Project Number: NRSP1
Project Title: Multistate Research Information Management and Impact Systems
Requested Duration: October 1, 2022 through September 30, 2027
Administrative Advisors: Jeff Jacobsen, William A. Miller, Paula Agudelo, Bret Hess
NIFA Representative: Michael Fitzner, Emma Moran

STATEMENT OF ISSUES AND JUSTIFICATION:

NRSP1 and the National Information Management Support System (NIMSS)

NRSP1 is a long-term, 1862 Land-grant State Agricultural Experiment Station (SAES) () project that has existed for almost two decades, supporting our regional and national Hatch Multistate research projects and Extension-integrated activities. NIMSS facilitates multistate project management, from proposal conception to project termination. Initially, NRSP1 served as the financial mechanism for the legacy NIMSS (National Information Management Support System), which was developed and housed at the University of Maryland until 2014 when a security breach at the University of Maryland forced the Experiment Station Section (ESS) to migrate NIMSS. A full redesign of the database was implemented with a Clemson University's ITT contractor. With guidance from an ESS and NIFA-partnered team, Clemson developers created a secure, modern, and agile new NIMSS that went online in 2015.

Following the initial three-year (FFY2014 to 2017) NIMSS redesign period, ESS renewed its contract with Clemson University ITT in 2017 for a full, five-year NRSP, ending on September 30, 2022. That renewal has allowed for continuation of critical multistate research support services, improved system efficiency, continued security enhancement, daily data back-ups, and continued correction of legacy system data integrity. In addition, the Clemson team was able to work closely with US Department of Agriculture (USDA) - National Institute of Food and Agriculture (NIFA) to allow for improved data integration and sharing with REEport and as of spring 2021, into the new NIFA Reporting System (NRS). Clemson developers and the regional NIMSS system administrators (RSAs) work together with stakeholders to continue to cooperatively identify and develop new system features.

NIMSS continues to serve ESS as a web-based application allowing: (1) online submission of proposals, peer reviews and progress reports, (2) management of participants, (3) scheduling of annual project meetings, (4) current and past project proposals, and (5) ready access to this information. An automated e-mail notification function prompts users to take action and sends out notifications for meetings and report deadlines, along with instructions for completing required tasks. Researchers, Extension educators, stakeholders, and other cooperators can review and keyword search NIMSS for relevant and timely information related to multistate research projects. In addition, the public has access to research project outlines and impacts without needing to apply for an account. NIMSS is now serving all of the 1862 and many 1890 Land-grant institutions, allowing them to manage, in a paperless environment, our multistate research project portfolios.

NRSP1 and the Multistate Research Fund Impacts Program (MRF Impacts)

Impact reporting is a vital mechanism for project accountability and generating awareness of and support for NIFA-supported research. While NIMSS operates as an internal system for administrating Hatch Multistate projects, it is important to share the impacts of these projects with decision-makers and stakeholders. Project participants submit technical reports and publications throughout each project period, but a professional communications strategy and communicators are needed to develop cohesive messaging, create engaging materials, and reach a wider audience.

Since 2012, NRSP1 has supported the Multistate Research Fund Impacts Program (MRF Impacts), which employs communication professionals who use a variety of strategies to showcase the unique value and successes of Hatch Multistate projects and enhance the visibility of SAES and land-grant universities (LGUs). This is done primarily through Impact Statements (one- to two-page infographics) for terminating projects. Impact Statements are shared directly with Administrative Advisors (AAs), project participants, Regional SAES Associations, and NIFA representatives. They are often shared with leadership and communicators at participating LGUs, partner trade/industry associations, elected officials, regulatory organizations, media, and others. These beneficiaries use Impact Statements to prepare reports, blog posts, press releases, articles, speeches, responses to Congressional inquiries, and more. Secondary beneficiaries include producers and the general public who are impacted by Hatch Multistate research projects.

