

Natural Systems

Aspiration

Safeguard and sustain the region's natural systems to ensure clean air and water, healthy forests, thriving wildlife, and climate-resilient ecosystems that provide lasting benefits and equitable access to the region's natural resources.

Goals, Strategies and Policies

Goal 1. Maintain and protect diverse natural areas, wildlife habitats and ecological functions that support biodiversity and climate resilience.

Strategies:

- 1.1. Align regional land use planning with state and federal biodiversity, resilience and climate adaptation initiatives.
- 1.2. Provide technical assistance to municipalities to:
 - a) identify and map significant natural areas to inform municipal planning;
 - b) incorporate biodiversity and habitat protection into municipal plans, zoning bylaws and subdivision regulations;
 - c) monitor and evaluate ecological health over time to inform adaptive management strategies; and
 - d) evaluate development proposals for potential impacts on natural resources.
- 1.3. Promote:
 - a) conservation planning tools such as wildlife habitat inventories, natural resource overlays and environmental review checklists to guide land use decisions; and
 - b) conservation easements, overlay districts and other land protection tools to protect rare, threatened and endangered species habitat.
- 1.4. Partner with conservation organizations and state agencies to advance landscape-scale conservation initiatives and implement biodiversity protection projects.
- 1.5. Provide trainings for municipal officials on climate adaptation, biodiversity planning, wildlife habitat management and ecological resilience strategies.

Policies:

- 1.1. Support:
 - a) the integration of biodiversity considerations and habitat data into local and regional planning decisions;
 - b) monitoring programs that measure ecological health and adaptive management strategies that inform land use policy updates;
 - c) municipal adoption of conservation overlays and resource protections standards;
 - d) landowner participation in stewardship programs and land protection initiatives (including conservation easements);
 - e) public funding and incentives that protect biodiversity, habitat and climate-resilient landscapes; and

- f) landowners and municipalities in applying for conservation funding and state or federal incentive programs that protect high-value habitat where proposals demonstrate measurable biodiversity or climate resilience benefits.

1.2. Oppose:

- a) development that degrades significant natural areas or rare, threatened and endangered species habitat; and
- b) public investments in infrastructure that would negatively impact high-value ecological areas.

1.3. Require consideration of wildlife habitat and natural area impacts during Act 250 and Section 248 reviews.

Goal 2. Restore degraded rivers, lakes and wetlands to improve ecological health and enhance flood resilience.

Strategies:

2.1. Provide technical assistance to municipalities to:

- a) integrate riparian buffer and wetland protection and restoration into municipal plans, zoning bylaws and subdivision regulations;
- b) integrate water quality improvement projects with flood resilience and recreation goals;
- c) plan for flood-resilient infrastructure; and
- d) pursue funding for water quality restoration projects.

2.2. Identify priority restoration sites through watershed and river corridor planning.

2.3. Promote:

- a) stewardship programs in coordination with watershed partners and municipalities;
- b) dam removal projects where infrastructure no longer serves a public purpose;
- c) vegetated buffer zones and stormwater best practices (through municipal guidance);
- d) the protection and restoration of wetlands;
- e) restoration of degraded habitats through demonstration projects and technical guidance; and
- f) riparian buffer restoration through landowner outreach.

2.4. Partner with watershed groups and conservation organizations to design and implement water quality restoration projects.

2.5. Educate the public and municipal officials about the value of healthy waterways.

2.6. Align water quality restoration priorities with state basin planning and clean water funding programs.

Policies:

2.1. Support:

- a) municipal plans and zoning bylaws that protect riparian buffers, wetlands and headwaters;
- b) dam removal and river restoration projects that improve water quality and enhance flood resilience;

