

**SANDY MUSH FOREST RESTORATION
COALITION**

**ACTION PLAN FOR
CONSERVATION**



Photo: Mark VanDyke



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DEFINITIONS OF COMMON LANGUAGE

Some of the following definitions come from the Open Standards for the Practice of Conservation (1) guidelines and are utilized frequently within this document. For further details explaining Open Standards terms, see Appendix B.

- **Contributing Factor:** An element indirectly affecting a direct threat, also known as root causes or drivers of direct threats.
- **Conservation Target:** An element of biodiversity at a project site, which can be a species, habitat, or ecological system that a project has chosen to focus on. All targets at a site should collectively represent the biodiversity of concern at the site.
- **Direct Threat:** Primarily human activities that immediately degrade a conservation target (e.g., unsustainable fishing, oil drilling, construction of roads, or introduction of exotic invasive species), but they can be natural phenomena altered by human activities (e.g., increase in extreme storm events due to global climate change).
- **Forest Stewardship:** Environmentally and socially responsible use, management and development of forest resources in order to maintain and enhance the value of the forest for present and future generations (2).
- **Goal:** A goal represents the desired long-term status of the target and is impact-oriented, measurable, time-bound, and specific. Each target has its own associated goals.
- **Human Well-being Target:** Targets that focus on the components of human well-being affected by the status of conservation targets.
- **Indicator:** A measurable entity related to a specific information need such as the status of a target, change in a threat, or progress toward an objective. A good indicator is measurable, precise, consistent, and sensitive.
- **Objective:** A formal statement of the outcomes that you believe are necessary to attain your goals.
- **Restoration:** Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed (3).
- **Strategy:** A set of actions with a common focus that work together to achieve specific goals and objectives by targeting key intervention points, integrating opportunities, and limiting constraints.
- **Sustainable Forestry:** The practice of forestry in a way, and at a rate, that maintains the forest's biodiversity, productivity, regeneration capacity, and its health in such a way that it fulfills, now and in the future, relevant ecological, economic, and social functions (4).
- **Target:** The basis for setting goals, carrying out actions, and measuring effectiveness. See "Conservation Target" or "Human Well-being Target"



EXECUTIVE SUMMARY

Who

Forests in the Sandy Mush watershed of western North Carolina are an important asset to the communities who live there. There is broad agreement within the community that the forests of Sandy Mush are high-priority areas for conservation. The Sandy Mush Forest Restoration Coalition (the Coalition) has developed recommendations to restore healthy and resilient forests that protect water resources, natural assets, cultural heritage, economic opportunities, and quality of life for Sandy Mush community residents. These recommendations have been developed and integrated into an Action Plan using the Conservation Measures Partnership (CMP) Open Standards for the Practice of Conservation.

What

This Action Plan provides the steps necessary for successful forest restoration in Sandy Mush through ranking the greatest threats to healthy and resilient forests, exploring the causes to those threats, and identifying key strategies to address them.

How

The methods utilized by the Coalition in creating this Action Plan are as follows:

1. Define targets and goals that represent the needs of Sandy Mush forests and the community of Sandy Mush
2. Define the current situation by identifying threats to the Coalition's vision
3. Design strategies that address selected goals
4. Prioritize feasible goals through identifying attainable objectives

Next Steps

To ultimately achieve the Coalition's vision of healthy and resilient forests in Sandy Mush, next steps include implementing the strategies and activities outlined in this plan. The Coalition is comprised of stakeholders of diverse professions, interests, and skill sets and the hope is for the implementation of this plan to be the responsibility of Coalition members with the collective vision of restoring the beautiful forests of Sandy Mush.

INTRODUCTION

Sandy Mush occupies a 51,000-acre watershed-level geography in western North Carolina. The community contains both incorporated and unincorporated townships in its scope and consists of portions of Buncombe, Madison, and Haywood counties. Sandy Mush has been a productive working landscape for both timber and agriculture for generations. The majority of the forestland acreage in Sandy Mush is owned by family forest landowners.

Sandy Mush is a high-priority area for the conservation of natural and cultural heritage. As a focal area for timber production due to its rich cove forests, much of the forestland in Sandy Mush has been harvested heavily at some point in its past and needs some degree of forest restoration to promote biodiversity and ecosystem health. With limited economic resources, many landowners don't have the disposable income necessary to invest in forest stewardship activities to promote forest health and restore native habitat. Sandy Mush is a very ideologically diverse community, with a combination of both newer landowners and long-time farming families that hold varied goals for their forestland.

The Forest Stewards Guild, EcoForesters, and the Southern Appalachian Highlands Conservancy have partnered to coordinate Sandy Mush community members and stakeholders through the



Sandy Mush Forest Restoration Coalition (the Coalition) and to develop a plan for action to achieve the Coalition's vision.

Vision and Scope of the Area: The Sandy Mush Forest Restoration Coalition

The Coalition was formed to address the need for forest restoration activities in Sandy Mush. The Coalition is governed by consent-based decision making, wherein any activities enacted by, or on behalf of, the Coalition is within the range of tolerance of all members. The Coalition coordinator is the Forest Stewards Guild with its backbone support members being the Forest Stewards Guild, EcoForesters, and the Southern Appalachian Highlands Conservancy.

The Coalition follows four main operating principles: 1) Coalition members will respect the ideas of all

other Coalition members, 2) Coalition members will share responsibilities as appropriate, 3) the Coalition will maintain transparency (e.g. Coalition meetings are open to the public), and 4) the Coalition will “slow down, to go fast”. Meaning, take the time to thoroughly plan and focus on goals to find the most efficient path to success.

When asked to identify the reasons why community members value forests in Sandy Mush, many Coalition members responded with: “because it’s home”. While many families living within the greater Sandy Mush watershed have resided in the community for generations, both newcomers and longtime residents have a strong sense of place that drives their passion for being good stewards to their land. The love of the countryside, appreciation of native flora and fauna, and ability to rely on ecosystem services are all reasons why people are interested in participating in the Coalition. When asked to identify the challenges they’re faced

with in trying to restore their land, the responses included the overwhelmingness of nonnative invasive plant species, not being able to finance restoration efforts, and not being able to sustain interest and motivation in forest restoration in the long-term.

