

4. Geology, Topography, and Climate

4.5.1 Management Objectives

- Protect the physical attributes and processes of Andrews Community Forest.
- Ensure that any proposed activities or management actions are appropriate for the physical characteristics of the site.

4.5.2 Management Actions

- Any permanent or semi-permanent improvements should carefully consider the disturbance to the site and the capacity of the site to support the use.
- Minimize disturbance to the site to protect soil and vegetation.
- Slope steepness affects erosion and access for management. Topography should be an important consideration for forest management and recreational uses (i.e., trails).

5.5 Cecilia – Cultural history and Education (from MP2)

Management Objective	Management Task	Priority	Completion date	People
Educate forest visitors of all ages about the Indigenous and colonial cultural history of the forest and its context within Richmond.	Add interpretive signage about the cultural history of this forest land, especially at historic sites.			
	Work with the Abenaki tribes, the Andrews family, and others with cultural knowledge of the forest to host programs and tours about the history and contemporary resources of the ACF.			
Protect remaining cultural features and values.	Place buffers on main trails located near cultural resources; consider access to cultural resources via spur trails.			
	Continue to expand and enhance the cultural information known about the forest.			
Maintain viable populations of plants and wildlife of cultural importance.				
Include Indigenous perspectives, knowledge, and language in ACF educational materials, management and naming practices.	Establish a good working relationship with the Western Abenaki People. Make a concerted effort to welcome them to this land and to contribute to our community's understanding of the cultural importance of ACF to Indigenous people.			
	Coordinate with Chittenden County			

	forester Ethan Tapper and Abenaki tribal forester(s) regarding the best management of black ash given its cultural importance and the existential threat of the emerald ash borer. In addition, explore with them the best approach to managing any butternut trees that may be found in the ACF and any other culturally important species that may be threatened.			
	Partner with Abenaki tribal representatives and other interested parties (e.g., schools, Eagle Scouts, college students) to develop and prioritize lists of culturally important forest plant, animal and fungal species to help the ACFC manage them sustainably and provide educational materials. Such lists should include Abenaki names, scientific names, traditional and current uses, traditional ecological knowledge and stewardship practices, potential threats, and other information, stories or sources that would help in their sustainable management.			
	Consult with an Abenaki Forester or tribal affiliate upon any management plan revisions and major management activities that may affect cultural resources. (See Appendix D, Part 3).			
	Choose AFC trail names from the list of Abenaki words for animals of the forest and landscape features found in Appendix D Part 4. These words were proposed and vetted by Abenaki tribal citizens and culture keepers.).			
	Develop and deploy interpretive signage and other educational materials that explain and celebrate Abenaki language, forest uses and stewardship practices.			
	Connect with Radiate Art, which has agreed to share high quality images of their murals for use by the ACF interpretive materials and signage.			

	Encourage ACF involvement in partnerships to generate educational materials and programming for the UN International Decade of Indigenous Languages 2022 – 2032. See: https://www.un.org/development/desa/indigenouspeoples/indigenous-languages.html			
	Consider connecting with the Abenaki Trails Project, exploring the potential for ACF to be an educational site for that effort. See: https://abenakitribe.org/abenaki-trails-project			

6.3 Upland Natural Communities – Updated by Ian October 2024

Pre-amble:

The ACF Mission statement (Section 4) identifies human stewardship responsibilities for conserving key features including uncommon natural communities and sensitive habitats, while also providing both dispersed and trail-based recreational opportunities, and demonstrating how ecological forestry practices can encourage the development of a complex, diverse and healthy forest. It recognizes resources for learning about forest ecology, habitat protection, and sustainable recreational and forestry practices and stewardship, cultural history and traditions, including those of Indigenous peoples.

Importance of Upland Natural Communities:

Humans have responsibilities to ensure that their actions within and adjacent to the ACF sustain the health of the forest and the lifeforms on which humans depend. Individual species only thrive in combination with others: fungi, microbes in the soil, plants that are anchored to the soil, and animals exist in zones or regions that that provide for food, reproduction and shelter for each. This apparent hierarchy should be seen instead as a cycle in interdependence where no species can exist in isolation.

Communities can be recognized most commonly by the presence of habitat areas of predominant tree species or other visible features. In the ACF these tree species include Northern Hardwoods, Hemlock, Red Pine, or combinations such as Dry Oak-Hickory-Hophornbeam, Dry Oak-White Pine. Visible habitats include Vernal Pools, wetlands (marshes), and streams.

