Forest Ecosystem Monitoring Cooperative Strategic Plan 2021-2026

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FEMC
Forest Ecosystem Monitoring Cooperative

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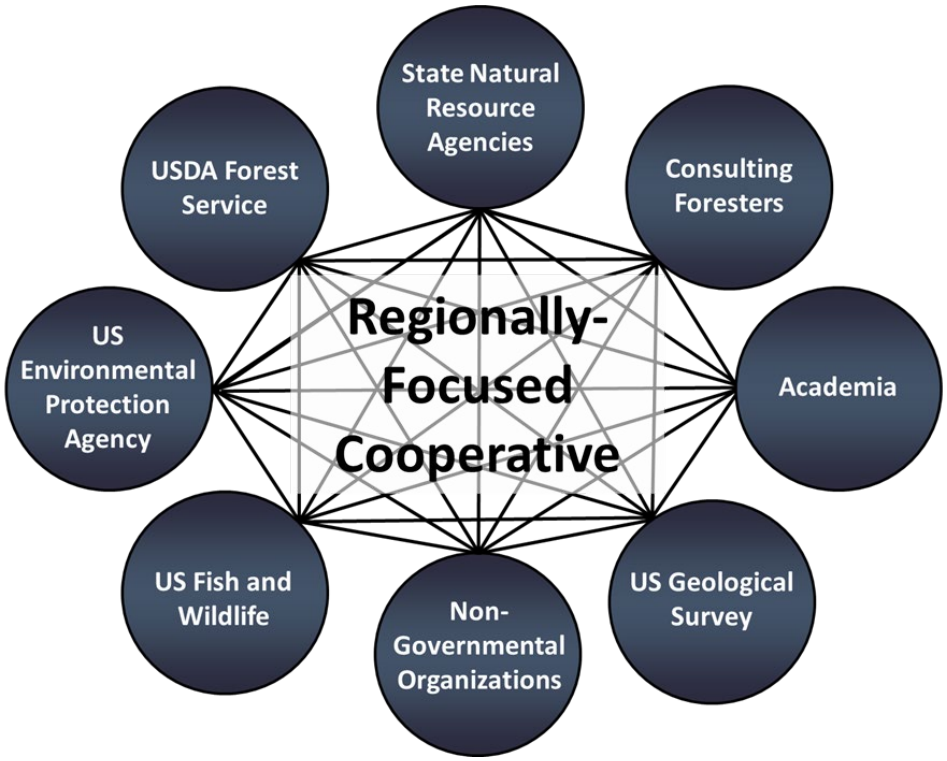
An Introduction to the Forest Ecosystem Monitoring Cooperative

The Forest Ecosystem Monitoring Cooperative (FEMC) is a seven-state collaboration in New England and New York focused among federal, state, academic, non-profit, and private sector partners. Initially established in 1990 as the Vermont Monitoring Cooperative, a partnership among the USDA Forest Service, the State of Vermont Agency of Natural Resources and The University of Vermont (UVM), the mission of the FEMC has expanded to mirror and build upon the priorities of the partners across the seven-state region. The FEMC serves as a hub to facilitate collaborations among federal, state, non-profit, professional, and academic institutions towards ongoing monitoring of forested ecosystems across the region and an improved understanding of forested ecosystems in light of the many threats they face.

The FEMC is unique in its relatively small staff who function to support and facilitate the activities of a much larger network of actively engaged collaborators. While FEMC funding primarily supports ongoing monitoring, assessment, outreach, coordination and data management, a substantial portion of FEMC activities are accomplished by “in kind” contributions provided by the larger



collaborative network. Over 250 professionals actively contribute to current and ongoing monitoring and research projects, and more than a hundred other contributors have bolstered the monitoring record through their work in years past. Beyond these direct contributions, the Cooperative

encompasses many more individual environmental researchers, land managers, decision makers, environmental advocates, educators, industry professionals and faculty from over 50 organizations across Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. This committed group of active collaborators synthesize and utilize this information based on a shared interest in the health and management of forested ecosystems across the region.

Over the 31-year history of the FEMC, its core priorities have remained closely aligned with its founding partners: to provide the information necessary to conserve and manage forested landscapes, identify and monitor threats to forest health and function, and to facilitate collaboration among a diverse group of stakeholders. To this end, the FEMC has collected and maintained some of the longest and most expansive records of forest health, wildlife, soil, air, and water quality data in the region. Made discoverable and downloadable via FEMC's online data archive, this information has been critical to resource managers, researchers, and policy makers across the region. FEMC is also playing an increasingly important role in translating data to information products, apps, and dashboards, to increase the accessibility and utility of data in the archive.

Originally these FEMC monitoring and research efforts were focused at two intensive sites: Lye Brook Wilderness Area in the Green Mountain National Forest in southern Vermont, and state-owned lands located on the slopes of Mt. Mansfield within the Browns River, Stevensville Brook and Ranch Brook watersheds. Focusing efforts on these intensive sites provided the capability to co-locate studies to better understand ecosystem processes and impacts across biotic and abiotic strata. Considering the lack of Vermont's representation in other long-term ecological networks (e.g. Long Term Ecological Research Network, National Ecological Observatory Network, experimental forests), and the demonstrated sensitivity of these ecosystems (Vogelmann, 1982; DeHayes et al., 1991; DeHayes et al., 1999, Schaberg et al., 2000) these intensive sites filled a critical gap in environmental monitoring efforts.

Over the past decade, the then-Vermont Monitoring Cooperative expanded its scope of efforts beyond these intensive sites, in part by design to improve our understanding of a diversity of habitat types, but also because of the widening network of collaborators working across the region. The FEMC data archive now contains data from across the region on a diverse array of topics. While many of these datasets and products are maintained directly with FEMC financial and technical support, a growing number of programs and data products in the archive are collected by FEMC collaborators, with the FEMC fulfilling the role of data archiving, synthesis and distribution.

In addition to the expansion in data holdings, FEMC's growth in the seven-state region has resulted in the development and delivery of regional products intended to curate and deliver information about key priority issues in forests. From forest fragmentation to tree regeneration to climate change impacts on forested ecosystems, FEMC has engaged with dozens of experts to bring together data, methods and findings on these critical topics. These regionally consistent products are complemented by state-specific projects driven by the emergent needs of FEMC's guiding committees.

Through the efforts of the Cooperative, made up of scientists, researchers, land managers and decision makers from a range of public agencies, the findings of the FEMC collaborative are regularly communicated to policy makers, practitioners, and the general public. FEMC information assists partners at the local, state, and regional levels in managing forested landscapes while considering the social dimensions represented by the people who live, work, and play in those same forests. With the growing interest in quantifying, preserving, and enhancing the ecosystem services provided by the region's forested landscapes, there is a need to understand how human activity relies upon and impacts those services. Long-term ecosystem monitoring provided by the FEMC generates the data that will be

needed to quantify those services, as well as to detect changes or signs of potential degradation from both social and environmental stressors.

