas reduction goals while balancing economic vitality and affordability.

Objective:

Reduce regional energy burden and fossil fuel pollution to support the State's climate and weatherization goals.

ACTIONS:

- Continue and evaluate partnerships with existing utilities and other energy and conservation programs and funding sources to facilitate weatherization, fuel switching, and increased energy savings and comfort within NEK housing and other building stock.
- Decrease fossil fuel heating and increase affordable electrification by working with Energy Committees and other NEK Energy Network partners to raise awareness among homeowners, renters, landlords, developers, etc. on the benefits of fossil-fuel-free technology such as cold-climate heat pumps, advanced wood heating and geothermal systems. Examples include thermal-led combined heat and power (CHP), biomass district heating and biogas generation (capturing the methane produced by landfills or farms and using it instead of fossil fuels).
- Support upgrade and trade-out programs and incentives for retiring outdated, higher-emission, polluting wood burning stoves and boilers.
- Reduce fossil fuel consumption in the transportation sector, through Transportation Demand Management (TDM) and the electric vehicle promotion strategies outlined further in the NVDA Transportation & Land Use Plan.
- Provide assistance to municipalities when requested to enhance town plans to be consistent with Act 174 standards for the purpose of enabling municipalities the ability to gain substantial deference in the Certificate of Public Good Section 248 process. This assistance will include working with municipalities and businesses to identify natural, cultural, historic, or scenic resources to be protected from all development types, identify preferred locations for renewable energy generation facilities, and encourage "leading by example" with respect to energy efficiency for buildings and transportation and the deployment of renewable energy.
- Empower the NEK Energy Network to engage with residents and municipalities about opportunities to reduce energy burden and switch to affordable renewable energy sources. Additionally, continue to collaborate and partner with organizations (including municipalities, educational institutions, businesses, and non-profits) to help meet the State's energy and climate goals.
- Support a wide variety of renewable energy generation types, including, but not limited to, sustainable uses of biomass for heating, passive solar building design, biodigesters for electricity

generation, photovoltaic solar, agrivoltaics, small-scale wind turbines, and optimizing the energy potential for existing hydro-electric dams.
- Work with the distribution utilities on long-range infrastructure capacity planning.
- Support in-place upgrades of existing facilities, including existing renewable energy generation, storage, transmission lines, distribution lines and substations as needed to reliably serve municipalities and the region.
- Support changes in federal, state, and local policies to achieve the state of Vermont's goals related to the Comprehensive Energy Plan, Climate Action Plan, and Environmental Justice law.
- Encourage the legislature to adopt policies and increase incentives and rebates that reduce energy burden.

Objective:

Promote climate-ready and resilient buildings and communities.

ACTIONS:

- Promote Vermont's residential and commercial building energy standards (RBES/CBES) for new construction and existing buildings, including additions, alterations, renovations, and repairs.
    - Host and facilitate building science/standards training and education opportunities for local officials, zoning administrators, and relevant workforce development groups. Encourage communities with zoning to require Certificates of Occupancy. Encourage the local adoption of "stretch energy codes."
    - Review local zoning bylaws and offer technical assistance to development review boards when evaluating the energy, climate, and health implications of site plans for proposed developments.
    - Work with housing and energy efficiency organizations to promote and improve the regional supply of affordable, high efficiency manufactured housing, such as Zero Energy Modular homes.
- Continue collaborations with key partners, such as Vermont Department of Health, state and regional emergency management, regional hospitals and community groups; identify buildings and facilities that serve critical community functions, including as emergency heating and cooling sites.
- Pilot Community-led Resilience Hubs in the NEK to advance climate and energy resilience, emergency management, and social equity while providing expanded opportunities for communities to be successful before, during, and after disruptions. (2022 EAN Action Team Proposal)

Objective:

Support the development of new, community-scale renewable energy in the region to meet the Vermont Comprehensive Energy Plan's goal of using 90% renewable energy by 2050, in a manner that is affordable, equitable, and respects the natural environment and its inhabitants.

ACTIONS:

- Support the development and siting of renewable energy, storage, transmission, and distribution resources on state and regionally preferred (and potential) locations, as identified by NVDA Act 174 Energy Maps (available online at NVDA.net).

