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## APPENDIX I - DEFINITIONS

**Act 200** - the 1988 amendments to 24 V.S.A. Chapter 117; the Vermont Municipal and Regional Planning and Development Act.

**Act 250** - (10 V.S.A. §6001); Vermont Land Use and Development Law; the state environmental review process conducted by a District Environmental Commission to consider a proposed development's impact using 10 established criteria.

**Affordable Housing** - Housing is affordable when households with an income below the county median income pay no more than 30% of their income on housing costs. Housing costs for renters include rent and utilities. Housing costs for homeowners include principle and interest, property insurance, and property taxes.

**Agricultural Land** - real estate capable of supporting commercial farming (10 V.S.A. §331 [2]).

**Area-Based Zoning** - a type of zoning ordinance that establishes a formula for the number of non-farm dwellings permitted per acre, with houses typically built on small lots.

**Bylaw** - zoning regulations, subdivision regulations, shore land and flood hazard by-laws, an official map and capital budget/program adopted under 24 V.S.A. Chapter 117 § 4401.

**Demand Side Management** - Planning, implementing, and monitoring activities of electric utilities which are designed to encourage consumers to modify their level and pattern of electricity usage (US Dept. of Energy).

**Development** - the division of a parcel into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or other structure, or of any mining, excavation or landfill, and any change in the use of any building or other structure, or land, or extension of use of land.

**Family** - a family consists of a householder and one or more other persons living in the same household who are related to the householder by birth, marriage, or adoption.

**Floodplain** - the land in the community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the National Flood Insurance Program maps.

**Groundwater** - means water below the land surface in a zone of saturation but does not include surface waters within the meaning of 10 V.S.A. §1251 (13).

**Household** - A household includes all the people who occupy a housing unit. Occupants in this category include a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.

**kiloWatt-hour (kWh)** - a unit of energy equivalent to using one kiloWatt of electricity for one hour, equal to 3,412 BTU's.

**Legislative Body** - the selectboard in the case of a town, the trustees in the case of an incorporated village, and the mayor and City Council members in the case of a city, and the supervisor in the case of an unorganized town.

**Level of Service (LOS)** - A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Level of service is reported as being in the range of A to F, with A the best and F the worst. For example,

- LOS A describes operations with very low delay.
- LOS F describes operations with considerable delay and congestion. Roadways with LOS of E or F are generally considered unacceptable.

**Municipality** - a town, a city, or an incorporated village.

**Public Water System** - a water supply system with 10 or more connections or that serves an average of at least 25 individuals for at least 60 days per year. Consult the Vermont Water Supply Rule, Agency of Natural Resources for more detailed information.

**Section 248** - Vermont law contained in 30 V.S.A. granting judicial power to the Public Service Board to hold proceedings and to determine facts upon which to issue a Certificate of Public Good for new electrical or gas transmission lines, or generation facilities in the state. Prior to granting a Certificate the Board must find that the project meets with specific criteria, including that the facility must not interfere with the "orderly development of the region". The criteria also requires that the Board give due consideration to the recommendations of both municipal and regional planning commissions and related plans.

**Source Protection Area** (formerly referred to as **Wellhead Protection Areas** in the Vermont Water Supply Rule, ANR) - a surface or subsurface area through which contaminants are reasonably likely to reach a public water system source including both surface and ground water supplies.

**Substantial Regional Impact** - See below.

**Undue Adverse Effect (or Impact)** - an unnecessary or excessive net effect or impact that (1) violates a clearly stated community standard including policies of the regional plan and (2) which cannot be avoided through site or design modifications, on or off-site mitigation, or other conditions of approval.

**Wetlands** - those areas of the state that are inundated by surface or groundwater with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction. Such areas include but are not limited to marshes, swamps, sloughs, potholes, fens, river and lake overflows, mud flats, bogs and ponds, but excluding such areas that grow food or crops in connection with farming activities (10 V.S.A. §902 [5]).

## **Substantial Regional Impact**

When a development may have benefits or negative impacts beyond the borders of the host municipality, it is considered to have substantial regional impact. NRPC has defined criteria that determine when a development meets the threshold of substantial regional impact. When a development is determined to have substantial regional impact and a conflict exists between the local and regional plan, the regional plan will take effect where relevant in state regulatory proceedings.

A project with substantial regional impact can have positive, as well as negative impacts. It is important to note that for development proposals compatible with this plan, this document will add credibility and support for the proposal.