The Coalition is comprised of family forest landowners, Sandy Mush community members, natural resource professionals, and environmental nonprofit organizations. The Coalition is excited to support forest stewards in Sandy Mush, connect people with resources to better achieve their woodland management goals, and increase collaboration and understanding of forest restoration in the community. Community members of Sandy Mush in the Coalition hope to learn how to ecologically manage their forests, maintain their cultural heritage, and inspire others to do the same.

Both newcomers and longtime residents have a strong sense of place that drives their passion for being good stewards to their land



Vision

The Coalition's vision is healthy and resilient forests that protect water resources, natural assets, cultural heritage, economic opportunities, and quality of life for Sandy Mush community residents.

Mission

The Coalition's mission is to increase support for forest restoration activities in Sandy Mush by increasing communication, educational opportunities, coordination, and success among community members, and to connect family forest landowners to resources to support and sustain forest restoration into the future.

Scope

This Action Plan for conservation is intended to address the needs of the greater 51,000-acre Sandy Mush community as it pertains to forest restoration. Those interested in land stewardship and healthy forests have joined the Coalition to gain knowledge, resources, and inspiration from community members and natural resource professionals as well as contribute towards the creation and implementation of an action plan.



The targets, goals, and strategies addressed in this Action Plan were defined during three Coalition meetings in Fall 2019 and Spring 2020. This process was inclusive and involved over 40 different voices. Through guided activities and discussions, the Coalition: 1) Defined the Coalition's vision and mission statements, 2) Defined targets and goals that represent the needs of Sandy Mush forests and the community of Sandy Mush, 3) Defined the current situation by identifying

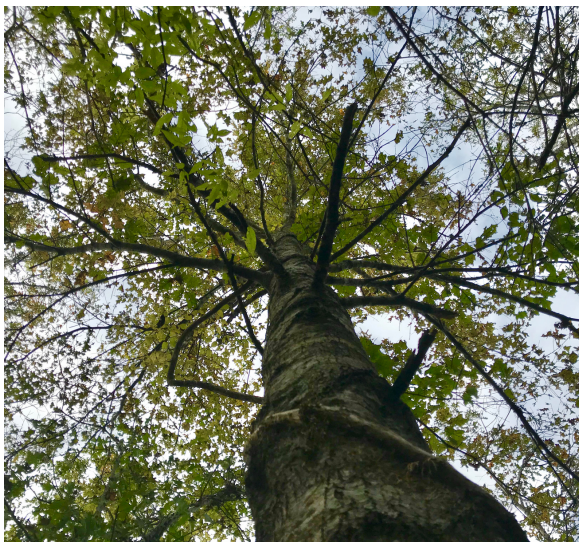
threats to the Coalition's vision, and 4) Designed strategies and objectives that address selected goals.

The conceptualization of each aspect of this Action Plan has been discussed and agreed upon by the Coalition during group meetings, individual phone calls, and emails.

Moving forward, the Coalition will use this Action Plan to prioritize the activities necessary to reach objectives by assigning roles and timelines.

IDENTIFYING TARGETS AND GOALS

Targets are the basis for setting goals, carrying out actions, and measuring effectiveness (1). In the Open Standards framework, there are two categories in which targets can fit into: conservation targets and human well-being targets. Conservation targets are the ecological processes, ecosystems and habitats, or species on which a project is focusing. In the context of a conservation project, human well-being targets focus on those components of human wellbeing affected by the status of conservation targets. The Coalition has identified six targets with associated goals. A goal represents the desired long-term status of the target and is impact-oriented, measurable, and specific. Every goal listed within this Action Plan will not be actively worked towards,



as goals will influence how the Coalition chooses strategies. Each target has its own associated goals and each goal has its own associated indicators. An indicator is a measurable entity related to a specific information need (e.g. the status of a target). A good indicator is measurable, precise, and consistent. Indicators are possible ways to measure if goals are reached; just because an indicator is listed does not mean that it will be directly measured by the Coalition.

Conservation Target 1: Healthy and Resilient Forests

To be considered a “healthy” forest, the forest must have the ability to sustain the unique species composition and ecological processes that exist within it (5). A healthy forest will ensure the survival of plant and animal species as well as be able to sustain present and future needs of the communities reliant on it for its values, products, and services.

Currently within the Sandy Mush watershed, forests are valued or utilized by several stakeholders, including those that own forestland (e.g. family forest landowners) and those that benefit from or desire healthy and productive forestland (e.g. the public). Of the 51,000 acres of land in Sandy Mush, about 93 percent is privately owned. Roughly 33,500 acres of that privately-owned land is forested. Most of the forestland is

owned by family forest landowners that hold diverse social, ecological, and economical goals for their forests. Aside from private owners, the remaining forestland in Sandy Mush is owned by the Southern Appalachian Highlands Conservancy (SAHC) with nearly 1,100 acres and the N.C. Wildlife Resources Commission (NCWRC) with nearly 1,900 acres.

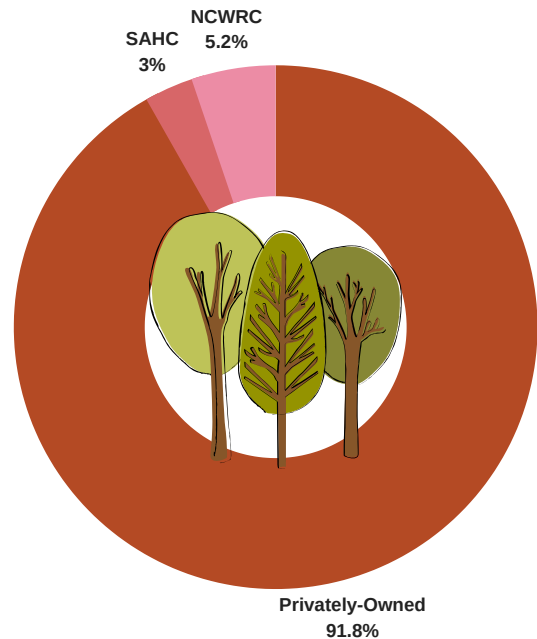


Chart 1. Land ownership in Sandy Mush

Goal 1a: Restore and maintain productive and diverse forests.