In addition to being housed on the MRF Impacts website (mrfimpacts.org), Impact Statements are also uploaded to the NIMSS database and the National Land-grant Impacts Database (NIDB; landgrantimpacts.org). Impact Statements are uploaded in multiple locations to reach a variety of audiences and serve different purposes. For example, the NIDB does not display final, formatted Impact Statements (it only supports text), and visitors to NIMSS are largely project participants, so Impact Statements are uploaded to this database for mostly archival purposes. The MRF Impacts website houses Impact Statements and other program information and materials in a public-friendly format. Future work will consider ways to better link the MRF Impacts website, NIMSS, and NIDB for easier access and greater functionality.

Social media continues to be an important space for communicating. Effective social media requires monitoring and networking and a deep understanding of program messaging and resources. In the previous project period, we piloted a social media internship in which a part-time student hourly employee assisted with sharing Impact Statements—along with supplemental information and graphics—on MRF Impacts social media channels (@MRFimpacts on Facebook, Twitter, and Instagram). Participating institutions and researchers, Regional SAES Associations, and NIFA staff frequently engage (e.g., share, retweet, like) these posts.

Continuous increase in the reach and use of MRF Impacts materials provides evidence for continuing with this component of NRSP1. In the previous project period (2017-2022), over 50 Impact Statements were produced. The MRF Impacts website had over 13,500 page views between October 1, 2020, and September 30, 2021. Project participants, Regional SAES Associations, participating researchers and universities, and USDA-NIFA continue to express

appreciation for Impact Statements and use them widely. For example, NIFA's Director of Communications has used numerous Impact Statements to develop talking points for the NIFA Director and USDA Secretary and Undersecretary. Reach and engagement on social media has continued to rise each year. In federal fiscal year 2021, our tweets had 223,200 impressions; they were retweeted 563 times by NIFA, LGUs, and others. Going forward, we propose to continue strategically sharing Impact Statements and other products using a variety of formats to reach a broad audience.

Impact Writing Workshops

Since 2013, MRF Impacts has responded to requests from SAES Directors, AAs , and scientists for impact reporting guidance by delivering in-person and virtual Impact Writing Workshops to a variety of groups, including individual Hatch Multistate projects, faculty at LGUs, NIFA staff, and national conference attendees. Because participants of Hatch Multistate projects actively engage in other research, Extension, and teaching endeavors, even the Impact Writing Workshops that target individual project groups indirectly support better reporting across grants and programs. During the 2017-2022 project period, we delivered over 30 Impact Writing Workshops. Workshop evaluations consistently report satisfaction with presenter knowledge and delivery and indicate improvement in targeted knowledge and skills. Demand for workshops continues to increase and is growing beyond the program capacity. Going forward, we propose to explore a variety of ways to meet this demand more efficiently and effectively.

Proceeding with MRF Impacts will ensure we continue to track and communicate the progress of Hatch Multistate projects and provide project participants with the tools they need to share their impacts. Our activities will continue to support the assembly, storage, and distribution of information and materials about Hatch Multistate research projects. Through these activities, MRF Impacts supports the entire portfolio of Hatch Multistate projects, which address all ESS Science Roadmap national priority areas and needs. Going forward, MRF Impacts will continue to coordinate with NIFA, Regional SAES Associations, Association of Public and Land-grant Universities (APLU), the Communications and Marketing Committee (CMC) and others to connect Hatch Multistate projects to broader national campaigns and ensure proposed actions meet stakeholder needs.

Collectively, the NIMSS database system and MRF Impacts provide for open and transparent systems that enhance compliance and accountability for SAES. The success of prior NRSP1 projects and their continuous adaptation of new technologies and approaches reinforce their inherent value and purpose to the Multistate Research portfolio. These two systems reflect ongoing core capacities of ESS.

IMPLEMENTATION:

Objectives and Projected Outcomes

Objective 1:　　　　Maintain and enhance the effectiveness, functionality, and utilization of NIMSS.

Objective 2:　　　　　　Effectively document and communicate the impacts of multistate research, enhance the utility of MRF Impacts materials, and improve the capacity of the Hatch Multistate project participants and others to report their impacts.