    - Investigate public benefits provided to communities either directly from renewable energy developers or as a condition of a Certificate of Public Good. Assess if the current system is equitable to all municipalities impacted by a renewable generation facility, or if the current system can be improved to provide greater equity to all community members impacted by a renewable energy generation facility.
- Support the economic viability of farms through appropriate renewable energy development as a complementary use that keeps farms in agricultural production while preserving agricultural soils and working lands.
- Promote the use of and increase the amount of on-farm power and community energy generation and the use of renewable energy for farming and food production (such as anaerobic digesters, solar, wind, biomass, and biodiesel) in accordance with local and regional planning priorities.
    - Encourage agrivoltaics that co-locates solar energy generation with active farming.
    - Encourage and support agricultural production of biofuels and oilseed crops and explore ways to broaden access to processing infrastructure.

GOAL – Decrease Transportation Energy Burden Costs & Fossil Fuel Pollution

Objective:

Promote a shift away from single-occupancy vehicle (SOV) trips and reduce fossil-fuel Vehicle Miles Traveled (VMT) in the NEK:

ACTIONS:

- Follow the 2023 Vermont Transportation Equity Framework to help decision makers plan for and prioritize projects, ensure accurate representation in decision making, and enhance the equitable delivery of services. Continually assess NEK transportation access and barriers.
- Expand walking and biking infrastructure to support active, multi-modal transportation and to provide interconnection with the region's transit system by:
    - Implementing the strategies and priorities identified in the Vermont Health Equity Planning Toolkit that are relevant to the NEK.
    - Working with municipalities to update municipal road standards (for maintenance and new construction) to reflect Complete Streets principles.
    - Reviewing state transportation projects to ensure that Complete Streets are implemented.
    - Ensuring that site plans include adequate bike and pedestrian infrastructure and safety measures, through participation in the Act 250 hearing process.
    - Assisting municipalities with scoping of future bike and pedestrian facilities to improve safety, accessibility, efficiency, and continuity of the system. Municipalities could use the outcomes of the scoping studies to apply for various VTrans implementation grants.
    - Promote the use of the region's infrastructure such as the Lamoille Valley Rail Trail (LVRT) and support the efforts of local groups maintaining them and providing enhancing amenities.

- Promote Transportation Demand Management (TDM) and Ridesharing programs:
    - Promote and support the Go!Vermont program that links travelers to a variety of transportation resources and mobility options.
    - Support the continued development and expansion of Park-and-Ride facilities.

- Support employer programs to encourage telecommuting, carpooling, vanpooling, walking, and biking for employee commute trips.
- Continue to advocate for better telecommunications infrastructure so employees can work remotely.

- Encourage increased use of public transit by:
  - Increasing investment in Rural Community Transit (RCT) services in the NEK
  - Working in cooperation with RCT and VTrans to identify opportunities for transit improvement/expansion. Integrate park-and-ride facilities with transit routes.
  - Maximizing ridership for public school buses and minimizing use of private vehicles for student transport.

- Adequately fund the maintenance and preservation of our existing transportation assets including roads, bridges, rail, transit, walking/biking, park-and-ride facilities, and transportation demand management (TDM) programs.
  - Promote and support rail infrastructure as a cost-effective transportation resource.

Objective:

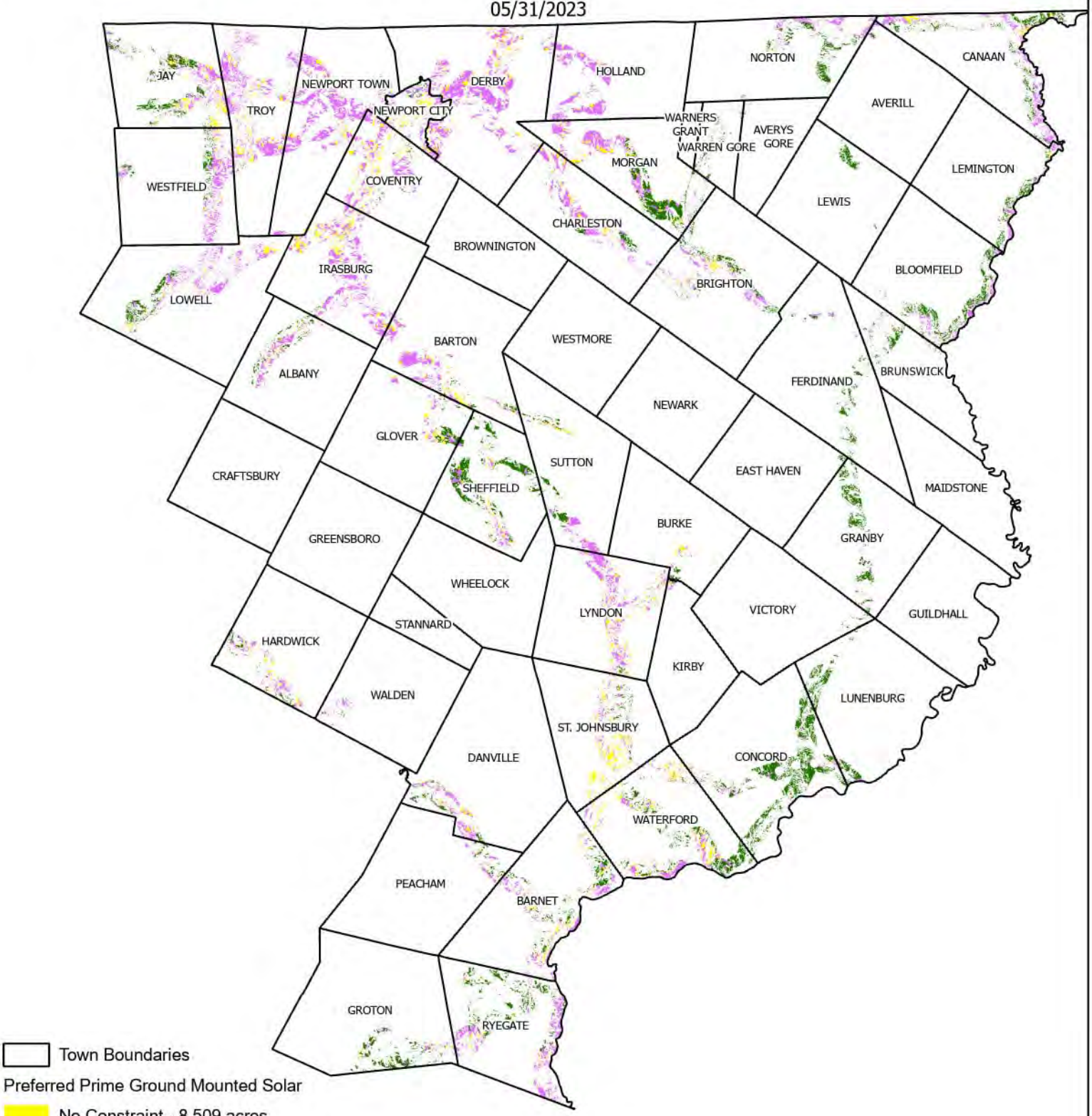
Shift away from gas/diesel vehicles to electric or other non-fossil fuel transportation options.

ACTIONS:

- Encourage development of electric vehicle supply equipment (EVSE), like Level 2 and 3 charging stations, in our regional downtowns, village centers, and opportunity zones, as well as along key interstate and state highway corridors in the NEK.
- Support and encourage municipalities and businesses to install EV charging stations at convenient and desirable locations, such as in front of restaurants, stores, tourist and recreational destinations, and community sites like Town Halls and libraries, where users would want to park for several hours. Explore and pursue incentives to defray the cost of installation and administration so that users pay only for electricity.
- Support and expand access to liquid biofuels for use in commercial vehicles and heavy equipment, as well as electrification.
- Support and expand the use of electric powered buses and vans among the public and private transportation providers serving the region, including school districts (EPA Clean School Bus Program).
- Work with cycling advocacy groups such as Local Motion by hosting safe on-road cycling workshops and raise awareness about the viability of micro-mobility (such as electric bikes and scooters).
- Provide training to local zoning and development review boards to consider infrastructure for alternative transportation in their review of site plans.
- Provide technical and grant writing assistance to municipalities who plan for multi-modal transportation and better connectivity with alternative transportation modes.