Indicators

- Number of landowners and acres of forestland that receive a forest management plan
- Acres of forestland that receive sustainable forestry practices (e.g. thinning)
- Acres of forestland that receive prescribed fire on appropriate sites (e.g. low elevation mountain pine)
- Acres of forestland that is early successional forest conditions
- Acres of forestland that is late successional forest conditions

Goal 1b: Decrease the scope and severity of invasive exotic plants, pests, and pathogens.

Indicators

- Acres of forestland impacted by invasives
- Severity of invasive presence or impact

Goal 1c: Increase the amount of forestland conserved or permanently protected.

Indicators

- Acres of forestland converted to non-forest and/or rate of forest conversion
- Acres of forestland that receives a conservation easement appropriate to site (e.g. working forest easements or protection of rare species)
- Acres of forestland permanently protected (e.g. public ownership)

Conservation Target 2: Wildlife Habitat

Wildlife habitat is the combination of food, water, and available shelter that meets the needs of an area's wildlife population (6). As a part of one of the most diverse ecoregions in North America, the forests in the greater Sandy Mush watershed are home to various wildlife groups such as neotropical migrant birds, large mammals, and the largest number of terrestrial snail species in the United States (7,8).

Coalition members wish to emphasize the importance of landscape connectivity and healthy specialized habitats. Landscape connectivity is important to species population survival, as fragmented habitats leads to degenerated gene pools, territory destruction, and a greater risk of human interaction. Specialized habitats of concern within the Sandy Mush watershed focal area include but are not limited to grassy balds and rich coves.

Goal 2a: Increase landscape connectivity.

Indicators

- Acres of forestland maintained, restored, or protected connected to conservation lands
- Acres of large intact forest areas and forest interior habitat
- Acres of maintained, restored, or protected riparian forest
- Miles of continuous ridgeline forests

Goal 2b: Improve and restore specialized habitats.

Indicators

- Acres of mountain cove forests maintained, restored, or protected
- Acres of grassy balds maintained, restored, or protected

Goal 2c: Promote diversity of wildlife species and habitat conditions

Indicators

- Acres of forestland in different habitat conditions

Goal 2d: Promote species of conservation concern.

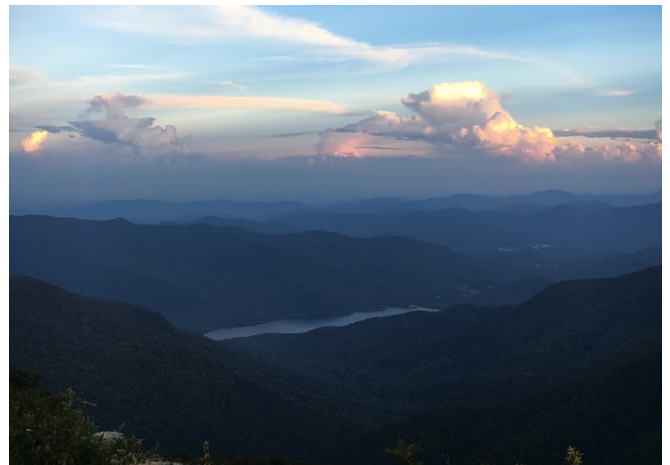
Indicators

- Acres of forestland managed for specific habitat needs
- Species conservation status (obtained from online databases such as NatureServe (9)).

Conservation Target 3: Good Water Quality and Watershed Health

A watershed is an area of land that drains all moving bodies of water and rainfall to a common outlet (10). Watershed health can be determined through measurements of things such as habitat quality, stream flow patterns, water-body characteristics, the presence of known contaminants, the health and diversity of plant and animal communities, and by comparing current conditions to historical climate and hydrological conditions (11). The health of water resources are of great importance to the community for agricultural and other livelihood purposes and for general environmental concerns.

The Sandy Mush community is geographically based within a 51,000-acre watershed, delineated by the surrounding mountains, ridges, and valleys. The Coalition wants to achieve reaching a healthy watershed through improving forestland riparian zones. Some forested riparian zones in Sandy Mush have been degraded by past and present practices and are being negatively impacted by nonnative invasive plants.



Goal 3a: Maintain or improve forested riparian zones.

Indicators

- Number of landowners and loggers engaged in forestry Best Management Practices (BMPs)
- Acres of forestland managed with forestry BMPs adopted
- Acres of forest riparian zones improved (e.g. reforestation or invasive control)

Goal 3b: Maintain or improve watershed health.

Indicators

- Status of watershed condition (e.g. EPA designation)

Human Well-Being Target 1: Sufficient Rural Livelihoods

Economic prosperity is important for a community to maintain its independence and well-being. Many rural communities within the Southern Appalachians are facing challenges that threaten sufficient livelihood. This includes rapid growth of nearby metropolitan areas, declining rural populations, and the loss of farms and working lands (12). For rural communities to achieve economic prosperity, outcomes include: a diverse economy, a match between residents and available jobs, and economic opportunities that provide for the needs of individuals and families (13).

In the Appalachian region of

North Carolina, communities are experiencing a 17.1 percent average poverty rate (2013-2017) and a 4.8 percent average unemployment rate (2015-2017) (14). Sustainable forestry via commercial timber harvesting is a way for family forest landowners in Sandy Mush to generate revenue to combat these rates. Some forests in the region have been harvested using unsustainable practices (e.g. high-grading) and require some degree of forest restoration to promote their development into high value timber stands. However, costs associated with site preparation activities such as invasive species control can be a barrier to developing these forest stands. Responsible forest management, paired with connecting landowners to funding support, can be used as a tool to restore forest ecosystem productivity and meet landowner economic goals.