Objective 1 Projected Outcomes

Routine NIMSS Service and Maintenance:
As we proceed into the next five-year cycle for NRSP1, the NIMSS lead RSAs, currently Christina Hamilton (NCRA) and David Leibovitz (NERA), will continue to solicit system enhancements from our stakeholders, some of whom include federal and state partners, producers, commodity groups, foundations, and foreign scientists. These lead RSAs will work closely with the Clemson ITT developers via email and regular calls to implement these improvements, making NIMSS workflows more efficient, secure, and effective for as many users as possible, basing project and proposal functions consistently on the national SAES Guidelines for Multistate Activities. User requests for system improvements now also include a NIMSS Change Request form, a document sent out to the requester to gather information on whether the requested change will benefit multiple users or stations, ensuring that Clemson developers' time is used effectively and efficiently.

Separately, Clemson ITT will continue to regularly administer and develop NIMSS at the system level. First, the developers will consistently monitor the NIMSS server to ensure that the applications running NIMSS are kept up-to-date and work well together, allowing the system to operate at peak efficiency and avoid slow page loading. Second, security systems, access, and error logs are continually monitored, and new software installed as it becomes available. Because the NIMSS application has been online for many years, it is subject to hundreds of attempted attacks every day, which renders regular assessment of risks and updates to security systems' software critical to prevent another breach. Review of error logs helps correct bugs introduced into the system as applications and code are updated. Coupled with security improvements, developers periodically check the accuracy of server and data file locations, while also performing regular backups of NIMSS' data and code in multiple locations. In the unlikely event of a system crash, NIMSS users can be confident that no data or work will be lost. In addition, modern database administration (DBA) services are employed and updated as new database search techniques are developed, keeping access to NIMSS' data efficient and system resources low.

Moreover, while most of the legacy NIMSS data issues were corrected during the last NRSP1 iteration, developers continue to monitor and correct errors. Finally, our Clemson developers routinely review and update NIMSS' code to maintain system efficiency. These changes are documented, and records maintained for the life of the project. All codebase versions are stored in a Git repository, which is a versioning storage system that allows easy access to previous code.

The updated NIMSS budget will also allow developers to continually improve user interfaces as technology advances, to provide a more professional and aesthetically pleasing system. Part of this process includes updating the system to provide more responsive layouts, so that users can

effectively use the NIMSS system from any device available, including mobile interfaces. Finally, developers will improve the application program interface (API) to allow for better data transactions (where possible) with NIFA's Reporting System (NRS), REEport and REEIS. API improvements allow for better and more data transfer across systems, thus reducing or eliminating staff workload required to share reporting data from SAES offices to NIFA partners.

NIFA is an active participant in the NRSP1 Management Committee and was intimately involved with the NIMSS redesign effort. NIFA liaisons and their IT staff continue to work with NRSP1 members and Clemson ITT developers, since NIMSS is not a system of record for NIFA, in contrast to REEport and the new NRS. At the time of this proposal preparation, both REEport and NRS are active, and both are included in this narrative. Eventually, REEport will go off-line and NRS will completely replace that system, becoming the main requestor of NIMSS data. NIFA systems have very specific technical guidelines that are dictated by the Research Performance Progress Report (RPPR) set forth by the OSTP and OMB policies. Hence, the rigid reporting format for REEport and NRS.

At this time, the changes that will be required to make NIMSS interface with NRS are largely unknown. In preparation for upcoming NRS reporting requirement changes, Clemson ITT team developers will create a RESTful API centered around reading data from the NIMSS system. This API will also include creating, updating, and deleting data from the system, but public endpoints will be limited until full specifications for integrations with NRS are completed. Clemson ITT will initially secure this API with OAuth 2.0, but will be available to adjust this security when the technical guidelines become available from NRS. It is likely that data formats will need to be modified to make both systems interface with each other effectively. Initially, all data will be generated to transmit using JSON, however, other formats will be made available as full specifications are delivered. Moreover, reporting in NIMSS is conducted by our multistate umbrella project members, with a focus on multistate collaborative accomplishments and activities, whereas reporting in REEport and NRS includes only that of individual state participation. NIMSS provides a vital function for the Multistate Research program in which all organization and peer review for the umbrella projects take place at regional and national levels. REEport and NRS, on the other hand, are strictly a reporting tool at the grant project level for accountability purposes. However, there is some pre-population of REEport multistate Hatch projects with information from NIMSS including Objectives, Project Title, Multistate Project number, and Collaborating States. Other fields do not have a direct one-to-one relationship that can be imported well at this time, but we are considering ways to include those data in the future, if necessary.