NVDA Energy Map
Preferred Ground-Mounted Solar Energy Sites

05/31/2023



Town Boundaries

Preferred Prime Ground Mounted Solar

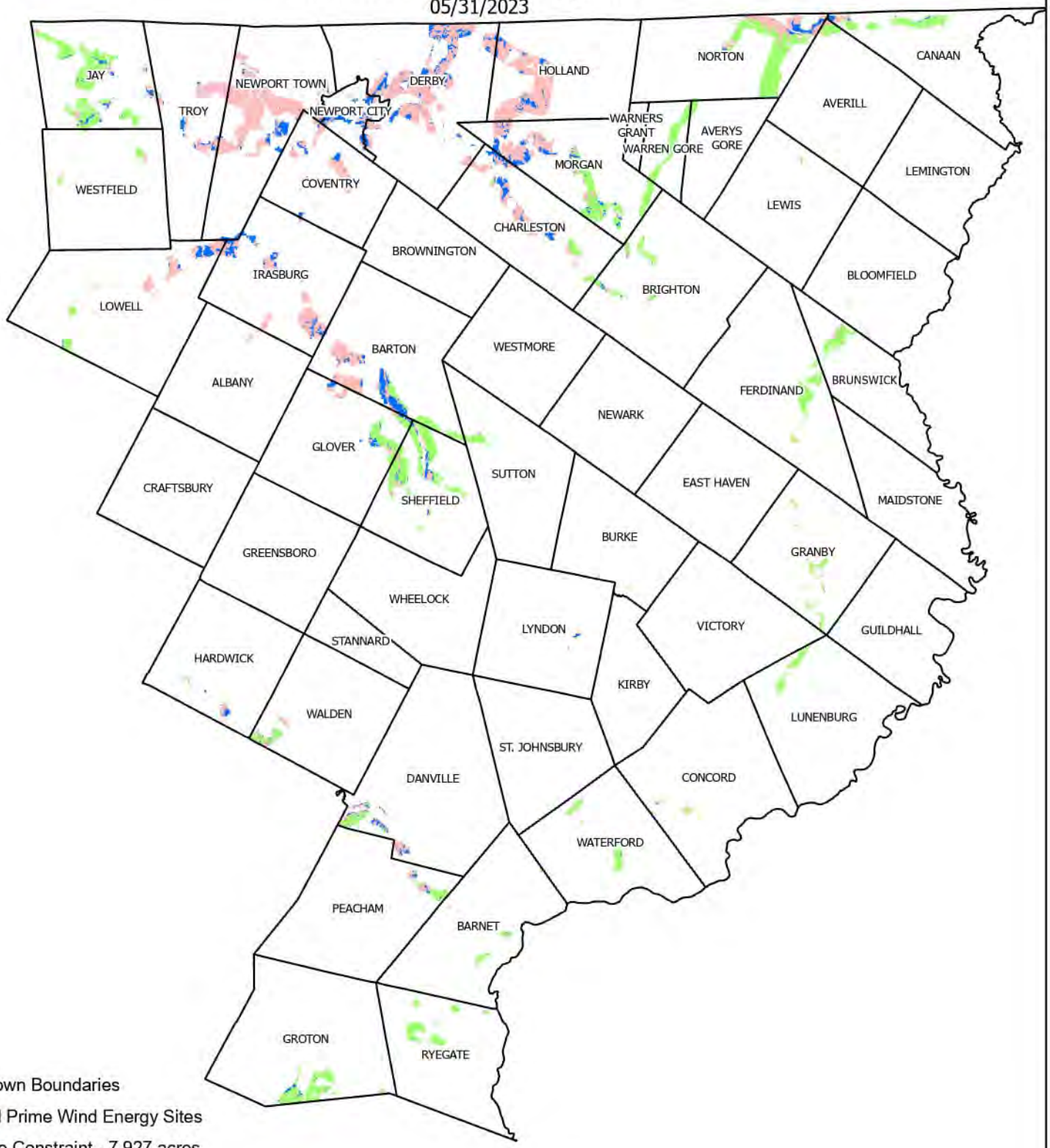
- No Constraint - 8,509 acres
- Possible Constraint, Other - 34,534 acres
- Possible Constraint - Forest Blocks/Connectivity - 20,695 acres

0 10 20 Miles

Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

NVDA Energy Map
Preferred Wind Energy Sites

05/31/2023



Town Boundaries

Preferred Prime Wind Energy Sites

- No Constraint - 7,927 acres
- Possible Constraint, Other - 30,065acres
- Possible Constraint - Forest Blocks/Connectivity - 23,310 acres

