



NERRS SCIENCE COLLABORATIVE INTERIM EVALUATION REPORT

OCTOBER 2018



 National Estuarine
Research Reserve System
Science Collaborative



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About the Science Collaborative

The National Estuarine Research Reserve
System’s Science Collaborative supports
collaborative research that addresses coastal
management problems important to the reserves.
The Science Collaborative is managed by the
University of Michigan Water Center through a
cooperative agreement with the National Oceanic
and Atmospheric Administration (NOAA). Funding
for the research reserves and this program comes
from NOAA.

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EXECUTIVE SUMMARY

The National Estuarine Research Reserve System's Science Collaborative is an important mechanism to support competitive, end user-focused research in the reserve system. Awarding an average of \$3 million in competitive grants each year, the Science Collaborative funds user-driven collaborative research, assessment, and transfer activities that address critical coastal management needs identified by the reserves. Since 2015, the University of Michigan (U-M) Water Center has managed the Science Collaborative through a cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA).

As part of its ongoing efforts to evaluate and adaptively manage the program, the Science Collaborative administered an interim program evaluation from fall 2017 through summer 2018, just over three-quarters of the way through U-M's contract. The purpose of the evaluation was to assess the program's impact and value, and to inform the program's short- and long-term management. It sought to answer two overarching questions: 1) How have Science Collaborative program activities increased the capacity of project teams to support coastal management and decision making; and 2) What are the collective impacts of the Science Collaborative program under the management of the University of Michigan? To answer these questions, the Science Collaborative solicited the perspectives of five key participant groups – reserve staff, non-reserve applicants, advisory board members, panelists, and NOAA Office for Coastal Management staff – through an online survey and interviews.

According to participants, the program has been successful in executing its core function of running a credible and rigorous Request for Proposal (RFP) and review process. Reviewers believe the program solicits a large quantity of high quality proposals and that the review process fairly and thoroughly evaluates these proposals, resulting in projects that demonstrate high levels of end user engagement. Applicants agree that the Science Collaborative is offering RFPs that meet NERRS needs and they value the variety of project types the program supports. However, applicants often commented on the need for a more streamlined application process and expressed a desire to better understand the proposal review process.

Participants also commented on the Science Collaborative's non-competitive program elements, including proposal development support, project management, communications support, and research on the usability of science supported by the program. Grant and project support were well received by program participants, who appreciated the ease and flexibility of project reporting and excellent communication from program managers. Although support for proposal development and communications support were similarly valued by many participants, some hoped the Science Collaborative could expand its offerings and restructure capacity building and

partner engagement funding opportunities to better meet reserves' needs. Finally, applied research, collaboration support, and data management support are valued by those familiar with these elements. However, the majority of program participants are unaware of these offerings, highlighting a need to improve communications about these program elements to the system.

Collectively, the Science Collaborative's competitive funding opportunities and non-competitive program elements are viewed as increasing the capacity of project teams to support coastal management and decision-making. Teams reported gaining a variety of benefits from their participation in Science Collaborative projects, including an improved ability to facilitate a collaborative research project, expanded professional networks, improved project management skills, and increased connectivity within the reserve system. Non-reserve project team members reported greater benefits than reserve staff team members. The majority of program participants also believe that Science Collaborative funding is positively influencing project teams' ability to contribute to coastal management and decision making. However, survey respondents made it clear that communication of project outcomes as projects wrap up will be integral to demonstrating the value of the Science Collaborative to the system and, in turn, the system's value to U.S. coastal management.

At the broader level, the majority of program participants agreed that the Science Collaborative is playing a valuable role in helping the reserve system support coastal management activities. Participants cited the program's funding support, rigorous RFP and review process, and explicit end user engagement requirements as factors that enable the reserve system to produce high quality, science-based products that are desired and used by end users and coastal managers. Many consider the program to be an important vehicle for increasing the visibility of the system; participants expressed a desire for more evaluation of projects and communication about project outcomes to further heighten and give credibility to the System.

In all, this evaluation yielded a wealth of information that allows the Science Collaborative to evaluate and adaptively manage its offerings, highlighting both strengths and opportunities for improvement. The feedback from this survey will directly inform U-M's management of the program in the final year of its contract, and provides valuable considerations for future program planning and management.

Please direct questions to nerrs-info@umich.edu.

INTRODUCTION

NERRS Science Collaborative

The National Estuarine Research Reserve System (NERRS) Science Collaborative (Science Collaborative) is an important national program that supports competitive, end user-focused research in the reserve system. Established in 2009 by the National Oceanic and Atmospheric Administration (NOAA), the program supports research activities that directly engage end users and decision makers. The current iteration of the Science Collaborative is administered by the University of Michigan, which successfully competed in 2014 to host the program through a five-year cooperative agreement with NOAA.

Broadly, the Science Collaborative's mission is to support collaborative research that addresses coastal management issues important to the reserves and to strengthen the reserve system's ability to impact coastal management and decision making. The program achieves its mission guided by five key goals:

1. Provide an iterative platform for the co-production of science and decision making such that each project addresses management needs;
2. Provide grants to support collaborative research that identifies and addresses key stressors of management concern related to climate change, water quality, habitat restoration, shoreline stabilization, ecosystem service valuation, and the application of data from the NERRS System-wide Monitoring Program and Sentinel Sites;
3. Iterate priorities and processes based on adaptive program management and a dedicated program evaluation process;
4. Transfer and disseminate key knowledge, processes, and lessons learned to other end users and researchers beyond the original scope of the projects; and
5. Deliver highly credible, valid, and relevant scientific information that is both timely and accessible.

To meet these goals, the Science Collaborative offers a variety of program elements, which broadly fall into five categories: competitive funding opportunities, proposal development support, support for projects, communications support, and applied research (Table 1).

Table 1. Overview of Science Collaborative program elements

| ELEMENT TYPE | ELEMENT | MANAGED BY |
|-----------------------------------|---|--|
| Competitive Funding Opportunities | Collaborative Research grants | Science Collaborative project managers |
| | Integrated Assessment grants | |
| | Science Transfer grants | |
| | Catalyst grants | |
| Proposal Development Support | Partner engagement funds (\$1K) | |
| | Capacity building funds (\$10K) | |
| Support for Projects | Collaboration learning and support | Julia Wondolleck |
| | Data management support | Dwayne Porter and the Centralized Data Management Office |
| | Grant and project support (e.g., project management, annual workshop) | |
| Communications Support | Information webinars | Science Collaborative project managers |
| | Collaborative Science for Estuaries webinars | |
| | Graphics support | |
| | Project factsheet and webpage development | |
| Applied Research | Successful [Climate] Adaptation Indicators and Metrics (SAIM) project | Susanne Moser |
| | Research on the usability of science | Maria Carmen Lemos |

Learning and Adaptive Management

In accordance with best practices of learning organizations, the Science Collaborative has incorporated a variety of evaluation and adaptation mechanisms for learning and improvement into each of its program elements and operations (Table 2). These efforts are intended to assess the program's performance in meeting reserve system

needs and program goals and to enable the Science Collaborative to manage the program adaptively. These evaluation mechanisms offer snapshots of the program's impact on participant groups at various points in time and have been used to modify request for proposal and review processes, and adapt project management.

The purpose of this report is to describe the findings from an interim program evaluation – a tool to assess the program's performance and outcomes just over three-quarters through the parent grant.

Table 2. Science Collaborative evaluation and adaptation tools

| EVALUATION TOOL | WHEN ADMINISTERED? | PARTICIPANT |
|---|-----------------------------|-----------------------------------|
| RFP feedback surveys and webinars | After each RFP | Funded and unfunded project teams |
| Debrief about proposal review process | End of review panel meeting | Panelists |
| Sector consultations through the NERRS Annual Meeting and targeted webinars | Annually | Reserve staff |
| Science Collaborative advisory board meetings | Annually | Advisory board members |
| Applied research | Ongoing | Prior project teams |
| Pre- and post-survey of end users | Ongoing | End users on current projects |
| End of project reflection reports and reflections survey | Ongoing | Project teams |
| Interim program evaluation | Year 4 | All program participants |

Interim Program Evaluation

The interim evaluation was planned at the outset of the current Science Collaborative program and was conceived to answer two key questions:

1. How have Science Collaborative program activities affected the capacity of project teams to support coastal management and decision making?; and,
2. What are the collective impacts of the Science Collaborative program under the management of the University of Michigan?

By gathering data on current program elements, services, and functions from the full spectrum of program participants, the Science Collaborative gains insights that informs its work during fiscal year 2018 (the final year of the University of Michigan’s initial five-year cooperative agreement with NOAA) and provides useful information to NOAA’s Office for Coastal Management (OCM) for future program planning.

Two evaluation questions informed the development of four sub-questions (Box 1).

The three sub-questions to Question 1 aim to understand the effectiveness and value of the program’s request for proposal and non-competitive program elements and the overall ability of these elements to enhance the capacity of project teams to support coastal management and decision making. The sub-question to Question 2 seeks to understand how the program has influenced the reserve system’s capability to support coastal management.

To answer these questions, the Science Collaborative conducted the interim evaluation from September of 2017 through August of 2018 and hired an external contractor – Albert Blixt, Senior Partner at Dannemiller Tyson Associates – to assist with the development and administration of a survey and interviews. In selecting a third-party evaluator, the Science Collaborative intended that participants would feel comfortable sharing their candid feedback on the program. Data collection for the interim program evaluation included an online survey and interviews conducted by video conference call.

Box 1. Interim Evaluation Questions

Evaluation Question 1: How have Science Collaborative program activities affected the capacity of project teams to support coastal management and decision making?

- Does the program manage an RFP and review process that is credible, rigorous, and meets the reserve system’s needs?
- Does the program offer valuable and relevant non-competitive program elements that support collaborative research in the reserve system?
- Does the program enhance the capacity of project teams to support coastal management and decision making?

Evaluation Question 2: What are the collective impacts of the Science Collaborative program under the management of the University of Michigan?

- Does the program support the reserve system in its mission to support coastal management?

METHODS

Survey

A survey was distributed via Qualtrics in January of 2018 to 416 individuals representing one or more of five Science Collaborative participant types (Table 3). The survey protocol was developed by the Science Collaborative team in consultation with Albert Blixt and was comprised of 49 questions (see Appendix 1). Each respondent received a subset of questions based on their demographic information

(e.g., participant type, applicant vs. non-applicant, funded vs. unfunded applicant) and was given one month to complete the survey. The questions focused on participants' demographic information, experience with the collaborative research program, experience with program elements, and impression of the program's wider impacts on project teams and the reserve system.

Two hundred thirteen individuals completed the survey, yielding a 53% overall response rate. Response rates within each participant type ranged from 38-84%. Quantitative data was graphed to assess overall trends and comments were qualitatively analyzed for further details and insight into the program's effectiveness, value, and potential future directions (see Appendix 2).

Table 3. Science Collaborative participant types for the survey

| PARTICIPANT TYPE | DESCRIPTION | SAMPLE SIZE | NUMBER OF RESPONSES | RESPONSE RATE |
|------------------------|---|-------------|---------------------|---------------|
| Reserve staff | Individuals employed at a reserve working in the Management, Education, Coastal Training Program, Research, or Stewardship sectors. | 139 | 76 | 55% |
| Non-reserve applicants | Individuals who do not work at a reserve but applied for a Science Collaborative grant between 2014-2017 and served as a Project Lead, Collaborative Lead, or Technical Lead on the proposal. | 179 | 72 | 40% |
| Advisory board members | Individuals who served one or more terms on the Science Collaborative's advisory board between 2014-2017. | 18 | 15 | 83% |
| Panelists | Individuals who served as review panelists for one or more Collaborative Research/Integrated Assessment and/or Science Transfer competitions from 2014-2017. | 51 | 43 | 84% |
| NOAA OCM staff | Individuals working for NOAA OCM who work closely with the reserve system. | 29 | 11 | 38% |

Interviews

Twenty-three individuals were randomly selected within each of the following categories to be interviewed about their experience with the program:

- 8 project representatives (5 from Research/Integrated Assessment project teams; 3 from Science Transfer project teams);
- 5 unfunded project representatives (3 from Research/Integrated Assessment proposing teams; 2 from Science Transfer proposing teams);
- 3 past or current advisory board members;

- 4 review panelists (2 from Research/Integrated Assessment competitions; 2 from Science Transfer competitions); and
- 3 NOAA OCM staff (2 sector leads; 1 site liaison)

Interview protocols were co-designed with Albert Blixt to probe participants more deeply on topics discussed in the survey (see Appendix 3). Albert Blixt conducted the interviews in February and March of 2018 by video conference or phone, and interviews ranged from 30 to 60 minutes in length. All conversations were recorded

with interviewees' consent, transcribed, and qualitatively analyzed by Albert Blixt to identify common themes and notable insights or feedback.

Anonymity of Evaluation

Survey and interview participants were informed that their identities would be protected to allow for their open and honest feedback. For the purposes of this evaluation, identifying information has been omitted and quotes are not attributed.

FINDINGS

The interim program evaluation aimed to assess how well the Science Collaborative program is meeting its stated program goals and reserve system needs. The findings from the survey and interviews are discussed according to the evaluation question with which they most closely correspond, and each finding is color coded to denote either perceived strengths of the program or potential areas for improvement. Key quantitative findings and selected quotes are incorporated throughout to illustrate the analyses, and additional contextual information is included to provide further explanation. More detailed information about the survey and survey responses can be found in Appendix II.

■ *Continue*

■ *Consider improving or changing*

Evaluation Question 1: How have Science Collaborative program activities increased the capacity of project teams to support coastal management and decision making

Does the program manage a request for proposal and review process that is credible, rigorous, and meets the reserve system's needs?

Managing a robust, efficient, and fair request for proposal (RFP) and review process is the core function of the Science Collaborative program. The Science Collaborative adaptively manages the request for proposal and review process by seeking applicant feedback after every RFP cycle [<http://graham.umich.edu/water/nerrs/adaptive-management>] and this feedback is used to improve the application and review process in future competitions. One goal of this interim program evaluation was to gain a deeper understanding of how the broader set of program participants perceives the Science Collaborative's

overall management and administration of the process, and to determine whether the RFPs offered are meeting the reserve system's needs.

■ *All RFPs offered by the Science Collaborative are valuable to reserve staff, but in different ways*

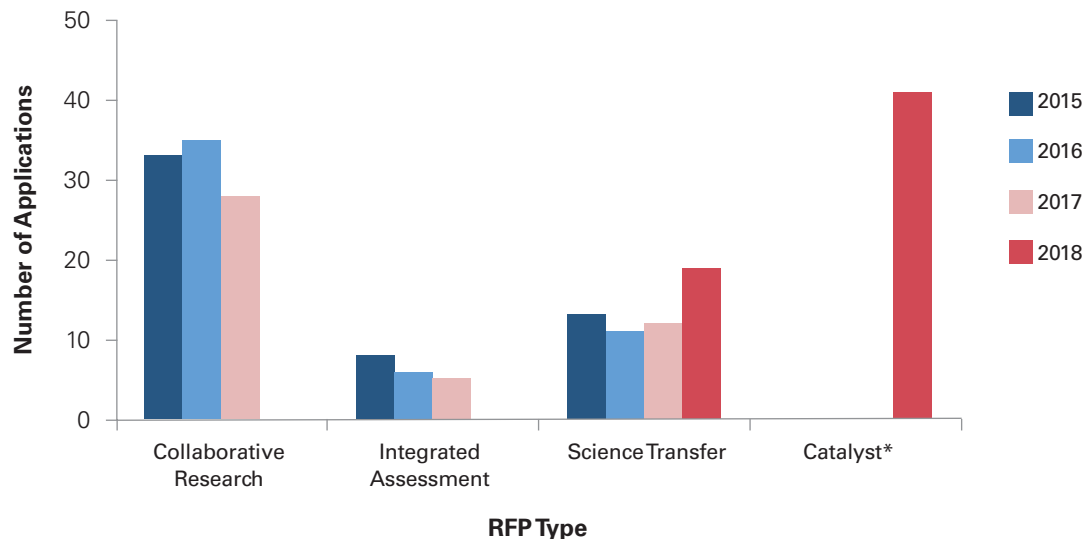
A key strength of the Science Collaborative's request for proposal process is the variety of project types it offers (Table 4). This variety allows reserve staff with different project ideas, backgrounds, and interests to apply for grants that best meet their diverse needs. Collaborative Research projects are particularly valued by reserve staff [72% of reserve survey respondents categorized them as high priority], which is not surprising given that reserve staff are the drivers behind such research and have the greatest stake in it (Figure 1). Moreover, Collaborative Research grants offer the highest amount of funding of any Science Collaborative grant (up to \$250K per year).

Table 4. Summary of RFPs solicited by the Science Collaborative from 2015-2018

| PROJECT TYPE | PURPOSE | FUNDING AMOUNT | PROJECT LENGTH | OFFERED |
|------------------------|---|-----------------------|----------------|----------------------|
| Collaborative Research | Generate science that informs decisions | Up to \$250K per year | 1-3 years | Annually (2015-2017) |
| Integrated Assessment | Evaluate options for action | Up to \$250K total | Up to 2 years | Annually (2015-2017) |
| Science Transfer | Promote the use of science | \$20K-45K | Up to 2 years | Annually (2015-2018) |
| Catalyst* | Scope out new project ideas/ collaborations | \$75K-250K | 1 year | 2018 |

*The Catalyst RFP was released concurrently with the program evaluation survey and interviews so it could not be evaluated. We include it only for completeness.

Figure 1. Pre-proposals (for Collaborative Research and Integrated Assessment RFPs) or proposals (for Science Transfer and Catalyst RFPs) submitted to the Science Collaborative from 2015-2018



*The Catalyst RFP was released concurrently with the program evaluation survey and interviews so it could not be evaluated. We include it only for completeness.

Although Science Transfer RFPs typically solicit about half as many applications as Collaborative Research RFPs, they are also highly valued by reserve staff [65% categorized them as high priority]. This may be explained by the fact that the application process for a Science Transfer project is simpler and less time intensive than other RFPs – a key benefit for busy reserve staff. Reserve staff also value the Science Transfer RFP’s explicit focus on sharing information and techniques within and beyond the reserve system, which is key to “...Getting the good science we have out to the users or sharing [between] other reserves.”

The Science Collaborative has received fewer applications for Integrated Assessment grants, but they are still perceived as a valuable project type. Collectively, 82% of reserve staff survey respondents ranked Integrated Assessments as high or medium priority, with one respondent describing them as a potential “opening to establishing cross project pollination.” However, comments from the survey and comparatively low application numbers to Integrated Assessment competitions, which are jointly solicited with Collaborative Research proposals, suggest that there is possibly

less interest or need for this project type, or some confusion about its purpose/application in the reserve system.

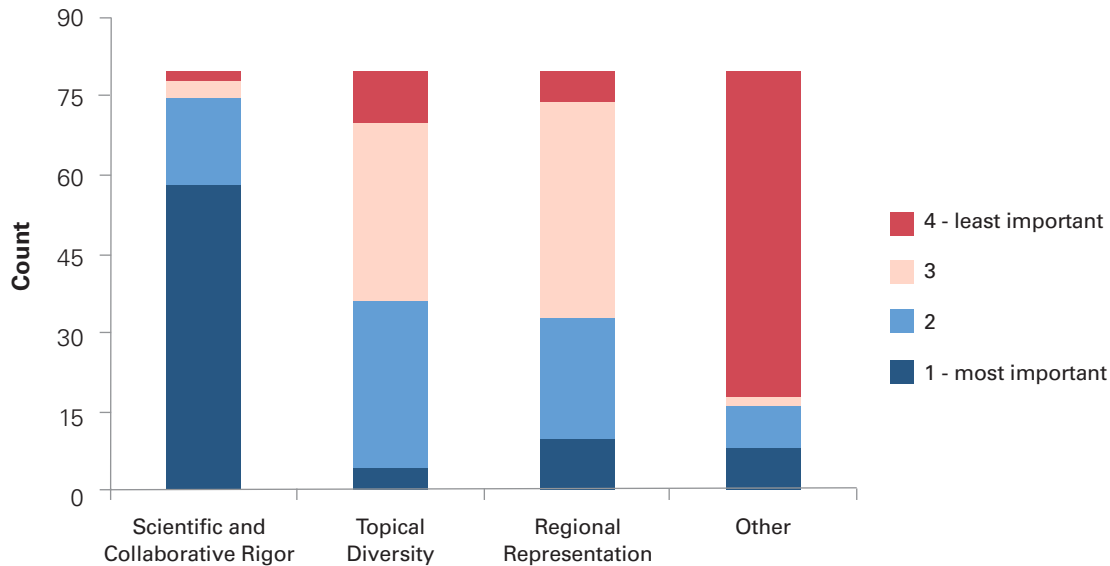
Respondents most value scientific and collaborative rigor in projects selected for funding

Program participants overwhelmingly believe that scientific and collaborative rigor are the most important evaluation criteria for proposals submitted to the Science Collaborative for consideration (Figure 2). Seventy-two percent of advisory board, reserve staff, and NOAA OCM staff who provided their priority evaluation criteria in the survey selected scientific and collaborative rigor as their top priorities. However, there appears to be a divide amongst participants about the relative importance of scientific versus collaborative rigor. Although the Science Collaborative emphasizes the collective importance of scientific and collaborative rigor in its RFPs, many program participants spoke specifically to the value of scientific or collaborative rigor in the evaluation. For instance, although one survey respondent commented, “The most important element is that the projects are using collaboration processes to engage the end user throughout the

program,” another noted, “Scientific rigor is first and foremost the critical element. Without scientific rigor, a project is a waste of time...”

This difference in participants’ valuation of scientific rigor and collaboration strength is not wholly surprising. Collaborative research, which endeavors to knit sound science together with the participants who will use its results, is a relatively new alternative to the traditional research paradigm, which emphasizes strong science above all else. Just like in the research community at large, the NERRS also reflects this diversity of opinion and this slow shift in scientific paradigms. Understanding that this tension will not soon subside but that program participants most value scientific and/or collaborative rigor provides clear evidence that the Science Collaborative and NOAA should continue using this evaluation criteria in its review process. However, the findings suggest that further work is needed to clarify participants’ perceptions of rigor, to continue to build capacity with collaboration, and to build the evidence base that collaborative rigor makes a difference to reserve research effectiveness.

Figure 2. Proposal selection criteria rankings by reserve staff, advisory board, and NOAA OCM staff.



Participants ranked topical diversity and regional representation as less important proposal selection criteria, and opinions on using each to evaluate proposals for funding were widely split. For instance, some respondents believe that “spreading effort across diverse topics every year dilutes the strength of the system to answer important questions,” while others value topical diversity in projects because coastal management must deal with a wide variety of issues. Conversely, some participants noted the importance of having more even regional representation of projects in order to diversify participation and more widely demonstrate the value of the Science Collaborative. Other respondents commented that making funding decisions based on regional representation comes at the expense of rigor and weakens the reserve system overall.

Participants desire a more streamlined RFP and application process

Although program participants clearly desire a RFP and review process that selects the most scientifically and collaboratively rigorous projects, many funding applicants share the opinion that the application process

is too time consuming and complex. As one survey respondent explained, “[The] proposal writing process [is] somewhat cumbersome with many steps, preproposal, letter of intent, [and] rounds of review.” Applicants desire a process that is less labor intensive and requires less duplicative and/or detailed information (e.g., names of all end users and organizations; letters of support). Teams that did not receive funding were especially adamant about the need for a more streamlined application process. Some of these respondents commented that developing proposals for Science Collaborative RFPs requires a significant amount of project teams’ and end users’ time and effort, and that doing this work and not receiving funding can burn social capital and damage relationships: “[Over the] last few years, not being invited to the next stage has soured the small pool of partners on going to the Science Collaborative.” These concerns apply to all types of RFPs offered by the Science Collaborative. One survey respondent commented that the application process is simply “too big a lift for any award under \$700K” [most Science Collaborative funding opportunities are below this level, with the exception of three-year research grants; see Table 4].

The Science Collaborative solicits a sufficient quantity of high-quality proposals

Panelists, who were asked to comment on the quantity and quality of proposals received for Science Collaborative RFPs, overwhelmingly believe the Science Collaborative is successful in recruiting a sufficient quantity of high quality, rigorous proposals [98% of panelist survey respondents agreed or somewhat agreed]. Panelists reported that the Science Collaborative frequently receives more “fundable” proposals than it has funds to support and that selecting a subset of proposals to fund is often a challenging endeavor. In particular, panelists commented on the impressive array of geographies, topics, and interests represented by proposals and noted, “It was obvious that a lot of time and effort went into a majority of the pre- and full proposals.”

A minority of panelists believe that proposals submitted to the Science Collaborative have room for improvement. One interviewee believed that this was inevitable, because people from a wide range of organizations and backgrounds

submit proposals to the Science Collaborative and some are less familiar with collaborative research than others. However, one survey respondent believed that proposals tend to be weak because they overemphasize collaboration and lack scientific rigor. This panelist's assessment again highlights the challenge of integrating both scientific and collaborative rigor into the proposal writing and review process. It underscores the need to have a review process that assesses the combined rigor of all proposals fairly, as well as the need to recruit reviewers and panelists that value both strong science and strong collaboration in submitted proposals. It also points to the need to further build capacity in collaborative research.

The Science Collaborative runs a rigorous and thorough review process

The majority of panelists consider the Science Collaborative's review process to be fair, rigorous, and thorough. Ninety-eight percent of panelists responding to the survey agreed that the Science Collaborative runs a rigorous process, describing it as "state of the art" and "the model for proposal request and review processes." For example, panelists commented that the diverse and qualified

panelists recruited by the Science Collaborative are a key strength of the process, as is the balanced composition of social and natural scientists on panels. Panelists believe the latter enables robust discussions of proposals and fair and balanced assessments of proposals' scientific and collaborative rigor. One interviewee recalled that even when one panelist was being unreasonably judgmental of a proposal, the group as a whole was able to balance this viewpoint and give it a fair assessment. Another described the environment among the panelists as "collaborative," noting that panelists clearly felt comfortable expressing their opinions.