Additional Development Projects/Concepts Proposed for FY23 to FY27

- **Dashboard Redesign:** The action items on the dashboard provide quick access to views of the system that require attention. However, the user has no indication if any action is needed until they click the action item. Instead of listing links, each action item could be contained in a clickable widget. The widgets could provide a minimal view of the information for each item. If the user clicks on a widget, then the full page for that action item would load.

- **Project Breadcrumbs:** The project management interface contains several nested sections. When within multiple levels deep in the interface, it is not clear where a user is in relation to the home page for the project. Depending on the actions of a user, using the web browser's back button might not perform as intended. As a user navigates into project sections, a "breadcrumb" trail of links could be shown at the top of the interface indicating how they got there. Also, it could be used to quickly navigate to previous sections more accurately.
- **Agile Development:** As technology changes and new software packages become available over the course of this project, the Clemson development team will work directly with NIMSS administrators to design, develop, test, and deploy new features. It is impossible to project specific projects in advance of core technology changes, however, regular meetings between Clemson and NIMSS staff allow for collaboration which will help Clemson development staff understand pain points in the system and aid in the evolution of the NIMSS system.

Overall, we envision NIMSS continuing to serve as an effective communication tool for sharing research data and easing the burden of multistate project management for many more years. An effective and secure database will ease the application of new discoveries and technology transfer supporting and advancing agricultural research. Continual process and development improvements, as described above, are critical as a best practice to maintain an effective national system.

Objective 2 Projected Outcomes

During the previous project period, MRF Impacts experienced changes in program leadership and allied partners (e.g., change in Program Director, cancellation of the CMC contract with kglobal, etc.), which led to shifts in MRF Impacts team roles and strategies. Despite these challenges, the previous project met the original objectives and even exceeded expected productivity in some areas (e.g., social media and workshops). We learned important lessons about program flexibility and capacity. We also learned the value of a dedicated social media manager and a direct liaison with NIFA Communications. Moving forward, MRF Impacts will continue to adapt strategies to repair any shortcomings and accommodate changes in capacity and stakeholder needs. We propose that the Program Coordinator continue to participate in select workshops and/or conferences for professional development. Staying up-to-date on best practices and tools for science communication will enable the Program Coordinator to work more efficiently and effectively.

Coordination and networking will be essential to the continued success of the MRF Impacts. The MRF Impacts Program Coordinator will correspond regularly with communicators at the LGUs and federal level, attend key national conferences and meetings, and serve on committees (such as the NIDB). This will increase awareness of the Hatch Multistate program and expand the reach of MRF Impacts materials. In addition, coordination will provide opportunities to synchronize efforts (e.g., social media, impact writing training) for mutual benefit. With the future development of an ESS Advocacy Toolkit, resources and lessons-learned from the MRF Impacts will provide excellent content and will be integrated into the Toolkit. The Program Coordinator will also continue to work closely with the researchers and Extension educators who participate in Hatch Multistate projects during Impact Statement review and during Impact

Writing Workshops. This rapport ensures MRF Impacts materials meet stakeholder needs and are widely used.