As a collective group, the FEMC provides the connection between data, researchers, managers and practitioners to compile a more comprehensive assessment of the region's forests. While individuals come and go through positions, and funding is often unstable, the FEMC has provided a continuous source of environmental monitoring, from trees to water, air, soils and wildlife, leading to a more complete assessment of environmental conditions, long-term analyses of trends and integration across datasets. This tremendous accumulation of environmental monitoring records places FEMC at a unique position, where synthesis and integration of long-term datasets provide opportunities to understand how changing social and environmental factors have affected, and will continue to affect, the structure and function of the region's forests. In this way the FEMC is providing critical information to sustain forest health and the many benefits healthy forested ecosystems provide.

Overview of the Strategic Planning Process

Overview of the Strategic Planning Process

In October of 2020, FEMC hired Kimberly Coleman, Ph.D. to facilitate an update of FEMC's strategic plan. Dr. Coleman is an Assistant Professor of Environmental Planning in the Center for Earth and Environmental Science at SUNY Plattsburgh. Dr. Coleman received a B.S. and a M.S. from the University of Vermont in environmental studies and natural resources, respectively. She holds a Ph.D. in forest resources and environmental conservation from Virginia Tech. She additionally earned a certificate in Facilitative Leadership from Interaction Institute for Social Change. Dr. Coleman developed, implemented, and synthesized three surveys designed to gather feedback from FEMC's constituents. Dr. Coleman also facilitated two half-day online workshops to hear input from a strategic planning committee comprised of key FEMC stakeholders. Dr. Coleman then synthesized the key themes that emerged from both the surveys and the workshops, which have been incorporated into this strategic plan. This timeline of that work is summarized on the next page.

Prior to this strategic planning process, there were several iterations of work done to guide the strategic direction of the Cooperative. The Vermont Monitoring Cooperative (VMC) underwent several visioning and review activities. In 2001 the VMC Operations Guide[1] was updated by VMC staff with input from the Steering and Advisory Committees. In 2002, an external review team with members from the Missouri Department of Conservation, US Geological Survey and US Forest Service convened to review the VMC program and activities[2]. This was followed in 2004 by an internal review of VMC staff positions and duties, and overall VMC activities. In March 2014, the VMC Steering Committee initiated a strategic planning process to revisit the VMC mission statement, examine how it aligns with the missions and goals of our partners and identify a set of priority activities for VMC focus moving forward. The result of that work in 2014 was an iterative evaluation of the then-VMC mission, objectives and activities to sharpen our focus, strengthen relationships across organizations, and ensure continued relevance and impact of the collaborative, resulting in the Vermont Monitoring Cooperative Strategic Plan: 2015-2020[3]. In 2017, the VMC changed to the FEMC, and in 2018, FEMC staff updated the Strategic Plan to reflect the expanded nature of the Cooperative and its shifting focus. In 2019, FEMC completed a revision to the strategic plan[4], which built off the 2014 work to expand and update the plan to address the expanded regional partnerships of the FEMC.

[1] https://www.uvm.edu/femc/attachments/project/999/documents/2001_VMCOperationsGuide.pdf.
[2] https://www.uvm.edu/femc/attachments/project/999/documents/2002_VMCReviewFinalReport.pdf.
[3] https://www.uvm.edu/femc/attachments/project/999/documents/2014_VMC_Strategic_Plan_Final_Complete.pdf
[4] https://www.uvm.edu/femc/file/info/9531

TABLE 1 OVERVIEW OF THE FOREST ECOSYSTEM MONITORING COOPERATIVE STRATEGIC PLANNING PROCESS

Cooperative Wide Surveys *January, 2021*	Dr. Coleman created three surveys geared towards three different stakeholder groups: broad consistituents (*e.g*. individuals who utilize FEMC products and services), committee members and collaborators (*e.g.* individuals more closely involved with FEMC as an organization), and FEMC staff. All three survey groups were asked questions about demographics, their involvement with FEMC, action level strategic planning, and their opinions about FEMC's governance. The staff survey and the survey sent to committee members and collaborators additionally included questions about the objectives of FEMC and about the governance structure of the organization
Strategic Planning Committee Zoom Workshops *February, 2021*	To complement the surveys, Dr. Coleman convened two half-day workshops with key FEMC constituents, each of whom was identified by Jim Duncan. The group met over Zoom and worked collaboratively to draft a vision statement for FEMC, to make recommendations about changes to the current list of FEMC's activities, and to make recommendations regarding the organization's governance structure.
Synthesis of Themes from Surveys and Meetings *March, 2021*	Dr. Coleman analyzed the feedback gathered via all three surveys and both workshops and synthesized the findings in a report to FEMC.
FEMC Staff and Steering Committee Review *April, 2021*	FEMC staff and Steering Committee reviewed the findings in Dr. Coleman's report, and provided additional feedback and clarification before Dr. Coleman compiled a draft strategic plan.
Future Work: Review and Recalibration	In 2025, the FEMC will reconvene a new Strategic Planning Committee to revisit the goals, objectives and activities of the organization in light of the changing environment.

The Forest Ecosystem Monitoring Cooperative Mission and Vision

The Forest Ecosystem Monitoring Cooperative Mission and Vision

FEMC Mission:

To serve the northeast temperate forest region through improved understanding of long-term trends, annual conditions, and interdisciplinary relationships of the physical, chemical, and biological components of forested ecosystems.

The FEMC also promotes the efficient coordination of multi-disciplinary environmental monitoring and research activities among federal, state, university, and private-sector agencies with common interests in the long-term health, management, and protection of forested ecosystems.

FEMC Vision:

A diverse network of public and private partners, residents, and communities in the Northeast have access to reliable knowledge, data, support, and network connections they need. They use this knowledge to sustain more resilient and healthy forest ecosystems and communities.

Goals and Objectives of the Forest Ecosystem Monitoring Cooperative

Goal 1

To contribute to the efficient COORDINATION of multidisciplinary environmental monitoring and research activities among existing efforts and institutions with common interests in the long-term understanding, management or protection of forested ecosystems

FEMC fills an essential niche by providing long-term, reliable and professional coordination that supports monitoring and research activities in the region across federal, state and private-sector agencies, organizations and institutions. This role at the regional scale builds upon 26 years of success in Vermont in maintaining this focus and funding to perform this service. In today's funding environment it is more important than ever to minimize duplication of effort and to leverage available funding to provide the data and information necessary to inform policy and management decisions affecting the forested landscapes of our region. Through its annual conferences, data archive, website, workshops and other information outlets, FEMC consistently provides important information about forest ecosystems to land and resource managers, decision-makers, cooperators, researchers and the public.

Three objectives have been defined under Goal 1:

Objective 1.1 Provide regular opportunities for networking across disciplines and organizations

Objective 1.2 Coordinate efforts around high priority issues to produce integrated products

Objective 1.3 Provide a forum to inform future activities among partners

Goal 2

To promote an improved understanding of trends and relationships in the physical, chemical and biological components of the forested ecosystems through DATA ANALYSIS AND SYNTHESIS.