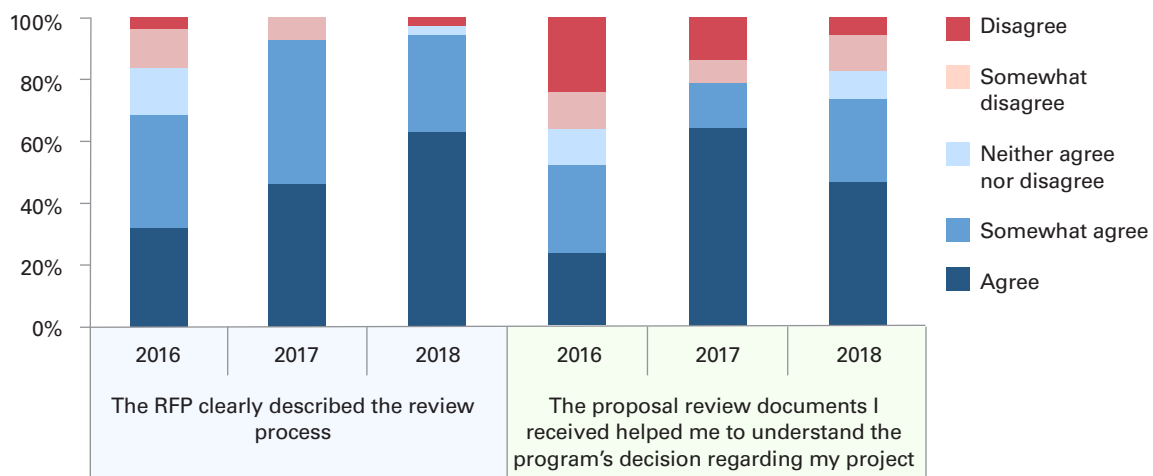
Panelists also emphasized the value of the training and logistical support provided by the Science Collaborative team, which they see as key factors in facilitating an organized and fair review of proposals. As one panelist explained, "...Training activities (webinars, in-person explanations) for panelists to orient them to the unique aspects of the calls for proposals and review process thereby enhanced reviewers' ability to review the pre- and full proposals." Another panelist noted, "We [had] a clearly defined ranking system and an open discussion about proposals. I think it was a fair process." Interviewees also commented

that Science Collaborative staff did a good job managing dates, logistics, and communications, and that they appreciated how eager the program staff was to solicit and implement panelists' feedback on ways to improve the process in future competitions.

Applicants seek to better understand the review process

While panelists believe that the review process is thorough and rigorous, some applicants expressed a desire to better understand how funding decisions are being made. Understanding the importance of transparency in the review process, the Science Collaborative includes the review criteria and step-by-step outline of the review process with every RFP. In addition, the program solicits feedback from applicants after every RFP cycle on the application and review process (Figure 3). The program uses this feedback to improve the application and review process in future RFPs and to improve its guidance to reviewers and panelists from year-to-year. However, survey and interview responses from program participants highlights the need for the program to continue working on providing applicants with clearer and more frequent communications about the review process.

Figure 3. Applicant feedback on the proposal review process for Science Collaborative RFPs from 2016-2018



Applicants expressed concern that review criteria are unclear and that the application of review criteria by technical reviewers is uneven, making it difficult for teams to understand and learn from funding decisions. One survey respondent commented, “Some of the reasons proposals have been dinged haven’t necessarily been clear in the past,” while others stated that their proposals seemed to have been reviewed less favorably for political reasons, or that they were not sure how social science research was valued or evaluated in the review process. One interviewee wondered how their project, which seemed to fit the RFP’s call for projects that addressed a high-priority reserve management issue and were highly multidisciplinary, could be rejected. Clearly, there is room for improvement in the Science Collaborative’s communications about the review process to applicants and in the feedback it provides to proposing teams.

■ Science Collaborative projects engage end users as effectively as or more effectively than other, similar grant programs

Panelists largely agree that the Science Collaborative is on par with or exceeds other, similar grant programs in supporting projects that demonstrate a high level of end user engagement. Approximately 61% of panelists responding to the survey agreed or somewhat agreed that Science Collaborative projects engage end users more effectively than other programs, noting that the program’s explicit emphasis on end user engagement throughout the application and review process drives meaningful and successful end user engagement in projects. Panelists commented that in many funding programs, “End users and outreach are tacked onto the end of a proposal with little thought” or that end users are only incorporated at the end of a project, after the product or output has been completed.

However, the Science Collaborative requires that end users be engaged in collaborative research from beginning-

to-end, a process one panelist labelled as ‘meaningful engagement’: “I really appreciate the Science Collaborative’s efforts to MEANINGFULLY engage end users throughout the process... Meaningful engagement begins with the conceptual, pre-proposal, and proposal writing phases and continues as the project proceeds.”

Other panelists were more tempered in their praise for the Science Collaborative’s end user engagement. 9% of panelist survey respondents believed that other programs, such as the National Science Foundation, NOAA’s Regional Integrated Sciences and Assessments (RISA) or Sea Grant Programs, are equally or more successful in funding projects that demonstrate successful end user engagement. Overall, however, panelists generally believe the Science Collaborative is keeping pace with its peers.

■ Participating in the RFP process can be a valuable experience for some project teams

Although some unfunded individuals highlighted concerns about the transparency of the review process or the uneven distribution of awards across the system, many indicated that they have gained a variety of benefits from participating in Science Collaborative competitions. Some participants commented that the detailed feedback from technical reviewers and/or panelists has helped them improve their proposal writing skills. Specifically, one participant commented that they learned to offer more specific evidence to justify their budget and frame arguments differently in future proposals.

Others noted that their participation in Science Collaborative competitions had improved their communication and collaboration skills, which helped them identify future partners and opportunities that otherwise they would not have known about. As one survey respondent explained, “The process of writing a proposal together led to improved collaboration and communication

among those of us working together.” Another survey respondent commented that although their proposals had not been successful, they had maintained communications with end users who were involved and are better able to understand their needs.

Finally, participation may be particularly valuable for applicants newer to the reserve system and to collaborative research in general, as it provides helpful orientation to where the reserve management needs and research interests intersect and what effective end user engagement looks like. One interviewee commented that the Science Collaborative’s RFP and review process ensures that the science results in management application, while a survey respondent noted, “Our organization has a strong relationship with the NERR, but the individuals involved with this particular project were first time applicants to the program and had a lot to learn and benefit from in the process.”

In addition to competitive grants, do other program elements provide valuable and relevant support for collaborative research in the reserve system?

In addition to designing and running grant competitions through a request for proposal process, the Science Collaborative offers a variety of non-competitive program elements that are broadly envisioned to assist applicants with proposal development and project management, share information about projects, bolster applied research about collaborative science, or build capacity within the reserve around key management concerns (Table 1). Understanding the relevance of these elements to the reserves and the ability of these elements to support collaborative research is critical to informing ongoing management of the program.

The Science Collaborative's grant and project support is highly valued by project teams

Project teams highlight the Science Collaborative's approach to managing and supporting projects as a key strength of the program and a valuable program element. Interviewees characterized both the University of Michigan and the University of New Hampshire's project support as "excellent," noting that project managers from both programs have been communicative, supportive, and flexible in allowing teams to adjust their budgets or request project extensions when they encounter setbacks. Project teams particularly value the flexibility and ease of reporting, noting that the reporting requirements are reasonable and streamlined, and that telephone check-in calls save project leads time and effort.

Others commented on the value of the annual project workshop, which one interviewee said had become increasingly valuable over time as an opportunity for conversation, collaboration, and sharing research and experiences with end user engagement. Of note, a few participants raised concerns about the cost and impact of travel for these workshops and suggested that the Science Collaborative consider ways to minimize both in the future.

Reserve staff value support for proposal development and project communication, but current offerings may require modification or reconsideration

Program elements that provide support for proposal development and project communication are largely well received by program participants who hope the Science Collaborative can continue to expand its offerings in these areas.

Although capacity building and partner engagement funds are underutilized (six capacity building and 14 partner engagement applications have been received since 2015), program participants generally appreciate having the opportunity to access small, targeted

pools of money that can help them develop collaborative research proposals: "The partnership funds and the capacity grants were great. Small amounts of money at key points can make a big difference." One survey respondent characterized Capacity Building funds as "...a very useful idea in helping get collaborative research up and running," and although others commented that they had not applied for these funds, they planned to do so in the future or appreciated knowing that they were available for them to access if needed.

Despite this, respondents also revealed a number of administrative challenges associated with applying for partner engagement and capacity building funds, which are perceived by some to be too expensive and administratively difficult to warrant application at the current \$1K and \$10K funding levels. Some reserve staff suggested that Capacity Building funds be rolled into operations funding for easier access or that the funding levels be increased in order to make the application process more worthwhile.

In addition to these funding opportunities, applicants expressed a clear desire for the Science Collaborative to be more forthcoming in helping teams develop strong proposals – something participants noted that previous iterations of the Science Collaborative did to a greater extent. As one applicant observed, "[The Science Collaborative] is the only program I've encountered that doesn't bend over backward to help people develop the strongest proposals possible." Participants suggested that the Science Collaborative post successful sample proposals and/or host webinars to help applicants better understand how to develop stronger, fundable proposals.

Program participants also value the communications support offered by the Science Collaborative, including webinars about newly issued RFPs and the Science for Estuaries webinar series, which disseminates information about projects to the reserve system and its partners. As one NOAA OCM staff member commented, "Webinars can

reach wide, distributed audiences and allow us to learn about the projects being funded through the collaborative..." While less frequently mentioned, the Science Collaborative website is also cited as a beneficial tool for staying informed about other collaborative research efforts across the reserve system. Project teams also appreciated graphic design support (e.g. for logo design) provided by the Science Collaborative.

Some participants suggested that the Science Collaborative increase its efforts to share project results and increase the visibility of the reserve system and its research programs. One interviewee hoped that the program could provide better technical support to participants in the future, such as access to video conferencing platforms, editing, and enhanced graphic design support. Another interviewee commented that they would like the Science Collaborative to help manage webinars that project teams wanted to offer to their own stakeholders and end users.

Applied research, collaboration support, and data management support are contributing value to the reserve system, but are less widely understood

Through the survey and interviews, participants were asked about their perceptions of four specific activities supported, in part, by the Science Collaborative program budget: 1) social science research on the usability of science, 2) the Successful Adaptation Indicators and Metrics (SAIM) project, 3) collaboration learning and support, and 4) data management support (see Table 1). Generally, program participants believe these elements are contributing value to the reserve system, but they are less visible and less well understood than other program elements. Additionally, program participants expressed a desire to know more about the costs associated with these program elements to better understand how they compare to other, valued Science Collaborative offerings.

Approximately 60% of reserve staff, advisory board, and NOAA OCM survey respondents agreed or somewhat agreed that these elements are contributing value to the reserve system. Although most participants appear to have had only substantive engagement with one or two of these program elements, comments from the survey highlight the perceived benefits of these elements to the reserve system. For instance, one survey respondent explained the high value they placed on research on the usability of science, noting: "I think it's extremely useful for us to figure out how to make the science useful, and their [Maria Lemos and James Arnott's] research into what works and what doesn't is very helpful." An advisory board member familiar with the data management support observed, "The data management support is very impressive. This is a thorny subject and one that many groups are challenged by."

However, much of the feedback from program participants underscores a wider lack of familiarity with these elements. Consistently, reserve staff, advisory board members, and NOAA OCM staff commented that they had not interacted with some of the elements and that although it was possible these elements were contributing value to the system, they could not make an informed assessment.

This lack of familiarity is most likely influenced by a few factors. First, these program elements have different reaches within the reserve system and each element is not necessarily directed to the same set of reserves or audience. For instance, although each reserve is involved with data management, and therefore familiar with the Centralized Data Management Office through the System-wide Monitoring Program, only five reserves are directly engaged with the Successful Adaptation Indicators and Metrics project. Professional sharing sessions at the NERRS-NERRA annual meeting have mostly reached coordinators in the Coastal Training Program sector, and only few reserve staff from other sectors participated in SAIM webinars offered to

date. Additionally, the applied research elements are only starting to wrap up in this fourth year of the program, so findings have not yet been widely shared with the reserve system. For example, research on understanding usability was just being completed at the time this evaluation was administered, and results, tools, and reports are only starting to be released and shared with the reserve system. Additionally, although these elements have been informing the design of the Science Collaborative's core program functions, such as requests for proposals, project support services and project reporting, these strategic programmatic support elements are mostly occurring in the background.

Clearly, although these various program elements are providing value to different audiences within the reserve system, communication about these elements needs to be stepped up in the remaining time in the five-year agreement. To assess whether these elements are meeting the reserve system's needs and bolstering its ability to support coastal management, the Science Collaborative must engage the broader reserve community in these elements through enhanced communication and request feedback again on these elements.

Does the program enhance the capacity of project teams to support coastal management and decision making?

A key goal of the interim program evaluation was to assess the program's success in increasing the capacity of project teams – the primary participants of the Science Collaborative program – to support coastal management and decision making. In asking teams about the personal and professional impacts of their participation in the program, it is evident that they are gaining a range of direct and indirect benefits, although the magnitude of benefits realized may differ between reserve and non-reserve participants.

■ Teams are gaining an increased appreciation for and ability to conduct collaborative research

Participation in the Science Collaborative program is increasing teams' appreciation for collaborative research, as well as their willingness and ability to apply an end user-engaged, collaborative approach to research projects. As one survey respondent reflected, "... Having an end user-focused research project results in valuable information that meets the needs of the community. This makes the research much more enjoyable to conduct." The beginning-to-end model of end user engagement required by the Science Collaborative presents a promising alternative to more traditional research or less rigorous collaborative research approaches project teams have previously employed. One participant commented: "We have been trying what we called collaborative research for years. However, we didn't really formally analyze the process, what was working and what wasn't, and that meant we weren't always getting key stakeholders involved...I'm very excited about the NERRS Science Collaborative approach of designing research from the beginning with stakeholders and keeping engagement the whole way through." A few interviewees expanded on this statement, commenting that their participation had improved their ability to understand and implement collaborative project design and methodology.

■ Teams are expanding their networks and connectivity to the reserve system through structured opportunities to interact with other project teams

Interacting with other project teams at events such as the Annual Project Workshop is a key benefit of project teams' participation in the Science Collaborative program. As interviewees explained, these interactions promote increased exposure and connection to other projects, increased connectivity within the reserve system and coastal research community, and expanded networks. Interviewees commented that their participation had extended their professional networks in ways that otherwise would not have happened, giving them the opportunity to meet people in their region facing similar issues as well as people with different areas of expertise. For some teams, the opportunity to meet other teams at workshops resulted in new collaborations. One survey respondent who works at a geographically distant reserve site recalled: "...During the Annual Meeting [workshop] in 2016, I got to know several people from the Rookery Bay NERR [in Florida], which gave me an opportunity to discuss my collaboration with RBNERR on a new NOAA project..."

Other respondents appreciated having the opportunity to learn more about the work that fellow teams are conducting elsewhere in the reserve system. One project team member commented, "The workshop was a great networking experience, and I especially enjoyed learning about the social sciences since that is a relatively new subject for me."

■ Non-reserve grant recipients report greater benefits than reserve staff

Generally, reserve staff report gaining fewer overall benefits from their participation in the Science Collaborative than non-reserve participants. This is particularly true related to the program's impact on teams' data management skills: the majority of reserve project team members are uncertain as to whether their participation in the program has influenced their appreciation for good data management, while non-reserve participants largely agree that it has. This discrepancy can perhaps be explained by two factors. First, not all projects produce new data, so many teams do not gain experience with data management. Second, the concept of good data management is not new to the reserve system since the Centralized Data Management Office has long worked with the reserve system to organize and manage System Wide Monitoring Program data. Therefore, it is not surprising that reserve participants would stand to gain fewer benefits or new information about good data management than non-reserve participants.

Reserve staff are also more ambivalent than non-reserve participants about the program's impact on their appreciation for collaborative research. Reserve staff stated repeatedly throughout the evaluation something similar to, "I already had an appreciation for end user-driven research before this proposal" as explanation. These comments underscore the fact that collaboration and end user-engaged research are not new to most in the reserve system and are, in fact, appreciated by most as central to reserve programs and the mission of the system. As such, the Science Collaborative may provide useful support and resources for reserve staff to engage with a wider range of partners in conducting collaborative research, but it is not introducing them to a new concept or approaches.

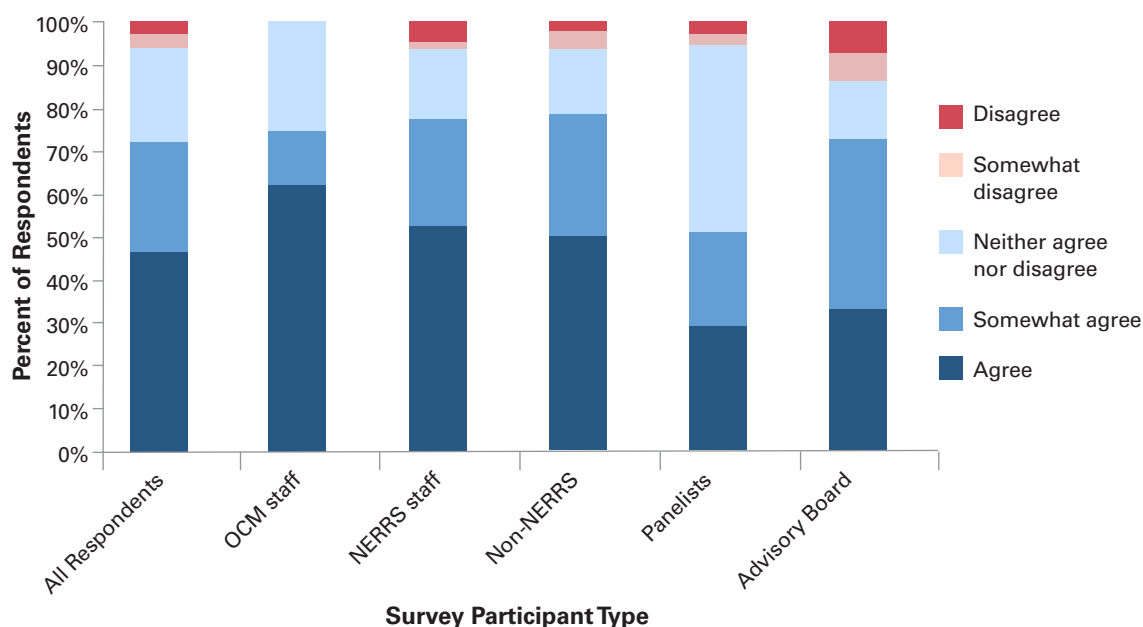
In contrast, non-reserve participants come from a variety of organizations and backgrounds and may, or may not, be familiar with collaborative research. For those participants who are less familiar with collaborative research and the reserve system, their participation in the Science Collaborative could be expected to result in a new or improved understanding of and appreciation for the role of social science in collaborative research.

■ Participation in the program influences the direction of project teams' future work

Project teams believe that their participation in Science Collaborative projects will influence the direction of their future work. For some, their experience has demonstrated the value of collaborative research and the need to take a collaborative approach to research more frequently in the future. As one survey respondent reflected, "...I have definitely gained a dramatic increase in my appreciation of the value and usefulness of collaborative projects – I know they work and are effective, and so I plan to participate in more in the future..." Some noted that their participation had strengthened their project management and facilitation skill sets by giving them practical experience coordinating and managing interactions with large, diverse project teams, building potential new collaborations with end users, and planning and running project meetings.

Others commented that their participation had helped them become better communicators, which would enable them to better understand and work with end users with diverse needs and constraints in the future.

Figure 4. Survey respondents' level of agreement with the statement, "Science Collaborative grants have been effective at increasing the capacity of project teams to support coastal management and decision making."



Grants have been effective at building the capacity of project teams to support coastal management, but project results and impacts should be shared more widely

Overall, program participants believe that Science Collaborative grants are successfully building the capacity of project teams to support coastal management and decision making (Figure 4). At the most basic level, the Science Collaborative's funding support builds capacity. Although the catalyst for truly impactful research is reserve staff, funding is needed to make research happen: "Funding support is critical to increasing capacity within the NERRS for this purpose, from whatever funding source is available." A NOAA OCM interviewee noted that the funding is especially valuable because it provides extramural support for important projects and encourages direct participation by reserve staff in research.

Beyond direct monetary support for projects, respondents cited a range of evidence to support their belief that grants are building the capacity of project teams. Some participants pointed to the fact that

projects are clearly incorporating coastal managers and decision makers into the collaborative research process, resulting in collaboration and information sharing that has yielded positive action. One NOAA OCM staff member observed:

"[I] have seen that Science Collaborative projects have successfully brought together reserves, scientists, and policy makers to improve the applicability of research conducted towards addressing coastal management issues and improved use of research by coastal decision makers. These projects appear to play a key role in a reserve's ability to support research that is actually being used by decision makers and help their regions address key issues..."

Others cited the Science Collaborative's explicit emphasis on developing end user-engaged projects as a key factor in helping project teams better support coastal management and decision making. A non-reserve survey respondent explained:

"Requiring proof of end user engagement on the front end of the proposal means that these projects are much more likely

to follow through with that engagement. Therefore, the project teams will incorporate managers throughout the project, making it more likely that managers will use the results of the research."

Despite this general agreement that the program is building the capacity of project teams, it is important to note that many program participants reported being unable to judge capacity building because of a lack of knowledge about project outcomes and impacts at this point. This is not surprising because, at the time of the survey, none of the projects were yet complete. However, the survey response heightens the importance of program communication efforts to all of the reserve system's stakeholder groups as the first round of projects wrap up.


Panelists frequently commented that they had not heard enough about project outcomes to offer an informed opinion about the Science Collaborative's impact on project teams. One panelist remarked, "I can't really say that I know these [Science Collaborative grants] have done this. Mostly because I'm not clear of what

the outcomes have been for projects in the region where I work.” Another noted, “The lack of follow-up does not lend itself to making an informed opinion. I assume the information was used productively.” This too, is not surprising because, of all the respondent classes, panelists would be least aware of project outcomes and updates. After all, they are most actively engaged with the Science Collaborative for only a short period of time – during the proposal review process. Their response underscores the need for developing robust communication about project outcomes and news to provide panelists and the extended reserve system.

Evaluation Question 2: What are the collective impacts of the Science Collaborative program under the management of the University of Michigan

Does the program support the reserve system in its mission to support coastal management?

Finally, taking into consideration the Science Collaborative’s full range of program offerings and support to project teams and the reserves, the Science Collaborative hoped to assess the program’s broader impacts on the reserve system. Specifically, how is the Science Collaborative influencing the ability of the reserve system to support coastal management and decision making around the country?

 *Advisory board members have become more engaged with the reserve system through their involvement in the Science Collaborative, but desire further opportunities to increase connectivity*

The Science Collaborative has an advisory board comprised of representatives from the reserve system, NOAA OCM, universities, and partner organizations such as Sea Grant, EPA’s National Estuary Program, and NOAA’s Integrated Ocean Observing System. The advisory board provides advice to the Science Collaborative about core program activities, priorities, and strategies for maximizing impact. It also serves as another way to foster connections between the reserve system and partner organizations. While the survey indicates that approximately half of advisory board respondents have increased their level of engagement with the reserve system, the other half are uncertain or disagree.

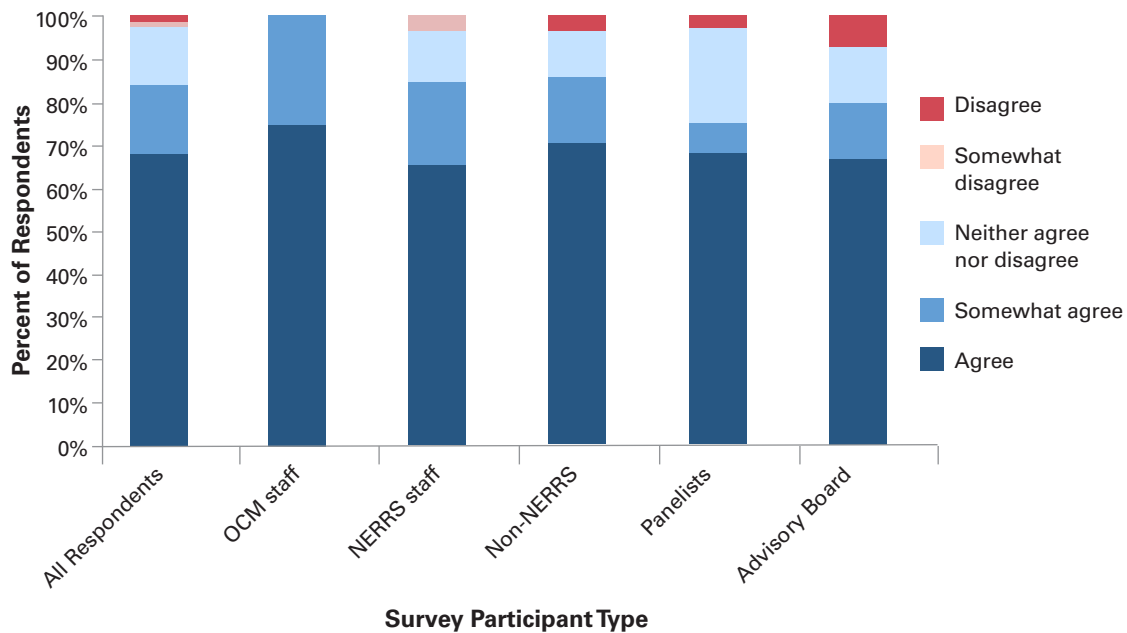
Those members who believed they had become more connected to the reserve system through their participation on the advisory board offered a range of explanations. An advisory board survey respondent commented, “I am more aware of coastal and reserve matters

[and] also attend other meetings with different groups.” One interviewee believed that they had gained more from their participation than the Science Collaborative had gained from them, noting that they had gained a greater understanding of the science going on in the reserve system and a greater appreciation of end users. Finally, some explained that their participation had allowed them to connect more effectively with other sector representatives or scientists at the national level, helping them learn more about the reserves and reserve system’s needs.

However, a similar proportion of respondents were uncertain or disagreed that they had increased their engagement with the reserve system or coastal partners through their involvement with the Science Collaborative. Those who disagreed largely explained that they had either already been well-connected with coastal stakeholders and/or the reserves before joining the advisory board or that they had not had opportunities to network through their participation on the board. As one survey respondent commented, “Prior to serving on the advisory board, I already had good collaborative working relationships with others in the NERRS and coastal partners working in my state, so that role did not increase that engagement, per se.”

Relatedly, some advisory board members believed that they had made a limited impact on the Science Collaborative and expressed a desire to contribute more to the program. A few respondents commented, “I am not sure how much impact the advisory board participation had on the program,” or that although their participation was an opportunity for personal growth, they did not feel as though they had been as useful as others on the board. Although many respondents appreciated the Science Collaborative’s adaptive approach and continual efforts to solicit feedback from the advisory board, members expressed a clear desire to participate in a more significant way, particularly in terms of data synthesis.

Figure 5. Survey respondents' level of agreement with the statement, "Overall, the Science Collaborative plays a valuable role in helping the NERR System support coastal management."



The program is helping the reserve system support coastal management

Overall, program participants believe that the Science Collaborative is playing a valuable role in helping the reserve system support coastal management [83% of all survey respondents agreed or somewhat agreed] (Figure 5). Participants referenced a variety of evidence to support this belief.

First, the Science Collaborative is valued for providing the reserve system with a dedicated pool of funding that supports the generation of strong science: "The Science Collaborative grants inform management of coastal areas through an increased scientific understanding of their function and the ecosystem services they provide. It plays a critical role in the NERR System's ability to execute their mission." It also nurtures "research and partnerships that don't exist elsewhere in the NERR System," therefore playing a valuable role in forging and expanding partnerships between scientists, managers, and decision makers.

Panelists point to the Science Collaborative's rigorous RFP process for supporting strong projects that position the reserve system to make a positive impact on coastal management. One survey respondent commented, "The rigor of the grant process reinforces the NERR goal of focusing on end user needs," and another explained, "[It] goes back to the number of very high-quality proposals that have direct impacts on end users and systems."