Impact Statement Creation and Distribution

MRF Impacts will continue to generate high-quality, engaging Impact Statements for at least 10 projects per year, including the annual Excellence in Multistate Research Award winner. These Impact Statements will be shared with a variety of audiences, including project participants, NIFA, and leaders and communicators at LGUs for a variety of uses. Each Impact Statement will be uploaded to the NIDB, NIMSS, and mrfimpacts.org in a timely manner. The Program Coordinator will work directly with NIFA Communications staff to ensure that at least three Impact Statements are featured in federal level communications materials. Additional infographics and other products (e.g., magazine articles, blog posts) will be developed as needed to connect Hatch Multistate research projects to trending conversations and priority topics. The Program Coordinator will share Impact Statements directly with university communicators, magazine editors, and others with the goal of featuring at least two Hatch Multistate projects in publications or other media outlets each year. Printed materials will be distributed as needed or requested (e.g., at national conferences). To measure the success of Impact Statement distribution, we will monitor website traffic (e.g., number of visitors, length of visit, most frequented pages, etc.) and solicit feedback from project members about the quality and utility of Impact Statements. We will also meet regularly with stakeholders for anecdotal feedback about how Impact Statements and other MRF Impacts materials were used.

Our impact communication efforts will continue to include social media. The Program Coordinator will take over management of and content creation for the @MRFimpacts social media channels. Because the Program Coordinator has in-depth knowledge about the Multistate Research Program and works closely with Hatch Multistate research project teams while producing Impact Statements, this will be a cost-effective and time-efficient way to ensure that the program's social media channels continue to grow. The Program Coordinator will create content for Facebook, Twitter, and Instagram; engage with followers and ongoing conversations; keep track of social media trends and tools; and monitor social media performance. Our goal will be to share at least three social media posts on all platforms per week. These posts will share new Impact Statements and connect trending topics to Hatch Multistate projects and Impact Statements. We expect that continued dedication to social media will further enhance key metrics like impressions and engagement. Social media will not only increase awareness of the Multistate Research Program as a whole, but will also help participating scientists and universities promote their research impacts. Because social media is an evolving platform, shifts in strategy will be evaluated regularly. The Program Coordinator will work closely with other LGU communicators and the NIFA Communications staff to coordinate effective, synchronized social media efforts. To measure progress, we will monitor social metrics (e.g., reach, impressions, likes, retweets/shares, link clicks, mentions, replies, followers, etc.) and gather anecdotal evidence from our peers and followers.

Impact Writing Workshops

To efficiently and effectively meet increasing demand for impact reporting training, we propose

for the Program Coordinator to: 1) deliver workshops virtually so that they are more accessible, 2) deliver select in-person workshops that target large, national audiences, 3) coordinate with NIFA, CMC, NIDB and LGUs to develop a cadre of trained presenters who can deliver workshops, and 4) coordinate with NIFA, CMC, NIDB, and LGUs to guide the production of readily available training materials that can be used by and for communicators, scientists, administrators, and others who want to learn about impact reporting.

This path forward will allow us to reach a wider audience, especially as funding and other constraints (e.g., COVID-19) make travel difficult for both trainers and trainees. Regional SAES Associations and NIFA will help select in-person and virtual trainings provided by the Program Coordinator. These workshops and materials will give participants the tools and knowledge they need to craft better reports and produce stronger impact statements that can be parlayed into other communication pieces (e.g., social media posts, press releases). Workshop participants will complete evaluations so that we can gather feedback and measure success.

Expected Outputs
- Impact Statements:
  - 50 Impact Statements for Hatch Multistate projects (~10 per year)
  - At least three Hatch Multistate projects featured in USDA-NIFA communications each year
  - At least two Hatch Multistate projects featured in trade magazines, university publications, producer websites, or similar each year
  - At least two Hatch Multistate projects featured in materials produced by the NIDB writing team
  - At least four newsletters each year to share Impact Statements and other MRF Impacts materials with university communicators, SAES directors, and other subscribers
  - All Impact Statements uploaded to NIMSS, NIDB, and mrfimpacts.org
- Social media:
  - At least three social media posts on all platforms per week
  - At least five social media posts per Impact Statement
- Impact Writing Workshops:
  - Virtual workshops for at least four Hatch Multistate research project teams each year
  - At least two in-person workshops or other conference presentations per year to promote MRF Impacts and network with stakeholders
  - Package of materials (e.g., recorded training modules, presentation deck, presenter notes, worksheets) to be used by AAs, LGU communicators, and others to train project participants and faculty on impact reporting
  - Cadre of trained presenters to deliver remote and in-person workshops