Goal 1a: Increase access to high-quality wood product markets.

Indicators

- Stumpage values for sawtimber and pulpwood

Goal 1b: Increase of commercial timber harvesting using sustainable forestry practice.

Indicators

- Acres of forestland certified under sustainable forest certification standards
- Acres of forestland that receives a commercial timber harvest

Goal 1c: Innovation in forest-based businesses (e.g. value-added wood products).

Indicators

- Number of forest-based businesses

Goal 1d: Increase availability of reputable and qualified forest contractors (e.g. logger) for various forest operations.

Indicators

- Number of contractors working in Sandy Mush

Goal 1e: Increase adoption of forest-based alternative revenue streams (e.g. carbon offset credits).

Indicators

- Acres of forestland that generate revenue from non-timber goods and services
- Number of landowners engaged in opportunities for forest-based alternative revenue streams
- Wealth creation from forest-based alternative revenue streams

Human Well-Being Target 2: Community Strength

Community strength and vitality is the ability of a community to provide opportunities for its residents to pursue their own life goals and the ability of residents to experience positive life outcomes as well as sustain itself into the future (13).

Members of the Coalition that are residents of Sandy Mush agree that forest restoration issues are a community issue. Through promoting forest restoration activities and increasing neighbor-to-neighbor learning networks, the community of Sandy Mush will strengthen their ability to improve social, economic, and environmental issues.



Photo: Sandy Mush Community Center

Goal 2a: Promote and maintain a diversity of forest land uses on the community-level.

Indicators

- Acres of forestland managed for multiple uses
- Acres of forestland under different land-use categories (e.g. recreation)
- Number of different uses of forestland across the community landscape

Goal 2b: Create or maintain a lasting forest restoration-focused community coalition.

Indicators

- Number of community members and stakeholders that attend events
- Number of working groups formed for certain issues
- Financial resources obtained to support the Coalition
- Diversity of coalition members engaged

Goal 2c: Increase in communication between Coalition members and the community overall.

Indicators

- Number of users that obtain information from the Coalition's webpage (webpage creation TBD)
- Number of landowners reached via outreach or communication (e.g. direct mailings)
- Number of Coalition members that attend Coalition-related events
- Number of new Coalition members that attend Coalition-related events

Goal 2d: Increase in neighbor-to-neighbor learning and assistance networks.

Indicators

- Number of community members that host events and lead activities
- Number of community members that attend community-led events and activities
- Number of new landowners that attend Coalition-related activities



Human Well-Being Target 3: Keeping Cultural Heritage

Cultural heritage includes things that are tangible, such as works of art (e.g. quilts) and structures (e.g. old homesteads), as well as intangible, such as stories and rituals. Cultural heritage also includes natural sites with cultural aspects such as landscapes and forests (15). In the context of this action plan, forest heritage is synonymous with cultural heritage.

Sandy Mush is home to many families that have been there since before the American Civil War. Prior to settlement, the land is the traditional

territory of the Eastern Band of Cherokee Indians and the Catawba Nation (16). The cultural identity of longtime landowners and newcomers has been shaped by the landscape of Sandy Mush. Farmers, foresters, and others that have relied on the forests for their livelihoods wish to see them restored to their historic beauty. Specifically, focusing on restoring old agriculture fields that have been reforested are experiencing high invasive species pressure.

This forest restoration issue is not the first time the community has come together to advocate for land stewardship (17), and the desire to preserve cultural heritage along with forest restoration is of great importance to members of the Coalition.

Goal 3a: Increase awareness of working forest heritage and traditional forest knowledge.

Indicators

- Number of media publications produced that describe forest heritage
- Number of events that share historic forest-based activities (e.g. storytelling)
- Number of people reached through heritage-focused outreach

Goal 3b: Increase adoption or utilization of traditional forest practices (e.g. ginseng production and foraging).

Indicators

- Number of landowners that adopt or implement practices
- Number of producers that utilize raw materials
- Acres of forestland that is used for traditional forest practices

Goal 3c: Increase documentation and preservation of historic forest sites

Indicators

- Number of sites identified, documented, and preserved

Goal 3d: Increase utilization and maintenance of built heritage (e.g. Sandy Mush Community Center)

Indicators

- Amount of investment in built heritage improvements or maintenance
- Number of people that utilize the built heritage
- Number of sites created or maintained as built heritage

IDENTIFYING THREATS TO REACHING OUR GOALS AND TARGETS

By Open Standards definition, direct threats often stem from human factors or have been aggravated due to human influence. The following threats have been identified by the Coalition as the largest negative influences on both the conservation and human well-being targets.

- Land-use change
- The presence of different species and influx of invasive plants
- Extreme weather patterns: floods, wildfires, droughts
- Habitat loss
- Lack of land management
- Commercial development

Analysis of Present Situation

Land-use change is a factor in forest health as it can have specific effects on things such as air and water quality, watershed function, and extent of wildlife habitat (18). Economic and cultural activities influence land use, and Sandy Mush has experienced forestland changing for agricultural and developmental purposes.

The presence of different species and influx of invasive plants threatens native plant and animal populations and is likely to cause economic or environmental harm (19). The forests in

Sandy Mush have experienced an increase of invasives in the last century due to rich soil types, opening of forested areas from timber harvesting, development of agricultural lands, and other influences that have increased the vectors for species invasion.

Extreme weather patterns fall outside of the realm of normal weather conditions and include flooding events, droughts, and the risk of catastrophic wildfires. In 2016, autumnal droughts in North Carolina sparked 690 wildfires (20). With the increase of hurricanes and droughts in the southeast, Sandy Mush may continue to see extreme weather patterns that will affect forest health (21).

Habitat loss is a concern across all Appalachian-Blue Ridge forests with approximately 83 percent of the habitat being altered from logging, agriculture, pollution, and climate change (7, 22). In the areas where forests have regrown in Sandy Mush, forests are generally closed-canopy and even-aged with low structural complexity and poor species richness.