0 10 20 Miles

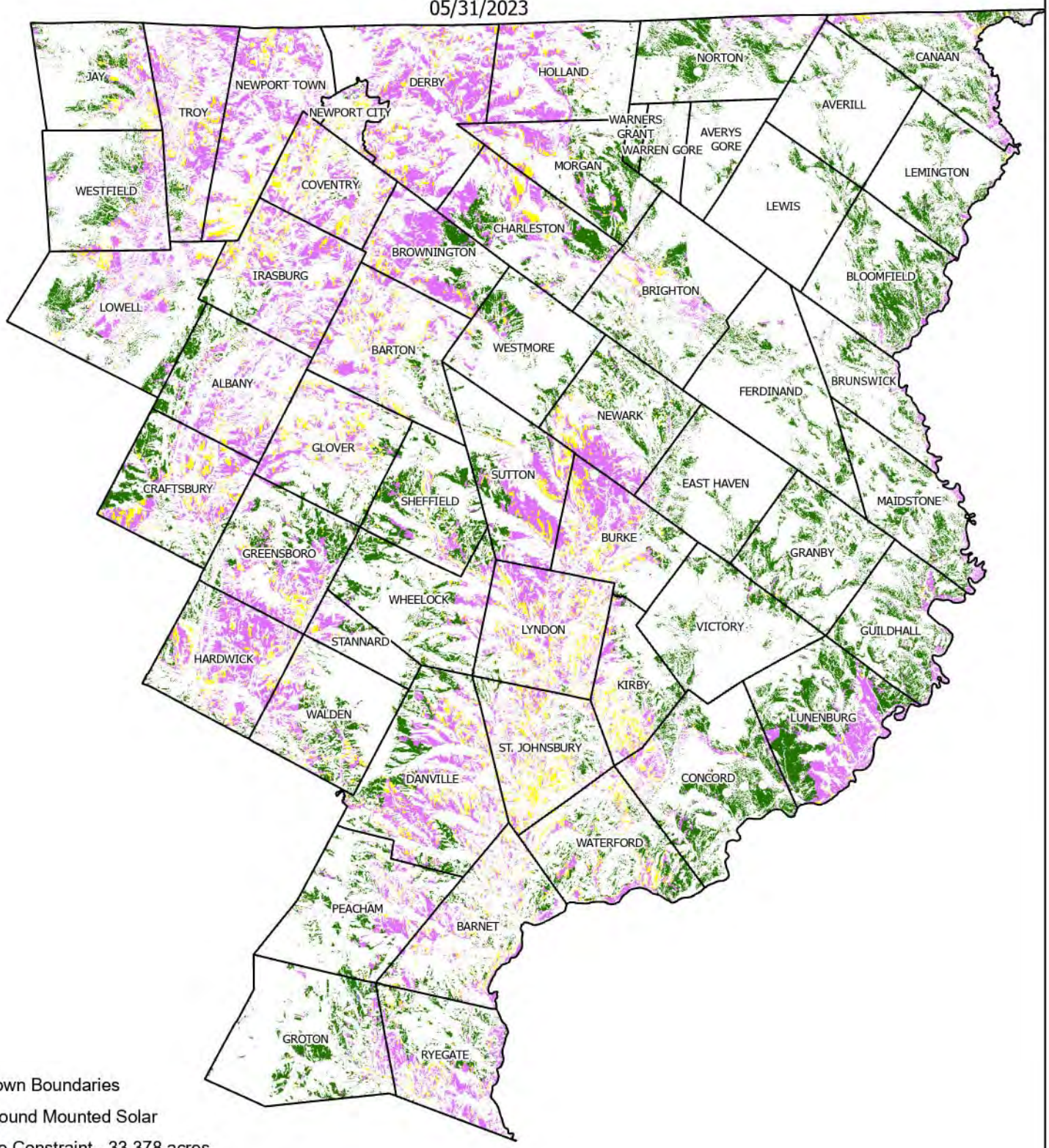
Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

As detailed in our Energy Plan, NVDA's position is that no further development of industrial-scale wind turbines should take place in the Northeast Kingdom.