- c) partnerships with conservation commissions, watershed groups, conservation districts and state agencies to design and implement water quality restoration projects;
 - d) public funding for water quality restoration projects and the long-term maintenance of restored sites;
 - e) integrating water quality and flood resilience goals into municipal capital improvement plans; and
 - f) the implementation of the Winooski River Tactical Basin Plan priority strategies.
- 2.2. Oppose land uses that degrade river corridors, lakeshores or wetlands.
- 2.3. Limit new development within mapped river corridors and floodplains.
- 2.4. Require:
- a) development proposals within river corridors or floodplains to include hydrologic modeling, water quality impact analysis and long-term maintenance plans before regional support is granted; and
 - b) water quality restoration funding requests demonstrate alignment with tactical basin plan priority strategies before regional planning commission support is offered.
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Goal 3. Increase equitable public access to natural resources, recreation, and open space by addressing physical, social, and economic barriers to participation.

Strategies:

- 3.1. Provide training and guidance for municipalities to conduct community engagement around access needs.
- 3.2. Identify gaps in recreational access and opportunities across the region.
- 3.3. Provide technical assistance to municipalities:
 - a) improving ADA accessibility at public facilities;
 - b) integrating public access and recreation goals into municipal plans and ordinances; and
 - c) planning for safe pedestrian and bicycle connections to recreation sites.
- 3.4. Promote:
 - a) investments in multi-use trails, parks and water access sites that serve diverse users;
 - b) equitable access by engaging underserved and marginalized populations in planning processes;
 - c) ADA-compliant and universally accessible recreational infrastructure;
 - d) programs that reduce cost barriers to recreation, such as free passes or community equipment libraries
- 3.5. Encourage:
 - a) collaboration with schools, nonprofits and community groups to expand recreational opportunities;

- b) programs promoting outdoor equity, resource stewardship and recreation and open space priorities in municipal plans; and
- c) volunteer stewardship initiatives that increase access and community involvement.

3.6. Partner with:

- a) state and non-profit organizations to expand access to conserved lands; and
- b) schools and healthcare providers to integrate access with public health goals.

3.7. Educate municipalities about the health, economic and social benefits of outdoor recreation.

Policies:

3.1. Employ public engagement processes that center the voices of marginalized and underserved populations in recreation planning.

3.2. Support:

- a) programs that reduce cost barriers to outdoor recreation;
- b) planning that expands access to recreation for underserved populations;
- c) investments in trails, bike / pedestrian infrastructure and safe routes to recreation areas; and
- d) the use of public funding to maintain and improve parks, natural areas and water access sites where maintenance and stewardship plans are provided to ensure long-term access.

3.3. Support investments that align with:

- a) municipal, regional and state recreation priorities; and
- b) regional conservation and open space priorities.

3.4. Oppose:

- a) land use policies that limit public access to natural areas without clear conservation rationale; and
- b) privatization or loss of public access to rivers, lakes, and conserved lands.

3.5. Require new public recreation facilities to meet ADA accessibility standards and demonstrate evidence of community engagement with underrepresented groups before regional planning commission support is granted.

Goal 4. Improve the quality of ground- and surface-water resources to ensure safe and sustainable drinking water supplies.

Strategies:

4.1. Identify and map groundwater recharge areas, aquifers, source protection zones and drought-vulnerable areas to guide local and regional planning.

4.2. Provide technical assistance to municipalities to adopt zoning bylaws and subdivision regulations that:

- a) protect drinking water sources, aquifer recharge zone and headwaters;
- b) integrate stormwater management, low-impact development and drought resilience measures; and

- c) evaluate development proposals for potential impacts to water resources.
- 4.3. Promote:
 - a) septic system maintenance, repair and replacement;
 - b) the protection of headwaters, riparian areas, wetlands and recharge zones through municipal land use planning;
 - c) low-impact development practices to increase infiltration and groundwater recharge;
 - d) municipal participation in state and federal drought monitoring and reporting programs; and
 - e) sustainable water use.
- 4.4. Educate landowners and municipalities about:
 - a) best management practices for protecting water quality;
 - b) wastewater treatment technologies and funding opportunities; and
 - c) drought resilience measures such as water reuse, graywater systems and rainwater harvesting.
- 4.5. Partner with:
 - a) municipalities to implement stormwater and wastewater best management practices;
 - b) state agencies to advance PFAS monitoring and mitigation; and
 - c) conservation districts and watershed organizations to conserve recharge zones.
- 4.6. Identify priority conservation easements and land protection opportunities that safeguard aquifer recharge zones.