Lack of land management, particularly in areas where forestland is already degraded, allows for continued degradation either through improper use or unsustainable forest practices. It is important for forest landowners in Sandy Mush to develop sustainable forest management plans to maintain the forest's health in such a way that fulfills relevant ecological, economic, and social functions.

Commercial development is threatening rural landscapes due to the rapid growth of nearby cities (such as Asheville), declining rural populations, and the loss of farms and working lands (12). Surrounding the Sandy Mush community, a large number of housing developments are being built and the NC-63 through Leicester is being widened to a four-lane highway.

Summary of Contributing Factors

For each direct threat, contributing factors exist. These are the factors that are considered “root causes” of the direct threats to healthy forest ecosystems in Sandy Mush. Economic, political, social, and cultural influences were considered. Contributing factors identified for each direct threat are summarized in Table 1.

Table 1. Summary of Contributing Factors

Direct Threat	Contributing Factor
Land-use change	Politics and eminent domain
	Forest conversion for development
	Lack of technical resources
Invasive species	Lack of awareness surrounding invasive species management
	Climate change
	Forest conversion for development
	Lack of technical resources
	Lack of financial resources or support
Extreme weather patterns	Climate change
Habitat loss	Climate change
	Lack of vision
	Forest conversion for development
	Lack of technical resources
	Lack of financial resources or support
Lack of land management	Lack of leadership
	Lack of awareness on sustainable forestry
	Lack of vision
	Forest conversion for development
	Lack of technical resources
	Lack of financial resources or support
Commercial development	Politics and eminent domain
	Increasing cost of living
	Forest conversion for development

CONCEPTUAL MODEL

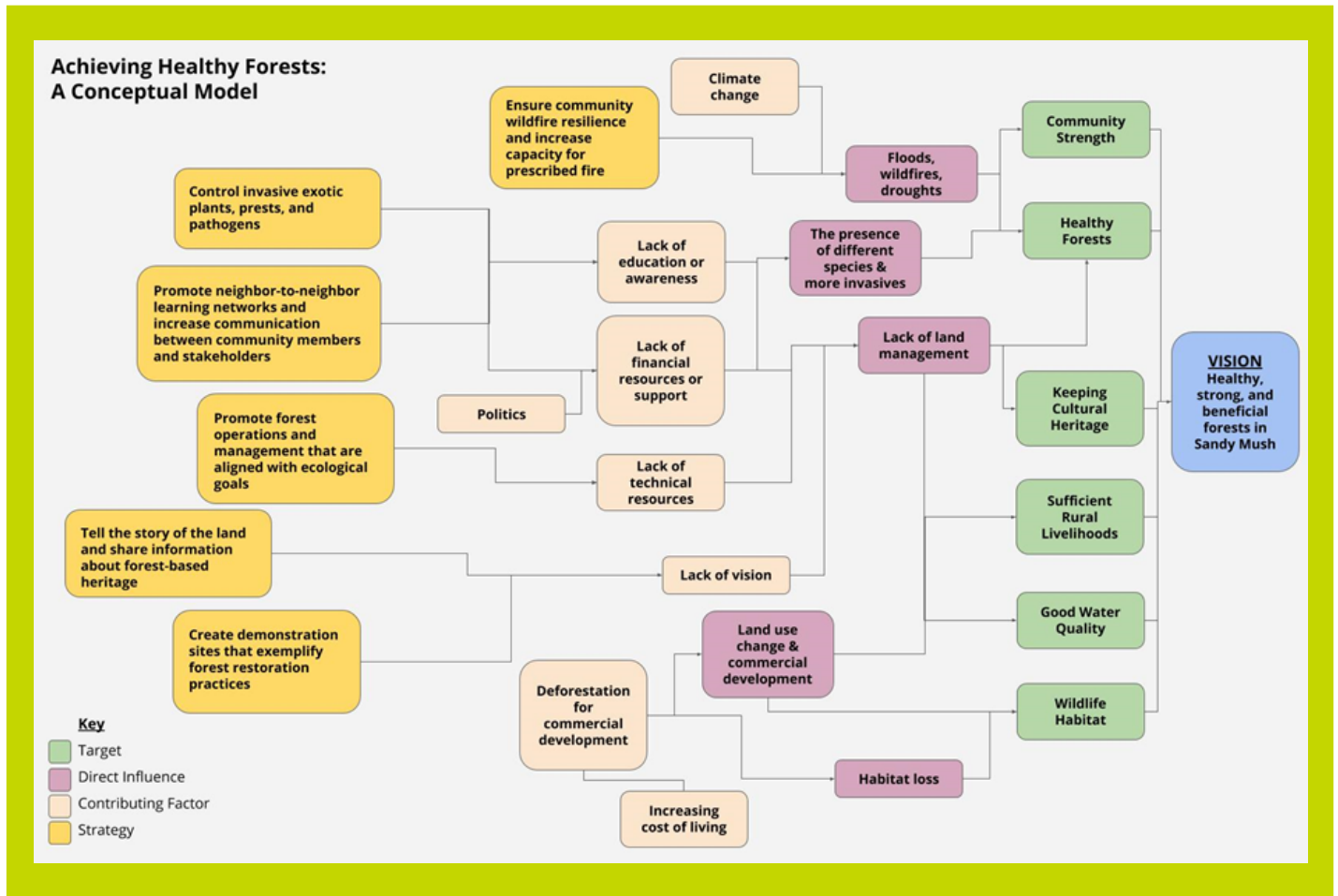


Figure 1. Conceptual Model

STRATEGIES TO CONSERVE, RESTORE, AND IMPROVE FORESTLAND IN SANDY MUSH

Strategies proposed for Sandy Mush forest restoration are described in this section. A strategy is a set of actions with a common focus that work together to achieve specific objectives by targeting key intervention points, integrating opportunities, and limiting constraints. An objective is a formal statement of the outcomes believed to be necessary to attaining goals.