A substantial regional impact in Franklin and Grand Isle Counties involves development which may:

1. Change the existing settlement pattern in the regional by:
  - Shifting activity from an existing area of development to a major new area of development.
  - locating in a new part of the region which does not presently contain development of that type or scale.
2. Significantly enhance or negatively affect the region’s economy, or a major sector thereof, by:
  - generating a new sector of economic activity in the region;
  - providing employment and/or training opportunities in a new occupation or industry;
  - impacting the cost or availability of affordable housing in the municipalities affected by the project;
3. Significantly add to the regional housing stock, where the proposed number of housing units increases the municipality’s total housing units according to the schedule in Table 1;
4. Significantly enhance or negatively impact regionally significant natural and cultural features as identified in this plan.
5. Significantly enhance or impact (beyond anticipated growth rates) important regional services or services areas by completing or necessitating their expansion, extension or relocation. Important regional services or service areas include, but are not limited to: public safety, transportation services, central business districts and village centers, education, health care, and recreation.
  - commercial, retail, or industrial development involving employment opportunities for 40 or more individuals or 30,000 square feet or more of gross floor area located in a planned growth area, centers with planned growth areas or enterprise area;
  - industrial, office, hotel/motel, retail, wholesale, or service development with 10 or more employees located outside a planned growth area or enterprise area;

**TABLE 1:  
Number of Housing Units for  
Substantial Regional Impact**

Future Land Use Planning Area	Number of Housing Units
Downtown Centers	N/A
Planned Growth Areas Adjacent to Downtown Centers (St. Albans and Town)	150
Planned Growth Centers and Adjacent Village Centers	100
All Other Village Centers and Village Areas	51
All Other Areas in Towns with a Population Greater than 1,500	25
All Other Areas in Towns with a Population Less than 1,500	15

- construction of facilities or utilities servicing two or more municipalities within one mile of a municipal boundary.
6. A new or expanded power generating or transmission facility that requires Public Utility Commission approval under 30 V.S.A. § 248 and at least one of the following applies:
    - it is visible from more than one municipality, or
    - it has impacts to two or more known or possible constraints identified in the regional energy plan, or
    - it is a generation facility that requires upgrades to the transmission grid beyond the host municipality.
  7. A project that will materially affect the existing or potential capacity to provide essential or required public services by one or more municipalities adjacent to the municipality where the proposed development is located. In considering such development, the Commission will consider secondary land use impacts that are attributable to the development.
  8. A new or expanded telecommunications facility that requires Public Utility Commission approval under 30 V.S.A. § 248a and at least one of the following applies:
    - it is visible from more than one municipality, or
    - it provides service to two or more municipalities within one mile of a municipal boundary.

Any one or combination of the above criteria may characterize a development proposal having a substantial regional impact. These criteria are not exclusive but should be considered as the principal indicators of regional impact.

## APPENDIX II – NORTHWEST REGIONAL ENERGY PLAN

The full text of the plan can be found here:

<https://www.nrpcvt.com/services-programs/energy-planning/>

or call NRPC for a copy of the plan.

# APPENDIX III – ENVIRONMENTAL BENEFITS & BURDENS ANALYSIS

## STATUTORY BASIS

The Vermont Environmental Justice Law (Act 154), passed in 2022, defines environmental justice and requires state agencies to implement environmental justice policies. 24 V.S.A § 4348 and 24 V.S.A. §4345a requires the regional planning commissions to assess the distribution of environmental benefits and burdens as defined under the Environmental Justice Law (V.S.A. Title 3 Chapter 72). The law directs particular focus on mitigating disproportionate impacts on environmental justice focus populations.

### Key Definitions Under State Law

**Environmental Benefits:** The assets and services that enhance the capability of communities and individuals to function and flourish in society.

**Environmental Burdens:** Any significant impact to clean air, water, and land, including any destruction, damage, or impairment of natural resources resulting from intentional or reasonably foreseeable causes.

**Environmental Justice Focus Populations:** Any Census Block Group in which:

1. the annual median household income is not more than 80 percent of the State median household income;
2. Persons of Color and Indigenous Peoples comprise at least six percent or more of the population; or
3. at least one percent or more of households have limited English proficiency

## DATA ANALYSIS

### Initial Assumptions and Adjustments

NRPC developed an analysis of the impact of environmental benefits and burdens using the following assumptions.