Expected Outcomes
- Improved communication among MRF Impacts, NIFA, LGUs, CMC, NIBD, and others
- Improved efficiency and reduced duplication of communications efforts
- Greater awareness of the Hatch Multistate Research Program
- Increased visibility of Hatch Multistate project and MRF Impacts materials

- Wider and more frequent use of materials generated by MRF Impacts
- Increased capacity to meet demand for impact reporting training
- Improved knowledge about how to write effective impact statements
- Improved quality of reports submitted by participants of Hatch Multistate projects (and other project types)

Management, Budget, and Business Plan

General oversight, policy development, proposal preparation, and budget recommendations for both components of NRSP1 will be provided by a Management Committee composed of four AAs, representing each of the four SAES regions; the four RSAs; the four regional Executive Directors, and two director's administrative staff members who use NIMSS routinely. NIFA will assign one or more non-voting representatives to the Committee.

Funding for NRSP1 will be provided through an off-the-top allocation from the Hatch Multistate Research Fund. The annual range of NRSP1, combining NIMSS and MRF Impacts, runs from $226,400 to $249,083 (Table 1). The five-year grand total investment is $1,187,891 for NRSP1.

NRSP1 will provide essential administrative and communications services to Hatch Multistate research program administrators and staff, project participants, and other users of NIMSS. Thus, funding for NRSP1 is seen as a core administrative and management expense and alternative sources of funding are not anticipated.

Objective 1:

NIMSS is managed by each of the Regional Associations serving the SAES. The RSAs from NCRA (primary) and NERA (secondary) will serve as the leads with routine interactions with Clemson ITT. All RSAs handle the day-to-day tasks related to updating the system and answer queries from their regional users. Funds for continued development and maintenance of NIMSS will be transferred by NIFA to Clemson University AES, for distribution to the Information Technology Team (ITT) at Clemson's Youth Learning Institute. The annual budget ranges from $144,750 in FY2023 to $155,941 in FY2027 to reflect cost increases in technology, salary, and fringe rates (Table 2). As a point of reference, the FY2022 budget for NIMSS was $142,730.

To accomplish system administration and development, the NRSP1 budget for NIMSS would accommodate a part of the salary and fringe of multiple technical professionals who would be responsible for maintaining, updating, and developing new features as needed or requested for their programmatic areas. Technical professionals are needed for UI (User Interface)/ Front End Development and Administration, Application Development and Administration, Database Administration, System Administration and Security, QA/QC, and Project Management. For those interested, specific job duties and justifications for these positions are found below. Within the software development community, the term 'development' is commonly used to reflect the on-going and dynamic nature of a continually changing environment.

Year-to-Year Cost Increases

To account for the inevitable expense increases from year-to-year, projections for technology were increased by 1% per year to cover any potential increases in server costs which are typical when upgrading servers for application maintenance. An increase of 1.9% was factored into all personnel categories to cover cost of living adjustments for development staff over the term of the project.

User Interface/Front End Development and Administration
User Interface (U/I)/Front End Development is the process of designing and developing interfaces that an end user interacts with when they are using the NIMSS system. It is necessary to invest time in User Interface/Front End development not just during the initial development phase, but also regularly in the maintenance phase of the development cycle since web applications do not live in a static environment. Users must access web-based applications through a web browser. There is currently no standard that all web browsers must adhere to and, as such, bugs are introduced from the user/client side on a continual basis. The project's UI/Front End Developer is responsible for staying informed of the changing web environment and works to ensure that all users can access and interact with the NIMSS system with minimal front-end issues.

Application Development and Administration
Application development, in the case of NIMSS, is the process of developing code utilizing the Laravel framework to gather information collected by the UI/Front End Developers that interfaces and manipulates/stores that information in databases designed and maintained by a data base administrator (DBA). These persons are also responsible for creating and maintaining system features as well as adapting the current system to work with new technologies that are currently available as well as to proactively redevelop sections in the NIMSS system to take advantage of these new technologies.