Other respondents referenced the end user engagement requirements embedded in Science Collaborative grants as factors enabling the reserve system to effectively support coastal management. One panelist called the Science Collaborative "...a great opportunity for the NERR System to be effectively used to address community-driven questions in a way that engages local stakeholders..." and noted that, "too often, 'top-down' efforts render results that are inappropriate for specific communities or delivered in formats that are unusable." By explicitly requiring scientists and researchers to work with end users in designing and

executing a project, these respondents believe the Science Collaborative is helping the reserves execute projects that have a real impact.

Finally, participants believe the greatest value of the Science Collaborative program is in raising the visibility of the reserve system overall and of the good work being done by the reserves. One survey respondent commented, "[The Science Collaborative] is a great vehicle to show the applied use of the reserve's strengths in local needs, research data, and engagement with local audiences." Another noted that the Science Collaborative "Puts the NERRS 'on the map' as an organization solidly committed to a collaborative approach to research that's been demonstrated to be successful and valuable to the communities served by the NERRS." A NOAA OCM interviewee commented that the scale of funding allows for substantial projects that attract the attention of other NOAA program offices and funding agencies.

More evaluation and communication about the broader impacts of projects is needed

Despite this widely shared belief that the Science Collaborative is positively influencing the reserve system's ability to support coastal management, many program participants desire more evaluation and communication about the outcomes of projects to more effectively judge the individual project and broader program impacts. This sentiment can partly be explained by timing; this evaluation occurred when most Science Collaborative grants were midway through their project periods and results were not yet being shared. Yet, this feedback challenges the Science Collaborative to develop strategies to more effectively communicate interim results and early impacts.

A few respondents specifically commented that there is a need for the program to evaluate projects to determine if products are being used by coastal managers and other end users. One survey respondent commented that the Science Collaborative should follow up post-grant with stakeholders to determine the impacts of projects, while another commented that there is not currently enough feedback from reserve staff after projects are completed to know if projects are influencing coastal management and decision making.

The program's influence on other research activities at reserves is unclear

Although project teams often credit their participation in the Science Collaborative program for increasing their appreciation of and willingness to conduct end user-engaged, collaborative research, reserve staff largely believe the program has had a limited or unclear impact on the reserves' overall approach to research.

It is clear that some reserve staff have carried over the end user engaged approach required by the Science Collaborative into other reserve-based research, noting the "huge potential for end user engagement to lead to more meaningful outcomes..." These staff commented that their experience with research funded by the Science Collaborative had led them to use a similar approach in other projects, both research-related and otherwise: "Our reserve has a much more collaborative approach to all research, CTP [Coastal Training Program], and education efforts after our experience with [the] Science Collaborative."

However, the majority of reserve staff questioned the impact of the Science Collaborative's approach on the way reserves approach research, largely because incorporating end users into scientific research is not a new practice for the reserve system. Again, the reserves by-and-large already use an end user-engaged approach in their research and had been doing so before Science Collaborative was created: "This IS what the reserve system is and does. We've done end user engagement as we do applied work." Since the work the reserve system does is driven by management needs, the reserves inherently employ an end user-engaged approach in all their research and the Science Collaborative serves more to support this type research rather than direct it. In the future, the Science Collaborative might explore ways to deepen this engagement and help reserves gain greater capacity where that is desired.

IMPLICATIONS

The interim evaluation provides a wealth of insight into program participants' perceptions of current program elements, services, and core functions, highlighting many areas where the Science Collaborative is meeting or exceeding program goals. However, the evaluation also reveals opportunities for improvement, yielding considerations that will inform the management of the Science Collaborative in both the short- and longer-term. Changes that the University of Michigan will implement in its final year of managing the program in the current five-year agreement with NOAA are summarized below ("short-term implications"), as well as longer-term considerations for future program management.

It is important to note that some of the feedback received in the evaluation falls outside the purview of the Science Collaborative, including comments and suggestions related to the reserve system overall, Science Collaborative focus areas and priorities, uneven distribution of Science Collaborative resources across the reserve system, proposal evaluation criteria, and funding levels. This feedback has been collected, synthesized, and shared with NOAA OCM for further review and consideration (see Appendix 4).

Short-Term Implications

I. Strengthen Communications about Projects

Program participants consistently expressed a desire to learn more about the work funded by the Science Collaborative. On an individual level, participants want to understand how their peers are engaging end users in coastal research and use lessons learned and outputs developed by others to guide their own work. On a broader level, participants want to hear more about project impact and certain program elements, but also want the Science Collaborative to "create some buzz" and "build a momentum"

around the program by publicizing and sharing the good work coming out of the reserve system with a broader audience.

The Science Collaborative recognizes the need to strengthen and enhance its communication efforts, particularly as the first and second cohorts of Collaborative Research and Integrated Assessment projects wrap up in late 2018 and early 2019. To better highlight the results and impacts of projects, the Science Collaborative is currently working to enhance its communications platform. This includes launching a revised website that will feature updates from project teams and the Science Collaborative team that can be shared as news blasts, as well as an interactive, searchable resource library. Along with the website, the Science Collaborative team will also be compiling and sharing periodic news digests with reserve and Science Collaborative partners to keep participants updated on project news and results.

To further increase system connectivity and "create a critical mass of projects," the Science Collaborative will also undertake syntheses of projects across common topical areas in order to highlight how reserves and their partners have made advancements in these areas.

Specifically, some participants in this and prior evaluations requested that the Science Collaborative "help us tell the stories the SWMP (System-wide Monitoring Program) data holds – more analysis and interpretation for public consumption" by conducting syntheses of real-time data. The Science Collaborative is and has been working to address this need, most recently by issuing the 2018 Catalyst RFP, which explicitly solicited projects that would synthesize SWMP data. Of the eleven Catalyst projects recommended to NOAA for funding, two focus on SWMP data syntheses.

II. Evaluate Project Outcomes

Some participants commented that they could not evaluate the impact of Science Collaborative funding without a formal evaluation of project outcomes. Although

there is some disagreement about whether the Science Collaborative itself should be conducting such an evaluation, program participants clearly desire a systematic, quantifiable assessment of project impacts. As one respondent commented, "...Follow-up post-grant with stakeholders to assess impacts would be informative – was the science put to use and how?"

Since 2015, the Science Collaborative has been working on such an evaluation as part of Maria Lemos' research on understanding usability. End users involved in Collaborative Research or Integrated Assessment projects are sent pre- and post-project surveys to assess their attitudes toward collaborative research. Their responses will allow Maria to determine if their engagement with the project equipped them with valuable information, skills, and contacts and whether the products and resources developed are being used. Since projects from the first cohort of Collaborative Research and Integrated Assessment grants are just finishing, the results of this evaluation are not yet available. However, the Science Collaborative will share the results of this evaluation after all Collaborative Research and Integrated Assessment projects are completed in 2019.

III. Improve Communications about Non-Competitive Program Elements

Although program participants interacting with the different non-competitive program elements – the usability research, collaboration learning and support, data management support, and the Successful [Climate] Adaptation Indicators and Metrics project – consider them to be valuable, an important takeaway from the evaluation is that participants are largely unfamiliar with at least some of them. Even though each of these elements targets different audiences in terms of size and composition, there is clearly a need for improved communication about them to the reserve system at large. In the final year of the program, the Science Collaborative will make a concerted effort

to share the findings and tools developed within each of these program elements to help highlight the value they have added to the more visible program components – the RFP processes and program management.

The Science Collaborative understands the desire to know more about the cost of different program elements and commits to providing an annual breakdown by program activity, such as: Collaborative Research, Integrated Assessment, Science Transfer, and Catalyst support; program-level applied research; project support; program administration; indirect (charged by the Science Collaborative).

IV. Expand Project Management Support Offerings

As project teams engage end users in coastal research, they recognize a need for additional project management and communications support. Although the survey demonstrates that many program participants, particularly reserve staff, are familiar and experienced with collaborative research, other team members suggest that the Science Collaborative could provide additional project management support to help them address the unique challenges of managing collaborative projects. In other evaluation tools administered by the Science Collaborative, such as the 2017 Annual Project Workshop, project leads commented on the amount of time, flexibility, and patience needed to coordinate diverse teams, as well as the need to orient and train green project participants on the collaborative process. Participants suggested that the Science Collaborative address this need by expanding its project management toolkit. In its final year, the Science Collaborative plans to incorporate these suggestions by exploring additional potential project development and management tools for teams, especially those that will enhance collaborative capacities.

The Science Collaborative will inventory and assemble its communication and project management support tools in a more cohesive and easily accessible manner on the revised program website.

In addition, the Science Collaborative will explore the potential to provide webinar support to teams and/or provide them access to the video and other conferencing platforms they need to do it themselves.

Longer-Term Implications

I. Improve Proposal Development Resources

The Science Collaborative is careful to provide equitable treatment to all proposing teams during an open grant competition. However, there is a clear desire for more support for applicants at different skill levels at other times. Some applicants suggest that the Science Collaborative consider ways to bolster and diversify the proposal development resources they offer the Reserve System.

II. Consider Ways to Streamline the Application Process

The evaluation demonstrates a pervasive desire among reserve staff for a simplified RFP application process, which they frequently characterized as time-consuming and overly complex. Specifically, reserve staff suggested streamlining the pre-proposal process, reducing the amount of detailed information required on applications, and reconfiguring the manager assessment process.

III. Look for New Ways to Explain the Review Process to Applicants

Respondents' comments suggest a need for the Science Collaborative to better explain the review and selection process to applicants. This may include clarifying how panelists are prepared to review proposals and how the Science Collaborative ensures review criteria are consistently applied, as well as improving the feedback documents provided to applicants.

IV. Continue to Adapt and Improve the Types of Requests for Proposals Offered

Program participants value the variety of projects offered by the Science Collaborative and hope that it can continue

to adapt current requests for proposals or offer new opportunities to meet reserves' research needs better. The great interest in the Catalyst RFP points to the importance of learning why it was so popular and applying relevant lessons to other Science Collaborative RFP processes.

V. Seek Out Opportunities to Increase Connections Across the Reserve System

The desire for increased reserve system connectivity is a common thread throughout the evaluation. Although respondents believe that the Science Collaborative has put more "glue in the system," enabling it to work more collaboratively, participants believe that the Science Collaborative could do more to enhance the capacity of the reserves to work together and publicize the work the system is doing to improve coastal management and decision making. This may include leveraging data across projects to create new and usable science and products, providing a forum for sharing completed projects and news, and enhancing communications about projects.

AN APPRECIATION IN CLOSING

The interim Science Collaborative program evaluation synthesized here illustrates the value of ongoing learning and adaptively improving program management, so as to enable the Science Collaborative to more effectively support the reserve system. We appreciate the time taken by all who participated in the survey and interviews and provided their views; the contributions of our external evaluation contractor that enabled us to obtain frank feedback from respondents; and NOAA's support for our adaptive management approach. We are committed to using the insights gained toward strengthening the Science Collaborative's support of the reserve system.

APPENDIX I. SURVEY QUESTIONNAIRE

The NERRS Science Collaborative takes an adaptive approach to program management that enables ongoing learning and improvement. This approach is critical for fostering usable science to support coastal resource management and delivering the best program to the NERR System.

The 2018 Science Collaborative Program Evaluation is one mechanism being used to learn about and enhance the program. The purposes are threefold: 1) Evaluate current program elements, services, and functions; 2) inform the program in fiscal year 2018-19; and 3) inform NOAA's management of the program.

For this effort, the Science Collaborative has engaged a third party consultant, Al Blixt of Dannemiller Tyson Associates. This survey is the first of a two-part data collection effort for the 2018 program evaluation. A subset of the individuals receiving the survey will be invited to participate in interviews in early 2018.

If you have questions or comments about this survey, please contact Al Blixt (alblixt@dannemillertyson.com; 734-657-5772).

Thank you in advance for your participation.

How information collected through this survey will be used: Responses will be anonymous and the anonymity of respondents will be maintained; Your responses and those provided by other respondents will be used for an analysis conducted by Al Blixt; and The results will be shared with NOAA and made publicly available.

Important information for completing the survey: It should take approximately 15-20 minutes. You cannot save and return to a partially completed form; **you must complete the survey in one sitting.** Please use a computer, rather than a mobile device. The survey will remain open through Friday, January 26, 2018.

Informed Consent: In completing this form, I acknowledge the following: My participation is completely voluntary. I am NOT required to do this, and I can stop at any time. The information collected will be used for program learning purposes only. My responses will be anonymous, and I will not be identified in any reports.

I. DEMOGRAPHICS

What type of organization do you work for? Please select only one response.

- State Agency/Government
- Federal Agency/Government
- Tribal Agency/Government
- County Agency/Government
- Local Agency/Government
- Regional Agency/Government
- University or College
- Non-Profit Organization
- For-Profit Organization
- Other (please describe)

Which of the following describes you? Please check all that apply.

- I work for one of the reserves in the NERR system.
- I served on a Science Collaborative proposing team but am not a member of a reserve. (This excludes participation in the active 2018 catalyst request for proposals.)
- I served as a review panelist for at least one Science Collaborative request for proposals (RFP) review process. (This excludes the active 2018 catalyst request for proposals.)
- I am currently or have served in the past as a Science Collaborative Advisory Board Member.
- I am a staff member with the Office for Coastal Management.

Please indicate your sector:

- Manager
- Research
- Coastal Training Program
- Education
- Stewardship

How long have you worked as part of the NERR System?

- Less than five years
- Five or more years

How long have you worked with the NERR System?

- Less than five years
- Five or more years

Please indicate the RFP(s) for which you served as a review panelist.

Please check all that apply.

- Collaborative Research/Integrated Assessment RFP
- Science Transfer RFP

Please indicate the number of times you served as a panelist for a Collaborative Research/Integrated Assessment RFP. (This question excludes the active 2018 catalyst request for proposals.)

- Once
- Two times
- Three times
- Four or more times

Please indicate the number of times you served as a review panelist for a Science Transfer RFP.

- Once
- Two times
- Three times
- Four or more times

Please indicate the extent to which you agree or disagree with the following statement.
The Science Collaborative program received a sufficient quantity of high quality proposals.

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

Please provide comments to explain your response.

Please indicate the extent to which you agree or disagree with the following statement.
The Science Collaborative program ran a rigorous and thorough review process.

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

Please provide comments to explain your response.

If you have served as a review panelist for other research programs, please compare the experience you had elsewhere to that of a Science Collaborative review panelist, specifically, the degree to which you agree or disagree with the following statement.
Science Collaborative projects engage end users more effectively than other research programs with which I am familiar.

- Agree
- Somewhat agree
- Neither agree nor disagree

- Somewhat disagree
- Disagree
- I have not served on other review panels.

Please provide comments to explain your response.

If you served as a Science Collaborative review panelist more than once, did you see an improvement in the overall quality of proposals over the course of your engagement as a panelist?

- Yes
- No
- Not sure
- Cannot judge, as I served just once as a review panelist

Please provide comments to explain your response.

Please comment on your experience as a Science Collaborative review panelist. Specifically, what are the strengths of the program and what are opportunities for improvement?

Please indicate the extent to which you agree or disagree with the following statement: *Through my experience on the Science Collaborative Advisory Board, I have increased my engagement with the NERR System and/or other coastal partners.*

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

Please provide comments to explain your response.

Please share any additional observations about your experience as an Advisory Board member.

II. COLLABORATIVE RESEARCH PROGRAM QUESTIONS

Have you submitted a proposal in response to a Science Collaborative science transfer and/or collaborative research/integrated assessment request for proposals? (This question excludes the active catalyst request for proposals.)

- Yes
 No

How much did each of the following influence your decision NOT to participate in a Science Collaborative grant competition?

| | A LOT | SOME | A LITTLE | NOT AT ALL |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Lack of time | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Limited reserve capacity to support project | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Little experience with proposal development | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please provide comments to explain your responses above.

How frequently have you participated in the development of *collaborative research and/or integrated assessment* proposals in response to Science Collaborative funding requests? Please select only one response.

- More than one proposal annually
 One proposal annually
 Multiple proposals in one or more years since 2014, but less than annually
 One proposal since 2014
 No proposals submitted

Was one or more of your collaborative research and/or integrated assessment proposals funded?

- Yes
 No

How frequently have you participated in the development of *collaborative research and/or integrated assessment* proposals in response to Science Collaborative funding requests? Please select only one response.

- More than one proposal annually
 One proposal annually
 Multiple proposals in one or more years since 2014, but less than annually
 One proposal since 2014
 No proposals submitted

Was one or more of your collaborative research and/or integrated assessment proposals funded?

- Yes
 No

Please indicate the extent to which you agree or disagree with each of the following statements. Participating in the collaborative research/integrated assessment competition:

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE | NOT APPLICABLE |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Led to new or improved partnerships for me or my organization | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Better positioned me or my organization to respond to other funding opportunities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Led to my better understanding of how to do collaborative research | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Led to my better understanding of where reserve management needs and research interests intersect | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please provide comments to explain your responses and share any other benefits not captured in the list above.

Please indicate your role(s) in project(s) funded through the Science Collaborative. Please check all that apply.

- Project Lead (P.I.)
 Collaborative Lead
 Technical Lead
 Other (please describe)

This next set of questions is about what you may have gained as a result of participating in the Science Collaborative program and/or interacting with the Science Collaborative team. Science Collaborative team includes your project manager and others such as Maria Lemos, Julia Wondolleck, Dwayne Porter, and Jen Read. Please indicate the extent to which you agree or disagree with the following statements:

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE | NOT APPLICABLE |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| I have an increased appreciation for the value of a collaborative, end user engaged approach to a research project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My willingness to apply a collaborative, end user engaged approach to other projects has increased. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have an increased ability to facilitate a collaborative research process | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have an increased appreciation for the role/value of good data management (e.g. metadata). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have an increased ability to implement good data management practices. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have an increased appreciation for the social science informing collaborative research. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please provide comments to explain your responses above.

What have you gained as a result of interacting with other project teams, such as at the annual project workshop convened by the Science Collaborative? Please check all that apply.

- Gained insight about the end user engagement process
- Expanded my professional network
- Identified new potential collaborations
- Collaborating/collaborated with another project team on my Science Collaborative project
- Collaborating/collaborated with another project team on a related or new effort
- Other _____
- Nothing

Please provide comments to explain your response.

Overall, how will what you learned through this collaborative process inform your future work?

III. QUESTIONS ABOUT PROGRAM ELEMENTS

Please indicate the extent to which you believe the following Science Collaborative program elements are contributing overall value to the NERR System.

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Understanding usability (research into usability and developing tools to support collaborative research) - Maria Lemos, James Arnott | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Collaboration support - Julia Wondolleck | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Successful Adaptation Indicators and Metrics Project - Susi Moser, James Arnott | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Data management support - Dwayne Porter, Jeremy Cothran | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please provide comments to explain your responses.

Please provide any suggestions for how the Science Collaborative can increase the value of these program elements to the NERR System.

Are there additional Science Collaborative program elements that you have found especially helpful, e.g., periodic information webinars, capacity building grants (up to \$10k), informal Science Collaborative support to reserves, \$1k partnership engagement funds for proposal development, Collaborative Science for Estuaries webinar series? Please identify and comment.

We are also interested in suggestions for entirely new program elements, please describe.

IV. QUESTIONS RELATED TO THE OVERALL PROGRAM

Please rank the following in order of what you value most in projects supported by a research program. (Rank by clicking on and dragging each option below with the top being what you value most.)

- _____ Topical Diversity
- _____ Regional Representation
- _____ Scientific and collaborative rigor
- _____ Other (please describe)

Please provide comments to explain your ranking.

Thinking about your reserve’s programmatic needs, what priority do you assign the following project types?

| | HIGH PRIORITY | MEDIUM PRIORITY | LOW PRIORITY |
|------------------------|-----------------------|-----------------------|-----------------------|
| Collaborative research | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Integrated assessment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Science transfer | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Capacity building | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please provide comments to explain your response.

From your perspective, what NERRS research has been influenced by the approach to end user engagement required by the Science Collaborative?

- Only Science Collaborative-funded research
- Only when other funders, including the Science Collaborative, require societal research impacts
- Science Collaborative and some reserve-guided/directed research
- All reserve-guided/directed research
- None
- I’m not sure

Please provide comments to explain your response.

FINAL QUESTIONS FOR ALL

Please indicate the extent to which you agree or disagree with the following statement:

Science Collaborative competitive grants have been effective at increasing the capacity of project teams to support coastal management and decision making.

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

Please provide comments to explain your response.

Please indicate the extent to which you agree or disagree with the following statement:

- Overall, the Science Collaborative plays a valuable role in helping the NERR System support coastal management.
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree

Please provide comments to explain your responses.

If you wish, please provide any additional comments regarding the work of the Science Collaborative for the NERR System.

This is the end of the survey. You must click the advance arrow below to submit your responses; otherwise your responses will not be logged in the system. Once you advance, you will not be able to return to the survey. Thank you so much for your time!

APPENDIX II. PROGRAM EVALUATION SURVEY DATA

I. DEMOGRAPHICS

Question: **What type of organization do you work for?** Please select only one response.

Posed to: All

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| State Agency/Government | 56 | 27% |
| Federal Agency/Government | 24 | 12% |
| Tribal Agency/Government | 1 | 0% |
| County Agency/Government | 0 | 0% |
| Local Agency/Government | 2 | 1% |
| Regional Agency/Government | 3 | 1% |
| University or College | 82 | 39% |
| Non-Profit Organization | 22 | 11% |
| For-Profit Organization | 6 | 3% |
| Other | 12 | 6% |

Question: **Which of the following describes you?** Please check all that apply.

Posed to: All

Notes: Response for this question was forced

| | COUNT | PERCENT |
|--|-------|---------|
| NERRS Staff | 76 | 35% |
| Non-NERRS Staff but served on a proposal | 72 | 33% |
| Panelist | 43 | 20% |
| Advisory Board Member | 15 | 7% |
| NOAA OCM Staff | 11 | 5% |

Question: **Please indicate your sector.**

Posed to: NERRS Staff

| | COUNT | PERCENT |
|--------------------------|-------|---------|
| Manager | 16 | 21% |
| Research | 15 | 20% |
| Coastal Training Program | 18 | 24% |
| Education | 16 | 21% |
| Stewardship | 11 | 14% |

Question: **How long have you worked as part of the NERR System?**

Posed to: NERRS Staff

| | COUNT | PERCENT |
|----------------------|-------|---------|
| Less than five years | 25 | 33% |
| More than five years | 50 | 67% |

Question: **How long have you worked with the NERR System?**

Posed to: NOAA OCM Staff

| | COUNT | PERCENT |
|----------------------|-------|---------|
| Less than five years | 4 | 44% |
| More than five years | 5 | 56% |

Question: **Please indicate the RFP(s) for which you served as a review panelist.**

Please check all that apply.

Posed to: Panelists

| | COUNT | PERCENT |
|--|-------|---------|
| Collaborative Research/Integrated Assessment RFP | 31 | 67% |
| Science Transfer RFP | 15 | 33% |

Question: **Please indicate the number of times you served as a panelist for a Collaborative Research/Integrated Assessment RFP.**

(This question excludes the active 2018 catalyst request for proposals.)