Policies:

- 4.1. Support:
 - a) programs that expand septic maintenance, repair and replacement funding;
 - b) municipal integration of stormwater management and low-impact development practices into zoning bylaws and subdivision regulations;
 - c) public education campaigns on water quality protection and drinking water safety;
 - d) regional collaboration to monitor PFAS and other emerging contaminants;
 - e) the use of public funds for infrastructure upgrades that protect drinking water quality; and
 - f) municipal regulations that limit impervious surfaces and promote infiltration practices in groundwater protection areas.
- 4.2. Oppose:
 - a) development that poses undue risk to public water supplies;
 - b) land uses that would significantly reduce groundwater recharge capacity in mapped aquifer or source protection areas; and
 - c) large-scale groundwater withdrawals that threaten long-term drinking water availability.
- 4.3. Require:
 - a) consideration of water resource impacts in project review and municipal plan updates;

- b) large-scale groundwater withdrawals include hydrologic impact studies and drought resilience planning before regional planning commission support is considered; and
 - c) municipal bylaws and source protections standards to safeguard aquifers, recharge areas and wellheads;
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Goal 5. Advance regional collaboration and innovative management of natural resources to address emerging climate, ecological, and land use challenges.

Strategies:

- 5.1. Identify emerging threats such as shifting habitats, forest pests, and climate-driven land cover changes.
- 5.2. Provide technical assistance to municipalities to:
 - a) integrate climate adaptation strategies into local plans;
 - b) incorporate climate, ecological and land cover change projections into municipal plans; and
 - c) make use of regional data and mapping tools in municipal decision-making.
- 5.3. Partner with state agencies and universities to advance applied research and monitoring of natural systems.
- 5.4. Partner with municipalities to implement pilot projects demonstrating innovative management approaches.
- 5.5. Promote:
 - a) adaptive management approaches that respond to changing climate conditions;
 - b) municipal participation in regional conservation and adaptation initiatives; and
 - c) regional collaboration on cross-boundary natural resource challenges.

Policies:

- 5.1. Support:
 - a) integrating climate adaptation strategies into all municipal and regional planning processes;
 - b) adaptive management strategies that allow flexibility in response to new ecological information;
 - c) municipal consideration of land cover change, shifting habitats and climate projections in decision-making;
 - d) municipal participation in cross-boundary conservation and adaptation networks;
 - e) pilot projects and demonstration initiatives that showcase innovative natural resource management strategies;
 - f) municipal participation in cross-boundary conservation initiatives and regional adaptation networks; and
 - g) partnerships with conservation organizations, universities and state agencies to improve monitoring and data collection where monitoring and data collection results will be made publicly available for use in local and regional planning.

- 5.2. Oppose development that exacerbates climate risks or ignores known ecological challenges.
 - 5.3. Limit reliance on outdated policies or practices that conflict with best available climate science.
 - 5.4. Require proposals for pilot or demonstration projects to include an evaluation framework before public funding support is recommended.
 - 5.5. Require regional plan updates:
 - a) incorporate the best available climate science; and
 - b) integrate climate adaptation strategies.
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Goal 6. Expand the use of nature-based solutions to strengthen flood resilience, improve air and water quality, enhance carbon storage, and sustain ecosystem functions.