Database Administration
Database administration refers to the tasks in NIMSS that are centered on saving and retrieving information from our relational databases. Server environments must periodically be updated to avoid falling too far behind modern technology and the services provided by a DBA helps to mitigate these issues and ensure that resources that are allocated to the database are being used effective and efficiently. Data backups and recovery are also critically important for system reliability. Both making sure that data is stored in multiple locations and that data stores contain valid and recoverable data are aspects of what must be done to ensure work is not lost due to hardware or software issues. Another critical task for a DBA is database security. Databases are often targets for hackers and must be reasonably protected. In all cases, security measures must be managed proactively to minimize the risks of system access from unwanted agents, who are constantly changing their approaches and finding new exploits to gain access to systems. Database administrators will regularly track system access logs to look for possible injections into the database as well as to review possible slow queries.

System Administration and Security
Much of what is accomplished by system administration is similar to database security in technique and purpose. The main difference between these two areas is that system administration refers to securing the server, whether physical or virtual, from unwanted access.

This is done by keeping track of trends in security and intrusion techniques and patching them as soon as is possible.

QA/QC
This refers to quality control and assurance of the NIMSS product. It is a best practice to employ a non-developer to review and test the system and write test cases for automated testing. It is this person's responsibility to make every effort to eliminate bugs or other issues from the system before it is made available to our end users. This person also coordinates larger alpha and beta testing groups and serves as a bridge between the various developers and the stakeholders.

Project Management
A person is assigned to coordinate the resources available in order to execute the project. This person would review newly developed code to make sure it meets the standards set forth by the initial development. They monitor the timeline of the project to make sure all areas of development and administration are working together effectively. They oversee documentation of the project and provide reports to stakeholders and partners to ensure all parties are satisfied with the process. The NIMSS technology costs in the budget would cover the server expenses, ownership of the domain name, hosting, SSL (secure sockets layer; a technology that maintains system security by encrypting the connection between the user and the NIMSS site), email systems server, and all data backups.

Objective 2:

MRF Impacts is managed by the Program Coordinator under the guidance of the NRSP1 Management Committee. Funding for MRF Impacts will be transferred by NIFA to Colorado State University (CSU) AES for distribution in their annual Hatch allocation. The overall proposed budget for MRF Impacts ranges from $81,650 in FY2023 to $93,142 in FY2027 (Table 3). As a point of reference, the FY2022 budget for MRF Impacts was $100,967.

This budget will support one full-time Program Coordinator and the travel, materials, and technology needed to meet objectives successfully and efficiently.

Program Coordinator

The proposed budget includes salary and fringe for a full-time Program Coordinator. Salary for the Program Coordinator is set to meet market standards for positions with similar responsibilities and levels of education and experience. Annual increases of 3% are built in across the 5-year project. Fringe is budgeted according to CSU's FY22 rate of 28.1% and predictions for 1% annual increases resulting in rates of 29.1% in FY23 to 33.1% in FY27.

The Program Coordinator provides overall strategic vision for MRF Impacts, including coordination of activities with NIFA, the NRSP1 Management Committee, ESCOP, CMC, NIDB, and others. The Program Coordinator is also responsible for writing, designing, and disseminating Impact Statements; managing social media; developing and conducting Impact Writing Workshops; and maintaining mrfimpacts.org. The Program Coordinator also attends to administrative tasks such as budgeting and purchasing.

Operating Expenses

Operating Expenses includes computer hardware and software, and printing/copying of materials. The proposed budget for hardware and software includes annual subscriptions to essential software and services, such as Adobe Creative Cloud, iStock, Buffer, and Zoom, and anticipates replacing the Program Coordinator's laptop. The budget also includes funds for technology and/or software that may help record impact training or conduct virtual Impact Writing Workshops in an efficient and engaging way.

 Under special circumstances (e.g., conferences, Congressional visits), printed materials may be needed to support the overall communications strategy. Creation of printed material will be done in consultation with the NRSP1 Management Committee and NIFA, so that these products are available when most beneficial to overall national efforts and priorities. Handouts and promotional materials may also be printed to support in-person Impact Writing Workshops.