Posed to: Panelists

| | COUNT | PERCENT |
|--------------------|-------|---------|
| Once | 20 | 65% |
| Two times | 6 | 19% |
| Three times | 4 | 13% |
| Four or more times | 1 | 3% |

Question: **Please indicate the number of times you served as a review panelist for a Science Transfer RFP.**

Posed to: Panelists

| | COUNT | PERCENT |
|--------------------|-------|---------|
| Once | 12 | 86% |
| Two times | 1 | 7% |
| Three times | 1 | 7% |
| Four or more times | 0 | 0% |

Question: **Please indicate the extent to which you agree or disagree with the following statement: *The Science Collaborative program received a sufficient quantity of high quality proposals.***

Posed to: Panelists

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| Agree | 36 | 84% |
| Somewhat agree | 6 | 14% |
| Neither agree nor disagree | 0 | 0% |
| Somewhat disagree | 1 | 2% |
| Disagree | 0 | 0% |

| THEMES | SURVEY COMMENTS |
|---|---|
| Proposals are high quality | There were more top proposals than funds. |
| | There were many high quality proposals which made it a difficult decision to select which ones to be funded. |
| | There were proposals I reviewed that I would have liked to have seen funded and they did not receive funding - which shows that there were a lot of high quality proposals. |
| | The Science Collaborative received a range of proposals in terms quality, but in the end, given the amount of funding available, there were more "fundable" proposals than funds available. |
| | During the panels that I participated in, we ended up rejecting proposals that we would otherwise have recommended for funding if the program funding level had been higher. |
| | There were more quality proposals, that were rated as worthy of funding, than there were funds to award. |
| | 2015 was my first , and so far, only experience serving on the review panel. I thought there were many high quality proposals. |
| | I was impressed with the quality of the proposals and would love to set up this type of program where I work. |
| | The proposals that I reviewed have for the most part have all been high quality projects |
| | I had the opportunity to review a large number of high quality proposals. Determining funding priorities was challenging because of the number of really high quality proposals. |
| | The proposals I've seen extended across a wide range of topics and ran from fairly conventional approaches to very innovative. In any set of proposals there are a small percentage that are clearly not worth funding, a larger portion of proposals with some merit, and a small number of very good ones. I've never felt like there wasn't a good project to support. |
| | As a reviewer it was never easy to narrow down the top ones, I always felt there were plenty of opportunities to fund. That there were more "Yes, I would fund" responses than "Would not fund" responses. |
| | 41 pre-proposals; panel had excellent discussions to whittle the number down to the 8 or so top proposals (I don't recall the exact number). 2015 I also started on the panel for 2016, but had to discontinue before the panel meeting; but I was impressed by the quality of the proposals I had started to review. |
| | I was impressed with the caliber of the proposals. There were sufficient proposals to make for compelling discussion within the panel |
| | Excellent breadth and depth of proposals from many reserves and institutions. It was obvious that alot of time and effort went into a majority of the pre- and full-proposals. |
| | Each of the 3 years we began with a strong set of proposals, and they improved from year to year, as people became more familiar with the co-production concept and requirements. |
| Good range of geography omg proposers, wide range of ideas. [PS: just had shoulder surgery and typing is tough] | |
| the submissions seemed a fair representation of current interests and skills | |

| THEMES | SURVEY COMMENTS |
|---|--|
| Proposals are ok but could use improvement | In general I thought that the proposals could have been better written and provided greater detail on the work plans. I believe this was the first year the the available funding was closer to \$100K than \$40K or \$50K. I think that the quality of the proposals was closer to what I would expect from those lower figures. I expect that the community will raise their standards somewhat following this year's results. |
| | The overall quality of the proposals was not bad, but it could have been somewhat better |
| Proposals are poor quality | The proposal system emphasizes political connections with NERR staff over the science, and so proposals tend to be scientifically weak, even when they come from strong teams. |
| | The "collaborative" aspect of the proposals was often touchy-feely, and not enough weight was put on high quality research. |

Question: **Please indicate the extent to which you agree or disagree with the following statement:
*The Science Collaborative program ran a rigorous and thorough review process.***

Posed to: Panelists

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| Agree | 40 | 93% |
| Somewhat agree | 2 | 5% |
| Neither agree nor disagree | 0 | 0% |
| Somewhat disagree | 1 | 2% |
| Disagree | 0 | 0% |

| THEMES | SURVEY COMMENTS |
|--|--|
| Review process is robust and rigorous | I really appreciated the process. While not perfect, it definitely was robust and thorough. |
| | I strongly agree. The multi-stage process with a review panel, technical reviews and responses from the proposal writers as well as the chance to ask questions of the proposal team, including collaborators was the best I have seen in over 20 years |
| | The process was very thorough, very rigorous. I appreciated the use of technology and organization the team demonstrated. |
| | We have a clearly defined ranking system and an open discussion about proposals. I think it was a fair process. |
| | State of the art proposal review process, comparable to Sea Grant, and stronger than internal NOAA panels that I have participated on. |
| | I run a grant program for NOAA and have served as a Federal program officer for many years now. The Science Collaborative's review process provided sufficient documentation and training for the reviewers to do their jobs well. The range of expertise of the panel of reviewers of which I was a part was balanced, matching the range of proposal topics. |
| | Knowledgeable reviewers and good discussions. |

| THEMES | SURVEY COMMENTS |
|---|---|
| Review process is robust and rigorous | It was collaborative and run well. The greatest challenge was to do this all via video conferencing. |
| | All proposals were reviewed by subject matter expert reviewers and three of the panel members. |
| | I consider it the model for proposal request and review processes. Very powerful in terms of implementing co-production; and the process is done in meaty, thoughtful steps wherein the review panels really works the proposals against the criteria, and also works together as an integrated team. |
| | I thought the process was rigorous and elicited very high caliber projects. I was so impressed with the process that I have incorporated elements of the Science Collaborative review process into my own program's proposal review process. |
| | The panelists I've served with come from a variety of backgrounds and are well-informed in their areas of expertise. There is a 2-step review process (individual and panel discussion) that helps balance out different viewpoints. |
| | I have only participated in the review process once, but the efficiency, rigor and collaborative process was impressive. |
| | High quality panelists, excellent procedures and administrative support from the Michigan group, alot of discussions with a fair-and-balanced approach to assessment and evaluation of the proposals. |
| | Excellent panel discussions on the many proposals deemed of high enough quality. Selection of proposals made and the proposers were interviewed. Interviews were fair, with equal time allotted for each proposal. Post interview discussions were thorough. |
| | including multiple perspectives, including local partner agencies, is effective. Strengths include: 1) strong processes to review both the technical and collaborative aspects of proposals. 2) the pre-proposal requirement, which helped to both limit the full proposals to the strongest projects and enhance the quality of those proposals at the full proposal stage. 3) clear and appropriate review criteria. Additionally, the program made slight revisions to the online review form format across years that solicited even more specific and thorough comments from reviewers 4) identification of well-qualified reviewers 5) training activities (webinars, in-person explanations) for reviewers to orient them to the unique aspects of the calls for proposals and review process, thereby enhancing reviewers' ability to review the pre- and full proposals. 6) strong group process facilitation to ensure consistency across proposals during panel discussions and scoring |
| Review process is fair, but overemphasizes collaboration/ outreach | in genetal, the assessments were fair....I would note however, that too much emphasis was given to the outreach details, including demands that lots of names of people and agencies were listed....I do not think that was necessary or appropriate: when good information is prodicers, end-users will arid-se and apply the information. A shorter section on outreach should suffice |
| Review process is not rigorous | The emphasis was on political support, not the science or even the value of the research. |
| Miscellaneous | We had external reviewers who were experts in their fields providing input, which was then vetted through a collaborative ranking process. |
| | Three people reviewed each proposal which was then brought before the whole panel. This is same review process I have been involved with on panels at other agencies. |

Question: **Please indicate the extent to which you agree or disagree with the following statement: *The Science Collaborative program ran a rigorous and thorough review process.***

Posed to: Panelists

| | COUNT | PERCENT |
|--|-------|---------|
| Agree | 20 | 47% |
| Somewhat agree | 6 | 14% |
| Neither agree nor disagree | 6 | 14% |
| Somewhat disagree | 3 | 7% |
| Disagree | 1 | 2% |
| I have not served on other review panels | 7 | 16% |

| THEMES | SURVEY COMMENTS |
|--|--|
| The Science Collaborative has better end user engagement than other, similar grant programs | By far. By being explicit about the co-production criteria and elements needed in the proposal process, and by tying funding success to the degree of end user engagement. |
| | This is a no-brainer. All aspects of the proposal process (development, reviews, etc.) have had the expectation of end-user input. The RFP development process, pre- and full-proposal review, as well as the review panel comments and feedback reflect that. |
| | I like this aspect of the funding request. As a practitioner – someone who utilizes research for decision making – creating a funding mechanism that requires direct end-user engagement is very exciting. I wish more competitions did the same. |
| | As someone with a background in extension, I really appreciate the Science Collaborative's efforts to MEANINGFULLY engage end users throughout the process. Not just at the end when the product has been completed and it's ready for distribution. Meaningful engagement begins with the conceptual, pre-proposal and proposal writing phases and continues as the project proceeds. Successful project outcomes are never assured but having researchers, constituents and other end users sitting around the proverbial table from the outset, certainly improves the odds of having a positive results and making a difference. |
| | The participation of end users as part of the review panel was a key factor in determining which proposals to prioritize for funding. Often end users and outreach are tacked onto the end of a proposal with little thought. The NERR process forces (strongly suggests!) that end users are brought in from the beginning of the grant writing process. When this is done, the proposal end products are that much more relevant and effective. |
| | The Science Collaborative RFP process puts an emphasis on research that meets stakeholder needs and this is a key review criterium for proposal evaluation. |
| | Comparable to NSF review panel I have served on. |
| | I think they're on par with others. |
| | other programs effective in their own ways |
| | Depends on how you are using end-user. NSF does an equally impressive job understanding the end user (usually the academic science community) equally well. |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>The Science Collaborative has better end user engagement than other, similar grant programs</p> | <p>The review process used by the Science Collaborative was very similar to that use by other NOAA program offices that emphasize not only in supporting the best available science but also the effective transition of research results to the end users. An innovative approach was allowing proposing teams to video conference with the panel during panel deliberations, which allows panel members to better asses the level of the team's engagement beyond what is written in the proposal.</p> |
| | <p>I have served as a review panelist for other research programs, but I do not think the Science Collaborative projects engage end users any more effectively than other research programs with which I am familiar.</p> |
| | <p>The program for which I work was based on tech transfer and "research to application" and has been doing it for more than 50 years. I'd like to have a specific call for this for some research projects that haven't received enough funding for research to application, but I'd say we wrote the book on this!</p> |
| | <p>It's really very PI (team) specific. Some sea Grant or NSF projects have as good or better end-user engagement. Some NERR Sci Col have excellent engagement, others are just for show.</p> |
| | <p>NSC is comparable to other programs in their end user engagement</p> |
| <p>The Science Collaborative has weaker end user engagement than other, similar grant programs</p> | <p>Similar, but not as extensively as Sea Grant who have extension staff involved in protects and liaioning with end users for longer durations than the funded projects. Far more than other internal NOAA awards. Many of the Science collaborative proposals involved Sea Grant.</p> |
| | <p>NSF and other agencies are far more effective in using their panels, but again, part of this is because the proposal process itself is not based on science, but rather political support from a particular NERR site.</p> |
| | <p>My experience is primarily with the RISA program which, in my opinion, holds the gold standard for co-development and end user engagement. I thought most of the proposal asserted an end user focus. Some were stronger than others, though I think the ones that I served as lead on were particularly well situated toward the end-user. Probably an intentional placement.</p> |
| <p>Miscellaneous</p> | <p>I have served on other review panels related to science education and outreach, but not on science research.</p> |
| | <p>Quite simply put, neither NSF nor EPA engaged with end users as part of their review process. So the comparison is entirely one-sided.</p> |
| | <p>and hence that is one reason for my comments re the exaggerated emphasis on the outreach sections of proposals.....these folks know what to do re outreach, and that is one reason why they work on these topics! we need to show more trust in their judgment.</p> |
| | <p>The other panel that I served on last year met face-to-face and that is the most effective means of collaboration in my view.</p> |
| | <p>There was minimal follow-up by the project team</p> |

Question: **If you have served as a Science Collaborative review panelist more than once, did you see an improvement in the overall quality of proposals over the course of your engagement as a panelist?**

Posed to: Panelists

| | COUNT | PERCENT |
|--|-------|---------|
| Yes | 6 | 14% |
| No | 4 | 10% |
| Not sure | 3 | 7% |
| Cannot judge, as I served just once as a review panelist | 29 | 69% |

| THEMES | SURVEY COMMENTS |
|---|---|
| Quality of proposals has improved over time | I saw streamlining, better engagement with the applicants. |
| | As the program has matured, the proposal teams have stepped up their game in terms of the science, end-user engagement, outcomes and outputs, etc. |
| | Marked improvement. |
| | Admittedly, every year there were proposals that were strong right from the pre-proposal phase and some that were weaker even at the full proposal stage. That said, overall, the quality of the proposals—particularly with regard to the involvement of end-users—appeared to improve over the course of my time serving on the panel. More teams were proposing work that involved two-way learning and engaged end users in framing and conducting the work. I recall conversations in 2017 when other returning panelists commented that a new bar had been set. That is, the end-user engagement that was comparatively strong in 2015 was now the new normal – the strongest 2017 proposals were surpassing that. I also think that proposing teams appeared to better grasp what the program was supporting through the IA calls. |
| Quality of proposals has not changed over time | It was my impression that the quality level of proposals remained the same (i.e., high) across the competitions. |
| | same |
| | I think the proposals were variable, but I did not see a change in the Science Transfer proposals. |
| Quality of proposals has not changed over time, but the review process itself improved | I am currently on my second panel and have not yet seen proposals, although I have seen adjustments in the panel process that illustrate a commitment to continuous improvement |
| | I thought the quality was equally high both years, though the review process was modified between years. |
| | I served on one panel, although I started to serve on a second. But I had to discontinue before I had finished my reviews or participated in the panel. My impression was the proposals were comparable, although the review process was improving. |

Question: Please comment on your experience as a Science Collaborative review panelist. Specifically, what are the strengths of the program and what are opportunities for improvement?

Posed to: Panelists

- I think the program was run well. I don't have any suggestions.
- I think it is important that NERRS funds projects that focus on the transfer of knowledge and successful program models among NERRS sites' personnel as well as from NERRS to the broader community served by NERRS. I hope it continues to offer these kinds of funding opportunities. The review process followed is another strength of the program. As for ways to improve, I'm not sure if this was done or not, but providing some informational briefings to potential applicants is one way of ensuring higher quality of proposals are received. You'll always get a range in quality with any competition, but some applicants appear to need some additional guidance/PD on what will make a stronger versus a weaker proposal. Program evaluation was an area that I noted needed work in most of the proposals I reviewed. Lastly, while I know that the timing of this last round of funding did not allow it, providing an opportunity for a longer period of performance (>18 months) could allow implementation at larger scale and/or just afford an opportunity for the transfer of knowledge to occur and be adequately evaluated for impact.
- The process was well-organized and the workload was not overly onerous. There were some tasks that would have been more appropriate for staff - e.g, taking minutes during discussion of proposals. Panelists should be able to focus on the discussion and have minutes provided for them.
- Enjoyed interaction with subject matter and other reviewers. Program has all elements of excellence in planning and coordination, encourages great science engagement
- I certainly think the focus on transfer is very important and leads to the kind of scaling across programs which is often difficult to achieve because funding flows toward new or "shiny" ideas. I do think the overall quality of the proposals could improve a bit. Better articulation of workplans and roles and responsibilities in a number of proposals would have made some of the projects which seemed like good ideas more fundable endeavors.
- I believe that the process was well-facilitated. The documents were accessible but since they were available through different links it was difficult to navigate during the actual video conference panel discussions/evaluations. I had a very difficult time since I was on a laptop during the session and had only a single small screen to view everything on. For the sessions I'd recommend that the facilitators work to have everyone on multiple screen displays during the evaluation meeting(s).
- The program's goals and intent were clear. (Many of) The proposal were responsive and of high quality. The review team was collegial – shared the load and worked well and pleasantly together. Disagreements were voices and discussed appropriately. Improvement opportunity: better working out the role of the reserve managers in the process and clarifying (limiting or not limiting) the role of reserves as the key "places" for investigations.
- Felt pressured to be involved a second time even though I stated that I did not have the time. Please take people/professionals at their word...
- The review process is great. I don't know what I would change.
- Serving in the panels was an excellent experience. The SC folks ran an extremely smooth process considering the number of proposals reviewed. The only thing that comes to mind that would improve the process would be to separate the research proposals from the integrated assessment proposals. Reviewing them concurrently made it difficult to switch review modes given the differing objectives and approaches.
- The review process was very well organized - both from my perspective as a reviewer and also in the communications to applicants. There were many steps from pre-proposal review to full proposal review and materials and directions were always clearly communicated and opportunities for questions were given. Remote access to materials and instructions was seamless. In person meetings with remote presentations made by applicants ran smoothly. One opportunity for improvement would be to provide reviewers with an estimate of their commitment/time prior to their making a decision to participate. I found myself having to carve out blocks of time that exceeded my expectation of commitment - and since this was a "side of the desk" exercise, that was to do.
- Strengths include: the proposal process itself, including the resources provided to proposing teams, appears to build capacity of the proposing teams to do applied, collaborative science well; -the adaptive approach which has consistently sought feedback, used that feedback improved the process over time, and done so in a way that is transparent; -strong support for panelists--through technology, group facilitation, organization, and pleasantness--that makes it easier to conduct rigorous, thoughtful reviews and offer clear feedback for proposing teams Opportunities: I, and other panelists, raised concerns about diversity in the review process. Specifically, that there is an opportunity to support more work that involves underrepresented communities and the importance of doing so. It is my understanding that this is not an issue at the program level, but a reflection of NOAA priorities for the program. At the program level, there is an

opportunity to increase diversity among review panelists. While the panels have had diversity across sex and geography, racial diversity has been lacking. At the same time, I do recognize that there is under representation within the environmental community and that it is inherently challenging to secure commitments from well-qualified panelists in general.

- Very well organized throughout the process including telecon, webinar, panel meeting and they presented that plan ahead of time so I knew what to expect.
- Strengths leverage the capacity of the local NERRs, extend outward to actively partner with local end users that get to see direct benefits from having a NERRs nearby. Also extends the partnership network for a NERRs. Opportunity include further consideration of the Sentinel Site programming, seeking to link the NERRs sites into a broader network that can improve local scale climate change forecasting, that might use a Sci Collaborative proposal to launch or enhance a broader local network and embed a NERRs Location into a regional resource for communities.
- I was impressed with the quality of the proposals, and it also gave me ideas for collaboration with the NERRS. I enjoyed it and it was very well run.
- I find it very worthwhile and satisfying, as the final set of funded projects each year is really excellent. I learn from the experience with the broadly experienced panel.
- I appreciated the communication, the system they used to services the proposals, and the video panel. In enabled me to participate without traveling which can really be difficult at times. I also felt the offer of an honorarium made me feel as though my time was valued.
- I found the experience rewarding. It not only allowed me to learn about new scientific inquiry, but insights on how to improve my own program's project selection process. I believe the overall review process is very good at present (2017).
- I was very impressed with the review process. I thought the Science Collaborative provided rigorous review of both the pre-proposals and the full proposals. I particularly liked the emphasis on stakeholder engagement and explicit attention to it in the selection of reviewers.
- Excellent, but a huge lift to be a panelist. The time sync was worse than an NSF panel. I think they are revising this for 2018 and that is probably a good idea. However, when awards are \$700K or more, it is fair to make the proposal process rigorous. For much less, it should be rigorous but not overly burdensome for PIs to have multiple in person meetings with panelists. Good idea overall, but even with the monetary compensation, it is a big lift for both panelists and reviewers. Super fair though!
- I have been very impressed with the diversity of the review panels in terms of science, engineering, outreach, assessment, etc. The review panelists have been very engaged and committed to the process and intent of the program. The greatest strength of the program has been the staff running the program - they are super organized, stay on task, provide all of the information and data needed, and do an outstanding job of compiling the vast amount of feedback, comments, etc. provided by the panelists. At this time, I don't see many, if any, opportunities for improvement - the process has been outstanding from start to finish.
- Strengths: comprehensive, provides good feedback to proposers weaknesses: a little bit of a deep dichotomy between social and biophysical science panelists. sometimes is difficult for social scientist to immerse themselves into the biophysical realm, and vice-versa, hindering accurate evaluation of the proposal. In extreme cases this may penalize the proposal in a rather unfair manner.
- One thing that is always a plus with review panels is to have every panel member physically in the same room. I know this costs more money, but it helps the discussion of a proposed project to move more smoothly.
- I consider the approach to be sufficient, but the "collaboration" could be extended and not filter out so abruptly.
- I appreciated the panelists' diverse backgrounds and remarkable expertise. But what made this experience unique was my/our involvement throughout the selection process. The fact that we selected the best pre-proposals for advancement to the full proposal phase, reviewed those, reviewed the full proposals and conducted the final interviews was very rewarding. Typically, I receive proposals to review, give each my best effort, submit the scores, and often don't even know which were ultimately selected. Indeed, the Science Collaborative is different and U-M, NEERS administrators, et al are to be commended for trying a different approach. I like it!
- The strength of the program has always been its focus on understanding stakeholder needs, engaging the user community early in the process and requiring that research address management issues explicitly. There are increasing efforts to make the results of the projects more accessible. This is an area that could improve further.
- The support staff was excellent and crucial to the results of strong evaluation process.
- The focus on collaborative efforts is valuable, fiscal support for this type of work is important. Almost universally, program evaluation proposed as part of the projects was lacking (this is true of many grant programs). Where external evaluation of the program effectiveness is relevant, it should be emphasized and included in program budgets.

- The program really should be completely reorganized, to make the actual science part of the process. That is lacking now, resulting in an overly political competition.
 - I served on the very first one, and the process has evolved over 3-4 years, so I think the initial deficiencies were addressed, which was basically dealing with the proposal team's virtual presentation. The strength, as already noted, is the involvement of the end user in the decision process.
 - Great mix of basic and applied subject matter should have less emphasis on specific details (example surface runoff... which simply is not going to be a dominant factor in the vast majority of estuaries) the SWMP programm reallyneeds
- revision; its too limited and restricted. In fact I think that projects that attempt a re-definition, and improvement, with modern methods, shold be part of the future priorities of the program.
- Strengths - incredible network of reviewers from varied backgrounds who all provided great input. Conversations/ discussions were very valuable. Virtual meetings with finalists was a critical and very useful component of the review process. Great to have a preserve manager as part of the review team - critical perspective and input. Opportunities for improvement - How do projects leverage funds from other sources?

Question: **Please indicate the extent to which you agree or disagree with the following statement: *Through my experience on the Science Collaborative Advisory Board, I have increased my engagement with the NERR System and/or other coastal partners.***

Posed to: Advisory Board Members

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| Agree | 7 | 16% |
| Somewhat agree | 0 | 0% |
| Neither agree nor disagree | 5 | 12% |
| Somewhat disagree | 0 | 0% |
| Disagree | 3 | 7% |

| THEMES | SURVEY COMMENTS |
|--|--|
| Increase in level of engagement | I am more aware of coastal and reserve matters also attend other meetings with different groups. |
| | sure, inevitable if one is to make a significant contribution to the Board! |
| | The Science Collaborative builds partnerships, brings programs together and encourages collaborations that are often talked about but less frequently realized because of time and resources. |
| | I became a better advocate for education (where appropriate) consideration in sci coll projects and proposals (at the beginning stages, not as an afterthought), and I became more aware of the opportunities for cross-sector engagement through sci coll. projects. I also found myself thinking more about end users (in general) in other (non-sci. coll.) projects, and engaging those entities at the brainstorming/planning stages of something new. This was a shift from years of thinking about projects as "If you build it, they will come..." Now, if I'm thinking about "building" something, I want to know what would be of greatest value to those who would use it or benefit from it. This is a direct result of my involvement in the sci coll advisory board. |

| THEMES | SURVEY COMMENTS |
|---|---|
| No change in level of engagement | No change in level of engagement. |
| | I have not taken the steps to do so and have not had an opportunity to network |
| | I was an outlier, so there is limited opportunity for me to engage with NERRS. |
| | My program already has extensive engagement with coastal stakeholders, so my participation on the Science Collaborative Advisory Board hasn't increased that significantly. |
| | Prior to serving on the Advisory Board I already had good collaborative working relationships with others in the NERRS and coastal partners working in my State so that role did not increase that engagement per se. |
| Decrease in level of engagement | I was very disappointed by the parochial response from the NERR system staff, and feel more alienated now than before I served. |

Question: **Please share any additional observations about your experience as an Advisory Board member.**

Posed to: Advisory Board Members

- The NSC staff were always eager to get feedback from the Board and the broader NERR System. They were very conscientious about taking that feedback and integrating it where possible in administering the program. Thus, serving on the Advisory Board felt I was helping to make a meaningful contribution to growing the program and the NERRS.
- The Science Collaborative staff is impressive in adapting the program to information and feedback. The result is a series of effective and innovative projects meeting estuarine management needs. The innovation is something that could not be achieved by a Federal agency alone but that directly results from the diverse partnership, a truly collaborative approach to issues and the willingness of staff to respond creatively, thoughtfully and quickly.
- Outstanding process to work through. I like the adaptive approach that was used to improve the process over the 3 years I have been involved. I have heard from some applicants that the feed-back could be improved.
- Good experience overall—I thought UM did an excellent job in coordination, ensuring involvement of the entire Board, and soliciting input but being cognizant of people's time and schedule. Jen Read and her staff did a great job!
- I feel disengaged
- I am not sure how much impact the Advisory Board participation had on the overall program
- I felt I had little influence, and was just serving as window dressing for an overly political process, with very little basis in quality science or application of quality science.
- All have extensive knowledge in their areas of expertise.
- I am grateful and appreciative of the education sector inclusion on the advisory board.
- Appreciated members external to the NERRS on the board. Felt board was aware of responsive to the needs articulated by the NERRS.
- I appreciate the in-person discussions and check-ins by phone

II. COLLABORATIVE RESEARCH PROGRAM QUESTIONS

Question: **Have you submitted a proposal in response to a Science Collaborative science transfer and/or collaborative research/integrated assessment request for proposals?** *(This question excludes the active catalyst request for proposals.)*

Posed to: NERRS Staff

| | COUNT | PERCENT |
|-----|-------|---------|
| Yes | 59 | 79% |
| No | 16 | 21% |

Question: **How much did each of the following influence your decision NOT to participate in a Science Collaborative grant competition?**

Posed to: NERRS Staff

| | A LOT | SOME | A LITTLE | NOT AT ALL |
|---|-------|------|----------|------------|
| Lack of time | 10 | 3 | 0 | 0 |
| Limited reserve capacity to support project | 0 | 8 | 1 | 3 |
| Little experience with proposal development | 2 | 4 | 3 | 3 |
| Other | 3 | 0 | 0 | 0 |

- I have just recently been on a science collaborative grant in the past month and don't know everything about it yet.
- For 3 years the JBNERR did not have a CTP program running. We have been working with 3 programmatic proposals and we are still in the process of catching up with every tasks described.
- Lack of personnel to administer additional grants.
- I have worked in education at the reserve for many years, but just took on the education coordinator position last spring. So I haven't been in a position to propose a project on this scale. Since becoming education coordinator, I've been filling a vacant position and catching up.
- I personally did not submit but our reserve has been involved in several funded proposals over the years
- I have been in the Reserve for about 2.5 years and even though I have collaborated with citizen science projects, other responsibilities of my position takes most of the time.

Question: **How frequently have you participated in the development of collaborative research and/or integrated assessment proposals in response to Science Collaborative funding requests? Please select only one response.**

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal

| | COUNT | PERCENT |
|--|-------|---------|
| More than one proposal annually | 14 | 11% |
| One proposal annually | 18 | 14% |
| Multiple proposals in one or more years since 2014, but less than annually | 51 | 40% |
| One proposal since 2014 | 39 | 30% |
| No proposals submitted | 6 | 5% |

Question: **Was one or more of your collaborative research and/or integrated assessment proposals funded?**

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal

| | COUNT | PERCENT |
|-----|-------|---------|
| Yes | 74 | 61% |
| No | 47 | 39% |

Question: **Please indicate the extent to which you agree or disagree with each of the following statements. Participating in the collaborative research/integrated assessment competition...**

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal; Panelists; Advisory Board Members

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE |
|---|-------|----------------|----------------------------|-------------------|----------|
| Led to new or improved partnerships for me or my organization | 10 | 17 | 10 | 2 | 5 |
| Better positioned me or my organization to respond to other funding opportunities | 9 | 14 | 13 | 2 | 6 |
| Led to my better understanding of how to do collaborative research | 4 | 14 | 10 | 7 | 8 |
| Led to my better understanding of where reserve management needs and research interests intersect | 8 | 19 | 10 | 2 | 5 |

| THEMES | SURVEY COMMENTS |
|--|--|
| Participation in competitions helped me identify new collaborators and improve communication/collaboration skills | <p>Our organization has a strong relationship with the NERR, but the individuals involved with this particular project were 1st time applicants to this program and had a lot to learn and benefit from in the process.</p> |
| | <p>Helped identify potential future collaborations I would not have known about otherwise</p> |
| | <p>Feel I have a very good sense of where reserve management needs and research interests intersect-proposed projects to build capacity (e.g., hire additional staff)</p> |
| | <p>Last year was the first time I worked with a team submitting a science collaborative proposal. This year I am working with some of the same individuals to submit a different and revised plan. The first year there was a steep learning curve for me to understand how reserves are structures and how to work with different stakeholders to understand information needs and established research and outreach approaches. The process of writing a proposal together led to improved collaboration and communication among those of us working together</p> |
| | <p>While I have frequently been involved with some state agencies and consider my research applied relative to other folks, it was a good experience to be able to ask and develop questions specifically aimed at end-user needs, and even though the proposals weren't successful, I have maintained communications with these end-users.</p> |
| Participation in competitions did not improve my knowledge or skills | <p>We are already well-accustomed to doing collaborative and applied research to address the management needs of the Reserve.</p> |
| | <p>I don't feel the submission of proposal increased by knowledge or skill</p> |
| | <p>From my experience, I have lost any interest in further interactions with NERR program. Our proposal was turned down for what seemed to be just political reasons, and this damaged my reputation with my home institution. I am really sorry I participated. I did learn a little about NERR interests, but it was rather a one-way discussion, with NERR staff saying what they thought/wanted. Often, they seemed informed by local, parochial interest and less than stellar science.</p> |
| | <p>My experience with this program was the worst i've had with any potential funding agency. The one proposal reviewed by the program was so un-informed that I made a personal decision to never seek funding from this organization again.</p> |
| Miscellaneous | <p>We didn't get past the pre-proposal screening stage, and found that it was difficult to get stakeholders to engage with early-stage proposal planning. It was probably overly ambitious to build a network almost from scratch and work together to plan a project in a few months. We also felt that stakeholders had so little experience with researchers approaching them before the project was basically already planned (asking for rubber stamp), that they almost didn't believe that we were really seeking their input and ideas. We also encountered a complex web of organizational relationships in the area (LSNERR) that mostly seemed to be unwilling to partner with a new group at the risk of upsetting the delicate balance of power and AOC delisting activity timelines.</p> |
| | <p>It is not clear whether social science and what type of social science the collaborative is interested in funding</p> |

Question: **Please indicate your role(s) in project(s) funded through the Science Collaborative.** Please check all that apply.