FEMC cooperators and stakeholders have repeatedly identified the value added by FEMC through post-collection data analyses, synthesis and reporting, and that these services allow them to do their jobs better. FEMC has allocated increasing amounts of staff time and resources for these ventures, both to do novel analysis and to develop tools and products that enable people to access and better understand information.

FEMC (and the VMC before it) periodically produce integrated data summaries and synthesis reports, acting as the coordinating organization that brings together cooperators and experts interested in working on the report. FEMC also continues to expand its role in producing data portals, online data integration and discovery tools, and other products that provide both information and context as well as access to raw data, methods and findings. Some examples include the Vermont Forest Indicators Dashboard[5], the Northeastern Forest Health Atlas[6] and the Northeastern Forest Regeneration Data Network[7]. This collection of tools and products represent a significant offering for partners in the region for going beyond data access and providing tools for integration and understanding.

Underlying FEMC's data synthesis and integration work is the FEMC Data Archive[8], which provides data storage and access infrastructure to the Cooperative free of charge. This repository of data and information about how the data was collected serves a critical need in the region by housing both monitoring and research data that might otherwise be lost or extremely difficult to access. FEMC's Data Archive continues to be a critical component of making information and data accessible and usable.

Two objectives have been defined under Goal 2:

Objective 2.1 Facilitate the development and distribution of FEMC data syntheses

Objective 2.2 Provide state-of-the-art tools for preserving, accessing and exploring data

[5] https://www.uvm.edu/femc/indicators
[6] https://www.uvm.edu/femc/forest-health-atlas
[7] https://www.uvm.edu/femc/forest_regen
[8] https://www.uvm.edu/femc/data

Goal 3

To conduct LONG-TERM MONITORING in order to report on current forest ecosystem health and emerging threats.

The Forest Ecosystem Monitoring Cooperative is premised on the recognition that long-term environmental monitoring and research are essential to collecting the baseline data needed to detect changes in conditions and trends and help identify new threats to our forested ecosystems. Long-term environmental monitoring has been a hallmark of the FEMC and VMC since its inception. FEMC has maintained a significant commitment to and history of continued support for monitoring and research projects over this duration.

FEMC has a long history of supporting monitoring in Vermont, and these long-term records have allowed our cooperators to detect changes in forest phenology, trends of bird, amphibian and reptile populations, and changes in forest tree species distributions and growth rates and. As the scale of environmental challenges grows increasingly complex, these records in Vermont complement other long-term monitoring efforts across the region, and the FEMC can support and coordinate these important data collections in Vermont, as well as providing secure archiving and widespread distribution of the data.

In addition, FEMC has expanded monitoring across the region through expanded forest health monitoring network[9], funding for new data collections in partnering states, and, most recently, the launch of an Ecosystem Monitoring and Assessment Fund[10]. In combination with the extensive monitoring of partners, FEMC is poised to maintain a valuable suite of monitoring in the region that will support tracking and reporting on change over time.

Two objectives have been defined under Goal 3:

Objective 3.1 Maintain long-term monitoring activities

Objective 3.2 Monitor and report on current environmental conditions and potential threats

[9] https://www.uvm.edu/femc/cooperative/projects/forest_health_monitoring
[10] https://www.uvm.edu/femc/emf/rfp/

ACTVITITIES THAT SUPPORT GOALS AND OBJECTIVES

The Forest Ecosystem Monitoring Cooperative is designed to service the needs of a wide array of partners. To that end, the organization pursues thirteen activities to accomplish its goals and objectives. Each activity supports one or more goals or objectives. The specific goals and objectives supported by each activity are outlined below.

TABLE 2 ACTIVITIES THAT SUPPORT GOALS AND OBJECTIVES OF THE STRATEGIC PLAN.

Activity	Objectives Supported
Maintain a committee structure that directs FEMC efforts and enables networking and collaboration across states, organizations, and disciplines	**1.1, 1.2, 1.3** **2.1**
Regularly convene collaborators to identify priority issues, information gaps, opportunities, and critical needs across the region.	**1.1, 1.2, 1.3** **3.2**
Regularly convene environmental professionals at an annual meeting to share information and enable networking	**1.1, 1.3** **2.1** **3.2**
Support monitoring, integration, and synthesis efforts that further FEMC's mission and priority topic areas	**1.2** **2.1, 2.2** **3.1, 3.2**
Promote the utility of FEMC products developed through state and regional work to other stakeholders in the region	**1.2** **2.1** **3.2**
Develop, execute, and monitor the success of a communications and engagement strategy that distributes information to and solicits input from collaborators	**1.2, 1.3** **2.1, 2.2** **3.2**
Provide data management and analytical services to states and the broader collaborative network via service agreements	**2.2**
Maintain and improve the FEMC data archive as a regional resource	**2.1, 2.2** **3.1**
Provide online tools, dashboards, and collections to facilitate data access and interpretation	**1.2** **2.1, 2.2** **3.2**
Provide training workshops on FEMC tools to expand the use and contribution of data	**2.1, 2.2** **3.1, 3.2**
Maintain support, tracking, and utilization of monitoring efforts across the region	**1.2** **2.1** **3.1**
Summarize current conditions and long-term trends for key long-term datasets	**1.2** **2.1** **3.2**
Provide annual report for wide dissemination of FEMC activities, accomplishments, and impacts	**1.2, 1.3** **2.1** **3.2**

Citations and Credits

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PHOTO CREDITS

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An Introduction to the Forest Ecosystem Monitoring Cooperative Section

Cover photo. Eastern hemlock (*Tsuga canadensis*) branch. Photo available at https://www.flickr.com/photos/dendroica/8396096003/ and reproduced under CC BY 2.0 license.

FEMC forest canopy tower at the Proctor Maple Research Center in Underhill, VT. Photo by FEMC.

Overview of the Strategic Planning Process Section

Section cover photo. Spring Peeper (*Pseudacris crucifer*) male perched on hemlock branch. Photo by Dave Huth, available online at https://www.flickr.com/photos/davemedia/14007130769/in/set-72157594516044649 and reproduced under CC BY-NC 2.0 license

The Forest Ecosystem Monitoring Cooperative Mission and Vision Section

Section cover photo. An Aerochem wet/dry precipitation sampler (foreground), instrument shelter with atmospheric mercury sampling equipment on the roof and meteorological tower at the VMC Air Quality site in Underhill, VT. Photo by Jim Duncan.

Goals of the Vermont Monitoring Cooperative Section

Section cover photo. Maple seedlings. Photo by FEMC.

Cooperative Annual Conference attendees. Photo by Jim Duncan.

Workshop at annual conference. Photo by Jim Duncan.

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Anemometer over fall foliage. Photo by Jim Duncan.

Tom Simmons measuring a tree. Photo by FEMC.

Citations and Credits Section

Section cover photo. US Geological stream gage station at Gwynns Falls, Glyndon, Maryland. Available online at http://md.water.usgs.gov/BES/01589180/.