Management Objective 1	Management Task	Priority	Completion date	People
Objective 1: Possess	- Identify existing categories of		Each 5-year	Designated ACFC

current information about identified Communities	Natural Communities (such as Vernal Pools, Dry Oak Forests, etc.) and maintain a documentation registry of those Communities within the ACF.		MP update.	members.
	- Identify existing categories of Natural Communities (such as Vernal Pools, Dry Oak Forests, etc.) and maintain a documentation registry of those Communities within the ACF.			Designated ACFC members and recruited local naturalists
	- Identify and monitor the key species essential to or representative of the health of those Communities.			Designated ACFC members and recruited local naturalists
	- Update maps and other documentation of identified community locations and extent using onsite surveys and local and employing State Agencies and resources such as Biofinder, and safeguard that information at the town offices and at the VLT.		Annually	Designated ACFC members.
Objective 2: Ensure that periodic updates of the ACF Management Plan include current information about Natural Communities.	- Communicate with the Vermont State Agencies to identify and utilize resources such as Biofinder).		Every 5-year revision of MP	
Objective 3: Maintain or improve the health of identified Communities	- Provide updated information about ACF Natural Communities to the ACFC. - Ensure that future negative impacts of human activities in the ACF are minimized through planning of trails etc., recommending season restrictions, education and signage. - Identify and control exotic species. - Include anticipated increases in		Every 5-year revision of MP Continual	ACFC members designated to Wildlife stewardship. All ACFC members ACFC members

	<p>rainfall and temperatures into stewardship planning.</p> <p>- Include anticipated increases in rainfall and temperatures into stewardship planning.</p>		Continual	<p>designated to Wildlife and Trails</p> <p>ACFC members designated to Wildlife and Trails stewardship.</p>
<p>Objective 4:</p> <p>Ensure that implementation of the Forestry Management Plan focuses on restoring natural communities that have been disrupted by prior human activity, as well as protecting integrity of existing healthy communities.</p>	<p>- Check in annually with the County Forester about recommended, planned, ongoing and completed forestry activities.</p>		(annual)	(Identified ACFC member)
	<p>- Obtain VLT approval of forest management activities.</p>			(ACFC Chairperson or Town Staffperson)
<p>Objective 5:</p> <p>Ensure that members of the ACFC Community and concerned citizens have access to educational and recreational resources consistent with current information, knowledge, and understanding.</p>	<p>- Establish a person or work group that will maintain a key list of respected published resources using online searches and advice from the Conservation Commission, Trails Committee and others.</p>		(ongoing)	(Identified ACFC member)
	<p>- Post to FPF and other ‘social media’ about complied historical, current and new information about our impacts on the ACF and our responsibilities for minimizing harmful impacts.</p>		(ongoing)	(Identified ACFC member)

Melissa – Streams and Riparian Buffers – Updated October 2024

7.1.2 Management Objectives and Tasks

Management Objective	Management Task	Priority	Completion date	People
Maintain and preserve surface and groundwater quality.	Forestry and agricultural uses of the property shall, at a minimum, comply with the terms of the Conservation Easement and with state and local water-quality regulations.	High	Fall 2025	ACFC members State regulators
Provide food and cover for aquatic and terrestrial species as well as structural habitat diversity within the stream channel with leaf litter and woody debris.	Maintain 100 meter wide Riparian Buffer Zone on all perennial streams as recommended in “Conserving Vermont’s Natural Heritage, A Guide to Community Based Planning.”	High	Fall 2025	ACFC members Trail Builders
Protect channel stability by preventing excessive scour and erosion of streambanks.	Stream crossings should be kept to a minimum and, when needed, designed to maintain the course, the current, and the cross-section of the natural stream channel and maintain existing in-stream conditions. Allow stream channels to continue to adjust (migrate, erode, deposit sediments) in order to maintain equilibrium conditions over the long term.	High	Fall 2025	ACFC members Trail Builders
Preserve wildlife travel corridors.	Trail networks should be designed to avoid parallel alignment within a riparian buffer.	High	Fall 2025	ACFC members Trail Builders
Buffer aquatic plants and animals from disturbance.	Within these buffers, no cutting of trees or operation of logging equipment should occur, except what is necessary to cross streams (as described above) and where existing forest management roads are stable, located within this buffer, and no reasonable alternative trail exists.	High	Fall 2025	ACFC members Foresters Trail Builders
Protect soil integrity and minimize erosion. Protect natural water levels and flows.	Maintain 50 ft Riparian Buffer Zone (RBZ) on all perennial streams as required by the Conservation Easement. Management or use of the RBZ must protect soil integrity and minimize erosion, and must incorporate up-to-date ecological knowledge and management practices. Forest management activities or new stream crossings within the RBZ require approval of the easement steward (Vermont Land Trust). Agriculture is not permitted within the RBZ.	High	Fall 2025	ACFC members Trail Builders Vermont Land Trust