The strategies identified below are most closely related to the Coalition's mission and are most feasible for the Coalition to accomplish.

The strategies are:

1. Control invasive exotic plants, pests, and pathogens
2. Ensure community wildfire resilience and increase capacity for prescribed fire
3. Create demonstration sites that exemplify forest restoration practices
4. Promote neighbor-to-neighbor learning networks and increase communication between community members and stakeholders
5. Promote forest operations and management that are aligned with ecological goals
6. Tell the story of the land and share information about forest-based heritage



STRATEGY 1: CONTROL INVASIVE EXOTIC PLANTS, PESTS, AND PATHOGENS

This strategy involves reducing the scope and severity of invasive exotic plants, pests, and pathogens in the forests of Sandy Mush. Through strategically selecting sites where restoration efforts can be most impactful and educating the community in invasive control activities, the Coalition will reach the goal of decreasing the scope and severity of invasives. Two examples of invasive species of concern in Sandy Mush include Oriental bittersweet, *Celastrus orbiculatus*, and Hemlock Woolly Adelgid, *Adelges tsugae*.

Objective 1.1

Utilize an invasive prioritization approach to select strategic sites for management in Sandy Mush.

Activities

- Define criteria for strategic site selection (EcoForesters' 7Ps Appendix A).
- Identify strategic sites for invasive control using previously identified criteria and EcoForesters' Risk Mapping Tool.

Objective 1.2

Connect family forest landowners to technical and financial resources that can be used in invasive control.

Activities

- Prepare forest management plans that prescribe treatments for invasives.
- Connect family forest landowners to contractors to implement invasive control.
- Identify existing cost-share programs for family forest landowners to utilize.
- Assist landowners to gain access to existing cost-share resources.
- Expand or create new financial assistance opportunities for invasive control.

Objective 1.3

Increase community cooperation and awareness on invasive control activities.

Activities

- Host labor-sharing workdays between landowners, local schools, churches, and other community groups.
- Host educational events focused on invasive identification, control techniques, and resources available for support.
- Promote neighbor-to-neighbor training among community members (invasive club or working group).

STRATEGY 2: ENSURE COMMUNITY WILDFIRE RESILIENCE AND INCREASE CAPACITY FOR PRESCRIBED FIRE

This strategy aims to increase community awareness on the benefits of ecologically appropriate fire and ensure community preparedness for wildfire events. Ecologically appropriate fire is important to forest health as it can promote native fire-dependent species such as shortleaf pine, *Pinus echinata*, and limit the number of catastrophic wildfire events by reducing fuel loading.

Objective 2.1

Increase community awareness on the history and benefits of fire and resources available to support prescribed fire on private lands.

Activities

- Host learn-and-burn trainings or invite community members to nearby trainings.
- Host education and outreach events focused on fire management.



Objective 2.2

Ensure community preparedness for wildfire events.

Activities

- Become a recognized Firewise USA community by the National Fire Protection Association.
- Prepare a community wildfire protection plan (CWPP).
- Perform home assessments for defensible space and home hardening
- Apply for and receive funding to implement fuel reduction activities.

Objective 2.3

Connect landowners to technical and financial resources for prescribed fire planning and implementation.

Activities

- Prepare prescribed burn plans for appropriate sites with interested landowners.
- Connect landowners to contractors to implement prescribed fire preparation and implementation.
- Identify existing cost-share programs for landowners to utilize.
- Assist landowners to gain access to existing cost-share resources
- Expand or create new financial assistance opportunities for fire management.
- Explore the opportunity for landowners to participate in a regional prescribed burn association (PBA) or assist in collaborative prescribed burning.

STRATEGY 3: CREATE DEMONSTRATION SITES THAT EXEMPLIFY FOREST RESTORATION PRACTICES

This strategy will address the feasibility of ecological restoration and showcase best practices relating to silviculture and forest operations and management. Through on-the-ground demonstration, community members will be able to witness the process of ecological forest restoration practices and their outcomes.

Objective 3.1

Identify and support the creation of demonstration areas that exemplify best practices relating to silviculture, forest operations and management, invasive plant control, and fire management.

Activities

- Create demonstration areas on the N.C. Wildlife Resources Commission's Sandy Mush Game Lands.
- Create demonstration areas on SAHC conservation lands.
- Create demonstration areas on family forestland.
- Track costs and outcomes to share financial feasibility of certain practices
- Create interpretive signage at appropriate sites.
- Host education and outreach events at demonstration areas to showcase best practices.



STRATEGY 4: PROMOTE NEIGHBOR-TO-NEIGHBOR LEARNING NETWORKS AND INCREASE COMMUNICATION BETWEEN COMMUNITY MEMBERS AND STAKEHOLDERS

This strategy focuses on improving the pathways of communication between community members and stakeholders within and outside the Coalition. Maintaining communication between Coalition members is crucial because it affects reaching both conservation and human wellbeing targets and associated goals. This strategy will also address the need to leverage current avenues of communication such as the Sandy Mush Community Center, as well as create new ones such as a Coalition webpage.

Objective 4.1

Connect community members to information and resources for forest restoration.

Activities

- Create a website or webpage for the Coalition and the public
- Send regular e-mail updates to Coalition members
- Share information at community meeting places (e.g. SMCC)
- Identify landowners that are interested in leading or hosting activities
- Identify nonprofits and other organizations to assist landowners to host activities.



STRATEGY 5: PROMOTE FOREST OPERATIONS AND MANAGEMENT THAT IS ALIGNED WITH ECOLOGICAL GOALS

This strategy primarily focuses on enabling the Sandy Mush community to practice ecological forestry through timber management. As lack of land management is one of the top identified direct threats to reaching the Coalition's vision of restoring healthy and resilient forests in Sandy Mush, this strategy will connect family forest landowners to resources that will allow for active land management. This strategy will also increase awareness of ecological forest management and other alternative forest-based revenue streams.