FEMC

Forest Ecosystem Monitoring Cooperative

Providing the information needed to understand, manage, and protect the region's forested ecosystems in a changing global environment

Appendix A: Details of the 2021 Strategic Planning Process

Forest Ecosystem Montioring Cooperative Strategic Planning Thematic Summary
Prepared by Kim Coleman, Ph.D.

March 14, 2021

Introduction

In October of 2020, the Forest Ecosystem Monitoring Cooperative (FEMC) began a strategic planning process to guide the direction of the organization into the future. The impetus for strategic planning was trifold: First, the current strategic plan is reaching the end of its timeline. Second, FEMC has seen subsantial growth in recent years in terms of both constituencies and focus, as it has expanded it's work beyond Vermont to include all six New England states and New York. Third, FEMC was recently awarded a grant from the United State Forest Service (USFS), which requires the organization to complete strategic planning.

Thus, there is a need to reexamine FEMC's goals, objectives, and activities, and to identify future directions for the organization. To that end, FEMC hired Kimberly Coleman, Ph.D. to develop, implement, and synthesize three surveys designed to gather feedback from FEMC's constituents. Dr. Coleman also facilitated two half-day online workshops to hear input from a strategic planning committee comprised of key FEMC stakeholders. This document reports on themes that emerged from both the surveys and the workshops. It is intended to guide the FEMC Steering Committee as they consider FEMC's future and create a new strategic plan.

Surveys

In consult with Jim Duncan, Director of FEMC, and Dr. Jen Pontius, Principal Investigator for FEMC, Dr. Coleman created three surveys geared at three different stakeholder groups: broad consistituents (*e.g*. individuals who utilize FEMC products and services), committee members and collaborators (*e.g*. individuals more closely involved with FEMC as an organization), and FEMC staff. The first survey (geared at broad constistituents) was emailed to every individual on the FEMC email list. The second survey (geared at committee members and collaborators) was emailed to a list of currated individuals involved with FEMC central projects, FEMC governance structure, or both. The third and final survey was emailed out to FEMC staff members. In addition to the intital email about the survey, Dr. sent two email reminders over a period of two weeks to remind stakeholders to complete the surveys.

All three survey groups were asked questions about demographics, their involvement with FEMC, action level strategic planning, and their opinions about FEMC's governance. The staff survey and the survey sent to committee members and collaborators additionally included questions about the objectives of FEMC and about the governance structure of the organization. In total, 120 respondents completed the survey, including 9 staff members, 24 committee members and collaborators, and 87 consistuents. The sections below report on themes that emerged across these groups.

<u>Survey Respodent Information</u>

All three survey groups were asked demographic questions. This section reports on the aggregated results from all three surveys. The majority of all survey respondents (roughly 40%) stated that they conducted work in

Vermont (see Figure 1). New Hampshire, Maine, New York, and Massachusetts also had strong representation. Connecticut and Rhode Island each made up less than 10% of respondents. Given that FEMC was founded as a Vermont-focused organization, these numbers are likely due, at least in part, to the makeup of FEMC's email list; because FEMC historically worked mostly in Vermont, its email list contained a higher percentage of individuals who work in Vermont, and thus a disproportionate number of Vermonters were invited to take the survey.

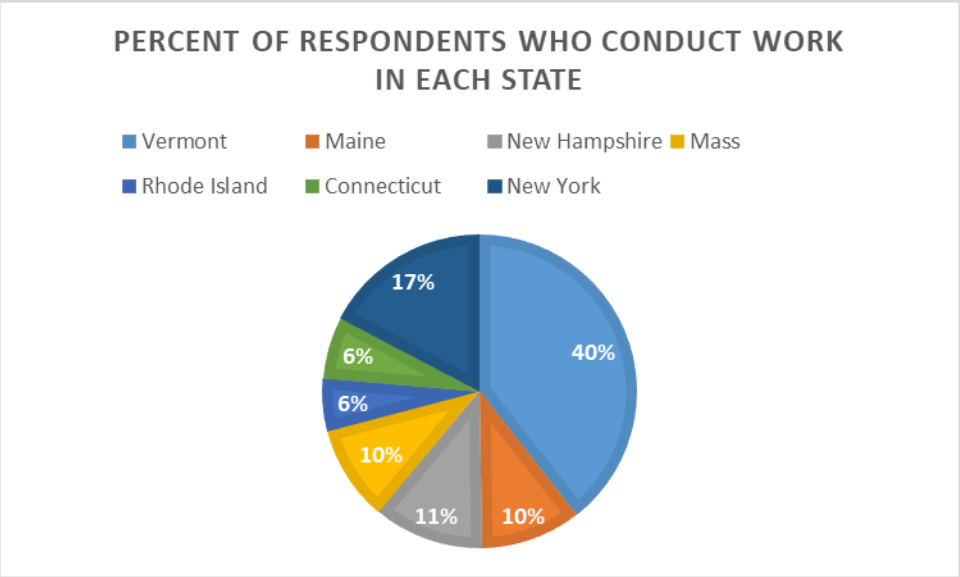

FIGURE 1 PERCENT OF RESPONDENTS WHO CONDUCT WORK IN EACH OF THE SEVEN STATES SERVED BY FEMC.

Roughly 62% of all respondents identified either forestry, wildlife, or water as their primary discipline, with nearly 33% of all respondents selecting forestry. None of the other disciplines (air quality, planning, social science, management, climate science, or other) were selected by more than 10% of respondents. Respondents were somewhat evenly distributed across sector, although only 6% of respondents indicated they worked in the private sector (see Figure 2). Respondents were also asked to select the professional affiliation that best matched them (see Figure 3). The majority (37%) of respondents identified as researchers. Managers and policy makers each accounted for more than 20% of respondents. Educators, consultants, and other each made up less than 10% of respondents. No respondents identified as students.

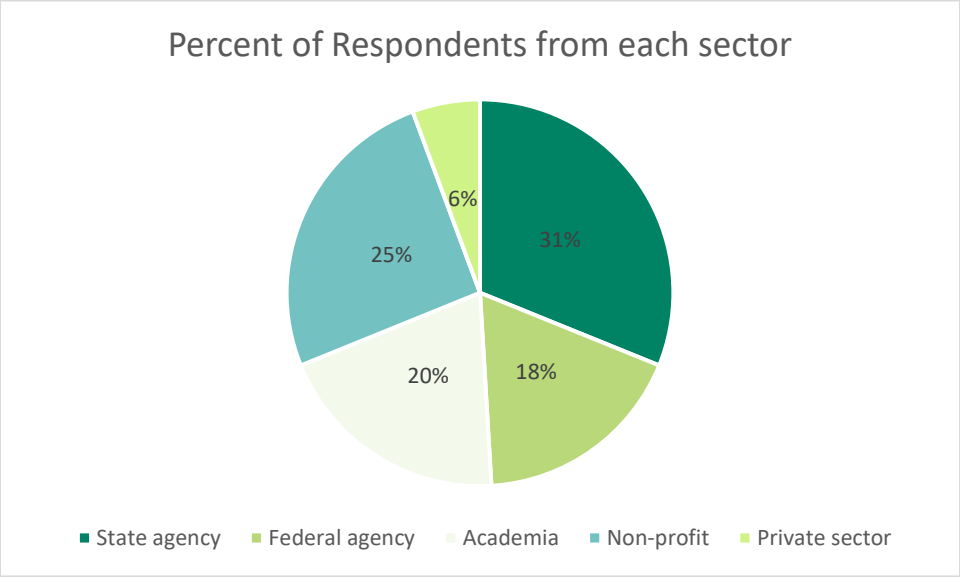

FIGURE 2 PERCENT OF RESPONDENTS BY SECTOR.