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal; Panelists; Advisory Board Members

| | COUNT | PERCENT |
|-------------------------|-------|---------|
| Project Lead (PI.) | 35 | 34% |
| Collaborative Lead | 28 | 27% |
| Technical Lead | 18 | 18% |
| Other (please describe) | 21 | 21% |

“Other” responses:

- Collaborator on the scientific components
- Additional NERRS Team Member
- Reserve Director and Fiscal Manager of projects
- Project partner
- Technical assistance
- Served on project advisory team
- I have been a Co-PI but for most other proposals I have played an an advisory role.
- collaborator
- On the project team as a co-PI
- Advisory Committee member
- Collaborator
- Signing letters of support
- Participant
- Fiscal and administrative contact
- Co-PI, did not take a leadership role in the project.
- Stakeholder, collaborator when someone else was the PI
- Stakeholder
- Support and outreach

Question: **This next set of questions is about what you may have gained as a result of participating in the Science Collaborative program and/or interacting with the Science Collaborative team. Science Collaborative team includes your project manager and others such as Maria Lemos, Julia Wondolleck, Dwayne Porter, and Jen Read. Please indicate the extent to which you agree or disagree with the following statements:**

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal; Panelists; Advisory Board Members

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE |
|--|-------|----------------|----------------------------|-------------------|----------|
| I have an increased appreciation for the value of a collaborative, end user engaged approach to a research project | 42 | 18 | 11 | 0 | 0 |
| My willingness to apply a collaborative, end user engaged approach to other projects has increased | 38 | 18 | 14 | 1 | 0 |
| I have an increased ability to facilitate a collaborative process | 31 | 26 | 12 | 1 | 2 |
| I have an increased appreciation for the role/value of good data management (e.g. metadata) | 25 | 16 | 25 | 0 | 3 |
| I have an increased ability to implement good data management practices | 20 | 19 | 21 | 1 | 6 |
| I have an increased appreciation for the social science informing collaborative research | 31 | 18 | 17 | 4 | 1 |

| THEMES | SURVEY COMMENTS |
|--|---|
| I already appreciate and regularly incorporate a collaborative approach into my day-to-day work | I started out with a good appreciation of the good things listed above |
| | I have always had an appreciation of the collaborative process, good data management, social science, in science to management based research. The NERRS Science Collaborative Program has not increased this appreciation or changed my approach to science based management. |
| | I already had a good appreciation for the elements of collaborative research due to interactions with the previous science collaborative. |
| | As a facilitator on collaborative dialogues for the past 20 years, I already have a strong appreciation for the value of collaborative, end user-engaged processes. Accordingly, while I deeply believe in and support the project aims, it doesn't have a big impact on my understanding and value of such approaches. |
| | I have for many years both within and outside the context of the NERRS Science collaborative support practiced collaborative research. Interactions with the current team has not affected my already very high appreciation for, and willingness to engage in this important approach to applied research. |
| | I already was convinced of the value of collaborative research before participating on NSC projects and in fact advocated for this approach so I'm not sure how much it increased since I was already convinced. |

| THEMES | SURVEY COMMENTS |
|--|--|
| <p>I already appreciate and regularly incorporate a collaborative approach into my day-to-day work</p> | <p>I already had an appreciation for end user driven research before this proposal, so it was not solely my interactions with the Collaborative that led to my appreciation for this kind of project. My increased ability to implement good data management practices comes from the development of the Data Management Plan on the front end (requirement for proposal), but I still do not think metadata management/implementation is very clear. I am interested in the social science implications of our work, and have been glad to see that research being conducted.</p> |
| | <p>I have not noticed an appreciable change in collaborative effort over that of the former program (CICEET), which was designed to do exactly the same thing. Although I am better trained to facilitate collaborative research I attribute that more to OCM training than the Science Collaborative team (which I found to be less helpful than they promised to be in terms of providing project guidance - at least for science transfer grants). I have always recognized the need for collaboration in project design and good data management and that has not increased measurably through my experiences working with the Science Collaborative team, nor has my understand of the role social science plays in informing collaborative research.</p> |
| | <p>The data management support has been excellent. My answer was somewhat agree because I already had an appreciation for and an ability to implement sound management practices.</p> |
| | <p>The key word is "increased"; I started the project with a good appreciation for the role of good data management and social science</p> |
| | <p>My views on most of these topics were formed earlier in my career – I have valued collaboration, good data, etc. for longer than I've interacted with NSC.</p> |
| <p>Interactions with prior iterations of the program increased my appreciation for collaborative research</p> | <p>I want to clarify that I was part of a NSC project prior to 2014, which is where I learned about collaboration/end-user engagement, etc. Those ideas have carried over into more recent years. So when I answered, it was from the perspective of my participation in the NSC program across the years, not just the current management of that program.</p> |
| | <p>I have been very fortunate to be close to the UNH, site of former NSC. And as such have had great opportunity to work collaboratively and grow my collaborative skills as well as learn the great value of this work over the past 15 years. Over the past 4 years my skills have increased with experience but overall my appreciation and understanding of collaboration have not changed.</p> |
| | <p>Since this question asks about what one may have gained from interacting with the Science Collaborative which in reality extends beyond the current Univ. of Michigan project team, it was confusing to separate influences from the first iteration of the Sci. Collab. and the project team that administered that program as well since for me the experience with the NSC has been a continuum from that era to present. I answered the question with this continuum in mind.</p> |
| | <p>I think most of the groundwork for social science and collaborative research was built by the first five years of this program; and I was not personally involved in the data management piece so that part is not relevant to me.</p> |
| <p>I have an increased appreciation for and willingness to incorporate end user engagement in my research</p> | <p>I have enjoyed participating in the multidisciplinary projects that results from the NERRS Science Collaborative grants. Having an end-used focused research project results in valuable information that meets the needs of the community. This makes the research that much more enjoyable to conduct.</p> |
| | <p>We frequently use the collaborative approach in our work following our funded Science collaborative project</p> |

| THEMES | SURVEY COMMENTS |
|--|--|
| <p>I have an increased appreciation for and willingness to incorporate end user engagement in my research</p> | <p>The team I work with has frequently collaborated with educators from our local NERRS. These projects usually focus on one end user audience. But, the project supported by the Science Collaborative grant (2015-17) was particularly successful and reached two important end user audiences. While I supplied much of the content for project presentations, the organization and delivery of content advanced thanks to the collaboration - working as a team facilitated the introduction of new approaches! We also learned lessons about how to more effectively make resources generated by the project available to both end user audiences, who had different needs.</p> |
| | <p>We have been trying what we called collaborative research for years. However, we didn't really formally analyze the process, what was working and what wasn't, and that meant that we weren't always getting the key stakeholders involved. After 15+ years of doing this, I can see that while we've done a lot of really exciting research, our results are not necessarily being incorporated into decisions that are being made. I'm very excited about the NERR SC approach of designing research from the beginning with stakeholders and keeping engagement the whole way through.</p> |
| <p>I have an increased appreciation for the social science informing research</p> | <p>I have an increased appreciation and respect for the social science component of all environmental improvement efforts and respect social research data collection as an important component of a collaborative proposal. However I question as to how the science collaborative evaluates or values social research in the proposal process.</p> |
| <p>I have had limited interaction with NSC and cannot answer this question</p> | <p>The project only started recently</p> |
| | <p>The science collaborative project for which I am the Collaborative Lead is just kicking off, so I am not in a position to state I have yet gained much from the process, considering it's only just begun!</p> |
| | <p>All of these questions assume the Science Collaborative Team has interacted with and taught me something; but I dont know any of those people. Im not sure I have ever even heard those names before, maybe in an email?</p> |
| <p>Miscellaneous</p> | <p>My project is in its early stages. I am pleased to see the collaborative focus of this call, and the incorporation of public engagement and social science.</p> |
| | <p>I really enjoy the science collaborative project and the annual meeting with other project leaders.</p> |
| | <p>Our project did not produce data in the traditional sense, so there was not a data management aspect.</p> |
| | <p>I have a string background for data sharing and data management so data integration is not new to me. The use if that data and how we share the gain knowledge is the main goal for me and a current challenge.</p> |
| | <p>I have been working on several projects that fall into this category, so while this may not be an exclusive cause of the above responses, it did fit it with the broader theme of my work, which did lead to the above responses.</p> |
| | <p>still working on the implementation of good management practices</p> |
| | <p>Our SC grants have had direct community engagement, increasing the visibility and credibility of our Reserve on a local and regional level. Through this community engagement we have a better sense of our community's need, scientific understanding, and willingness to participate in a process that will inform both decision-making and corollary research efforts.</p> |

Question: **Please indicate your role(s) in project(s) funded through the Science Collaborative.** Please check all that apply.

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal; Panelists; Advisory Board Members

| | COUNT | PERCENT |
|--|-------|---------|
| Gained insight about the end user engagement process | 43 | 25% |
| Expanded my professional network | 39 | 23% |
| Identified new potential collaborations | 38 | 22% |
| Collaborating/collaborated with another project team on my Science Collaborative project | 11 | 6% |
| Collaborating/collaborated with another project team on a related or new effort | 24 | 14% |
| Other | 8 | 5% |
| Nothing | 8 | 5% |

| THEMES | SURVEY COMMENTS |
|--|---|
| I did not attend the Project Workshop or have limited experience interacting with other project teams | Did not attend. |
| | I have not had time to actively participate on the annual project workshop convened by the Science Collaborative. |
| | I haven't attended a project workshop and haven't had much interaction with other project teams as such, other than one that was working on a project related to ours. Most of what I know about other projects has been through professional sharing of results (eg at the annual meeting), or because I work in other capacities with people who have collaborative projects. |
| | I have never attended the annual project workshop. |
| | I only exchanged an email with someone from another project. Not attended a meeting yet |
| | I don't believe I've ever been invited to one of these annual project workshops. perhaps because I was the PI on a science transfer projects but only participated as a stakeholder on the research proposals. |
| | I have not interacted with any other project teams. Our group has not been invited to any workshops. |
| | Have not interacted with other project teams personally. |
| | I have participated in proposal feedback sessions but do not think these are the same. The feedback sessions have seemed more one-way communication avenues. |
| Attended my first meeting recently. Our project had not even started. | |
| I built new relationships and/or found new collaborators | I am working on a project with the Hudson River NERR. During the NEERS annual meeting in 2016, I got to know several people from the Rookery Bay NERR, which gave me an opportunity to discuss my collaboration with RBNERR on a new NOAA project. I have really enjoyed working with the HRNERR and RBNERR. |
| | We continue to engage the collaborative partners and end users identified in our original grant funded project which has been very valuable to our work |

| THEMES | SURVEY COMMENTS |
|---|--|
| I built new relationships and/or found new collaborators | Working collaboratively allowed me to tap the expertise/experiences of my NERRS colleagues. We could combine our respective areas of strength and learn from one another. I found it helped me try new approaches that I would not have tried on my own. And, I was able to train others in using, applying & improving a curriculum developed during an earlier program. Working as a team allowed us to pilot test a new delivery model for the curriculum that will reach more end users. Now, we can move forward in developing additional collaborations that deliver an improved product to end users. |
| I received guidance or new ideas from others | <p>this has been a very valuable experience, especially considering the amount guidance I have received from other groups.</p> <p>I have gained ideas and insights on how to better implement end user engagement in my own project through interactions with others. However, the structured quality of the workshop meant that we did not have much time to interact less formally with other project teams, so we did not have time to develop new collaborations.</p> |
| I learned about projects elsewhere in the system | <p>The workshop was a great networking experience, and I especially enjoyed learning about the social sciences since that is a relatively new subject for me.</p> <p>I was grateful to hear about the projects happening around the country, but did not really gain much for my project out of these interactions.</p> <p>This program has been highly beneficial to the type of work and connections that i do.</p> |
| Miscellaneous | <p>Deepening my knowledge of the technical aspects of the project.</p> <p>Sorry, but I don't think those workshops are a good use of NOAA/NERRS resources. A cost benefit analysis would not likely support the continuation of those meetings.</p> <p>This is true, however this is also true of the NERRS annual meeting (i.e., the annual project workshop affords opportunities that may be there anyway)</p> |

Question: **Overall, how will what you learned through this collaborative process inform your future work?**

Posed to: NERRS Staff; Non-NERRS Staff but served on a proposal; Panelists; Advisory Board Members

| THEMES | SURVEY COMMENTS |
|--|---|
| I see the value of the collaborative approach and will continue to use it in my future work | <p>ensure that all my projects benefit from a collaborative approach whether informally or more formally</p> <p>getting better at identifying, developing and implementing TRULY collaborative partnerships and projects</p> <p>Make it more effective by utilizing collaboration where appropriate.</p> <p>The NSC projects I've been a part of have demonstrated to me the powerful way that management (i.e., end users) can inform research, which can then inform management. Having the need or idea coming from the person or group who will ultimately use the research information, makes it much more likely that it will continue on after the lifespan of a grant. This is something I try to do with all my work now.</p> <p>I believe insight gained into the value of collaborative applied research will help guide future research efforts and ensure a collaborative process is followed.</p> <p>I do believe that the collaborative model should be used to some degree in all research.</p> <p>It has expanded my awareness of the need to increase collaboration in research projects.</p> |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>I see the value of the collaborative approach and will continue to use it in my future work</p> | I am continually reminded of the value that this approach brings to projects and their outcomes/benefits. |
| | End user driven research tends to be implemented more successfully and completely. Therefore, I might go to the Reserve or other management agencies and ask them open ended questions about what they need. |
| | I have gained a deeper appreciation for the role of collaboration throughout the research process and the need to engage all parties at the beginning of an effort. |
| | End users are the key to applied research. I find it much easier to see projects that lack a "reason for being" beyond the interests of a few researchers, even if that means evaluating my own project ideas and realizing a broader group of people need to articulate a need for the subject of the project idea and not just me and my immediate colleagues. By the way, I think it was a mistake to make NERRS staff eligible for consideration as project end users. That approach only encourages insular, NERRs-centric thinking, which makes no sense given the NERRS commitment to serving external audiences (coastal communities, policy makers...etc.). At this point in the development of the program (especially given the support for the the CTP program at all sites), all NERRs should have a solid network of external partners for whom the NERRs are working. Those are the people who should be the end users, not NERR staff. |
| | Well, I think it will change how i approach some, but not all, projects. I have definitely gained a dramatic increase in my appreciation of the value and usefulness of collaborative projects - i know they work and are effective, and so I plan to participate in more in the future. But I also know how much more work they are and how challenging they can be. Because of that I still plan to also work on more-typical smaller projects that just involve me, or myself and one or two other researchers... |
| | It has informed the direction of my work and the products that I work to develop to meet stakeholder needs. |
| | as stated we continue to use the collaborative process and it helps us reach audiences, end users, professionals |
| | I am a strong believer in collaborative work. Always have been. I will hope to remain engaged in the NERRS Collaborative theme-based research activities |
| | This collaborative process has been incredibly helpful as we take a multi-faceted look at how to increase the use of buffers as a tool for addressing water quality issues. Typically, we approach these issues through a single lens. One of the great strengths of this project has been allowing us to draw connections across diverse disciplines (e.g. social science, economics, and ecology) when understanding the challenges ahead of us and proposing effective solutions. |
| | It has deepened my understanding of the complexity of multiple types of experts working and thinking together to produce shared work. |
| The importance of not only collaboration between reserves and other agencies but collaboration among the reserve and the different sectors. | |
| It takes a village!! meaning that a diverse group of scientists and stakeholders will give a better justified project as well as better project results - i.e. results that can be put into action - and thus teams should strive for this successful collaborative mix | |
| <p>I am better able to manage or facilitate a collaborative process</p> | The collaborative process on our project requires extensive coordination with multiple groups, we are learning how better to manage those interactions, and will be able to apply that practice to future work |

| THEMES | SURVEY COMMENTS |
|---|---|
| <p>I am better able to manage or facilitate a collaborative process</p> | <p>I have learned to convene multi-disciplinary research efforts which has made me more competitive for federal grant funding. Additionally, I have taken from the NERRS science collaborative an understanding that research should always be focused on the end user, otherwise it may not be valuable or useful.</p> |
| | <p>I work in the role of connecting science, policy and and management. I have seem good practice approaches to engaging stakeholders which I have adopted.</p> |
| | <p>These projects seem to tend toward having larger and more diverse (in terms of organization affiliation) teams than traditional research projects. The need for effective team management and coordination becomes critical. Something as simple as organizing a team phone conference can be monumental. In planning future projects, I will spend more time up front considering who is on the project team and ways to ensure all members stay connected. Maybe building a requirement of team meeting and planning time directly into the proposal would be helpful.</p> |
| | <p>It will inform future collaborative efforts with end-user engagement, and the most effective tactics for multi-perspective collaboration.</p> |
| | <p>it will just help me to continue to think deeply about the collaborative process between researchers and end users and how best to structure and facilitate that to get the greatest impact on the ground with respect to coastal issues that our Reserve is tackling.</p> |
| | <p>The workshop increased my awareness of how to make research more useful and will help me to seek out collaborations with potential end-users.</p> |
| <p>I am able to more effectively communicate with project partners and end users</p> | <p>Devising new efficient strategies to keep end users informed; strengthening ways of helping technical experts hone in on key messages, lessons and questions in a manner accessible and meaningful to end users.</p> |
| | <p>I have a better understanding of how to engage with users of my research and how to communicate with them.</p> |
| | <p>Better execution and communication with my team and other colleagues</p> |
| | <p>It will help me to undestand how to better work with municipalities and local governments in particular, and to understand their limitations and their many demands.</p> |
| | <p>Our Reserve staff are more tuned-in to community needs and interests and work collaboratively with community decision-makers and citizen scientists on nearly all of our projects, not just those funded by SC.</p> |
| | <p>Listening to people with problems that we might have the ability to address with science, technology, etc.</p> |
| <p>I will think about engaging end users earlier in the research process to elicit greater success</p> | <p>Important to engage as many possible end-users as possible as early as possible into any research effort you might be planning to make sure the final product can be more useful and applied.</p> |
| | <p>Need to engage stakeholders early and often. Budget more time for this process.</p> |
| | <p>I will plan to make time to identify key stakeholders at the beginning, when projects are being formed, and I will document the process of engagement, including what worked and what didn't.</p> |
| | <p>I will think about who the end users or stakeholders in my research are earlier than I would have done otherwise.</p> |

| THEMES | SURVEY COMMENTS |
|---|---|
| <p>I will think about engaging end users earlier in the research process to elicit greater success</p> | <p>I have always tried to collaborate with researchers, other partners, and stakeholders when planning and carrying out my programs (I am an educator). Having this facilitated by someone else took a lot more time than it usually takes me to collaborate with researchers and others but i am gaining a greater appreciation for how hard it is to do good research including logistical and funding issues. Also, how much time it takes to do good research. I've also learned that it's a bit of a balancing act trying to be sure to get your input in early to help formulate the research and yet making sure you use your time wisely. Often times it's easier to develop education products at the end of the study but then you wouldn't be able to make sure the needs of educators, teachers, and students are taken into consideration when designing the research.</p> |
| <p>I am better equipped to prepare a competitive proposal</p> | <p>I learned a ton about writing the proposals, facilitating the development of proposals with partners, and leading a project in the past five years- but they came through our local experience more than through the NSC staff.</p> <p>What I learned has helped me define my Coastal Training Program work strategy and my approach with constructing research proposals with my Research Coordinator and Stewardship Coordinator. I will use these models in future projects and stakeholder engagement strategies.</p> <p>I will be more thoughtful in how I approach collaborative science proposals</p> <p>Proposal development for Sci Collab and other funding sources. Integration of collaboration techniques in training and project implementation.</p> |
| <p>I will continue to build new networks and relationships</p> | <p>I will be leveraging the network of stakeholders I was able to develop over the course of my project and will also be collaborating with other scientists who I met through the science collaborative workshops</p> <p>This process has been great for learning additional resources and groups available to access information to help further research and analysis.</p> <p>we will continue to build out of the science collaborative work. Gained new collaborators.</p> <p>The collaborative approach not only provides data that is more likely to be applied in working life but also creates a strong network that persists beyond the project and remains present through the change.</p> |
| <p>My experience has not taught me anything new about the collaborative process</p> | <p>I can't say that I've learned very much about the collaborative process. I had already been involved in many collaborative research projects (not specific to this funding program).</p> <p>the science and outcomes will improve management, not sure I've learned anything new about process?</p> <p>The NERRs Science Collaborative Program was not needed to "inform" me of the value of the collaborative process.</p> <p>During my first funding cycle I saw how eager stakeholders are for tangible products and the value of funding to research AND the science transfer or product development/ dissemination. During my second funding cycle I am seeing how much time and effort is required to develop those tools, but most of what I know about the collaborative process is what I brought with me. I have been involved in multidisciplinary collaborative projects for many years and have worked with stakeholders for a long time. It was this interest and these skills that brought me to the Science Collaborative RFP, not the other way around.</p> <p>Not really sure this process has changed the way I will work in the future, since the collaborate process style is basically how I do all of my work in the education sector. It has helped me however learn how to create a budget timeline and what is needed to provide an actual evaluation and feedback on a project.</p> |

| THEMES | SURVEY COMMENTS |
|----------------------|--|
| Miscellaneous | <p>I'm unclear as to what "this" refers to. I will apply some of the knowledge I gained at the project workshop to my interactions with a Collaborative Learning Group that is part of our funded, Science Collaborative project. This group comprises a broader range of stakeholders than our Project Team end users and will provide guidance for the products and application of our project's results. The collaborative process that I experienced developing the proposal and during the early stages of our project (we began Nov 1, 2017) will help position my collaborators and me to pursue other projects that, ideally, will build from the current project.</p> |
| | <p>I see that there is a pressing need for better collaboration among NERRS scientist and data integration/ synthesis among reserves. This could be addressed by being more inclusive with all researchers (funded and not funded) across the network.</p> |
| | <p>It already has. We have been actively promoting the new model we tested during our Science Collaborative project. We honed the content of our curriculum, found greater efficiencies in project design, developed some best practices for data management (in this case, the products that one end user audience develops for use by the other end user audience).</p> |
| | <p>Personally, I feel as though the NERRs Science Collaborative started from a solid foundation and has drifted over the years back toward a more NSF style research focus and is less considerate toward social or human dimension focused research.</p> |
| | <p>I don't know yet</p> |
| | <p>There is value in collaborative proposal development, whether that project is funded or not, because it strengthens future efforts. But there is also a risk, given the complexity of the required proposals and the associated time commitment, that local collaborative team partners will not continue to remain engaged in the attempt if solid, well-written research projects are not funded.</p> |
| | <p>It has been a most satisfying and rewarding experience. I wish other federal agencies follow the lead.</p> |
| | <p>IN the end it has become clear that the science and actual findings may take a secondary role in policy formation based on the perceptions of the end users and stakeholders.</p> |

III. QUESTIONS ABOUT PROGRAM ELEMENTS

Question: **Please indicate the extent to which you believe the following Science Collaborative program elements are contributing overall value to the NERR System.**