#### **Impact of Regional Plan**

NRPC's regional future map generally aligns with either existing local conditions or local plans for development. Additionally, NRPC's plan has a more limited role in directing development than municipal development regulations, as its regulatory role is limited to projects reviewed under Act 250, Section 248, and Section 248a. As a result of these factors, NRPC believes it is unlikely that the Regional Future Land Use map will create a new environmental burden where none currently exist. For instance, all areas mapped as Enterprise on the Regional Future Land Use Map have existing industrial development and are locally planned for industrial uses. Therefore, NRPC's analysis focuses on identifying existing impacts and ensuring that the plan does not worsen these impacts and mitigates them to the extent feasible.

### Environmental Benefits and Burdens

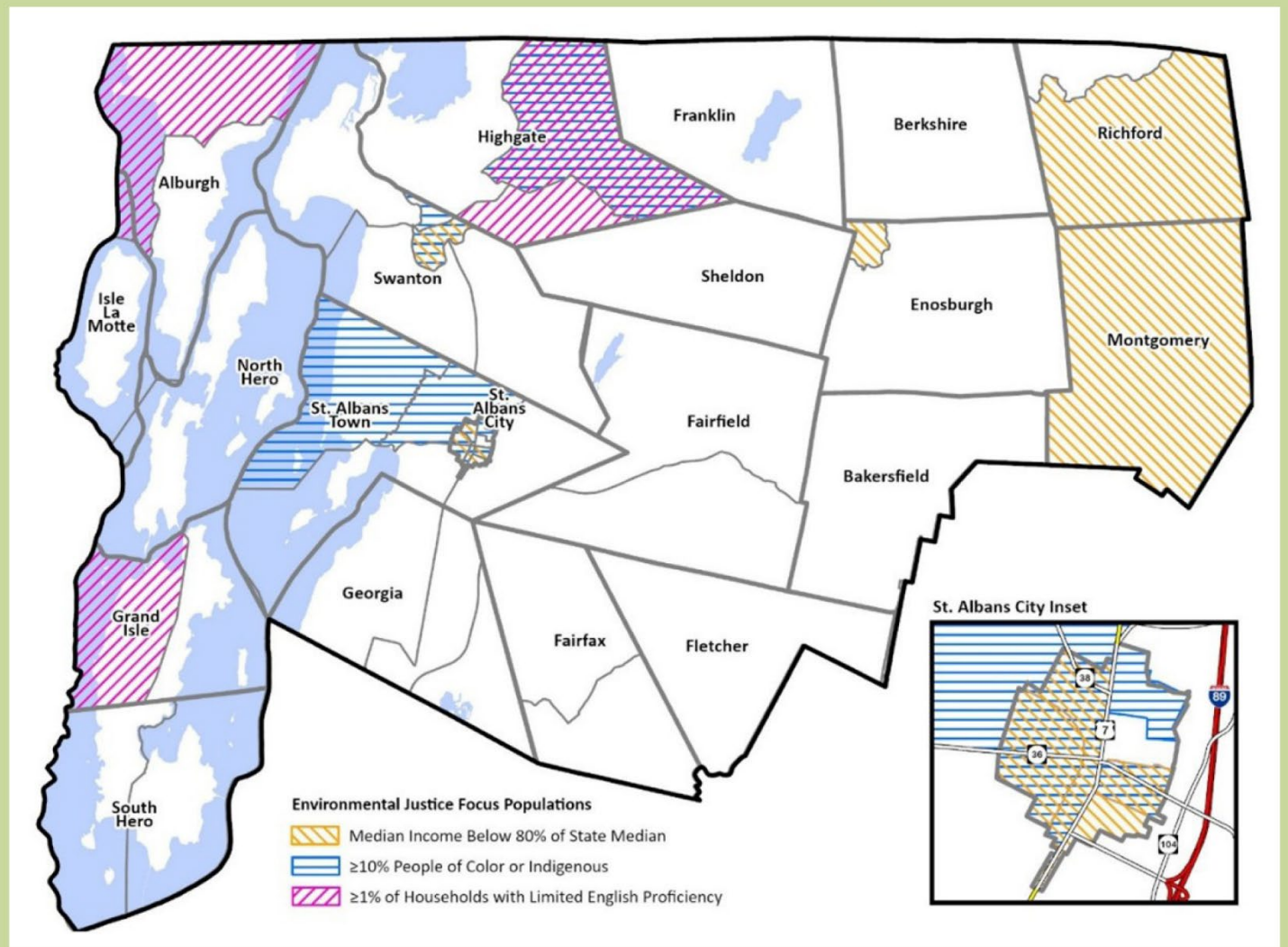
Vermont Statute define 36 examples of environmental benefits or burdens (24 V.S.A. §4345a). NRPC grouped similar benefits and burdens into 19 that could be impacted by the Regional Future Land Use map, which are described in Table 2.