Strategies:

- 6.1. Identify priority sites for green infrastructure and floodplain restoration projects.
- 6.2. Promote:
 - a) the use of green infrastructure in new development and redevelopment;
 - b) tree planting, urban forestry and riparian buffer establishment;
 - c) wetland restoration and floodplain reconnection projects;
 - d) funding and incentives for projects that provide ecosystem services;
 - e) soil health, reforestation and other voluntary conservation measures; and
 - f) demonstration projects that illustrate multi-benefit solutions for municipalities.
- 6.3. Provide technical assistance to municipalities to:
 - a) integrate nature-based solutions into zoning, development review and capital improvement and local hazard mitigation plans;
 - b) apply for funding to implement nature-based solutions; and
 - c) adopt zoning bylaws and subdivision regulations that protect floodplains and wetlands.
- 6.4. Provide educational opportunities to landowners and municipal officials about the benefits of nature-based solutions.
- 6.5. Partner with conservation organizations to implement soil health and reforestation practices.

Policies:

- 6.1. Support:
 - a) municipal bylaws and subdivision regulation standards that incorporate green infrastructure and nature-based solutions;
 - b) the prioritization of nature-based solutions over hard infrastructure where feasible;
 - c) public investment in floodplain reconnection, wetland protection and riparian reforestation where projects include cost-benefit analyses comparing nature-based and gray infrastructure options;

- d) nature-based solutions in municipal hazard mitigation plans and capital planning;
- e) demonstration projects that highlight multiple benefits of ecosystem-based approaches;
- f) state and federal funding programs that incentivize nature-based solutions; and
- g) land conservation and restoration efforts that integrate carbon sequestration considerations into project designs.

6.2. Oppose:

- a) public investments in infrastructure projects that degrade natural floodplains or wetlands; and
- b) development that undermines carbon storage, soil health or ecosystem services.

6.3. Employ carbon storage and air quality benefit considerations in evaluating the impact of projects on natural resources.

Goal 7. Reduce the spread of invasive species to sustain healthy, resilient ecosystems.

Strategies:

- 7.1. Align regional efforts with state and federal invasive species management initiatives.
- 7.2. Identify priority invasive species management needs in partnership with municipalities and conservation organizations.
- 7.3. Provide technical assistance to municipalities to:
 - a) develop invasive species management plans;
 - b) adopt proactive land and water management strategies to prevent the spread of invasive species;
 - c) educate resource-based recreationists about preventing the spread of aquatic and terrestrial invasives; and
 - d) apply for state and federal funding to mitigate invasive species.
- 7.4. Promote:
 - a) the use of native species in landscaping for publicly funded projects;
 - b) public education campaigns about invasive species identification, prevention and mitigation;
 - c) volunteer engagement in invasive species management;
 - d) invasive species monitoring and control plans;
 - e) regional networks to coordinate invasive species management efforts; and
 - f) early detection and rapid response to new invasive species threats.

Policies:

- 7.1. Support:
 - a) grant applications and funding requests for developing municipal invasive species management plans and mitigation programs;
 - b) public education campaigns about invasive species prevention and eradication;

- c) public investment in invasive species management and long-term monitoring;
 - d) volunteer and community-based invasive species monitoring and control programs; and
 - e) the use of native species in landscaping and restoration projects.
- 7.2. Oppose practices and land uses that contribute to the spread of invasive species.
 - 7.3. Limit cross-boundary spread of invasive species through coordinated management by encouraging coordination with adjacent municipalities or watershed groups before implementing management actions.
 - 7.4. Employ early detection and rapid response measures as a standard practice.
 - 7.5. Require that public funding proposals for invasive species management include long-term monitoring and maintenance commitments before support is granted.
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Goal 8. Increase local capacity for natural resource stewardship by strengthening Conservation Commissions and supporting municipal leadership.

Strategies:

- 8.1. Integrate natural resource stewardship goals into municipal plans and zoning bylaws and subdivision regulations.
- 8.2. Identify funding opportunities for implementing natural resource protection and restoration projects.
- 8.3. Provide technical assistance to municipalities to:
 - a) align municipal stewardship efforts with regional and state conservation priorities;
 - b) establish and support Conservation Commissions;
 - c) identify best practices for municipal conservation programs;
 - d) conduct natural resource inventories; and
 - e) develop and implement local conservation priorities.
- 8.4. Promote:
 - a) shared stewardship of the region's natural resources;
 - b) training programs for municipal officials on conservation tools and best practices;
 - c) regional collaboration and peer-to-peer learning opportunities among Conservation Commission and municipal boards;
 - d) the integration of natural resource inventories and goals in municipal plans and zoning bylaws;
 - e) volunteer engagement in local conservation efforts; and
 - f) dedicated funding for local conservation initiatives.
- 8.5. Partner with state agencies and conservation organizations to expand access to stewardship resources.