Posed to: NERRS Staff; Advisory Board Members; NOAA OCM Staff

| | AGREE | SOMEWHAT AGREE | NEITHER AGREE NOR DISAGREE | SOMEWHAT DISAGREE | DISAGREE |
|--|-------|----------------|----------------------------|-------------------|----------|
| Understanding usability | 34 | 24 | 28 | 1 | 4 |
| Collaboration support | 30 | 28 | 27 | 2 | 3 |
| Successful Adaptation Indicators and Metrics Project | 25 | 24 | 36 | 2 | 3 |
| Data management support | 35 | 22 | 32 | 0 | 2 |

| THEMES | SURVEY COMMENTS |
|--|---|
| I do not know about some or all of the program elements | I don't know enough about any of these projects to make an informed evaluation |
| | I don't have enough information about these areas to have an opinion. |
| | Not familiar enough with adaptation indicators and metrics project how data management support is being implemented/conducted. |
| | Less familiar with the collaboration and data management support than the other program elements. |
| | I haven't had any interaction with collaboration support or data management support. |
| | "Somewhat agree" because I feel they must be contributing value, but I'm not as familiar with them. |
| | I have only been involved in a science transfer grant, not the collaborative/integrated assessment proposals and so I don't feel well suited to answer this question. |
| | not familiar enough with any of these to provide an assessment |
| | I am just not familiar with these elements. |
| | I am not very familiar with these, so less impacted directly (at least in my perception.) Admittedly, I am newer to the system |
| | I am a subaward for our Science Transfer grant so I have not been involved in the communication between GTM and the collaborative so I am not sure on these elements. |
| | I have not interacted with many of these people/topics. |
| | Have not been involved with any of this work |
| | I haven't been involved much with these programs. |
| I have not learned much about the adaptation indicators project. The NERRS CDMO has already contributed a lot to data management and support for the Research and Stewardship sectors. | |
| I'm not familiar with the efforts around the bottom two elements therefore I selected the neutral option. | |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>I do not know about some or all of the program elements</p> | <p>I do not feel like Susi Mosers work was system wide, so it did not really touch my work. And Maria and James sort of went over things we already knew (and I found Maria really condescending- we have been doing this for years- James was very nice and it seemed like a great project for him and I am appreciative if he has a chance to publish or raise visibility for the system). Julia is also great, but I did not get a chance to take advantage of her students (logistics of them being far away was not useful for our project). As I stated previously, I did not directly work with the data management aspects of our projects. I did find the project manager team very helpful and easy to work with (Megan, Melissa, Lynn, etc).</p> |
| | <p>I am not familiar with the first two and only vaguely familiar with the third so don't feel I have enough knowledge to assess.</p> |
| | <p>I am not involved in individual projects so do not know the extent to which these groups interact with project teams.</p> |
| | <p>Less familiar with the collaboration and data management support than the other program elements.</p> |
| | <p>"Somewhat agree" because I feel they must be contributing value, but I'm not as familiar with them.</p> |
| | <p>I do not feel I know enough about the work that is being funded to comment on its impact.</p> |
| | <p>Clearly there is an emphasis on tools and usability. Data management seems to run smoothly. I am not knowledgeable about the support provided for collaboration. My impression is that the grant opportunities demand collaboration among NERR sites, but they are largely in-house. I am not familiar with the adaptation indicators.</p> |
| | <p>I have no knowledge of these elements, and cannot comment.</p> |
| | <p>I don't know enough about the last two elements to rank them. If there was an N/A button, I'd have selected that for these elements.</p> |
| <p>Program elements do not add value and/or funding should be maximized for grants</p> | <p>The most important aspects of the Science Collaborative Program are those that directly benefit and enhance the national priorities of the NERR System. Coastal communities are more likely embrace and use project results from projects completed (start to finish) locally. The results of stakeholder engagement processes with their genesis elsewhere are not very effective. The Program should shift focus on repeating successful projects across the system rather than starting new projects with different themes at the same locations/regions. Good data management and successful indicators and metrics are great tools to start the dialogue and build collaborative research projects to address identified trends (problems) and find solutions.</p> |
| | <p>I think this is a necessary niche for the NERR system, other than data management which the CDMO has already been doing a stellar job with for years.</p> |
| | <p>The first one is definitely interesting, but something I've already experienced on my own to some extent. I feel this is probably more important for NOAA than the Reserve System. The other three I don't have any experience with, although the third seems great for the few reserves involved.</p> |
| | <p>I honestly seen no evidence that they have any impact, across all the questions above, in the NERR we work with here on a weekly basis.</p> |
| | <p>The Reserve and our research partners are already working with agencies across our coast to address management needs, and I have had no interaction with these projects so they have added no additional benefit to our Reserve.</p> |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>Program elements do not add value and/or funding should be maximized for grants</p> | <p>I simply don't think the science collaborative team, at least from the perspective of a project lead on a science transfer project, was engaged in the process at all beyond periodic project reporting.</p> |
| | <p>1> Workshops and metrics are great, but what do they REALLY mean? How do they really inform and are they actually used to make improvements. I don't know, but am no convinced this is effective. Mostly seem like buzz words to me. 2> Data management: Seems like this falls into the 'black-hole' category. Are these data really being served up readily and efficiently to end-users? Do they (end-users) even know it's available and how accessible is it? Seems like hurtles to jump before I could actually tick off the 'agree' circle.</p> |
| | <p>So either I am not paying attention (which may the case) but I have not heard the results of any of these projects...I tried to pay attention to the Moser project but lost track. I watched a webinar by Maria Lemos and had high hopes but gained nothing from what was being presented at the time. My very cynical view is that these projects might be helpful to a few individual reserves or a topic area of the Reserve system but they really won't impact the work of the majority. I feel like they sound good at the surface but the intended outcomes are shallow. The funding being used should go back into the competitive funding.</p> |
| | <p>There does not seem to be a close relationship between these element of the Science Collaborative and the NERRS. Almost as if the are UMICH projects, not NERRS projects</p> |
| | <p>I don't believe that social science projects that examine collaboration are as useful as actual projects that are solving important issues in a collaborative process.</p> |
| <p>Program elements are adding value to the NERRS</p> | <p>With more information better decision making.</p> |
| | <p>All of them are useful for dealing with the fact that NERR operates as a Federal entity within a legal structure that defines accomplishment in terms of application even more than knowledge. Collaboration support is very useful and provides efficiency, but might be solved adequately independent of such a program.</p> |
| | <p>I'm excited to see the way the Marie and James are documenting how the collaborative process is growing. I think it's extremely important for us to figure out how to make science useful, and their research into what works and what doesn't is very helpful. I met Julia at the NERR SC workshop, and we had more opportunities to talk at the annual NERR meeting. She has helped guide us toward developing a potential SEAS masters project that we are very excited about. Susi and James helped with a three part science transfer workshop at our Reserve that became the catalyst for several new proposals.</p> |
| | <p>SC funding has allowed the NERR to advance in ways that base funding from NOAA wouldn't cover. Because all Reserves had access to, and were encouraged to collaborate in, SC funding, the Reserve system has evolved and matured together along a similar trajectory.</p> |
| | <p>Most activities seem to be going well, but the indicators and metrics still seems to be a bit esoteric. The other activities are immediately understandable.</p> <p>The data management support is very impressive. This is a thorny subject and one that many groups are challenged by. I appreciate the Science Collaborative's focus on this topic. The usability of tools is of particular interest to me. The NERRS are well-situated to provide information and tools that can be of immediate use to stakeholders, which is an asset that should be cultivated. Too often, science is generated that then requires further distillation and interpretations, which community stakeholders often do not have the expertise or time for.</p> |

| THEMES | SURVEY COMMENTS |
|----------------------|---|
| Miscellaneous | see my earlier comments |
| | I am indirectly involved with these players. |
| | I believe more work can be done to distribute findings of the funded project. |
| | Still early in project process. |

Question: Please provide any suggestions for how the Science Collaborative can increase the value of these program elements to the NERR System.

Posed to: NERRS Staff; Advisory Board Members; NOAA OCM Staff

- Visits to every NERR
- More regular communication about these program elements (and outputs) to the system. More application beyond pilots or case studies.
- Help us tell the stories that SWMP data holds – analysis and interpretation for public consumption.
- As above.
- There is always this trick of balance. The reserve staff have a full plate of responsibilities that may or may not include the work of applying and implementing grants. One of the real values of the NERRS is that our salaries are covered and as such we can focus on the work without worry about finding funds to support our salary. For me this means I can focus all my energy and time on the needs of the local decision makers, a huge gift. The NSC process is very time consuming and presents a dilemma, do I spend my time working on the local issues or do I spend my time applying for funds to research a issue? The heart of the NERRS is to work on the problem. The NSC process can come at a price even if it advances our mission.
- Maximize funds for on-the-ground coastal management related research and education/science transfer projects.
- I would encourage the grant applicants to seek participation from a broader community of scientists. But the success of this will depend on the review process. I would put less weight on distribution of funding among the maximum number of sites. This just dilutes the available funding to a point where little can be accomplished.
- Program elements- well I think working with the Training group at OCM to really think about building capacity to do this kind of work beyond the NERRS (and for new NERRS folks) would be effective to boost collaboration support. I would still like to see traveling grad students like the TIDES come back- that provided direct support for local projects. Understanding usability- I would like to see us keep working on understanding this but it did not feel like anything new came up during this period; so I would like to see other hypotheses tested, maybe dig into the importance of relationships, etc.
- Collaboration support: possibly offer some on site trainings/ workshops (at the request of a reserve and its collaborators) about collaboration similar to the facilitation and other training that NOAA provides.
- Tailored more to the NERRS needs and more “on the ground”
- The Science Collaborative was established to address the need for rigorous science within the Reserves that would address the local management needs. There is not a need for more tools on how to do ‘collaborative science’. There is a need for funding for projects that actually address management concerns.
- Concentrate on projects that are solving actual problems at NERRs.
- Continuing to stress the stakeholder engagement and degree to which the science questions being posed (and proposed to addressed) are derived from community needs would be of tremendous value.
- Expand the adaption indicators to more reserves.
- At the annual meeting offer short overviews of different program elements available to the system as a whole - and then make sure science collaborative team members have dedicated time to commit to providing this support - as opposed to just talking about it.
- Since I don’t work in an actual reserve I can only speculate, but my belief is that the research funded by the Collaborative is sound and relevant but the reserves typically have limited staff and budgets to take the results of the research and apply them in operational management. It would be interesting to explore a fellowship type effort where a person could work with a reserve following a study to help transition the results into management of the reserve.
- Advertise them more aggerssively.
- Not sure we need so much central staff – the real contribution of NSC is moving projects forward at the NERR. I’m sure the UM folks do good academic work, but it seems like it has nothing to do with my work at the NERR.

- They are clearly moving in this direction, but in my opinion the real strength of the NERR system is the network itself. More studies that address processes across all reserves are needed, as that type of cross-system analysis, especially with the NERR system already in place, can be incredibly powerful. And to telegraph my bias, I'd love to see more NERRs in the Great Lakes!
- Consider doubling the amount for Science Transfer grants.
- Ditto

- Less jargon, less verbiage in every communication, simplify expectations and objectives and processes.
- Expanding their review board to include scientists that are interested in east coast wetlands, the effects of sea level rise and how living shorelines may be studied in NERRs
- Let us do more research and curtail (just a little at least) the outreach/engagement piece. I find we get very bogged down in this during proposal development and it takes away I think from the overall value and work we can really have an impact on.

Question: **Are there additional Science Collaborative program elements that you have found especially helpful, e.g., periodic information webinars, capacity building grants (up to \$10k), informal Science Collaborative support to reserves, \$1k partnership engagement funds for proposal development, Collaborative Science for Estuaries webinar series? Please identify and comment.**

Posed to: NERRS Staff; Advisory Board Members;
NOAA OCM Staff

- I have found the following helpful in the context of working on a Science Collaborative project: 1) \$1K partnership engagement funds - enabled us to bring a collaborator in to meet to discuss a proposal idea and build on that 2) Informal Science Collab. support to reserves
- Capacity building grants and partnership engagement funds are helpful elements, although, believe it would be helpful to the Reserves if those funds can be allocated to supporting staff time to develop proposals, in addition to supporting external partnership building. Developing, preparing, reviewing, and responding to reviews can be very time consuming and take Reserve staff away from conducting other duties.
- Informational webinars have been helpful. Capacity building grants and Informal Science Collaborative support also great to have support through. UMich listened and responded to our concerns and needs.
- Capacity building grants are most impactful along with the engagement funds. These are where the results happen. The webinars are part of the process and key to getting explaining the program. and should be continued with an eye towards encouraging more participation
- Capacity Grants: Very vague, don't understand them whatsoever. Maybe some brief 1-page write-ups might be

good that really clearly and effectively describe these things. Webinars are great, but honestly there's often just not enough time in the day.

- I have not found any of these elements to be especially helpful to the Reserve. The capacity building grants were only in the last year opened up to development of projects that have already been submitted, we have received no informal support, the partnership engagement funds are too administratively difficult without enough benefit to warrant. We have engaged in some of the science for estuaries webinar series and have found those webinars interesting.
- We don't have experience with the Program, but periodic information webinars and capacity building grants sounds like great tools for our NERR.
- I have used the webinar series to expand the reach and usability of project outputs to the NERR system.
- Webinar information is helpful and accessible.
- NSC staff providing updates at annual NERRS meetings and interacting with managers and other sectors during meetings/ gaining input.
- Capacity building grants are a very useful idea in helping get collaborative research efforts up and running. Was not familiar with the Collaborative Science for Estuaries webinar series.
- The Collaborative Project Toolkit (<http://www.nerra.org/how-we-work/collaborative-project-toolkit/>)
- Informational sessions and webinars are especially helpful
- The capacity building grants definitely helped us...
- I have only participated in a few information webinars, but didn't find them more helpful than the information is on Science Collaborative website and in the RFPs.
- I think the capacity building grants are an excellent idea, but I would like to see them rolled into our ops funding (SO MUCH EASIER TO ACCESS)- we could put right into our Task description the topics we intend to work on and report on our activities and the proposals developed. having 1K to support bringing people together was handy, webinars were well organized, etc.

- Some of the informational webinars were helpful. Not listed, but helpful, has been the opportunities to provide feedback and suggestions. I didn't take advantage of, but really liked the idea of, the capacity building grants and partnership engagement funds for proposal development.
- the amount of webinars and willingness to really dig into issues has been very helpful. the team is always accessible.
- periodic information webinars, capacity building grants (up to \$10k), informal Science Collaborative support to reserves, \$1k partnership engagement funds for proposal development, Collaborative Science for Estuaries webinar series all useful
- I find it useful to look on your website at the funded projects for ideas of programs and for thoughts on who to contact for certain types of information and support. The capacity building grants seem very useful, although I have never applied for one.
- Informal Science Collaborative support to Reserves. Allows new ideas and projects to be looked into.
- The partnership funds and the capacity grants were great. Small amounts of money at key points can be make a big difference.
- I have not personally viewed any of the information webinars, but they seem like they would be very helpful in providing context for projects around the NERRs. Also, the capacity building grants have the potential to be very useful.
- The information webinars, with Q&A, have been helpful - I've appreciated the degree to which the NSC has tried to keep everyone fully informed, and solicited feedback on program operations and opportunities frequently
- I like the capacity building grant idea, although for our reserve it's been hard to narrow down to one project. I also like the concept of the \$1k engagement funds even though we didn't end up needing it, it was great to know it was there if we did need it.
- Informal support to reserves- graphic support was given for something we wanted for a project which was great. Also, just being there to bounce ideas off. 1K partnership engagement funds
- All of the above; have not yet utilized capacity building grant personally but intend to in the future.
- Webinars and capacity building grants
- No. I have not been aware of these, probably due to my rather recent full integration with NERR. I think that the partnership engagement funds would have been very helpful for soft-money research faculty like myself, for which engagement is always risky because proposal development must rely on salary time won for other, unrelated work.
- Capacity building and partnership engagement funds are great, hope they can be continued. Not sure a separate webinar series is needed; One NOAA and NOAA Restoration Center webinar series seem like good platforms to share NSC projects?
- The \$10K for capacity building was helpful, but with the University overhead it didn't go very far. \$15K - \$20K would be far better. As for the \$1K, that wasn't worth the effort required to bring in the funds.
- I am relatively new to this position and have not yet really been apart of many NSC programs. I have been a co-collab on a proposal that was unfunded last year, however our NERR will be apart of several proposals for the current catalyst round. So far, I have found the webinars beneficial to help through the process/ timeline/ what components are necessary for the proposals. I also know that the \$1k partnership engagement funds are very desired for our region to allow for face-to-face (especially field components) meetings with project teams.
- From discussions with different NERR staff, and from my past experience, some of the groups have difficulty going after these small (\$1K-\$10K) pots of money. I've heard they are told not to by their respective offices, because, essentially, the paperwork costs are more than the proposal.
- I work with the Education Sector of the NERRS. I know that thanks to the Science Collaborative capacity building grants (up to \$10k) and informal Science Collaborative support to reserves there are Education programs that serve both formal and informal audiences that have been created due to these funds being available. With the availability of these various funding sources Education Coordinators have been collaborating on projects using these funds in an effort to help reach/help/educate a larger number of people.
- Information webinars are definitely useful. Webinars can reach wide, distributed audiences and allows us to learn about the projects being funded through the collaborative. If not for the webinars, this information would have limited access.
- Periodic information webinars
- Personally found information webinars helpful. Have also seen the benefit of grants to take existing results and expand to other reserves.
- No
- N/A
- No, the only program element I believe is useful are the Science grants.
- I'm not familiar with these elements.
- No
- Not that I am aware of.
- Sorry, I am not well informed on these items....which shows that one goal should be to inform stakeholders about them!

- No
- No
- No
- No
- I have not made use of these program elements
- There have been many good projects, perhaps it is time to move toward implementing similar projects across the system.

- I have been part of 2 science collaborative transfer grants, and they have resulted in wonderful work that we otherwise probably would not have been able to do.
- Just becoming familiar with these, and can see the value in many of them, even if I have yet to capitalize on them
- N/A

Question: We are also interested in suggestions for entirely new program elements, please describe.

Posed to: NERRS Staff; Advisory Board Members; NOAA OCM Staff

- I thought the TIDES program - a graduate program which paired up students pursuing graduate degrees in collaborative research with particular projects funded by NSC grants which was started when UNH was the lead agency was a great idea.
- Look to the National NERR System Priorities as the RFP focus and help the system build and enhance its ability to move forward. SWMP Synthesis, Sentinel Sites, Habitat Maps linked to enhancing and restoring Nature-based Infrastructure. By allowing each reserve to set priorities we may be diluting this effort. Reestablishing a Graduate Fellowship program would be a great way to give the Program a system-wide scope.
- Funded postdocs to do explicitly cross-system analyses. Use LTER as a model—the LINX projects used postdocs to compare nitrogen uptake in lotic ecosystems from different LTERs across the country.
- Did you ever consider 'lightning' or "ignite" -type talks. Shorter than standard 30-50 min. webinar/seminar series. Very effective at large meetings. How about 'seed' fund (\$1-3K) for pilot projects that can be leveraged for larger NERRS SC grants later on. OR. is this what capacity grants already do? I have no idea b/c it's not nearly clear enough.
- Some kind of systematic dissemination of the results of ST and RIA projects to the entire network, via either a webinar series, annual e-newsletter, report, or all of the above
- Being apart of an unfunded proposal, I know that it would be beneficial to further discuss reviews with the review team. A potential element to include would be a "Post Q&A Session" that would allow discussion on how to better project proposals and overall project planning. The reviews are detailed, but often create additional questions among the project team.
- Funding and timeline specifically for design and permitting processes for restoration projects - this would then allow for actual construction, installation & training to be the outcome of an already established NSC area.
- FAQ's that include examples of project proposal content that made the proposal more, or less, likely to be funded. The science collaborative team has fortunately addressed the issue of having different people review the pre- and full proposals (which clearly doesn't work) but there have been some very good proposals submitted that somehow don't make the cut. It might help to know why or why not.
- I have noticed demand for quantitative computational skills that translates as a short-term search/need for someone who is able to code in software with a strong knowledge of the underlying analytical needs. This is often reactive (grant is won, data gathered, project reviewed, but can't complete analysis to satisfaction). A program that would allow time and travel to go to a lab/NERR to help resolve these analytical challenges, without having been on the original proposal. Would be useful. In the academic world, researchers can often "go down the hall," but this is not possible in the incumbent staff at all NERRs, who are hired for different skill sets but increasingly being tasked with research, and are not always paired with universities.
- Analysis of past projects degree of cross sector (research, stewardship, CTP, education) collaboration, sharing or transfer of best practices or success stories with sectors at national meetings.
- I would be interested in seeing projects that specifically work with the National Estuary Programs.
- suggestion: special sessions on NERR in CERF and ASLO meetings.
- Making the proposals for multiple reserve/system-wide projects more streamlined and less arduous.
- The changes made in the Catalyst RFP were good in that it was opened up in terms of funding level and projects/teams that could apply, so continuing that program even when the full RFP is out would be good. The Science Collaborative should aim to fund more research in the Reserves whether it is through small or large projects, projects with well-developed end user groups or new ideas that are just beginning to work with stakeholders.
- I believe there should be increased efforts applied to funding opportunities that focus on the social aspect of information and engagement.

- I think there are lots of ways to encourage this type of research at reserves- I would like all of us to think more about how to build on the ways this has worked, it's relationship to the national priorities, etc. I feel like the annual meeting is a tremendous opportunity to dig in on proposal ideas but the timing was not always perfect and there was not time built in to do this at the meetings. I still advocate for a tighter link to reserve operations (awards and the way we work on our ops award) to make sure the research is used by the reserve after it happens, to keep the loop going between good ideas and proposals, etc.
- I would be interested in the opportunity to apply for applied science projects. Taking relevant science (either Science collaborative-generated or not) and applying it to a management issue.
- I would love to see quality science and quality application of science to major policy issues endorsed. To me, the program seems focused on local politics and local issues, not really addressing regional or national policies or concerns.
- You don't need more - you need less.
- No
- The system is opaque to me, so I can not comment.
- None at this time
- N/A
- Simpler is better. Use all the funding for Applied Science grants. The NERR's system doesn't need more program elements.

IV. QUESTIONS RELATED TO THE OVERALL PROGRAM

Question: **Please rank the following in order of what you value most in projects supported by a research program. (Rank by clicking on and dragging each option below with the top being what you value most.)**

Posed to: NERRS Staff; Advisory Board Members; NOAA OCM Staff

| | 1 - MOST IMPORTANT | 2 | 3 | 4 - LEAST IMPORTANT |
|------------------------------------|--------------------|----|----|---------------------|
| Scientific and collaborative rigor | 58 | 17 | 3 | 2 |
| Topical diversity | 4 | 32 | 34 | 10 |
| Regional representation | 10 | 23 | 41 | 6 |
| Other | 8 | 8 | 2 | 62 |

Other

- Clear connection to end user needs
- Interdisciplinary
- Relevance to and applicability by end users
- Link to National NERR priorities
- Link to reserve local or national priorities
- Relation to programmatic goals/objectives
- Application of work to solve Reserve management concerns
- Management applications
- Applicability elsewhere
- Fair representation- only one grant to each Reserve per award year?
- Filling a need
- Addresses NERRS priorities ID'd in strategic plan
- Community engagement
- Availability of Resources or NERRS lead vs non-NERRS Lead
- good collaborative research at ALL Reserves – equity
- Ability to build capacity for future grants related to #1
- Transferability
- Application
- Engagement and distribution of project / findings
- Community driven questions
- XXXXX
- Inter-estuary comparisons
- Contributes to the understanding of coastal ecosystem and communities
- Cross-reserve collaborations
- Providing scientific info to address priority coastal management issues

| THEMES | SURVEY COMMENTS |
|---|---|
| Funding to enable equitable geographic distribution is not important | <p>Funding poorer projects to create some sort of geographic "fairness" just lowers the credibility of the system as a whole. If some reserves are consistently successful and others are not, perhaps the system can encourage a "buddy system" to pair them up.</p> |
| | <p>I think the best proposals should get funded if you are running a competitive process and this should not be outweighed by topic or regional representation for the sake of regional representation. This seems to be the most fair approach to me.</p> |
| | <p>Like to see better representation of reserves throughout network in supported work, but not at the expense of an emphasis on the scientific and collaborative merits.</p> |
| Funding to enable equitable geographic distribution is important | <p>Regional representation can diversify the participation.</p> |
| | <p>I think regional representation is an effective way to ensure nationwide demonstration of the value of the Science Collaborative and this approach to end-user driven research. Do these have to be ranked sequentially or can some be weighted equally? I would probably weigh topical diversity and regional representation equally, slightly less than scientific collaboration and vigor.</p> |
| | <p>The goal of the Reserve System is to have good science at ALL Reserves rather than funding (that doesn't require matching funds) benefit a few Reserves. Selling research projects as benefiting the entire system is disingenuous when the goal is focusing on local management questions. Suggest ways to provide equity in funding to all reserves or only fund research that truly benefits the entire system.</p> |
| Scientific and/or collaborative rigor is important | <p>All scientific research programs should first be concerned with scientific rigor, and the nature of this specific program inherently demands collaborative rigor. I believe it is important to the integrity of the national program, and the morale of the reserves, to have well distributed representation of award recipients throughout the system.</p> |
| | <p>The rigor of the science has to be at the top of this list.</p> |
| | <p>High quality projects are of most importance. Topical diversity is important for the NERRS, within limits of the focus areas of the strategic plan, because of the wide geographic diversity and conditions facing each reserve. We also need to support a variety of types of activities ranging across stewardship, education, and science research for management, restoration, and conservation.</p> |
| | <p>The greatest value = providing scientific information that can be used by coastal decision makers to make informed policy decisions on the most important/pressing coastal management issues</p> |
| | <p>In today's society with science under attack, and post-truth/post-fact confusions, rigor is paramount. Topical diversity gives the reserves a breadth of scope through which to explore and ask questions of our reserves, coastal communities, estuaries. Regional representation is last because fairness is important, but it should be common sense.</p> |
| | <p>The NERRS should be recognized for the highest quality science that contributes to informed coastal management. The topics should align with local coastal management needs, which are likely to be diverse in nature and location based on the fact that we have 29 reserves spanning multiple bioregions and they each have different local concerns and issues.</p> |
| | <p>All projects should be subject first to rigor; e.g. regional representation collapses if works from one or more region are dismissed for a lack of rigor.</p> |
| | <p>I put excellent science at the top of the list, the others a distant 2nd and 3rd.</p> |
| <p>The Science Collaborative needs to focus on doing great science that is directly useful to solve problems. Period.</p> | |

| THEMES | SURVEY COMMENTS |
|--|---|
| <p>Scientific and/or collaborative rigor is important</p> | <p>Scientific rigor is first and foremost the critical element. Without scientific rigor, a project is a waste of time. After that, value to the stakeholders (and engagement by stakeholders in a thoughtful and deliberate way) is critical.</p> |
| | <p>High quality science and collaboration are the backbone of the work. Without that, there is a lack of credibility but it must be applied to issues that are important to the management community. It is also important that researchers reflect on how the results of their work can, or can not, be applied to the system as a whole.</p> |
| | <p>In today's society with science under attack, and post-truth/post-fact confusions, rigor is paramount. Topical diversity gives the reserves a breadth of scope through which to explore and ask questions of our reserves, coastal communities, estuaries. Regional representation is last because fairness is important, but it should be common sense.</p> |
| | <p>I only rank "scientific and collaborative rigor" as last, because the "collaborative rigor" is included. The Science Collaborative has been putting all of the emphasis on "Collaborative" instead of "Science" and I would like to see much more emphasis on applied science instead. In some ways, the collaboration can degrade scientific rigor by having people who are not experts in the position of decision making. The science should be applied and usable to real world problems, but this does not mean it should be "co-produced" by stakeholders and end users who are not experts. Doing so degrades scientific integrity. We should aim to bring together experts on a certain topic, have those experts interact with stakeholders to understand the problems, and then the experts should design and execute studies to address those problems and take their results back to the stakeholders. This is commonly how applied science occurs, and has occurred for decades. I strongly disagree with the concept of "co-produced" science as it takes the decision making out of the hands of the experts and puts it into the hands of people who are not experts. I know this is a common tenet of the program as it now stands and a growing trend across science in general, but I think it is wrong. Groups of stakeholders are known to be influenced by each other through a variety of social standards and norms which can lead to flawed decision making when the group is assembled. I have yet to be involved with any collaborative team where these factors are controlled, or any attempt is made to correct for them. Instead the will of the group is favored over the advice of the experts, and the progression of the project follows the will of the group. We need to return the Science Collaborative to the approach of applied science in collaboration with other experts across the region to address coastal management issues. The interaction with stakeholders should be secondary to application of science to management and answering critical questions with rigor. Stakeholders should be engaged to assay potential management questions and to review results and how those results can be put to use, not to direct or "co-produce" the project with experts.</p> |
| | <p>Obviously, to be respected, a research program must be sound, scientifically and collaboratively. Topical and regional diversity are secondary in my mind.</p> |
| | <p>This question is somewhat unclear. Does "a research program" mean ecological, social, other? Research in general? My answers reflect values for the Reserve's research program (but differ between Reserves). Scientific and collaborative rigor is essential to any research program, and increasingly, interdisciplinary approaches.</p> |
| | <p>The most important element is that the projects are using collaboration processes to engage the end user throughout the program. And that the process can be duplicated in other similar situations. I like to see a range of topics being researched as well. It doesn't matter that much to me if there are projects from all of the regions.</p> |
| | <p>I'll keep as simple as I can: I think the science comes first; that guides the outcomes, and products that are 'useable' for end-users. Going through the NERRS SC process successfully really helps to leverage future capacity to continue to sustain those projects and build off of that. Hope that makes some sense.</p> |

| THEMES | SURVEY COMMENTS |
|--|---|
| Responding to a real need is important | Research programs should first and foremost respond to needs from practitioners and be as applicable as possible to real-world issues/projects |
| | I think projects which identify a real need and pull together the right partners with scientific and collaborative rigor should be valued the highest |
| Responding to NERRS needs/priorities is important | If the process does not get at end results that meet the systems goals and objectives, it is not advancing the system. |
| | If discussing only the NERRS Science Collaborative, then my first option would be " Addresses a need identified by multiple reserves" |
| Topical diversity is important | As one of two Great Lakes NERRs, regional relevance is something we talk about often in the system. There are many similarities across all reserves in the system, but sea level rise for example is one climate threat that does not impact the Great Lakes. However, coastal erosion and nutrient loading absolutely do. |
| | great/good research is only science if it can't be used to solved coastal management issues and needs, but if it is to be useful, it has to be good coastal management includes a wide variety of issues that need to be addressed, many of which need additional research attention while every site is different, and some research only applies locally, approaches and conclusions can often be translated over and made useful and other sites |
| | There have been numerous projects that would elevate our understanding of how our habitats respond to changing conditions that have remained unfunded - in some instances more than once (MEM comes to mind) - and these types of projects would be best at capturing a system-wide response, which is arguably why the NERR exists. These projects should take highest priority for funding and should not compete equally with the whole mixed bag of projects submitted. |
| Topical diversity is not important | We need good, innovative science, that is comparable across systems. Spreading effort across diverse topics every year dilutes the strength of the system to answer important questions. |
| Miscellaneous | See prior comments. |
| | Not sure what topical diversity means |
| | As before |
| | Not sure I understand this question. Which research program? |
| | In Puerto Rico we need more collaboration with decision makers, representation and then deal with new topics. |
| | Reserves engage in and make sure data collection methods and processes are accurate and timely Regional representation is strong Expansive range of documents |
| | Topical diversity is fair to poor, scientific rigor absent from the program, at least in terms of decision making. |