### Overview of Analysis Process

#### Mapping

NRPC mapped the environmental focus group populations as defined in 3 V.S.A. § 6002. Using the definition of environmental justice focus populations found in 3 V.S.A §6002 resulted in all but 3 Census Block groups in the region being considered focus populations due to more than 6% of residents being Persons of Color or Indigenous People. To better identify disproportionate impacts, NRPC adjusted this definition to identify areas where more than 10% of residents are Persons of Color or Indigenous People.

**MAP 1: Environmental Justice Focus Populations**



SOURCE: U.S. Census

NRPC consolidated complementary environmental benefits and burdens into a single measure (e.g. access and limits to nutritious food). NRPC then identified data available for as many of the environmental benefits and burdens as possible. There was no data available for 9 measures, therefore they could not be mapped.

Table 2 below summarizes the results of this analysis. Based on available data, 6 environmental benefits and burdens disproportionately impact environmental justice focus populations in the Northwest Region: access to healthy air/air pollution, access to green spaces/limited access to green spaces, climate change impacts, increased flooding or stormwater flows, erosion risk, and water pollution.

**Review of Regional Policies**

NRPC reviewed its goals and policies in the 6 areas identified above and made changes necessary to ensure that the Plan addresses and mitigates disproportionate environmental burdens. (Table 2)

**Limitations of Analysis**

The identification of environmental justice focus populations relies on U.S. Census and U.S. Census American Community Survey data which can be unreliable at the Census Block Group level. Data for many of the environmental benefits and burdens may also not be representative of all of the potential need. For example, a Census Block Group may have access to a public bus, but that bus may not have all routes or hours needed by residents to access employment and basic services.

Finally, NRPC recognizes that this framework represents only one way to address equity. There are likely other environmental benefits or burdens which disproportionately impact historically marginalized residents or communities in the region. The Regional Plan Introduction includes a more robust discussion of equity.

**TABLE 2: Environmental Benefits & Burdens Analysis - Part 1 of 4**

	Data Source	Threshold for Environmental Benefit/Burden	Burden Direction	Regional Level	EJ Focus Population Level	Disproportionate Benefit/Burden	Policies	How the Regional Plan Mitigates Disproportionate Benefit/Burden
<b>Access to Healthy Air/ Air Pollution</b>	EPA EJ Screen	% of population with >80th percentile PM2.5 concentration in their census tract	Higher	12%	29%	Yes	Economic Region-Energy, Goal 7, Policy F; Social Region-Community Health, Goal 1, Policy H; Physical Region-Natural and Cultural Resources, Goal 1 & Policies A-B	Regional plan policies address protecting clean air from negative impacts from development. Community health goals and policies specifically address limiting impacts of emissions to historically disadvantaged communities.
<b>Access to Green Spaces/ Limited Access to Green Spaces</b>	VT Outdoor Recreation Sites Inventory	Number of public recreational sites per 1,000 population	Lower	2.93	2.51	No	Social Region-Infrastructure: Education, Libraries & Recreation Facilities, Goal 3 & Policies A-E; Social Region-Infrastructure: Education, Libraries & Recreation Facilities, Goal 3, Policy A; Social Region-Community Health, Goal 1 Policies B-C; Social Region-Community Health, Goal 1, Policy I	No disproportionate benefit or burden in the region.
	NRPC Trails Data	Miles of trails per 1,000 population	Lower	2.37	2.79	No		No disproportionate benefit or burden in the region.
	VT Conserved Lands Database	% of land area publicly conserved	Lower	3.7%	1.7%	Yes		Regional Plan policies specifically address access to recreational lands for all residents, including specifically addressing financial barriers and equity.