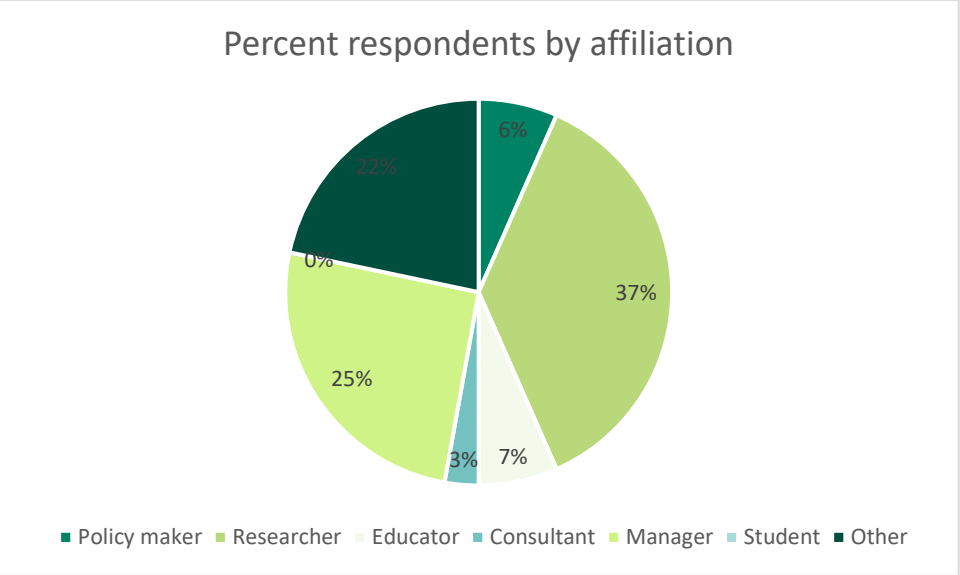

FIGURE 3 PERCENT OF RESPONDENTS THAT IDENTIFIED WITH EACH AFFILIATION.

Respondents Perspectives on Activities

All survey respondents were asked a range of questions to understand their perspectives on FEMC's work and their opinions about the future direction of the organization. Questions were both open-ended and closed-ended. Open-ended questions asked respondents to indicate what FEMC does well, what FEMC could improve upon, and what activities FEMC should expand or add. Dr. Coleman qualitatively analyzed these responses using NVivo 12 software, a qualitative coding software that allows for thematic analysis of textual data. Across all survey groups, trends emerged about how respondents viewed FEMC's work now and into the future. This section reports on the aggregated results from all three surveys.

The first trend is that many respondents indicated that they believe FEMC is particularly strong in three areas: 1) supporting long term monitoring projects, 2) data management and archiving, 3) and bringing stakeholders together. Many survey respondents indicated that the annual conference is an important mechanism for bringing stakeholders together, while other respondents framed it as a separate area of strength for FEMC. The following quotes from open-ended comments echo common refrains observed across all survey responses:

> ***"Long-term monitoring projects, storing data and providing public access to said data, bringing partners together (annual conference), being a trusted entity with guidance from many important stakeholders."***
>
> ***"Collaboration, data management & repository, forest monitoring, annual conference."***
>
> ***"1) Serves as a clearinghouse for ecosystem monitoring data and information, 2) connecting researchers and applied practitioners, 3) holding annual conference."***

Another trend that emerged from open-ended survey questions is that respondents feel that FEMC should continue to expand in the areas mentioned above, in short, expand and improve its existing strength. Respondents from all three survey groups suggested ideas like holding more conference or symposia, broaden its circle of stakeholders to include more diverse audiences, and expand its data management work. The following quotes from open-ended questions echo common refrains observed across all survey responses:

> ***"I would urge FEMC to shift resources to the data management side."***
>
> ***"The FEMC does a good job of convening stakeholders and generating discussion, but this could be expanded considerably. There are a lot of overlapping efforts in the region that the FEMC could help shed light on. Perhaps more topical working groups or symposia throughout the year that bring together people working on specific task - specifically for climate change planning and management. Host webinar series, or a series of short writings on the climate change impacts to wildlife."***
>
> ***"And incorporating a stronger Justice/Equity/Diversity/Inclusion lens will make FEMC's work stronger."***

These trends in opinions and perspectives are nicely summarized by the following quote from one respondent:

> ***"FEMC is strong at convening and gathering people and managing data; these should be more of a focus than one-off tools."***

Dr. Coleman preformed a matrix coding query in NVivo 12 software to explore any difference between staff, collaborators and committee members, and constituents. This query function in NVivo allows a researcher to compare qualitative themes between and across different groups. The qualitative themes described above cut across all three survey groups; no differences between groups emerged.

To collect perspective on specific FEMC activities, all survey respondents were asked to assess the activities in the current FEMC strategic plan in terms of importance (Figure 4). Of the 120 respondents, 107 respondents from all three survey groups completed this ranking in full. The numbers below are aggregated results from all three surveys. Most of the activities were ranked as very important or important by 80 (75%) or more of respondents. Only one activity - Convene collaborators to reevaluate the FEMC strategic plan, identify gaps,

strengths, and weaknesses in collective FEMC efforts on a regular basis – fell below that threshold. The following six activities were ranked "very important" by 60 (56%) or more of respondents and either "very important" or "important" by 100 (93%) or more of respondents:

1. Maintain integrity of long-term research sites
2. Support and tracking of on-going monitoring and research projects
3. Continue to supply funding for monitoring projects
4. Convene collaborators to analyze and explain long-term trends in environmental conditions
5. Identify and engage partners for integrated analyses around high priority issues
6. Regularly convene environmental professionals at an annual meeting

This emphasis on support for monitoring and convening stakeholders aligns with the qualitative themes that emerged from open-ended questions.