Question: **Thinking about your reserve’s programmatic needs, what priority do you assign the following project**

Posed to: NERRS Staff

| | HIGH PRIORITY | MEDIUM PRIORITY | LOW PRIORITY |
|------------------------|---------------|-----------------|--------------|
| Collaborative research | 48 | 17 | 1 |
| Integrated assessment | 24 | 29 | 12 |
| Science transfer | 43 | 21 | 2 |
| Capacity building | 23 | 33 | 8 |

| THEMES | SURVEY COMMENTS |
|---|--|
| All are useful in different ways | These processes are all valuable. |
| | I like this spread of project types and find them all useful |
| | Which of these is most useful really depends on the topic and where we are, intellectually and collaboratively. Each is of value in a different way. |
| | All of the above are priority needs. |
| | Transfer projects are less arduous (both in proposal writing and immediate outcomes) than larger scale collaborative and integrated efforts. However, collaborative and integrated efforts are better resourced and important to leveraging Reserve research resources. |
| Collaborative Research grants | I give a high priority to applied research in collaboration with local and regional experts. (See previous comments). |
| | Integrated assessments seem like artificial, bureaucratic exercises. Not needed for on the ground management action or restoration decision-making. Collaborative research is most critical. |
| Science Transfer grants | The high ranking of Science Transfer is getting the good science we have out to the users or sharing between other reserves |
| | There are so many great research results out there, many of which are unfortunately sitting on shelves. It’s so important to share these results, lessons learned, successful tools, etc. before launching into the next research project |
| | Both Collaborative Research and Science Transfer are higher priorities for me (as I personally see it at my reserve) because I feel that they leverage our good work and capacity for influence – the allow for science done throughout the reserves to be more applicable across the reserves. In a way, they also build capacity, without being capacity building grants. |
| | As an educator, the science transfer grants are the most useful for me. The collaborative research grants require so much effort to apply for and administer it’s generally beyond what educators have staff time to devote to unless there is someone designated as a grant write on staff or enough other education staff to keep the day to day programs going. the Collaborative research grants have given the biggest bang for the buck in regards to getting resources to get major research projects accomplished. The integrated assessment and capacity building grants seem to make sense but hasn’t been utilized as much. |

| THEMES | SURVEY COMMENTS |
|---|--|
| Integrated Assessment grants | There are many individual collaborative (and more traditional) research projects in our area across several universities and institutes. But it seems opportunities to collaborate and share data between projects to address watershed issues on a wider scale are difficult to establish. I think something like an integrated assessment could be an opening to establishing cross project collaboration. |
| Capacity Building grants | I don't find the capacity building grants to be very useful in their current form. I would rather see capacity building funding opportunities that could support preliminary data collection if needed in response to unexpected events or research needs. |
| I am uncertain as to what the different grants are looking for | Completely mind-boggling trying to understand what the NERRS National Products grant and NERRS Science Transfer grant offerings really are seeking. Again, I spend significant time trying to decipher these. Very frustrating. I think examples and clarity might possibly help. |
| | I really am still unsure about the IA process. |
| Miscellaneous | We need to generate ways to bring scientific information to decision makers. |
| | Lack personnel limits our capacity to apply for new grants. |
| | Connecting multiple stakeholders to ensure effective communication is important to the Great Lakes, as is applying other projects' concepts to another project. |
| | As part of a national system under programmatic guidelines, the strength of the Reserve system is in its network and what that collaboration can do to advance the NERR goals. |
| | Although I agree that collaborative research is important, there are a lot of talented researchers within the NERR system that could, without reaching out formally to numerous partner agencies, manage to collaborate among themselves (and informally with appropriate local partners) to generate a solid research project. Somehow I don't feel that the capacity and capabilities of NERR staff are reflected in the proposal development process, since it seems that extra points are assigned during proposal review for including an extensive list of project partners. |

Question: **From your perspective, what NERRS research has been influenced by the approach to end user engagement required by the Science Collaborative?**

Posed to: NERRS Staff

| | COUNT | PERCENT |
|---|-------|---------|
| Only Science Collaborative-funded research | 4 | 6% |
| Only when other funders, including the Science Collaborative, require societal research impacts | 5 | 7% |
| Science Collaborative and some reserve-guided/directed research | 18 | 27% |
| All reserve-guided/directed research | 8 | 12% |
| None | 4 | 6% |
| I'm not sure | 28 | 42% |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>Reserves already use an end user-engaged approach</p> | <p>I was not aware that this was an issue.</p> |
| | <p>I work collaboratively in all of my work, within the reserves, with select partners and with collaborations of 27 organizations.</p> |
| | <p>The Reserves were established to perform applied research to address coastal management questions, which is what we do as our mandate. We are always working with end users to understand the relevant questions and their needs for data and information.</p> |
| | <p>This IS what the Reserve system is and does. We've done end user engagement as we do applied work.</p> |
| | <p>All of our reserve-guided research is collaborative, but that's not because of NSC, but rather because we came to the conclusion decades ago that joint fact finding and consensus-building processes with stakeholders are essential. We would do this on NSC proposals even if it were not a requirement.</p> |
| | <p>We were already focused on doing research to meet the needs of our stakeholders and partners, including coastal and natural resource managers.</p> |
| | <p>I would note that the need to engage end users in research is not unique to the Science Collaborative. Human dimensions research has become pretty well established in the natural resources community. Also, I find this question somewhat confusing, but think that I would actually say that end use engagement is incorporated into research funded by any funding organization for which it is required and for some reserve-guided/directed research (because that is part of our directive).</p> |
| | <p>I believe that the Reserves are leaders in collaborative research and we should/need to use this approach in all guided/directed research</p> <p>We are end users- and we also work with other end users continually in everything we do (local and state policy makers, teachers, land managers, etc.) This is very engrained in our organization, in our mission, etc. We still host more basic research, but we get involved in the ones that are management relevant and engage the community.</p> |
| <p>The Science Collaborative improved the use and application of a collaborative approach in the NERRS</p> | <p>Our reserve has a much more collaborative approach to all research, CTP and education efforts after our experience with SC</p> |
| | <p>I'm not very sure of my answer but based on how I have begun to incorporate end-user engagement in my projects, I can only hope/assume that there are many others like me, who are seeing its value and building it in throughout reserve projects (research or otherwise).</p> |
| | <p>As we as a reserve become aware of the huge potential for end user engagement to lead to more meaningful outcomes, we want to employ it more and more. However, it does require a lot of dedicated time and energy, and as a Reserve, we are almost completely working on soft money for our projects. So, we try to have end user engagement as much as possible, but it can be difficult without specific project funding.</p> |
| <p>Work at the reserves is driven by management needs</p> | <p>The majority of reserve-guided/directed research has been directed by need, whether locally or nationally relevant, and in collaboration with local or national partners. Sometimes this has occurred through the development and distribution of a regional/national needs assessment, sometimes this has occurred through informal means, such as general discussions at national meetings when commonalities and challenges between sites are identified.</p> |
| | <p>Most of our Reserve's work is heavily driven by management needs.</p> |

| THEMES | SURVEY COMMENTS |
|--|--|
| The Science Collaborative has not influenced research at the reserves | Its not clear that the Science Collaborative has done any of those things in our reserve |
| | At my site, since I've been here (4 yrs), there hasn't been any other new "NERRS research" and I'm not familiar enough with what's going on at other sites |
| Miscellaneous | Our Reserve is not directing a lot of independent research (outside of monitoring) that is outside the bounds of a funded project. When we contribute to proposals they are usually led by outside researchers and the RFP requirements tend to drive what our role and that of other partners on the project are and whether resources end up getting devoted to societal research impacts. |
| | I'm not yet familiar enough with the program to respond to this in a meaningful way. |
| | It's 50/50. Some collaborations are definitely just checking an 'engagement' box while others want the end product to be truly useful. I wish more would be done to specify what an end-user friendly research project could entail. This question has been asked to me many times. "New information" is not really end-user ready or a collaboration. |
| | While i think the NSC is a leader in research influenced by end user engagement, other funding agencies/mechanisms are coming around |

Question: **Please indicate the extent to which you agree or disagree with the following statement: *Science Collaborative competitive grants have been effective at increasing the capacity of project teams to support coastal management and decision-making.***

Posed to: All

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| Agree | 86 | 46% |
| Somewhat agree | 48 | 26% |
| Neither agree nor disagree | 41 | 22% |
| Somewhat disagree | 6 | 3% |
| Disagree | 4 | 2% |

| THEMES | SURVEY COMMENTS |
|---|---|
| I cannot answer the question because I have not heard enough about funded project outcomes | We don't have the experience. |
| | I haven't heard enough about the outcomes of past projects to be able to judge. |
| | I have no way of knowing or measuring this. |
| | no way to judge |
| | I don't really know. |
| | I have not seen the outcomes of the funded programs. |
| | I do not know how effective the grants were that were reviewed in 2015. |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>I cannot answer the question because I have not heard enough about funded project outcomes</p> | <p>The lack of follow-up does not lend itself to making an informed opinion. I assume that the information was used productively.</p> |
| | <p>As a reviewer, I am not certain whether the grants have been effective. That can only be done after the fact. But, the grant recipients were certainly in a position to help build capacity for coastal management and decision-making.</p> |
| | <p>While I have seen the Coastal mgt support proposed in a funding proposal, I have not been involved with projects directly and thus have not seen the complete projects or implementation phase. Thus I do not really know whether the proposed outcomes became real</p> |
| | <p>I don't know the impacts of these grants in the past.</p> |
| | <p>I can't really say that I know these have done this. Mostly, because I'm not clear of what the outcomes have been for projects in the region where I work.</p> |
| | <p>I would hope that they have been effective, but I have not seen the outcomes of funded projects to be able to address the effectiveness at increasing capacity.</p> |
| | <p>I don't hear enough feedback from reserve staff (even when asked) after a project has concluded to know how much projects help with local management and decision-making.</p> |
| | <p>The requirements of the collaborative science and IA proposals include elements that promote better end-user engagement, and the program staff provide additional resources for how to do that work well. Combined, this should enhance teams' capacity to support coastal management and decision-making. My general sense that proposal quality around end-user engagement has improved supports this; however, I don't have firm data to back it up.</p> |
| | <p>I don't know. I am not aware of how the program has functioned overall. I don't know what other projects have accomplished. I think ours increased research and outreach/ education capacity in our region simply by funding collaborative work, regardless of outcomes. The outcomes made it even better because we now have the data to support the science transfer. I think one limitation to the function of the SC program and its broader success, however, may be that projects have been really limited to a few states on the Atlantic coast in recent years. I think broader impact will come from broader reach and supporting projects in underserved areas, not the same NERRs and region year after year. When the SC program started there was real focus on funding work in areas that had limited resources. I think that is where you will get the biggest bang for your dollar.</p> |
| | <p>I am actually sure the answer should be agree, but as I don't see the final outcomes or how they are used, and there was no response of "unsure", I chose "somewhat agree".</p> |
| | <p>Much better than with no collaboration but follow-up post grant with stakeholders to assess impacts would be informative - was the science put to use and how?</p> |
| | <p>No ability to know the answer to this question</p> |
| | <p>I have not had any contact beyond the review panel to hear of successes with the grants. This might be a good addition to the process to keep people interested in staying involved. Closing the loop so that people feel invested in the results of the grants that were funded.</p> |
| <p>The grants provide important support. I do not know anything about the evaluation of that sort of effectiveness.</p> | |

| THEMES | SURVEY COMMENTS |
|---|---|
| <p>I do not know because it is too soon to tell</p> | <p>I think it is too soon to determine if these grants are having the desired outcomes. That takes time—I realize the timeline is not consistent with policy and funding decisions, but it would be a mistake, in my opinion, to force this answer until there is sufficient to provide an informed response.</p> |
| | <p>It's too early to tell</p> |
| | <p>If increasing the capacity of a project team is defined as a permanent shift or change in their ability going forward, then I am not sure I strongly agree. Permanent insight/knowledge may be gained during a project that would help to improve the process going forward on other projects, but this would be a secondary effect. The key element in these projects that support coastal management is the money allowing for work to be done. But if they are referring to temporary capacity, then yes it is effective.</p> |
| | <p>Again - early in the project, but it seems effective at pulling parties together and offering coastal management solutions to research inquiries.</p> |
| | <p>I'm not sure yet. I am the project lead on a couple of new NERR SC projects.</p> |
| | <p>This is really over-generalized I think. Again, it's hard to transparently see the tangibles sometime and how these are sustained over time.</p> |
| <p>Yes, funded projects have increased capacity</p> | <p>This program is invaluable in providing timely scientific information that helps the different reserves in both filling knowledge gaps and evaluating the impacts of their reserve management strategies.</p> |
| | <p>The projects I reviewed that were based on prior SC Science Transfer grants do appear to be having an impact on project team capacity in this regard, but I have limited experience beyond that in knowing about the impact of prior work funded.</p> |
| | <p>Very much so!</p> |
| | <p>are are slowly but surely pushing the needle forward.</p> |
| | <p>from our experience in Cape Cod, there has been a direct input to policy</p> |
| | <p>These grants really move the needle on improving coastal management and decision-making for top Reserve priorities. They are an amazing resource and should definitely be continued!</p> |
| | <p>I do see the successes of other projects. Our proposals have brought together several project teams coastal managers and decision makers multiple times, however with unfunded projects, often these projects get placed on backburners until other funding sources are revealed.</p> |
| | <p>Agree - but this is more driven by Reserve staff than UM or NSC efforts.</p> |
| | <p>The NSC-funded projects about which I've heard all seem to have affected and supported coastal management and decision-making in their areas</p> |
| | <p>Based on what I have heard from others, the structured interaction among funded project teams is a real highlight, and a surprisingly uncommon approach by funders.</p> |
| | <p>Collaboration and transfer of science is key to successful coastal management approaches</p> |
| | <p>The size and duration of these grants have been instrumental in supporting ecological research which can take several years to generate sedimentary and hydrological process-based differences across experimental treatments.</p> |
| <p>Organizationally this is true, though less so at the level of the specific project concepts and people involved in this specific proposal.</p> | |

| THEMES | SURVEY COMMENTS |
|---|--|
| <p>Yes, funded projects have increased capacity</p> | <p>Have seen that science collaborative projects have successfully brought together reserves, scientists and policy makers to improve the applicability of research conducted towards addressing coastal management issues and improved use of research by coastal decisionmakers. These projects appear to play a key role in a reserve's ability to support research that is actually being used by decisionmakers and help their region's address key issues such as climate change/adaptation and stormwater management. The grant projects have not only resulted in increased capacity of project teams to support coastal management but also reserves as a whole (all sectors) and other partners in the region.</p> |
| | <p>I think I said it in my previous comment that began "it takes a village...."</p> |
| | <p>Very much agree that these competitive grants have been invaluable at increasing at least the Reserve I most closely work with to serve important coastal management and decision making audiences.</p> |
| | <p>I feel that the emphasis on end-user engagement, from beginning (concept) to execution, has shaped the teams, the tasks, the deliverables, etc. in a way that supports decision making and management.</p> |
| | <p>The end-users are guaranteed to understand and own and use the products. It's very very effective. Bravo!</p> |
| | <p>There are many good examples of collaborative work being used in management of protected areas.</p> |
| | <p>Our project has a longer timeline, because its focus was translating cutting edge science into lesson plans for use by teachers. Our end user audiences included marine science graduate students and secondary science teachers. We are supporting coastal management and decision making on a broader scale by: a) helping graduate students develop their science communication skills; b) providing science teachers with exposure to current science methods and technology, examples they can use to show how science really works; and c) exposing students to authentic research, showing how science is used to address problems.</p> |
| | <p>Requiring proof of end user engagement on the front end of the proposal means that these projects are much more likely to follow through with that engagement. Therefore, the project teams will incorporate managers throughout the project, making it more likely that managers will use the results of the research.</p> |
| <p>Yes, because funding support makes a big impact</p> | <p>Funding makes things happen, it is as simple as that.</p> |
| | <p>Funding support is biggest impact</p> |
| | <p>Funding support is critical to increasing capacity within the NERRS for this purpose (from whatever funding source is available).</p> |
| | <p>There are not many funding opportunities for providing such stakeholders / science engagement. It has been a valuable mechanism to connect scientists in such a way.</p> |
| | <p>SC grants are helpful and unusual in that they provide adequate funding to support the extensive, and often under-valued, amount of time required to integrate managers and scientists. Even so, I have been surprised (and disappointed) by how quickly capacity drops when project support ends - like ripples in a pond - they start with a splash but fade quickly!</p> |
| <p>I cannot answer the question because I have had limited experience with the Science Collaborative</p> | <p>Not familiar enough with the program to make a judgement</p> |
| | <p>I had to retire from the field before I got the information needed to address this question.</p> |
| | <p>I'm not in a position to judge this</p> |
| | <p>This is my first experience with this program.</p> |

| THEMES | SURVEY COMMENTS |
|--|---|
| I cannot answer the question because I have had limited experience with the Science Collaborative | Don't have enough experience about it |
| | I just don't know, I'm only 2 month into the project. |
| | not involved enough in the program to be able to answer this question |
| | The Reserve that serves my area is just now getting its first Science Collaborative grant since UM took over the program, so we haven't yet experienced many of the benefits of the Science Collaborative. My organization had a Science Collaborative grant when UNH was managing the program, and that was beneficial to coastal decision makers in this area. |
| I cannot answer the question because I have not received funding from the Science Collaborative | We have yet to be funded. |
| | It is not clear that it is effective if the grants are not awarded |
| | We have not yet received a NSC grant. We do have two transfer grants in progress. |
| | Not sure that our NERR is even on their radar. |
| No, Science Collaborative grants have not increased capacity | The science is lacking, and the programs are driven by local and sometimes parochial concerns. |
| | I think the competitive process in some ways limits the desire for Reserves to work together since they are "competing" for the same funds. |
| | The grants process heavily favored those competitors with standing relationships within the program, and seemed to discourage the introduction of fresh ideas from unaffiliated researchers. |
| Miscellaneous | Of course, having excellent staff is really the catalyst behind success. |
| | I don't recall much discussion during proposal review about the impact on capacity building. While I agree that the grant awards do that, it was never explicitly discussed. |
| | There are some strong examples in support of this statement. However, I accept that "capacity" to act does not equate with action on the part of management. |
| | Science Collaborative competitive grants can focus on regionally relevant topics that support coastal management decisions. |
| | I don't think I've ever seen a comparison between NERRS support of coastal management and decision making through other funding sources versus Science Collaborative funding. That would be interesting to see. |
| | I'm not aware of the details of all prior projects, but for the ones I am aware of it seems that some succeed and some do not. |
| | Capacity building is a tricky subject. One could argue that providing tools is one element of capacity building, but with small communities, staff to actually use those tools is equally important. I believe the NERRS, along with programs like Sea Grant, have the greatest ability to interact with stakeholders to understand what is needed, how it can be addressed, and in what manner is most easily usable. The degree to which that actually happens would need to be assessed on a project-by-project basis. |
| | The projects that are funded vary so widely from year to year that is hard to organize a competitive project. |
| | I do not see much engagement or input from the NSC other than funding support. |
| I would like to see more funding opportunities and options for integration with unfunded scientists. | |

| THEMES | SURVEY COMMENTS |
|----------------------|---|
| Miscellaneous | It seems that the perceptions of the local and state reserve managers is more critical than the actual outcomes of the research. |
| | Local reserve folks already made their decision before the science was completed or presented, very sad from my perspective as a grower. They did not seem to be interested in the research, had to ask twice if they were and finally a meager yes was given. |
| | Capacity building is a tricky subject. One could argue that providing tools is one element of capacity building, but with small communities, staff to actually use those tools is equally important. I believe the NERRS, along with programs like Sea Grant, have the greatest ability to interact with stakeholders to understand what is needed, how it can be addressed, and in what manner is most easily usable. The degree to which that actually happens would need to be assessed on a project-by-project basis. |
| | The focus for multiple years has been nitrogen pollution in coastal habitats, to the exclusion of other important topics |
| | As I stated previously, the program really makes a point to build teams around end-user needs, which I had not thought to do previously. |
| | The application format and requirements is too academic focused. This should be applied research and not hung up on trying to force academic approaches to real word research and collaboration needs. |

Question: **Please indicate the extent to which you agree or disagree with the following statement: *Overall, the Science Collaborative plays a valuable role in helping the NERR System support coastal management.***

Posed to: All

| | COUNT | PERCENT |
|----------------------------|-------|---------|
| Agree | 124 | 67% |
| Somewhat agree | 29 | 16% |
| Neither agree nor disagree | 25 | 14% |
| Somewhat disagree | 2 | 1% |
| Disagree | 2 | 1% |

| THEMES | SURVEY COMMENTS |
|---|---|
| Yes, the Science Collaborative plays a valuable role in helping the NERRS support coastal management | I assume so! |
| | Goes back to the number of very high quality proposals received that have direct impacts on end users and systems. |
| | This program has been immensely valuable to the NERRS. I believe it has helped to enhance the impact of our work and raised the profile of the NERRS in coastal research. |
| | The Science Collaborative encourages research and partnerships that don't exist elsewhere in the NERR system. |

| THEMES | SURVEY COMMENTS |
|--|--|
| <p>Yes, the Science Collaborative plays a valuable role in helping the NERRS support coastal management</p> | <p>This is a great opportunity for the NERRS systems to be effectively used to address community-driven questions and in a way that engages local stakeholders. Being located in communities affords the opportunity for intensive engagement and understanding of local issues. Too often, "top-down" efforts render results that are inappropriate for specific communities or delivered in formats that are unusable.</p> |
| | <p>There are very strong examples of this, particularly in relation to sea level rise and coastal storm threat mitigation.</p> |
| | <p>With the same caveat as the previous answer, I see huge potential from the proposals I reviewed</p> |
| | <p>No question. The NERR System competes intensely for these funds and a great deal of work goes into submitting a successful project proposal.</p> |
| | <p>Could not agree more. SC funding has launched new and positive research and decision-making directions at our reserve.</p> |
| | <p>The rigor of the grant review process reinforces the NERR goal of focusing on end-user needs.</p> |
| | <p>This project is vital because most reserves operate in tight conjunction with a local town or municipal entity, and both have needs and require interaction for the best relationship to emerge.</p> |
| | <p>Yes, many science collaborative projects have been very successful in increasing knowledge regarding key coastal issues and that information is being used by coastal decision makers to make better policy decisions and inform actions. Really starting to see that these types of projects are generating research that is being used by Coastal Management Programs.</p> |
| | <p>the work funded by the NERRS SC is very valuable and the focus on end-user led research is critical.</p> |
| | <p>This is a great opportunity for the NERRS systems to be effectively used to address community-driven questions and in a way that engages local stakeholders. Being located in communities affords the opportunity for intensive engagement and understanding of local issues. Too often, "top-down" efforts render results that are inappropriate for specific communities or delivered in formats that are unusable.</p> |
| | <p>They produce good science. How managers choose to use or not use the findings if a different issue.</p> |
| | <p>The SC is delivering good science & engineering information and, more importantly, implementable products to NERRS management staff as well as to other end-users.</p> |
| | <p>NERRs needs a formal research component. Without that, it would be much harder to engage in management.</p> |
| | <p>Science Collaborative is valuable to the NERRS system for the reason that it focuses on specific issues to coastal management</p> |
| | <p>I agree because I believe that education - of graduate students, of teachers, of students - is ultimately supportive of the NERR system and science-based coastal management. We need to prepare scientists for clear and relevant communication of their process and their findings. Having American educators and citizens (all those students reached by educators) who understand enough science process to know why evidence-based decision making is absolutely critical to the sustainability of our coasts and natural resources.</p> |
| <p>This program has been immensely valuable to the NERRS. I believe it has helped to enhance the impact of our work and raised the profile of the NERRS in coastal research.</p> | |
| <p>Completely agree, they have the pulse on things thus can target meaningful and impactful research.</p> | |

| THEMES | SURVEY COMMENTS |
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| <p>Yes, the Science Collaborative plays a valuable role in helping the NERRS support coastal management</p> | <p>As I noted earlier, it's important to the mission of NERRS that the Science Collaborative is supporting the transfer of knowledge and skills among the NERRS and between NERRS and their user communities.</p> |
| | <p>My experience with the process and the year following the panel on which I participated leads me to conclude these proposals help support aspects of coastal management, including activities of the NERRs.</p> |
| | <p>Because the Science Collaborative research proposals are crafted from the beginning with input from NERR staff and other end-users, the science that comes out of them is valuable to coastal managers as it has been tailored to their needs</p> |
| | <p>It is a great vehicle to show the applied use of the reserve's strengths in local needs, research data and engagement with audiences. also funding beyond the base funding is always very helpful.</p> |
| | <p>The knowledge gained from the reserves and the research program is transferable to similar ecosystems.</p> |
| | <p>I think you've done a good job adapting to the needs of the system and getting them to consider some new approaches.</p> |
| | <p>Projects can be variable in their effectiveness; however, the Collaborative brings scientific and other agency and program attention to the reserves beyond the immediate reserve system staffing. With that attention comes recognition of the value of the reserves in providing stable monitoring platforms and being great place to conduct research.</p> |
| | <p>Science collaborative brings together management professionals, academia and end users for successful NERR management</p> |
| | <p>The Science Collaborative grants inform management of coastal areas through an increased scientific understanding of their function and the ecosystem services they provide. It plays a critical role in the NERR System's ability to execute their mission.</p> |
| | <p>Puts the NERRS "on the map" as an organization solidly committed to a collaborative approach to research that's been demonstrated to be successful and valuable to the communities served by the NERRS.</p> |
| <p>For the NERR system to support coastal management, it needs to be involved in advancing our understanding of coastal communities and the challenges they face, and it needs to be connecting with the broader set of decision-makers and stakeholders to act upon that information. The Science Collaborative is critical to both of those.</p> | |
| <p>Yes, the Science Collaborative is a valuable source of funding that allows the NERRS to influence coastal management and decision-making</p> | <p>Same answer. Funding support (from whatever source) is necessary to advance program goals.</p> |
| | <p>It is really the only mechanism the system has for advancing the science.</p> |
| | <p>Valuable funding source. But a few of my collaborators have perceived it as being a lot of work with very little success of funding. If it continues to be an annual pot of competitive money, I think it will enhance collaborative research greatly.</p> |
| | <p>Having this funding available and making sure it is linked to NERRS staff and priorities has been AWESOME for us- it helps us bring in new partners, learn from them and think about if and how we can have a role in creating solutions.</p> |
| | <p>Absolutely, because, honestly, we don't have any other 'internally' generated funding opportunities, at least that I know of.</p> |