Daniel – Wetlands and Vernal Pools

Management Objective	Management Task	Priority	Completion date	People
Protect and conserve significant wetland resources.	Identify and map wetland resources within the community forest.			
	Avoid construction of recreational trails through wetlands.			
	Utilize boardwalks and bridges for any necessary wetland crossings.			
Prevent wetland and water quality degradation.	Identify areas where invasive species are having a significant negative impact on wetlands and develop/implement an invasive species management strategy.			
Protect important plant and animal habitat.				
Protect significant wetland functions and values.	Provide wetlands with naturally vegetated buffers.			

Vernal Pools

Management Objective	Management Task	Priority	Completion date	People
Provide and maintain high quality amphibian habitat.	Avoid any disturbance or impact to the actual vernal pools.			
	Maintain an undeveloped and undisturbed 100' primary ecological protection zone and a 500' secondary ecological protection zone around the vernal pools, as described in the Conservation Easement. Pedestrian trails are compatible in the primary EPZ but must be approved by Vermont Land Trust.			
	Avoid creating ruts or pools of standing water as the result of recreational trails in the primary EPZ.			
Promote and maintain high levels of shade				

and coarse woody debris.				
Per the Conservation Easement, clearly identify management practices within the EPZ zones in the Forestry Plan.	Follow harvest prescriptions in the EPZ zones as identified in the Forestry Plan.			
	Identify areas where invasive species are having a significant negative impact on vernal pools and develop/implement an invasive species management strategy for both the vernal pool and the surrounding buffer zone.			

8. Forestry Wright – Forestry and See Section 11 Agriculture

Management Objective	Management Task	Priority	Completion date	People
Follow the Forest Management Plan Adopted on 11/18/2019				
Maintain a healthy and productive forest.				
Maintain and encourage a diversity of native species, of all taxa.				
Maintain and encourage a structurally complex forest.				
Protect sensitive natural resources, including water resources, significant natural communities, and rare, threatened, and endangered species.				
Identify areas where invasive species are having a significant negative impact and develop/implement an invasive species management strategy.				
Use timber harvesting in the Andrews Community Forest for educational and demonstrational purposes, demonstrating sustainable timber harvesting to residents of Richmond and	Hold educational events around forest management activities to inform the public about the rationale and best practices of sustainable forest			

beyond.	management.			
Enhance species of cultural importance, especially to the Abenaki peoples.				
Enhance wildlife habitat whenever possible.				
Preserve the cultural and historic importance of the responsible stewardship of forested land on a property with a long, rich history of which forest management has been a part for millennia.				
Conduct all management activities in accordance with Vermont’s Acceptable Management Practices to prevent soil erosion and protect water quality.				
Manage forest stands for long rotations, including retaining biological legacy trees and areas of trees indefinitely.				
In cooperation with Abenaki nations, incorporate traditional ecological knowledge in management of trees and understory plants and wildlife habitat.	Reach out to Abenaki tribal foresters to contribute to future forest management planning and activities.			
	In collaboration with Abenaki partners, identify culturally important species (e.g., black ash) and the stewardship practices needed to sustain them, to inform future forest management activities.			

9. Wildlife Management – Revised by Brad – Oct 2024

Management Objectives	Management Tasks (add Priority, Completion date, People [and resources])
<p>General</p> <ul style="list-style-type: none"> • Follow Richmond Town Plan and ACF Conservation Easement to: <ul style="list-style-type: none"> ○ “Protect priority natural areas in order to maintain the health and function of those areas and their services.” (Town Plan) ○ “Utilize best management practices for Richmond-owned, publicly accessible natural and recreational areas.” (Town Plan) ○ “...ensure best stewardship of [the Town Forest] and 	<ul style="list-style-type: none"> • Identify and provide for the continuing conservation needs of significant natural communities and other wildlife habitat elements • Maintain an appropriate balance of all resource uses for the ACF (forestry, recreation, education, etc.) • Base management decisions on community input as well as habitat assessments, research and recommendations sought from from VLT, Audubon, UVM Field Naturalist Program, Arrowwood Environmental, VT Fish & Wildlife Department