NVDA

NVDA Energy Map
Prime Ground-Mounted Solar Energy Areas

05/31/2023



Town Boundaries

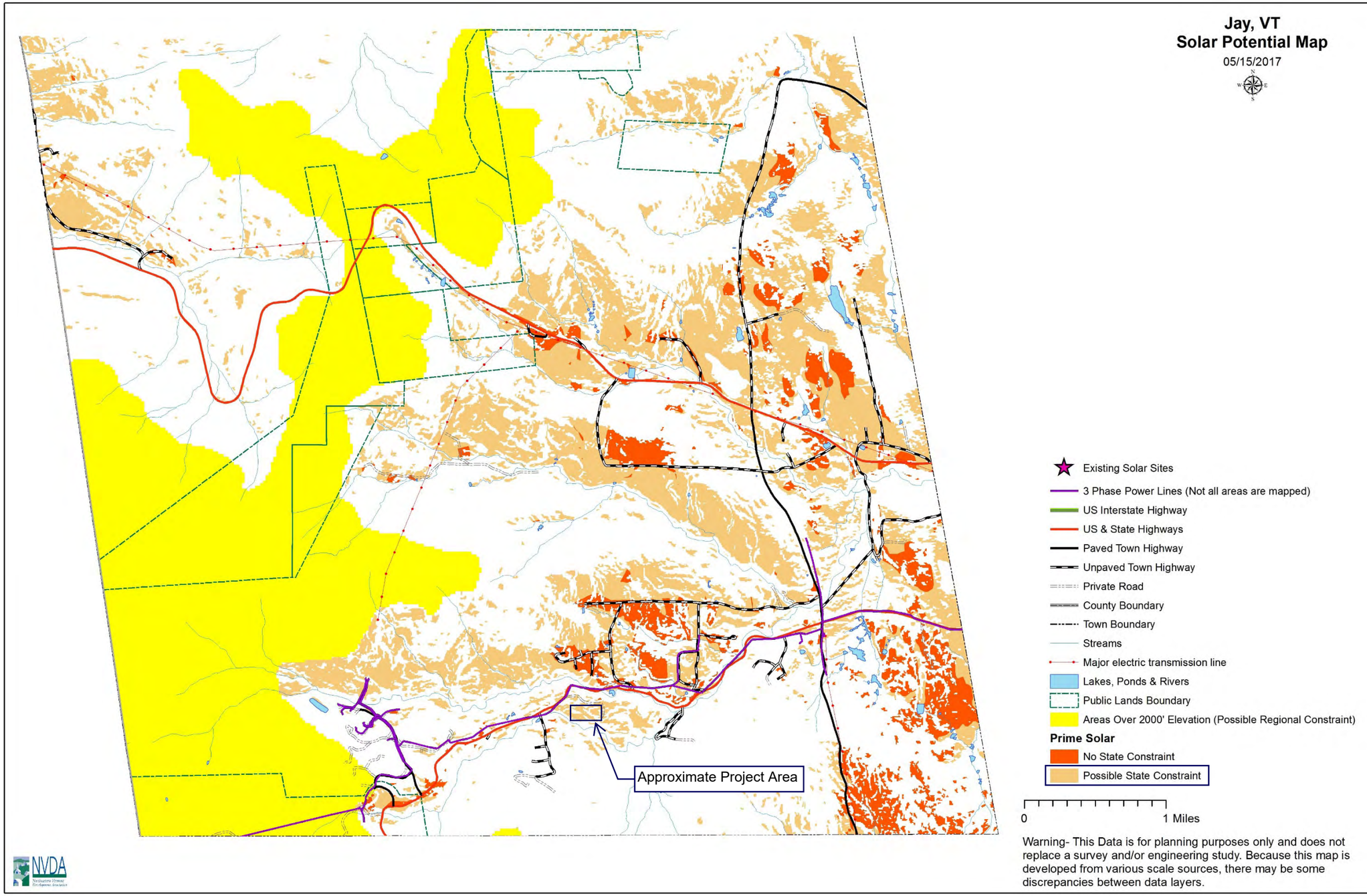
Prime Ground Mounted Solar

- No Constraint - 33,378 acres
- Possible Constraint, Other - 141,483 acres
- Possible Constraint - Forest Blocks/Connectivity - 131,172 acres

0 10 20 Miles

Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.

NVDA


Jay, VT
Solar Potential Map
05/15/2017
Approximate Project Area
Existing Solar Sites
3 Phase Power Lines (Not all areas are mapped)
US Interstate Highway
US & State Highways
Paved Town Highway
Unpaved Town Highway
Private Road
County Boundary
Town Boundary
Streams
Major electric transmission line
Lakes, Ponds & Rivers
Public Lands Boundary
Areas Over 2000' Elevation (Possible Regional Constraint)
Prime Solar
No State Constraint
Possible State Constraint
0
1 Miles
Warning- This Data is for planning purposes only and does not replace a survey and/or engineering study. Because this map is developed from various scale sources, there may be some discrepancies between data layers.