| THEMES | SURVEY COMMENTS |
|--|--|
| <p>Yes, the Science Collaborative is a valuable source of funding that allows the NERRS to influence coastal management and decision-making</p> | <p>I think without having a mechanism that is funding not only the research, but that carry through to the management, it would be much less likely to happen.</p> |
| | <p>Esp true in tight funding times where grants (from other agencies) are tight</p> |
| | <p>It provides the funding and opportunity to do additional research outside of the scope of what is mandated in the operational grants, as well as provides funding to create communication pieces.</p> |
| | <p>Provides funding mechanism to do applied science in support of coastal management issues - something that base operations funds for reserves does not do specifically.</p> |
| | <p>Having our own pot of funding to compete for is incredibly valuable.</p> |
| | <p>The NERRs system are important nodes of science activity. They do well at their mission of community engagement. The SC is an important funding vehicle to help with this, and to bring in other like myself who have certain expertise to help expand that discussion.</p> |
| | <p>it's a good program, providing needed resources directed at producing answers that are/will be relevant & useful for addressing management issues at sites</p> <p>yes, these large grants allow collaborative processes to move forward by leaps and bounds at Reserves, where they would otherwise move along in a slow back burner way. but again, we don't need much budget for UM central support staff beyond grant managers. The real work and contribution is at the Reserves.</p> |
| <p>I do not know enough about funded projects to answer the question</p> | <p>Again, I don't feel like I know enough about the funded projects to comment.</p> |
| | <p>I think the data collected will be valuable. The research seems good and relevant, again I dont know much about the success of other projects or groups but ours has been good.</p> |
| | <p>see previous answer</p> |
| | <p>Note previous explanation.</p> |
| | <p>Again, don't know the outcomes of these in the past.</p> |
| <p>I do not have enough experience with the Science Collaborative to answer the question</p> | <p>Don't know enough about the program, it's not a big deal in our area</p> |
| | <p>We don't have the experience in our NERR.</p> |
| | <p>Again, I am not involved in the NERR System enough to know the ultimate impact of the Science Collaborative. Certainly based on the proposals I read, it seems past projects have been successful.</p> |
| | <p>can't comment b/c I am less familiar with NERR system than others writing grants</p> |
| | <p>again, don't know enough about the Collaborative to respond to this</p> |
| <p>The Science Collaborative is not valuable to the NERRS</p> | <p>Same as before. The science quality is not part of the decision making process, which is instead driven by local, political interests.</p> |

| THEMES | SURVEY COMMENTS |
|---|---|
| The Science Collaborative is important, but collaborative research could/would still be done in the NERRS without it | I think there are other models for collaborative research, each with limitations. Funding for collaborative research might be increased with more direct pathways from NOAA to the Reserves (I know there are challenges to this, though) |
| | I think the focus on end-user driven research is fundamentally important to what we do, but i think with the great framework and resources that OCM offers, it can/would probably be done even without the NSC |
| Miscellaneous | The science is of great value to an oyster grower, again sad I will be shut down at the end of my lease in @ two years and will not be allowed to use the science that is being provided for this area by a great team of scientists and a great science center, UNCW. Reserve folks have done everything to stop aquaculture for shellfish in the reserve and finally found a loop hold before the science was completed. Sad, Sad, Sad... |
| | This type of external review is always beneficial, assuming it is constructive. My experience indicates the Science Collaborative feedback was very constructive. Kudos to all the folks from NOAA who helped set that stage. |
| | not sure waht this question really means....yo need to be more specific and clear |
| | I think the application is process is simply ridiculous. |
| | I don't believe the NERR System is interested in the outcome of this study. They have already taken action to create policy to eliminate leases prior the completion of this project. |
| | It helps individual reserves. Not the system as a whole. |
| | I agree but feel as though the difference between the UNH run NSC and the UM run NSC needs some reconciling. Some of the projects (in our northeast region) have been helpful. But the emphasis on hypothesis driven research, is, in my opinion, problematic. It tends to drive the projects towards universities, where the reward system (research papers, overhead returns) do not necessarily improve on-the-ground management goals. |

Question: If you wish, please provide any additional comments regarding the work of the Science Collaborative for the NERR System.

Posed to: All

- I thought the review teams were diverse, had great expertise, and worked well together.
 - Thank you for the opportunity to comment.
 - Thank you for the opportunity to learn about this program though serving as a reviewer.
 - We don't have the experience with the CTP program in our NERR.
 - I think this is a vital program for linking scientists and managers through the NERR system; without this funding opportunity, I would not be actively shaping my research program around the needs of the NERR and our larger end-user group - thus, this funding mechanism has significantly improve the applicability of my research program.
 - Programs and initiatives that promote collaborative work are valuable for many reasons, including efficient and effective use of funds, expanding project benefits to multiple areas, and increasing the intellectual capacity to address questions and problems.
 - No comments
 - Strong supporter of the NSC as implemented by both administrations over the years. This program has advanced science in new areas and new ways important to the coastal communities the reserves serve.
 - Not many agencies/organizations are making an active effort to engage end users and mobilize knowledge more effectively. Kudos!
 - A great system, and science collaborative is excellent concept
 - This program has been very valuable in not only funding research but also highlighting issues and concerns that had not previously been expressed in either public discussions or research related venues.
 - Love it!! I hope I get funded again to work with a NERRs group...they are wonderful and doing excellent and very relevant work.
 - Having been affiliated with the NSC over the past 5 years I think there has been a philosophical disconnect with the intent and purpose of the NSC that requires some thought and reconciling. The first NSC created much of the scientific basis for the program and outlined the philosophical trajectory of the funding efforts. When the second NSC took over there seemed to be very little continuation of those early foundational efforts. Instead there was a painful and indirect re-learning of the new priorities of the organization with little in the way of research based approach or program underpinning.
- In the most basic terms the new program seems like any other scientific research based funding mechanism that funds reserves and provides lip service to the need for integrated proposal teams. As a student of the previous NSC efforts I have found the program to suffer from inconsistency and a bit of a moving target in terms of funding efforts.
- I have not been working for the reserves for as long as others, and so my knowledge of the science collaborative history is short. However, I am pleased and impressed with the active and ongoing engagement of the Reserves in the management of the science collaborative by the University of Michigan. I feel there has been a foundation of trust created through this engagement.
 - It has been an illuminating process, and i simply suggest a consideration for a longer funding window, because some of the progress associated with these types of projects take a period of time to evolve.
 - As before.
 - Very thankful to have the NSC, but wish the process did not take so much time and attention. I also felt that the current form of the NSC is very top heavy. I am sure some of the projects are of great interest to the NSC people leading them but I am not sure I see the value of what they are doing for the reserves (
 - The Science Collaborative is a valuable program for the NERRS. I appreciate the changes that UM has made in response to feedback they have received over the past few years. I would encourage the program to continue to move towards maximizing funds for project-specific work by the reserves and place less emphasis on ancillary projects.
 - I feel that the move from UNH to Michigan for the program has injected some substantial innovation and added value to the program.
 - It is vitally important, but can be made more rigorous by opening it up to a wider community and lessening the importance for broad participation among sites. Broad participation = dilution = exclusivity
 - None come to mind. Just keep the high quality level of work!
 - The Science Collaborative has fostered - just within the projects I have seen and been involved with - hundreds of hours of engagement with end users, building strong relationships at each NERR with key stakeholders. These relationships and shared understanding and trust both lead to good project outcomes and endure beyond the grant period.
 - The Science Collaborative is an important funding mechanism for advancing research in the NERRs System. To the extent possible, an emphasis should be placed on projects with direct applications to pressing coastal and marine resource

management issues. This includes addressing impacts of climate and sustaining/adapting NERRs ecosystems to projected changes in temperature and sea level rise.

- I would like to see the Science Collaborative focus on funding applied science projects that bring together local and regional groups of researchers to address specific problems at the Reserve.
- Without the support of the Science Collaborative many education programs would not have been able to get off the ground.
- This is an important and valuable program, I hope funding support continues into the future!
- This program is highly valuable and should be expanded.
- I think that this program is very beneficial, but I think it's unfortunate that awards have not been as widely geographically distributed since UM took over the program.
- I think the Reserves should play a more active role in determining which projects get funded. This could be done through many models, but at least there should be more reviewers from the System.
- Been disappointed that in 4 attempts to gain funding- while working to respond to NERR managers needs- I have not been able to garner funding. 0 for 4 is definitely not encouraging me to participate further in this program. I am beginning to think the system is flawed These proposals take SIGNIFICANT time and effort
- In my experience there is a disconnect between good science and successful end user application in NERR Science Collaborative proposals. Reviewers generally do a good job of determining the quality of the science and the feasibility of a proposal, but have difficulty judging end user needs. I suggest breaking this apart into separate components. External reviewers should continue to examine scientific rigor and feasibility. Science collaborative staff should judge whether the projects meet the needs of end users. This might include additional communication with end users.
- There are many NOAA programs utilizing a variety of approaches for integrating end-users/decision-makers into a project for science-to-management application. I think it would be beneficial if perhaps there was an internal workshop/ summit so that the different approaches/line offices could exchange lessons learned and best practices.
- I'm a huge fan of the NSC and continuing it as a competitive program. I have concerns with how the current group manages the program but am not sure this is the appropriate venue to get into that kind of detail. Please let survey respondents know when that kind of feedback will be requested. Thank you! In case there's no other opportunity to comment, here's the general gist of my concerns: - The current NSC managers spend a significant amount of program funds on evaluating the social science associated with collaborative research. This works needs to be done but should be done with other funds and by researchers not associated with those managing the current NSC contract. Fair or not, the "optics" of having researchers essentially evaluating the value of their own program is fairly unseemly. - I have worked with many grant programs and their staffs over the years and the UM-managed NSC is the only one I've encountered in a very long time that does not bend over backwards to work with proposal development teams to ensure that the crop of proposals being developed in response to any given RFP is not as high quality and competitive as possible. Yes, there are webinars and lots of other very helpful materials offered, but there's a reluctance coming from this group to engage in specifics in a way that those in other programs happily engage in, in the name of ensuring excellent and highly relevant proposal submissions. I do hope there's a chance to elaborate on these points at another time.
- I think the science collaborative plays an essential role in ensuring the latest science interacts with the latest social science, creating the most effective end products
- I strongly support the concept of the NERR Science Collaborative. I have found that working in teams makes for a stronger, more focused, creative and relevant project that reaches more end users. More than ever, scientists need to develop team skills that help them reach out to end users in effective ways. Science process is key to sustaining our natural ecosystems and resources, we need to cross boundaries and form collaborations that help us accomplish this objective.
- I greatly appreciate my time as both a panelist and a member of the Advisory Board. The thoughtfulness of the review process is very impressive; this type of review, done by a group outside of NOAA which has the capacity to do it effectively, is immensely valuable to the NERRS community and the stakeholders they serve.
- From my experience, I have never participated in a better run NOAA proposal process. It strives to have very high integrity. The proposals are top notch and there is a deep commitment and understanding to trying to connect the research and the end user. It isn't easy, but these guys take this very seriously. Would be nice if they could take some of the funding and evaluate the outcomes from past research. This is a big time commitment to do well and needs money to be spent to do it.
- Great program and will always be a huge champion.
- well done, keep it up. I guess this project would stay around for decades to come
- It's great to be able to apply for higher dollar amounts for science transfer grants but it would be nice if small smaller amounts (say in the \$5,000-\$15,000 dollar range could be offered with a more stream-lined application and bookkeeping process.

- I realize the timing of this survey is likely due to winter being a slower season for many coastal employees, and I may be one of the few who is directly involved in their first Science Collaborative project, but I would have been able to give more informed responses if it were further into the year, given the project in which I am involved only began November 1. I'm sure this varies from project to project, however!
- The more the science collaborative team can do to make the collaborative process a net benefit to scientists, rather than a burden, the more likely the program is to attract top quality researchers and produce top quality science. And it is important to keep in mind in the evaluation of project efficacy that the collaborative benefits may not be fully realized until years after completion of a particular project.
- I think the Science Collaborative Grants are a vital part of supporting NERR activities in their respective localities as well as providing lessons learned to the larger NERR network and coastal communities across the nation as a whole. I am blessed to work with 4 NERR stations in the northeast, but know that my colleagues both in and out of government service benefit greatly from their partnerships with their local NERR.
- I think its a good program which was successful, in my personal experience, on opening lines of communication and inquiry with the end-users. Previously, I would look at questions and assume that these were important issues for management, so in that regard, it has been successful. My proposals, though, have not been successful, and some of the reasons that we were dinged weren't necessarily clear in the RFP. I know that the program is ending, but more clarity in the RFP, and spreading the money around for all reserves (i.e., there are some reserves who have not received any funding across the entirety of the program) would have made the Science Collaborative even more successful.
- The application process, especially the interview, is very labor intensive, especially if you don't receive funding. Streamline the process and reduce the ivory tower approach of the funding.
- NSC grants are extremely valuable! They are the best tool for moving collaborative science to support coastal management forward at the NERRS! Previous management by UNH seemed more streamlined, supportive and effective than UM. There is a lot of bureaucracy and focus on details and paperwork at UM that did not use to exist. There also seems to be a large staff of academics doing their own thing that isn't particularly valuable to the NERRS. So NOAA dollars might be more effectively invested by giving this contract to a different institution.
- I think this is an innovative program that could be broadly applied across natural resource management/land planning programs here in US
- The Science Collaborative provides additional support for regional projects that could be adapted in multiple locations and provide resources for multiple reserves. Thank you for the collaborative opportunity to continue learning about our estuaries and how to ensure their sustainability.
- In my experience, it may be to soon to judge, but the potential to drive collaborations and new initiatives is there, needs more funding, and more active distribution of information to various stakeholder sectors.
- A few comments I've received: 1) The funding deadlines coincide with academic winter break as well as some NSF grants. I have had a few missed opportunities due to a collaborator being unavailable. 2) A workshop or webinar of examples of end-user products and/or engagement. Anything other than "a new publication" has been difficult to express to potential partners (including me). This was something requested of me. 3) Really enjoy the webinars - I'd like to see more success stories of the NSC, including previously funded ones.
- In the past it was very valuable to my work to have project information and results posted on the web. The model followed by CICEET was great. I have greatly missed having this information available.
- Considering my first and last experience, I am committed to never applying for funding from your organization. When asked by my colleagues about it, I always recommend they seek funding directly from NOAA, SeaGrant or from NSF.
- Let's make it better and keep it going. This is the one substantial funding mechanism that we have, but we need to keep it from getting ambiguous.

APPENDIX III. INTERVIEW SUBJECTS & PROTOCOL

A series of individual interviews will be conducted in early 2018 as part of the data gathering process for the NERRS Science Collaborative Interim Program Evaluation being conducted by Dannemiller Tyson Associates. Below is a description of the purpose, format, and information to be obtained through these interviews.

Purpose: To obtain representative qualitative data on program participants' perceptions about the Science Collaborative program to complement the quantitative and qualitative data to be obtained through a survey of a larger set of stakeholders.

Format: The evaluator will conduct approximately 20-25 interviews, each lasting up to 60 minutes. Interviews will be conducted by phone or via videoconference.

Subjects: Subjects will be randomly selected from the following participant types:

- **Project representatives** including project leads, technical leads, and collaborative leads; one individual will also be a SAIM participant (8 subjects)
 - (5) research/integrated assessment leads
 - One of each lead type
 - All have attended the annual NERRS Science Collaborative project workshop
 - Three individuals from the 2015 cohort, two from the 2016 cohort
 - (3) science transfer leads from different cohorts
- **Unfunded project representatives** including project leads, technical leads, and collaborative leads. Note: these are individuals that have never been successful applicants under U-M-administered program (5 subjects)
 - (3) research/integrated assessment leads
 - One of each lead type
 - One from each RFP cycle—2015, 2016, 2017
 - (2) science transfer leads
- **Advisory board members** (3 subjects)
 - Maximum of one reserve staff member
 - No new board members
- **Review panelists** (4 subjects)
 - (2) research/integrated assessment panelists (both serving for more than one RFP cycle)
 - (2) science transfer panelists
- **NOAA OCM staff** working with the NERRS (3 subjects)
 - (2) sector leads
 - (1) reserve site liaison

Interview Format

The framing of this interview process will be that we are seeking input from a representative group of program participants to assist NOAA and the Science Collaborative in the process of continuous learning and adaptation. In this spirit, this interview should be seen as an opportunity to offer your impressions and advice as a part of this process.

Introductory talking points:

- Thank interviewee for their time
- Introduce yourself as interviewer
- Explain purpose of interviews, including a few specific points:
 - I am collecting input from individuals that have participated in the Science Collaborative program in different ways.
 - I welcome comments on any aspect of the Science Collaborative program, including the collaborative research, integrated assessment and science transfer grants, the Successful Adaptation Indicators and Metrics project, and the support offered around topics such as collaborative processes, science usability, and data management.
 - Also recognize that the Science Collaborative is what it is today because of prior contributions, such as from the University of New Hampshire. If you have engaged with the program during both the previous and current iterations, I am interested in your perspective as it encompasses both iterations
 - Our goal is to better understand your experiences with the program to-date and collect specific ideas that can advance the evolution of the Science Collaborative.
 - This information will be used to support the learning and on-going adaptation of the program, and assist NOAA in its planning for future iterations of the Science Collaborative.
- Explain what will happen with the data and confidentiality
 - Your name will not be attributed with any comments, even when I share a summary of these interviews with the Science Collaborative team.
- Are there any questions before we begin?

Initial set of questions for all interviewees:

1. Please describe your professional role and the nature of the work you do.
2. Please describe the nature of your relationship with the Science Collaborative program and how long you have engaged with the program.
3. Please describe how your connection with the Science Collaborative impacts you professionally.

Specific questions for stakeholder groups:

Project representatives – To understand the post-grant working relationship and the perceived benefits of participating in a SC supported project.

- What have been the direct benefits of the funding of your project?
- Reflect on your experience as a Science Collaborative grantee. What aspects of project support have worked well and which aspects should be improved?
 - Program elements to reference for research/integrated assessment project reps:
 - Approach to project management
 - Annual project workshop that brings together all funded teams and the Science Collaborative team
 - Communications support (factsheet, web, infographics, logo, etc.)
 - Data management support from Dwayne Porter
 - Did/do you have sufficient resources, such as time and expertise, to carry out the work?
 - If not, what do/did you require?
 - Program elements to reference for science transfer project rep:
 - Approach to project management
 - Communications support (factsheet, web, infographics, logo, etc.)
 - Did/do you have sufficient resources, such as time and expertise, to carry out the work?
 - If not, what do/did you require?
- What have been the indirect benefits of your relationship with the Science Collaborative?

- Overall, what have you gained by participating in the project and engaging in the collaborative process?
- What advice do you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?
 - Optional probe: How could the Science Collaborative change or improve the support provided to project teams in the future, to help ensure the success and broader impacts of each project?
- Questions for SAIM participant only; Susi Moser, James Arnott lead this project:
 - What were the direct benefits of the project to you? Are you aware of any benefits to others involved?
 - What did you like the most about how the project is being conducted? What didn't work for you?
 - If they mention something that did not work, follow-up with: Did you feel you could voice those concerns and get them addressed?
 - What advice do you have for the Science Collaborative on how to continue or build on the SAIM project the future?
 - What would you continue?
 - What would you change?
 - What do you feel are the benefits – if any – to the NERR System as a whole of doing the SAIM project?
 - How can the project increase its overall impact for you, for other project partners, and for the System as a whole?

Unfunded project representatives – how the application experience may have affected the teams. (Note: They may have submitted to the currently active, 2018 Collaborative Science Catalyst RFP)

- Please describe your experience with the request for proposal process.
- What, if anything, happened with your project idea in light of the fact that it was not funded?
- Were there any lessons learned from participating in the request for proposal process?
- Is there anything you would have done differently to have a better outcome from the request for proposal process?
- Were there any other benefits you or your organization derived from the application process?
- What advice would you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?

Advisory board members

- Please describe your experience as a Science Collaborative advisory board member.
- What would you say have been the main impact(s) that the Science Collaborative's work has had on the NERR System and/or coastal management?
- In your view, what is the value that the Science Collaborative contributes to the NERR System?
- You have heard about the different aspects of the Science Collaborative program—science usability, collaboration support, data management, SAIM project. How would you assess their overall contributions to the NERR System and/or coastal management?
- How well would you say the Science Collaborative made use of your time and expertise?
 - How can the Science Collaborative improve its use of your time and expertise?
- What advice would you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?

Review panelists

- How many times and for which request for proposal(s) did you serve as a panelist?
- Please describe your experience as a review panelist.
- How would you evaluate the quality of the proposals you reviewed?
- If the interviewee served as a panelist multiple times:
 - How would you assess the quality of the pool of proposals over time? Improving, declining, about the same? Please explain.
 - From what you have seen, are applicants improving the quality of their proposals over time?
- From your perspective, what aspects of the review process worked well?
 - Which aspects should be improved?
- Overall, how would you evaluate the effectiveness of the review process?
- What advice would you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?

Non-applicants from the system

- What factors contributed to you not being a part of a proposing team over the past few years?
- What circumstances would encourage you to respond to requests for proposals in the future? What advice would you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?
 - Optional Probe: Is there anything you would suggest the Science Collaborative do to maximize participation in the program?

NOAA OCM staff

- What benefits from the Science Collaborative have you seen for individual reserves?
- What have been the benefits for the NERR System?
- Are you aware of any shortcomings or areas in which the Science Collaborative could do more or do something differently?
- What advice would you have for the Science Collaborative in the future?
 - What would you continue?
 - What would you change?
 - Optional Probe: Is there anything you would suggest the Science Collaborative do to maximize participation in the program or expand impact?

APPENDIX IV. ADDITIONAL FEEDBACK

In the course of the survey and interviews, we received comments that fall outside the purview of the Science Collaborative program and/or the evaluation process. The key issues are summarized below and were shared with NOAA Office for Coastal Management.

Addressing Unequal Distribution of Projects among Reserves

A common theme emerging from survey and interview comments was concern about inequity in receiving Science Collaborative project among the reserves. As participants noted, individual reserves have vastly different capabilities and resources depending on their age, staffing level, location, and the organization managing it. Newer reserves, for example, are often not fully staffed while others have historically struggled with staff turnover, making it difficult to allocate personnel to proposal development. Reserves in more remote locations may have limited opportunities to expand their partnership networks, and those that are not associated with a university often have fewer proposal writing resources than those housed by academic institutions. Participants commented that all of these factors influence a reserve's ability to compete for Science Collaborative funding and that these inequities have resulted in projects being awarded to a consistent sub-set of reserves.

Although evaluation participants clearly want the Science Collaborative to prioritize scientific and collaborative rigor in selecting projects for funding, they also believe that more should be done to enable broader reserve participation and representation in the program. There was no consensus about how this might be achieved: some participants suggested resources be allocated on a regional basis; others suggested giving higher priority to projects that involve more reserves. There is a strong desire from the reserves to see resources more evenly distributed across the system while retaining the scientific and collaborative rigor of the selection process.

Integrating New Reserves

Some respondents wondered how the Science Collaborative could better integrate new reserves into its programming as they are added to the reserve system, recognizing that new reserves face different funding and staffing challenges than established ones. The role of the Science Collaborative in building individual reserves' capacity is not clear.

Tension between Reserve Collaboration and Competition

There is no question that program participants want the Science Collaborative to fund the strongest, most rigorous proposals each RFP cycle. However, participants commented that the need to compete with other reserves is at odds with the need for reserves to collaborate more effectively with each other. For instance, the competitive RFP process puts pressure on reserve managers asked to join multiple proposals. These managers must complete assessments indicating their level of support for all proposals involving their reserve; however, they walk the line between supporting all projects and giving the competitive edge to projects proposed by their reserve. The role of the Science Collaborative in fostering competition and/or collaboration between the reserves may require further consideration.

Resolution and Topic Areas

There seems to be ongoing confusion about where Science Collaborative focus areas are generated (e.g., who is responsible for that) and whether those that were/are selected to respond to national or local (e.g., reserve-level) interests. Specifically, participants appear to be uncertain about the scale at which projects should focus and how topic priorities are set.

Multiple participants commented on the topic of scale, wondering if projects should be addressing local or national priorities. One respondent observed, “Program seems focused on local politics/concerns – would like to see quality science and quality application of science to major, national policies and concerns.” In contrast, others wanted to see “applied science projects that bring together local and regional groups of researchers to address problems at reserves.” Other respondents wondered how annual topic priorities are set and whether or not the program should specify a few topic areas to fund each RFP cycle or year. There is need for clarity and communication about how, and by whom, Science Collaborative focus areas are selected and where projects are meant to focus.

The Role of Graduate Students

We received numerous comments from participants requesting that the system re-establish a formal program to engage students in research efforts. Participants mentioned the benefits of the former TIDES program, commenting that engaging students, graduates, and post-graduates in the system “grows our science community astronomically.” One participant suggested that the NERRS consider creating a fellowship program for students to operationalize the results of a prior study into the management of the reserve, a benefit for reserves that often have limited staff and limited money to take the results of research and apply them operationally. Another suggested funding postdoctoral students to do cross-system analyses, using the National Science Foundation’s Long-Term Ecological Research (LTER) program as a model. We believe this is already being addressed through the new Graduate Research Fellows Program.

Transition Process between Agreements and Cooperative Agreement Length

Throughout the evaluation, respondents raised questions about the administration of the Science Collaborative related to the transition between program administrators and cooperative agreement length. A number of respondents observed that current and former program teams have different cultures, resulting in differences in their management of the Science Collaborative program. For example, some respondents discussed differing approaches to proposal development support between the University of Michigan (U-M) and University of New Hampshire (UNH) teams. Cultural differences are real but subtle and difficult to pinpoint precisely, perhaps best noted by a participant who commented, “[I] feel as though the difference between the UNH-run NSC and the UM-run NSC needs some reconciling.”

In addition, we received several comments related to the cooperative agreement length. Some respondents noted that the five-year contract between NOAA and the institution administering the Science Collaborative limits the length and scope of projects that can be executed by the reserves. For example, projects funded in the third and fourth years of the agreement are limited to two-year and one-year projects respectively. Additionally, there is no competition in the fifth year of the agreement. Respondents noted that this creates a small (two-year) window in which the Science Collaborative can support more ambitious, longer-term projects for the reserves.

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