<p>ensure that the requirements of the [Conservation] Easement are being met.” (Town Plan)</p> <ul style="list-style-type: none"> ○ “Conserve productive forestland, wildlife habitats, biological diversity, natural communities, riparian buffers, wetlands, soil productivity, water quality and native flora and fauna...and the ecological processes that sustain these natural resource values.” (Conservation Easement) ● Provide, protect and enhance a diversity of upland, wetland and riparian natural communities and habitats for black bear, bobcat, fisher, moose, hermit thrush, salamanders and a variety of songbirds and other wildlife 	<p>Chittenden County Forester and other ecological professionals.</p> <ul style="list-style-type: none"> ● Provide visitors with maps, signage, interpretive information and other information describing the ACF’s significance, natural resources, wildlife populations and conservation needs ● Schedule on at least a quarterly basis walks, talks and workshops focused on ACF wildlife topics (highlighted species, biodiversity, track and tree identification, seasonal changes, climate challenges, invasive plants control, technology tools, etc.) ● Monitor the effects of this stewardship plan and other influences (climate change, human activities, etc.) on the ACF’s natural communities.
<p>Interior Forest</p> <ul style="list-style-type: none"> ● Maintain the ACF’s ranking by Vermont Conservation Design as a “highest priority” and “priority” interior forest within its forest block. ● Protect and enhance the habitat values of the forest for a variety of deep forest species such as black bear, bobcat, fisher, moose, hermit thrush, salamanders and a variety of songbirds. 	<ul style="list-style-type: none"> ● Designate a large, high-wildlife value section of the ACF (encompassing interior forest blocks, connectivity blocks, natural communities riparian areas, etc.) as trail-free while allowing public access to continue in this area ● Avoid activities that would degrade habitat values within 330 feet of the ACF’s boundaries. ● Continue utilizing multi-aged silvicultural treatments over most of the property. Avoid creating new permanent openings or wide (> 20 feet wide), linear roads and trails. Identify where 5-10 acres of young forest/early-successional habitat could be created to compensate for areas maturing around 2025. ● Continue retaining and establishing older growth forest areas; a multi-layered forest canopy; downed and standing dead and live woody debris and snags; small natural forest openings and food sources; and canopy closures over trails. ● Develop a program to identify and control barberry, honeysuckle, phragmites and other invasive species in the ACF, including replacing them native species. ● Consult with the County Forester at least annually for updates on challenges facing ACF wildlife and opportunities to enhance habitats

10. Recreation Chase

Management Objective	Management Task	Priority	Completion date	People
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<p>Develop and promote a community forest that accommodates a wide variety of recreation opportunities (hunters, mountain bikers, walkers, etc.), subject to the limitations of the Conservation Easement and this Management Plan as it may be revised from time to time.</p>	<p>Trail Design Build:</p>			
	<p>Establish trail system and build new multi-use trails in conformity with the ACF Trail Design Map and this Management Plan</p>			
	<p>Choose trail names that bring Indigenous presence and language back to this landscape. Consult Appendix D Part 4 for suggested names that were proposed and vetted by Abenaki tribal citizens, culture keepers and language experts.</p>			
	<p>Steward:</p>			
	<p>Maintain a trailhead kiosk at the parking lot.</p>			
	<p>Create signage about hunting seasons, hunting safety, trail etiquette, agricultural uses of the property, allowed user groups, property ownership, cultural and ecological information, etc., both in the forest and at the trailhead kiosk.</p>			
	<p>Include the short version of the Land Acknowledgment at all signed entrances, on kiosks and on maps. The language approved by ACF on 1/31/22 for this purpose is: “The Andrews Community Forest is located within Ndakinna, the unceded homeland of the Western Abenaki People, who have a unique connection to this land and have been its traditional stewards for millenia.” (See Appendix D, Part 1.)</p>			
	<p>Install a bike rack at the entrance to the Community Forest to promote</p>			