Travel

Though we plan to transition most Impact Writing Workshops to virtual platforms, we propose a travel budget that accommodates three trips per year to provide impact training to larger, national groups in person or to attend important meetings and conferences (e.g., Association for Communications Excellence conference, Ag Media Summit) that provide promotional, networking, and professional development opportunities.

Integration and Documentation of Research Support

NRSP1 was developed to facilitate the management and communication of the impacts of integrated research activities supported by the Hatch Multistate Research Fund. It supports all 1862 and many 1890 researchers and some Cooperative Extension participants. The program can also accommodate integrated education activities as the need arises.

Outreach, Communications and Assessment

Objective 1:

Input from SAES administrators and scientists on issues of policy, planning, and management of NRSP1 is an essential element in sustaining it as an effective support system. The approval of this NRSP provides the mechanism to support the representation of user interests and provide a forum to assess the effectiveness of the outreach of the NRSP1 programs.

The four NIMSS RSAs will serve as the primary contacts and source of information and training for university administrators, program managers, investigators, business officers, and station staff using NIMSS. The primary RSA will provide quarterly updates from Clemson developers on new NIMSS developments during NRSP1 meetings and will collect feedback from AAs and NIFA on user comments/experiences, as available. Lead RSAs may also send out short surveys to the user community and/or conduct ad hoc interviews during conferences to gain improved understanding of user needs.

Objective 2:

The Program Coordinator will serve as the primary contact and source of information on the impact communications component of NRSP1. The Program Coordinator will provide quarterly and annual reports to the NRSP1 Management Committee and NIMSS. The Program Coordinator will collect feedback on the quality and utility of Impact Statements from researchers, Extension educators, and NIFA. The NRSP1 Management Committee will be responsible for collecting information from the institutions in their respective regions to reflect the effectiveness of MRF Impacts in meeting their needs and objectives. Post-workshop surveys will be conducted to assess the success of Impact Writing Workshops.

PROJECT PARTICIPATION: All 1862 and many 1890 Land-grant Institutions, and NIFA.

LITERATURE CITED: N/A
BUDGET:

Table 1. Cumulative NRSP1 Five-Year Project Budget FY23-27.

	FY23	**FY24**	**FY25**	**FY26**	**FY27**
NIMSS	$144,750	$147,449	$150,225	$153,057	$155,941
MRF Impacts	$81,650	$84,372	$87,192	$90,113	$93,142
Yearly Totals	**$226,400**	**$231,821**	**$237,417**	**$243,170**	**$249,083**

Table 2. NRSP1 Objective 1: NIMSS System Administration and Development Budget FY23-27[1].

	FY23	**FY24**	**FY25**	**FY26**	**FY27**
Technology					
Servers	$2,750	$2,770	$2,817	$2,865	$2,915
Hosting, SSL, Email, and Back-ups	$1,000	$1,000	$1,000	$1,000	$1,000
System Administration and Development					
Server Maintenance	$9,000	$9,171	$9,345	$9,523	$9,704
System Development	$106,000	$108,014	$110,066	$112,158	$114,289
U/I Development	$9,000	$9,171	$9,345	$9,523	$9,704
Project Management	$17,000	$17,323	$17,652	$17,988	$18,329
Yearly Totals	**$144,750**	**$147,449**	**$150,225**	**$153,057**	**$155,941**

[1] In the event of a reduction in the NIFA Hatch funding line, the NRSP1 budget lines that fund the NIMSS contract with Clemson ITT are not subject to reduction and will not be included in any overall reduction calculation.

Table 3. NRSP1 Objective 2: MRF Impacts Budget FY23-27

	FY23	FY24	FY25	FY26	FY27
Program Coordinator salary	$55,500	$57,165	$58,880	$60,646	$62,466
Program Coordinator fringe	$16,150	$17,207	$18,312	$19,467	$20,676
Operating Expenses	$4,000	$4,000	$4,000	$4,000	$4,000
Travel	$6,000	$6,000	$6,000	$6,000	$6,000
Yearly Totals	**$81,650**	**$84,372**	**$87,192**	**$90,113**	**$93,142**