Objective 5.1

Connect family forest landowners to technical and financial resources.

Activities

- Prepare forest management plans that focus on ecosystem restoration goals
- Connect landowners to professional foresters to assist with implementation
- Identify existing cost-share programs for landowners to utilize
- Assist landowners to gain access to existing cost-share resources
- Expand or create new financial assistance opportunities for forest management.

Objective 5.2

Increase community cooperation and awareness of ecological forest management.

Activities

- Host education and outreach events focused on wildlife-oriented forestry.
- Host education and outreach events focused on alternative forest-based revenue streams (e.g. NTFPs, carbon offset credits, etc.).
- Host labor-sharing workdays between landowners, local schools, churches, and other community groups for noncommercial management activities (e.g. wildlife habitat improvement).

STRATEGY 6: TELL THE STORY OF THE LAND AND SHARE INFORMATION ABOUT FOREST-BASED HERITAGE

This strategy aims to engage community members in the forest history of Sandy Mush through sharing forest-based heritage knowledge to audiences both inside and outside of the community. Through engaging community members across generations, this strategy will work to achieve reaching the goals associated with the human wellbeing targets.



Objective 6.1

Engage youth in forest stewardship and promote local pride in forest resources.

Activities

- Host education and outreach events for local schools.
- Host volunteer workdays for students at local schools.

Objective 6.2

Engage community members in activities focused on forest history.

Activities

- Host education and outreach events focused on traditional forest practices.
- Create interpretive signage or informational resources on forest heritage.
- Produce media focused on forest heritage.
- Create a shared database for landowners to document and share historic sites from their forest.

FINAL RECOMMENDATIONS AND FOLLOW-UP ACTIVITIES

This Action Plan has been written by the Forest Stewards Guild based on information gathered from Coalition meetings that occurred in Fall 2019 and Spring 2020. A working group was established to refine the targets, threats, and strategies that have been integrated into this plan. This Action Plan completes the Open Standards for the Practice of Conservation Steps 1 and 2.

Next steps for moving this Action Plan for Forest Restoration in Sandy Mush forward include the identification of parties responsible for activities and the implementation of identified activities. It is recommended that this plan be updated annually in concurrence with Coalition meetings. Coalition meetings will continue to occur on a quarterly basis to analyze the results of implementation of the Action Plan, adapt the plan as needed, and document and share learning with a broader audience.

1. ASSESS

- Purpose & project
- Scope, vision, & targets
- Critical threats
- Conservation situation

2. PLAN

- Goals, strategies, assumptions, & objectives
- Monitoring plan
- Operational plan

5. SHARE

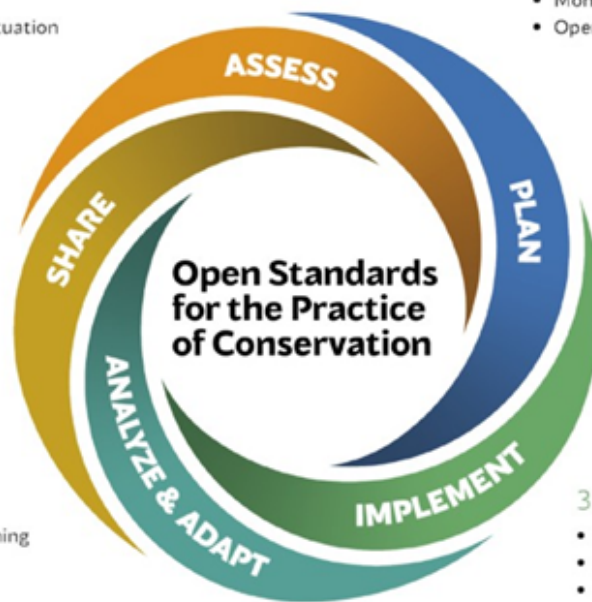
- Document learning
- Share learning
- Foster learning

4. ANALYZE & ADAPT

- Prepare data
- Analyze results
- Adapt plans

3. IMPLEMENT

- Work plan & timetable
- Budget
- Implement plan



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APPENDIX A: PROJECT VICINITY MAP



Sandy Mush Project Area



0 10 20 40 Miles

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APPENDIX B: EXPLANATION OF OPEN STANDARDS TERMS

Identifying Targets, Goals, and Indicators

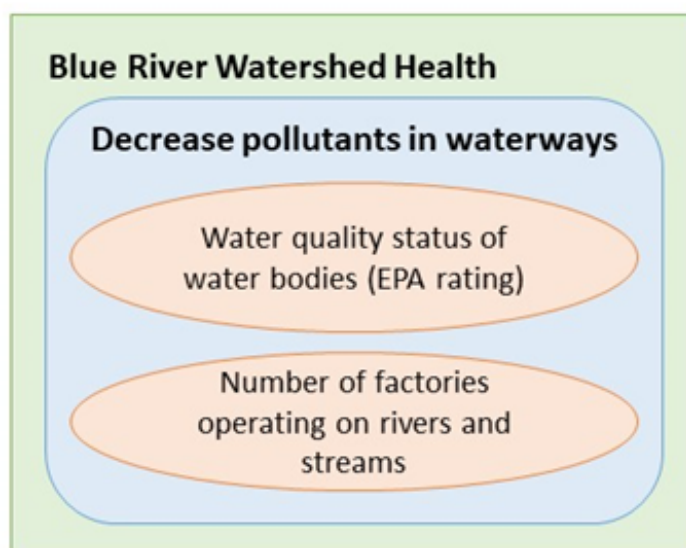
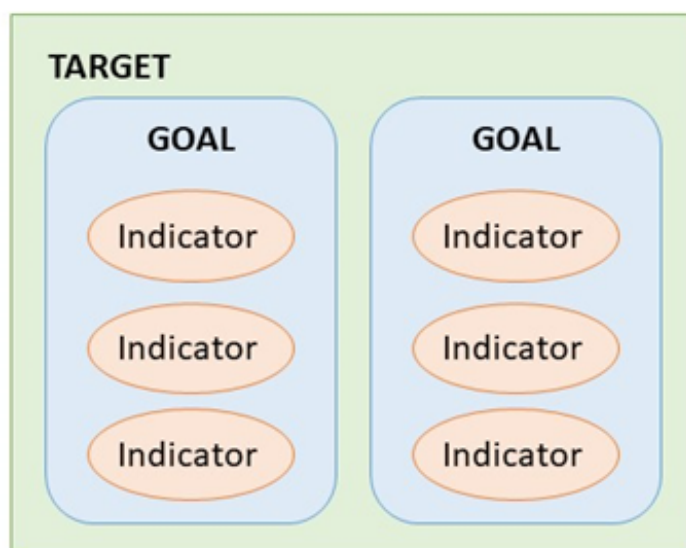
Target: the basis for setting goals, carrying out actions, and measuring effectiveness