	bicycling.			
	Educate the public about hunting seasons and hunting season safety through signage and on digital platforms (Front Porch Forum, Facebook, etc.).			
	Work with neighboring landowners to appropriately sign changes in landownership and allowed uses.			
	If and when VAST seeks to formally reestablish the former VAST snowmobile trail, establish a use agreement with VAST to ensure snowmobiling is conducted in a manner compatible with the Management Plan.			
	Establish signage on all trails that includes the Abenaki language trail name and its definition or image as suggested in Appendix D, Part 4. Briefly explain the rationale for this naming approach on maps, kiosk, and website. Create and maintain corresponding navigational aids throughout the forest (trail markers, blazes, signage, and maps).			
	Work with Richmond Trails Committee to conduct routine trail maintenance. The ACF Committee will coordinate with these groups to organize, advertise, and facilitate trail work days.			
	Monitor impacts of recreational use on natural resources:			
	Pursue opportunities to continue learning more about the impacts of recreation on wildlife and to translate this learning into on-the-ground management practices.			
	Consider impacts on sensitive ecological and cultural areas. If problems are detected, pursue more detailed monitoring or investigation into causes, severity, and potential actions to			

	mitigate impacts.			
	Continue to consider whether and how recreation usage rules may need to be modified (e.g., seasonally) to reduce impacts on wildlife and natural resources.			
	Engage recreational groups (VAST, Trails Committee, Richmond Mountain Trails, hunters) on a regular basis to obtain feedback about user group coordination and conflicts.			
Preserve sensitive areas and route trails around those areas.				
Provide a trail system that is well-connected to trails on adjacent properties and Richmond Village.	Explore and Document future opportunities:			
	In partnership with the Selectboard, the Town Highway Department, and the Richmond Land Trust, explore potential options for creating a walking/biking connection from the ACF to Richmond Village.			
	Explore expansion of groomed winter trails for public cross-country skiing and fat biking in appropriate sections of the ACF.			
	Explore opportunities to host trail-based events and races on forest trails if ecological monitoring activities indicate an ability to do so without negative impacts to forest ecosystems and trail infrastructure. Committee members will explore strategies to measure the impacts of these events on forest ecosystems and trail infrastructure, and will seek to employ these before and after events.			
Support local businesses by offering recreational opportunities.				
Enhance cultural and ecological knowledge about the ACF and surrounding landscape for trail users.				

11. Agriculture

Management Objective	Management Task	Priority	Completion date	People
Recognize the importance of agriculture in Richmond and Vermont's heritage and continue to allow agricultural uses that are compatible with other management goals.	Explore opportunities for a community garden in the pastures within the Community Forest.			
Promote opportunities for agriculture education and demonstration on the parcel, perhaps in conjunction with Maple Wind Farm or other agricultural entity with a vested interest in the property.	Place signage alerting trail users to the electric fencing.			
	Explore partnerships with above organizations for educational programming and demonstration projects within the forest.			
Develop agreements with Maple Wind Farm to allow coexistence of agriculture and public access.	Work with Maple Wind Farm to develop a lower meadow use agreement and co-manage the rights-of-way.			
	Install a gate on the western side of the meadow to allow continued public access across the meadow.			

12. Education

Management Objectives and Tasks

Management Objective	Management Task	Priority	Completion date	People
Educate local students and community members about natural communities, biodiversity, cultural history, the working forest, and good stewardship practices.	Place interpretive signage throughout the forest about natural communities, stewardship, and cultural history.			
	Host community events with an educational component.			
	Modify educational programming around hunting season.			
	Create and maintain locations for birding and viewing wildlife.			
Engage local students and community members in data gathering/analysis.				
Recognize and take advantage of the educational opportunities created by recreational use.				
Use the forest as a model and example of the value of healthy forests to the community, including educational demonstrations and tours.	Partner with the schools and organizations listed above to hold programming in the forest.			
	Use timber management activities as an opportunity to educate the community about proper forest management.			

13. Legal Agreements on the Property

13.4 Management Objectives

- Develop agreements that allow partners to work within the forest while limiting the impact (both ecological and human impact) of such work.

13.5 Management Actions¹⁶¹³

- Work with VELCO and GMP to understand and select vegetation management strategies in the¹⁶¹⁴ powerline right-of-ways which are safe, effective, and environmentally responsible.¹⁶¹⁵
- Communicate with the public about grazing plans or powerline management activities that may¹⁶¹⁶ influence the public's experience on the property.¹⁶¹⁷
- Manage public use during powerline work or grazing periods to mitigate public safety hazards.¹⁶¹⁸
- Establish positive working relationships with Maple Wind Farm, VELCO, and Green Mountain¹⁶¹⁹ Power to ensure that their use of the property is compatible with public visitation.¹