Policies:

- 8.1. Support:
 - a) the establishment and sustained funding of local Conservation Commissions;

- b) adoption of natural resource goals and standards in municipal plans, zoning bylaws and subdivision regulations;
 - c) partnerships between municipalities, conservation organizations and state agencies to expand technical resources for municipalities;
 - d) public funding for local conservation projects and stewardship initiatives where proposals include accountability measures and stewardship outcomes;
 - e) training and technical assistance for municipal officials on the use of conservation planning tools; and
 - f) citizen science and volunteer programs that build local stewardship capacity.
- 8.2. Oppose development projects that undermine locally identified conservation priorities.
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Goal 9. Preserve and connect forests, wetlands, and open space to sustain wildlife movement, support climate adaptation, and maintain ecosystem services.

Strategies:

- 9.1. Identify priority forest blocks, habitat connectors, wetlands and open space for protection through regional mapping and municipal inventories.
- 9.2. Promote:
 - a) the preservation of large, contiguous forest blocks, wildlife corridors and habitat connectivity in municipal plans, zoning bylaws, and the development review process;
 - b) conservation subdivision design, clustered development and other land use tools that protect forests, wetlands, open space and habitat connectivity;
 - c) riparian buffer, wetland and forest protection standards that sustain habitat connectivity and ecosystem services; and
 - d) voluntary landowner participation in forest stewardship programs.
- 9.3. Provide technical assistance to municipalities to:
 - a) integrate habitat connectivity and preservation goals into municipal plans, zoning bylaws, subdivision regulations and capital planning;
 - b) coordinate on cross-boundary habitat protection; and
 - c) plan and preserve intra- and inter-town wildlife corridors and climate adaptation pathways
- 9.4. Partner with:
 - a) state agencies, land trusts, and watershed organizations to advance large-scale land conservation projects; and
 - b) conservation organizations and land trusts to secure permanent protection of key parcels that maintain wildlife movement and climate resilience corridors.
- 9.5. Educate municipal officials, landowners, and the public about the importance of ecological connectivity and ecosystem services.
- 9.6. Discourage development patterns that fragment forests, wetlands and open space.
- 9.7. Evaluate the effectiveness of existing conservation measures and update priorities based on changing climate, ecological, and land use / land cover conditions.

Policies:**9.1. Support:**

- a) the preservation of large forest blocks, wetlands, and riparian corridors through local and regional planning initiatives;
- b) municipal bylaws that encourage clustered development and conservation-oriented subdivisions;
- c) funding proposals for pursuing conservation easements and land acquisition opportunities that enhance connectivity and preserve riparian areas, interior forest blocks, ridgelines, wetlands and open space where land conservation outcomes are permanent and monitoring protocols are in place;
- d) land acquisition and stewardship agreements that protect or enhance ecological connectivity;
- e) regional collaboration across municipal boundaries to protect shared wildlife corridors; and
- f) long-term monitoring of habitat connectivity and climate adaptation corridors.

9.2. Oppose infrastructure and development that reduces connectivity by fragmenting interior forest blocks, habitat connectors or climate adaptation pathways.**9.3. Employ impacts to habitat connectivity as scoring criteria in project reviews and funding recommendations.****9.4. Require:**

- a) development proposals within mapped forest blocks or habitat corridors provide a fragmentation analysis and mitigation strategy before regional planning commission support is considered; and
- b) long-term management agreements as a condition for organizational support of land acquisition or easement projects.