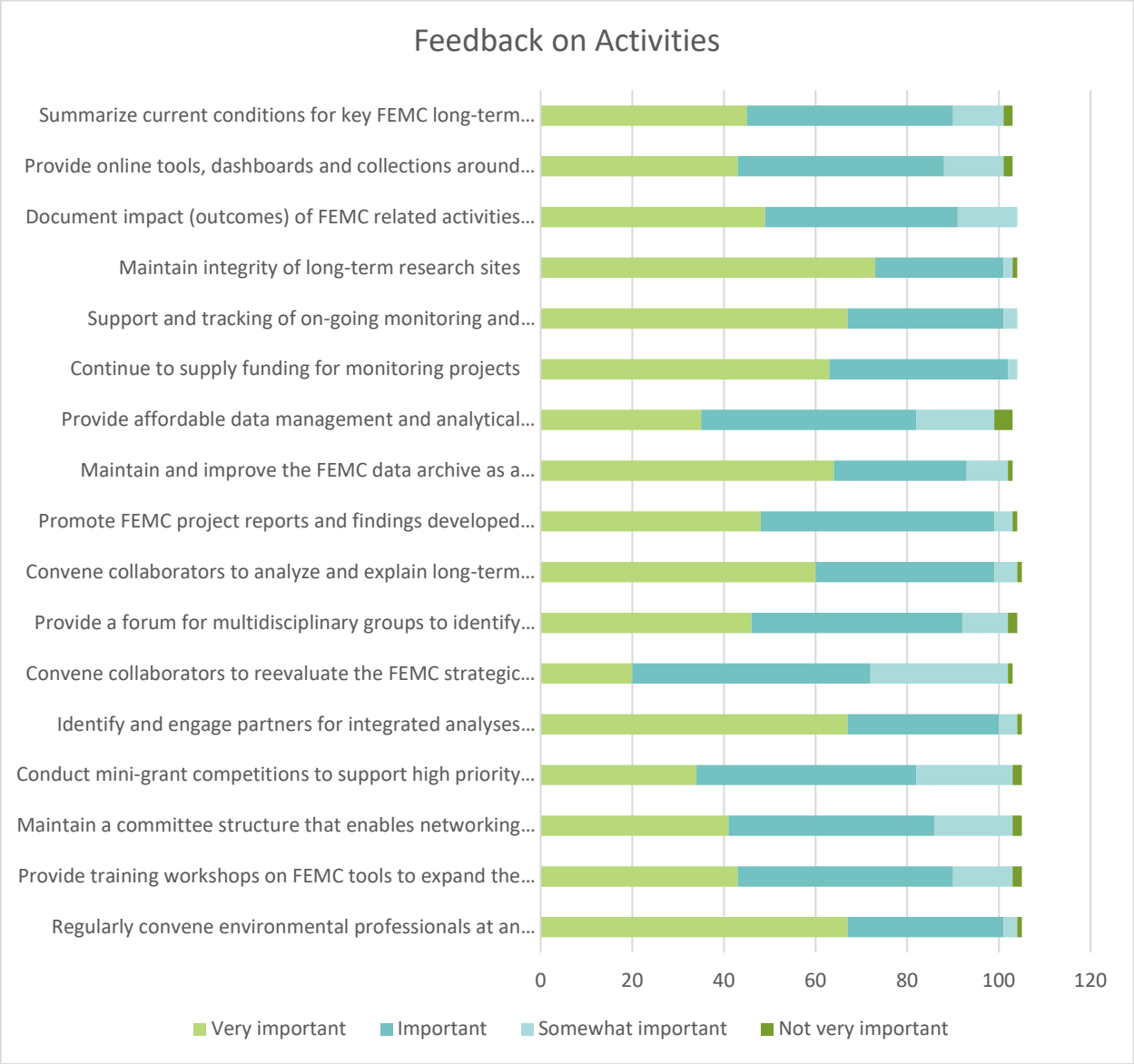

FIGURE 4 ASSESSMENT OF ACTIVITIES INCLUDED IN FEMC'S CURRENT STRATEGIC PLAN.

Respondent Perspectives on Objectives

As mentioned above, the staff survey and the survey sent to committee members and collaborators included additional questions about the FEMC's objectives and about the governance structure of the organization. Respondents from those two surveys were asked to evaluate the importance of the objectives listed in the current FEMC strategic plan. Thirty-one staff and committee members and collaborators completed this assessment in full. Results of that ranking are presented in Figure 5. The following objectives were ranked as "very important" or "important" by 16 (52%) or more of staff and committee members and collaborators:

1. Provide a forum to inform future activities among partners
2. Provide regular opportunities for networking across disciplines and organizations

3. Facilitate the development and distribution of FEMC data syntheses

No objectives were ranked as "not important" by respondents.

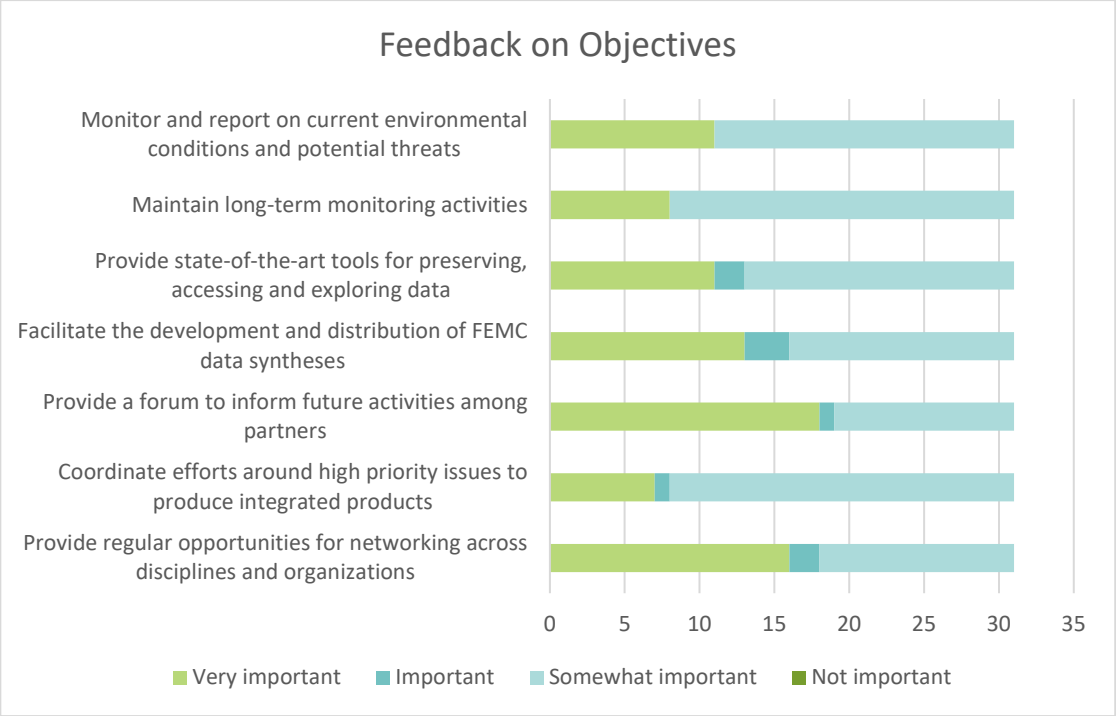

FIGURE 5 ASSESSMENT OF GOALS IN CURRENT FEMC STRATEGIC PLAN.