Goal: the desired long-term status of the target and is impact-oriented, measurable, time-bound, and specific. Each target has its own associated goals.

- Do not need to actively push towards achieving every goal
- Goals will influence how strategies are picked

Indicator: A measurable entity related to a specific information need such as the status of a target, change in a threat, or progress toward an objective. A good indicator is measurable, precise, consistent, and sensitive.

- *Possible* ways to measure if goals are reached
- Do not need to use every indicator
- Useful in reporting and determining your success



Example 1

APPENDIX B: EXPLANATION OF OPEN STANDARDS TERMS

Identifying Strategies, Objectives, and Activities

Strategy: A set of actions with a common focus that work together to achieve specific goals and objectives by targeting key intervention points, integrating opportunities, and limiting constraints.

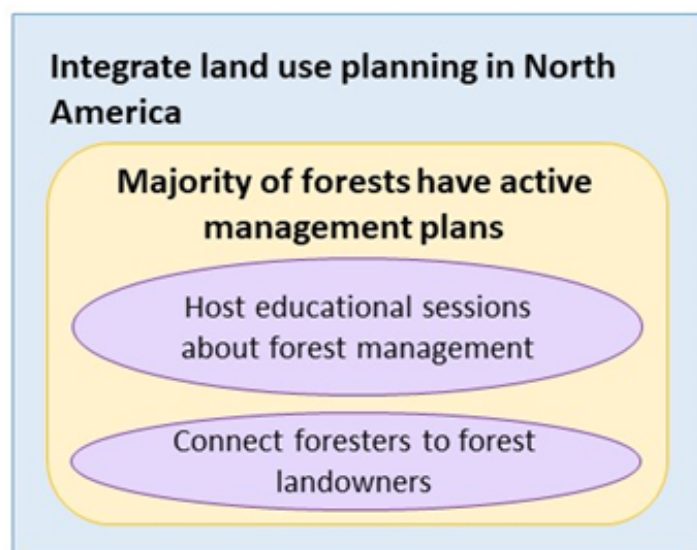
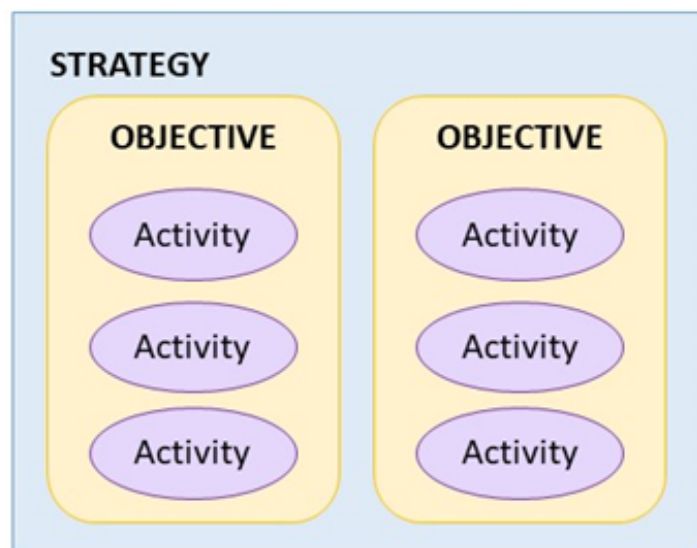
- Generally decided by what's feasible by your organization

Objective: A formal statement of the outcomes that you believe are necessary to attain your goals.

- Unlike goals, the idea is to reach all your objectives

Activity: What you decide to do at identified key intervention points to reach your objective

- Activities can be monitored using previously identified indicators



Example 1

APPENDIX C: ECOFORESTERS 7 P'S

EcoForesters 7 P's for Invasive Non-native Plant Management

1. Protect any at risk special ecological areas (rare, threatened, or endangered species or habitats) for carefully targeted invasive control.
2. Prevent invasives from spreading into un-infested “core” forest areas and rapidly respond to new infestations before they get established. Secondly, the long term ongoing process of containing and controlling severe infestations can begin.
3. Plan for invasives control as much as 10 years before and after any forest disturbance such as timber management, as invasives can grow quickly and take over new growing space. Implement forestry practices that promote the health and vitality of diverse native species to compete more successfully with invasives over the long haul.
4. Promote long-term, community wide education and strategies to control existing infestations as invasive species do not respect property lines. Large-scale invasives control and sustainability is best achieved when landowners in communities work together under a cohesive approach.
5. Prioritize control of invasives that are the most significant threat to forest regeneration first. Species such as vines that can smother trees, have abundant seeds, are shade tolerant, and fast growing tend to be the greatest threats.
6. Professional planning is necessary to obtain the most cost effective and impactful results. A qualified forester can perform the complex tasks of demarcating special and core habitats, prioritizing invasives control areas, evaluating local site conditions, and assessing landowner objectives within a comprehensive invasives control plan.
7. Persevere as invasive species management is a long-term endeavor. Even if no invasives are present on a property, continuous monitoring for early detection and rapid response is essential. Additionally, areas that have been treated should be reevaluated regularly and management approaches adapted based on the results.