**TABLE 2: Environmental Benefits & Burdens Analysis - Part 2 of 4**

	Data Source	Threshold for Environmental Benefit/Burden	Burden Direction	Regional Level	EJ Focus Population Level	Disproportionate Benefit/Burden	Policies	How the Regional Plan Mitigates Disproportionate Benefit/Burden
Transportation Access	GMATA Transit Data	% of population with transit stop in municipality	Lower	69%	88%	No	Economic Region- Energy, Goal 4 Policies A-C, E; H, Economic Region-Energy, Goal 5, Policy A, Social Region-Housing, Goal 2, Physical Region-Transportation, Goal 1 & Policy F, Physical Region-Transportation, Goal 1, Policies A-F, Physical Region-Transportation, Goal 2, Policy C, Physical Region-Transportation, Goal 3 & Policy B	No disproportionate benefit or burden in the region.
	NRPC Sidewalk Data	Feet of sidewalk per person	Lower	0.0	0.0	No		No disproportionate benefit or burden in the region.
Healthy Ecosystems/ Damage to Forests	VT Land Cover Database	% change in forest land cover 2016-2021	Lower	-0.11%	-0.05%	No	Economic Region-Energy, Goal 7, Policy F, Social Region-Housing, Goal 2, Policy B, Social Region-Housing, Goal 3 & Policy C, Physical Region-Transportation, Goal 3, Policy A, Physical Region-Natural and Cultural Resources, Goal 1, Policy E & G, Physical Region-Land Use, Goal 1, Policy C-D, Physical Region-Land Use, Goal 2 & Policies A-B, E, G	No disproportionate benefit or burden in the region.
Access to Health Care	NRPC Healthcare Data	% of population with federally qualified healthcare center in municipality	Lower	49%	76%	No	Social Region- Community Health, Goal 3 & Policy A	No disproportionate benefit or burden in the region.
Climate Change Impacts	Expected Building Loss Rate - Climate and Economic Justice Screening Tool	% of population that's in an area >75th percentile nationwide for building loss	Higher	18%	25%	Yes	Economic Region-Economic Development, Goal 2, Policy D, Physical Region-Transportation, Goal 2, Policies E-F, H, Physical Region-Disaster Resilience, Goal 1 & Policies A, G; Physical Region-Disaster Resilience, Goal 3 & Policy C; Physical Region-Infrastructure: Water, Wastewater & Solid Waste, Goal 2, Policy C	The Regional Plan recognizes the need to focus disaster resilience efforts on those most vulnerable under Goal 1 and its associated policies, including frontline underserved communities. Goals and policies allow for development in flood hazard areas in growth areas only if that development does not make flooding worse.
Increased Flooding or Stormwater Flows	FEMA 100-year Floodplain, UVM LIDAR 500-year Floodplain	% increase in floodplain land acres from 100-year to 500-year	Higher	21%	31%	Yes	Physical Region-Transportation, Goal 2, Policy F; Physical Region-Natural and Cultural Resources, Goal 1, Policy D; Physical Region-Natural and Cultural Resources, Goal 3, Policy B; Physical Region-Disaster Resilience, Goal 1, Policy D-E; Physical Region-Disaster Resilience, Goal 2 & Policies A-E, Physical Region- Disaster Resilience, Goal 3, Policy A-B & D-G, Physical Region-Infrastructure: Water, Wastewater & Solid Waste, Goal 2 & Policies C-F	
Erosion Risk	DEC River Corridors	% of land acreage in river corridors	Higher	3.53%	3.46%	No	Physical Region-Disaster Resilience, Goal 1, Policy E; Physical Region-Disaster Resilience, Goal 2, Policy C-E, G	No disproportionate benefit or burden in the region.
	USGS Slope Data	Acres of >15% slope per total land acres	Higher	27%	35%	Yes		The Regional Plan requires that all new development on steep slopes mitigates potential erosion risks.