The staff survey and the survey sent to committee members and collaborators asked respondents to indicate the extent to which the work of FEMC supports other strategic planning efforts, for example, state forest action plans (see Figure 6). Unsurprisingly, 100% of FEMC staff responded that FEMC's work supports their organizational planning efforts. Interestingly, only 9.1% of committee members and collaborators indicated that FEMC's work significantly supports their organizational planning efforts. The FEMC Steering Committee should consider this in light of the trends documented in this report and decide if support of other strategic planning efforts is an important role for FEMC to pursue in the future.

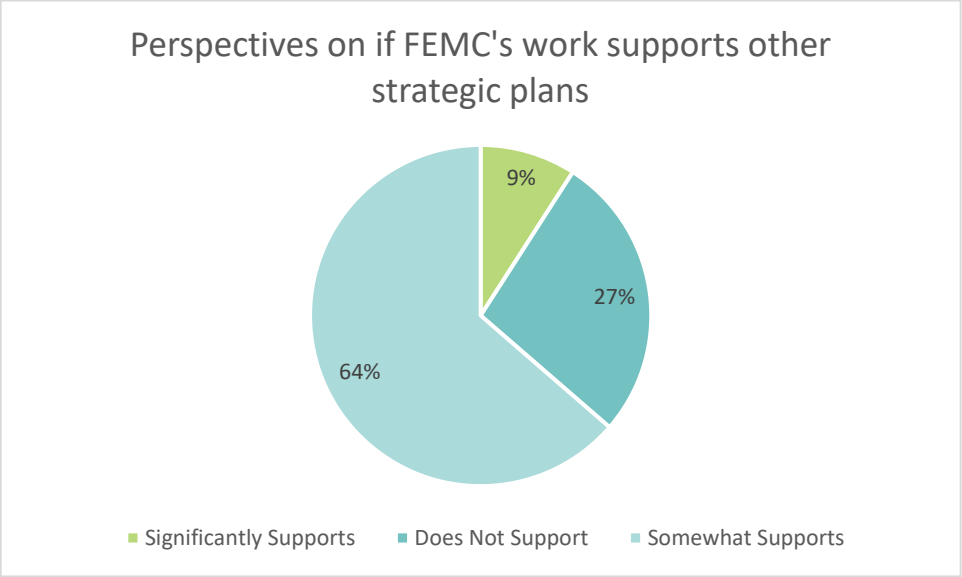

Figure 6 Percent of committee members and collaborators who feel FEMC's work supports their own strategic planning efforts.

Respondents Perspective on the Governance of FEMC

All three surveys included a question that asked respondents if they felt that the current governance structure of FEMC served them well. One hundred and six respondents from all three survey groups answered this survey question. Notably, not a single respondent selected "no", and only 10 (about 10%) of respondents selected "somewhat" (see Figure 7). However, 46 (rough 43%) respondents indicated they were not familiar with FEMC's governance structure.

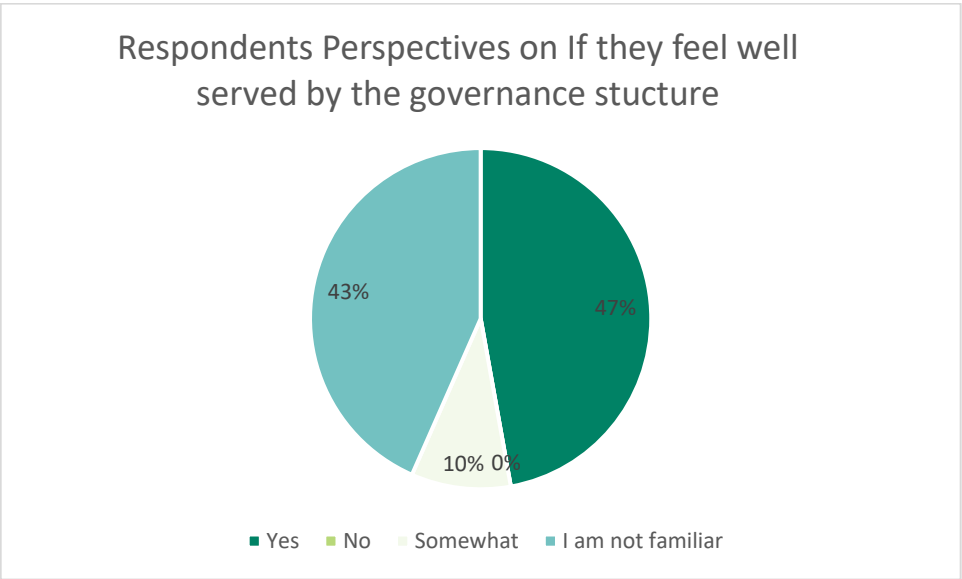

Figure 7 Respondents perspectives on if FEMC governance structure served them well.

The staff survey and the survey that was sent to collaborators and committee members contained an additional question that asked respondents if they thought FEMC's current governance structure supported the organization's current goals. Thirty-one individuals answered this question (22 collaborators and committee members and 9 staff members). Only one individual from each group (two total individuals, about 6% of respondents) selected "no" as a response to this question (see Figure 8). Ninety four percent of respondents selected "yes" as a response to this question.

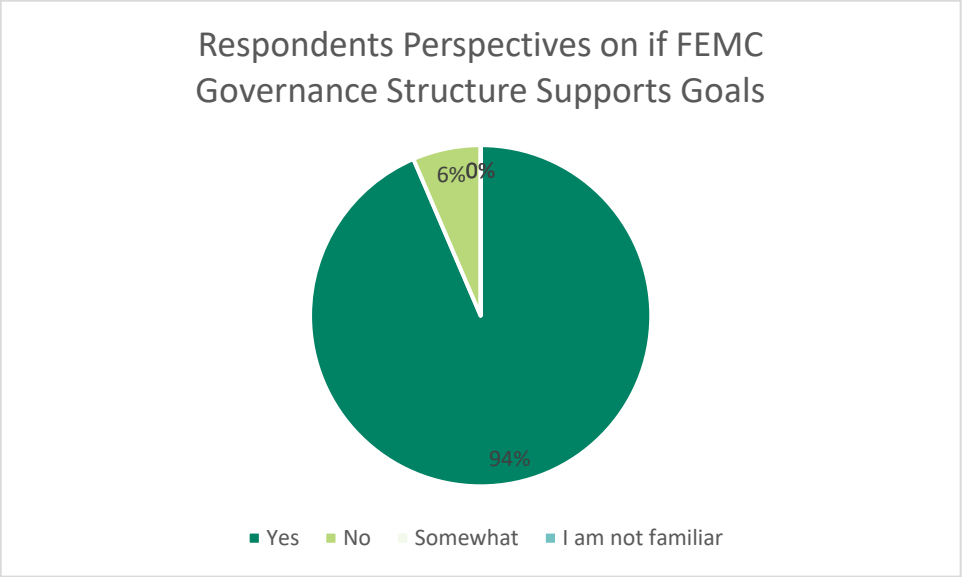

FIGURE 8 RESPONDENTS PERSPECTIVE ON IF FEMC GOVERNANCE STRUCTURE SUPPORTS THE ORGANIZATION'S CURRENT GOALS.

Overall, these survey responses provide a snapshot of FEMC's constituents' perspectives on the current state of FEMC and potential future directions for the organization. The Steering Committee should consider these results as it engages in strategic planning.

Outputs from Workshops

To complement the surveys, Dr. Coleman convened two half-day workshops with key FEMC constituents, each of whom was identified by FEMC Director Jim Duncan. The following individuals received initial invitations to participate in the strategic planning workshops:

Michael Snyder (State of Vermont), Toni Lynn Morelli (US Forest Service), Nancy Matthews (RSENR at UVM), Maria Janowiak (US Forest Service), Patrick Hackley (State of New Hampshire), Tony D'Amato (RSENR at UVM), Tee Jay Boudreau (State of Rhode Island), Amanda Mahaffey (Forest Stewards Guild), Breck Bowdoin (RSENR at UVM), Peter Church (State of Massachusetts), Robert Lueckel (US Forest Service), Rick Cooksey (US Forest Service), John Bartow (ESFPA), Patty Cormier (State of Maine), Tom Berry (Patrick Leahy's Office), and Christopher Martin (State of Connecticut).

Following initial invitations, some individuals suggested alternative or additional colleagues to participate in the workshops. The final list of participants is as follows:

Allison Kanoti (State of Maine), Tony D'Amato (RSENR at UVM), Breck Bowden (RSENR at UVM), Peter Church (State of Massachusetts), Rick Cooksey (US Forest Service), John Bartow (ESFPA), Justin Perry (State of New York), Kyle Lombard (US Forest Service), Michael Snyder (State of Vermont), Nancy Stairs (State of Rhode Island), Toni Lynn Morelli (US Forest Service), Amanda Mahaffey (Forest Stewards Guild), Caroline Zeilenga (State of Vermont), Christopher Martin (State of Connecticut), Nancy Matthews (RSENR at UVM), Robert Lueckel (US Forest Service), Tom Eager (US Forest Service), Tom Berry (Patrick Leahy's Office).

The group met over Zoom and worked collaboratively to draft a vision statement for FEMC, to make recommendations about changes to the current list of FEMC's activities, and to make recommendations regarding the organization's governance structure. The outputs of that work are below.

Draft Vision Statement

The workshop participants were asked to review FEMC's mission statement and overarching goals. They were provided with an explanation of how a vision statement differs from a mission statement, namely that it describes what an organization will have accomplished at a specific point in time in the future, and were provided with The Nature Conservancy's mission and vision statement as an example to illustrate the difference between the two statements. They were then divided into three breakout rooms on Zoom and asked to draft five-year vision statements for FEMC. Once each group had drafted a vision statement, the entire group rejoined the central Zoom meeting and collaboratively worked to integrate their ideas into one, draft vision statement. That draft vision statement reads as follows:

> **The full diversity of public and private partners, vibrant human communities, and concerned citizens have the reliable knowledge, data, support, and network connections needed to stimulate actions that result in a more resilient and healthy northeastern U.S. forest ecosystem that supports multiple uses and economies today and for future generations.**

FEMC currently does not have a vision statement. The Steering Committee should review the draft vision statement and consider adopting it as the organization's official five-year vision statement.

Recommended Changes to Current List of Activities

Workshop participants were also asked to review the current list of FEMC activities in light of both the survey responses that ranked each activity in terms of importance, as well as in light of their draft vision statement. Again, workshop participants were separated into three breakout rooms on Zoom to draft recommendations in small groups. The full group then convened and deliberated to reach agreement on their recommendations. Those recommendations are as follows:

1. Incorporate the need for broader participation in FEMC's work and engagement with FEMC by either
    a. Creating a new task aimed at broadening participation among diverse audiences or
    b. Integrating language about broadening participation into each individual activity.
2. Re-write the following activity to focus on accountability: "Document impact (outcomes) of FEMC related activities for funding justification."

3. Re-write the following activity to specify that grants should support FEMC's vision and mission: "Conduct mini-grant competitions to support high priority research, monitoring, integration and synthesis efforts."
4. Reevaluate the following activity in light of the new fee-for-service sprint grants: "Provide affordable data management and analytical services to states."

The Steering committee should consider amending FEMC's current list of activities to incorporate these four recommendations.

Recommendations for Governance and Organizational Resources

Finally, the workshop participants were provided with an overview of FEMC's current governance structure, presented with the survey results that focused on governance structure, and asked to consider if the current governance structure required any changes or updates. Along with the consideration of the governance, workshop participants were asked to consider if FEMC has the resources it needs to achieve its mission, draft vision, and goals. Workshop participants were again separated into two breakout rooms on Zoom to brainstorm ideas about governance structure and resource needs. The full group then convened and deliberated to reach agreement on their recommendations regarding these topics. Those recommendations are as follows:

1. Clarify Governance Structure
    - Clarify roles and responsibilities between state committees and steering committee
    - Drawing on diverse input, create and publish governance by-laws
    - Consider which decisions should be made by the steering committee, as well as a specific decision-making process
2. Amend Governance Structure
    - Consider the role of urban forests in fulfilling FEMC's mission and, if warranted, consider governance representation
    - Create a space to include more diverse voices in FEMC's governance structure and recognize that this takes time to do well
    - Consider a shorter-term chair position that rotates among states
3. Address Resource Gap
    - Consider creating a role for a state relationships manager whose responsibilities include managing communications between state staff and partnership committees. If a role is not pursued, consider how state relationships will be managed.
    - FEMC should be aware of matching-funds challenges at the state level
4. Consider opportunities for leveraging partnership with Northeastern States Research Cooperative (NSRC).

The Steering Committee should review these recommendations and consider if any changes to FEMC's governance structure are warranted. They should additionally consider if FEMC requires any additional resources (staff position, financial resources, etc.) to address the resource gaps identified by the workshop participants, or if these resource gaps could be addressed by leveraging regional partnerships, such as a partnership with NSRC.

Conclusion

Several major themes emerged consistently from the surveys and the workshops. Those are the following:

1. FEMC's strengths are long-term monitoring, data management, and convening stakeholders
2. The annual conference is extremely valuable
3. FEMC should work to integrate the interests of diverse communities into its work and governance
4. The governance structure should be clarified, documented, and published.

These cross-cutting themes should inform the Steering Committee's work as they consider FEMC's next strategic plan. It is important to note that neither the surveys nor the workshops involved conversations around the goals of FEMC, for the reason that goal setting is the purview of the Steering Committee. The Steering Committee should use this document and the themes presented within it to evaluate the current mission and goals of FEMC and to guide the creation of a new strategic plan for the organization.