**TABLE 2: Environmental Benefits & Burdens Analysis - Part 3 of 4**

	Data Source	Threshold for Environmental Benefit/Burden	Burden Direction	Regional Level	EJ Focus Population Level	Disproportionate Benefit/Burden	Policies	How the Regional Plan Mitigates Disproportionate Benefit/Burden
<b>Inadequate Remediation of Pollution</b>	VT Environmental Research Tool (ANR)	Active brownfield acres per 1000 land acres	Higher	0.427	0.438	No	Physical Region-Infrastructure: Water, Wastewater & Solid Waste, Goal 1 & Policy A-B	No disproportionate benefit or burden in the region.
<b>Water Pollution</b>	303(d) map in Tactical Basin Plans	Miles of impaired streams/rivers per 1000 land acres	Higher	1.52	2.42	Yes	Physical Region-Natural and Cultural Resources, Goal 3, Policy A-B; Physical Region-Disaster Resilience, Goal 3, Policy E; Physical Region-Infrastructure: Water, Wastewater & Solid Waste, Goal 1 & Policies A-C	The Regional Plan includes a map of impaired waters and a detailed table of factors leading to water quality impairment. Goals 3 of the Natural and Cultural Resource chapter addresses maintaining and improving quality of surface waters, including ensuring mitigation of the impacts of new development.
	303(d) map in Tactical Basin Plans	% of land acreage in impaired watersheds	Higher	30%	36%	No		No disproportionate benefit or burden in the region.
	303(d) map in Tactical Basin Plans	% of water acreage in impaired lakes/ponds	Higher	85%	88%	No		No disproportionate benefit or burden in the region.
<b>Damage to Inland Waterways and Waterbodies and Wetlands</b>	VT Land Cover Database	% change in impervious land cover 2016-2021	Higher	1.4%	1.5%	No	Physical Region-Natural and Cultural Resources, Goal 1; Physical Region-Natural and Cultural Resources, Goal 3, Policies C-E; Physical Region- Disaster Resilience, Goal 3, Policy B	No disproportionate benefit or burden in the region.
	VT Land Cover Database	% change in wetland land cover 2016-2021	Lower	-0.08%	-0.08%	No		No disproportionate benefit or burden in the region.
<b>Healthy Homes/ Home and Building Health Hazards</b>	Not mapped						Economic Region-Economic Development, Goal 4, Policy C; Social Region- Housing, Goal 1, Policies A-M; Social Region- Housing, Goal 2 & Policy C; Social Region- Housing, Goal 3, Policy A, D	The plan has comprehensive housing policies, including those that address improvements to substandard housing. The plan recognizes disproportionate rates of housing insecurity to BIPOC households, based on our 2023 Housing Needs Assessment.
<b>Access to Clean Water</b>	Not mapped						Physical Region-Natural and Cultural Resources, Goal 3 & Policy A; Physical Region-Infrastructure: Water, Wastewater & Solid Waste, Goal 1 & Policy A-C	The Regional Plan includes policies supporting protection of groundwater and improvements to public water systems to ensure clean water.
<b>Affordable &amp; Clean Renewable Energy Sources</b>	Not mapped						Economic Region-Energy, Goal 1 & Policies A-E; Economic Region- Energy, Goal 2, Policy A & D; Economic Region- Energy Goal 6, Policy A-B	The energy chapter of the Regional Plan and the Regional Enhanced Energy Plan address renewable energy sources and affordability of the energy transition. The policies include ensuring environmental justice during the siting of energy generation projects.

**TABLE 2: Environmental Benefits & Burdens Analysis - Part 4 of 4**

	Data Source	Threshold for Environmental Benefit/Burden	Burden Direction	Regional Level	EJ Focus Population Level	Disproportionate Benefit/Burden	Policies	How the Regional Plan Mitigates Disproportionate Benefit/Burden
Access/Limits to Nutritious Food	Not mapped						Economic Region-Economic Development, Goal 2; Social Region-Community Health, Goal 1 & Policies D, G; Physical Region-Land Use, Goal 2, Policy B-D; Physical Region-Land Use, Goal 2 & Policies B-H	The Regional Plan includes a substantial number of policies related to protection of agriculture, as well as health policies related to food access.
Access to Healthy Buildings	Not mapped						Economic Region-Energy, Goal 3, Policy E; Social Region- Housing, Goal 1, Policy B & H; Physical Region-Disaster Resilience, Goal 2 & Policies A-E	New future land use areas planned for growth will qualify for incentives to improve building quality and accessibility through the Vermont Department of Housing and Community Development (DHCD).
Excessive Noise	Not mapped						Social Region-Community Health, Goal 1, Policy H; Physical Region-Natural and Cultural Resources, Goal 1, Policy C	The Regional Plan includes a policy specifically addressing the need to avoid disproportionate land use noise impacts.
Fulfilling & Dignified Jobs	Not mapped						Economic Region-Economic Development, Goal 1, Policy b; Economic Region-Economic Development Goal, 3, Policies A-C	The regional plan includes several policies that target underserved communities and workforce training for all people in the community.
Access/Lack of Access to Cultural Resources	Not mapped						Physical Region-Natural and Cultural Resources, Goal 2, Policies A-E	The regional plan includes several policies aiming to limit impacts to cultural sites to ensure they can continue to be accessed.