REPORT: RESEARCHING THE ROLE OF PROGRAM INFRASTRUCTURE IN GUIDING EFFECTIVE DEVELOPMENT OF A SCAMP DISCARD CITIZEN SCIENCE PROJECT

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Managing expectations – the scope of this research

It is both ambitious and unprecedented that SAFMC has approached citizen science by developing a program before launching projects. This demonstrates up-front commitment of multiple years, and the staff time and extensive volunteer hours contributed over that period. This commitment is with an eye to long-term results, and therefore it is too early to determine whether this process has succeeded (see evaluation planning report by Rick Bonney). In the meantime, it has been important to explore and document this novel approach, asking: *What can we learn from the roll-out of the SAFMC Citizen Science Program that can inform future development of citizen science in other management settings?*

Research methods and approach

Qualitative research, with an appreciative (not critical) approach, was carried out through interviews and observations. I attended over 2/3 of the A-Teams meetings, many of the project design team calls, and numerous planning check-ins with Amber and subsequently Julia. I reviewed and coded all A-Teams meeting notes and materials, as well as the resulting Standard Operating Policies and Procedures (SOPPs). I interviewed A-Team members and other leaders about their experiences and priorities in this process (interviews still underway). I have looked at data in light of what theories suggest *should* happen, and also looked at what these data might show us that theories can't show us – namely, what actually happened and why people said that was important. The synthesis of interview data also suggests meaningful next steps and recommendations for others.

Preliminary findings

Comprehensive work by A-Teams. The work necessary to address all project planning components, as recommended by theoretical frameworks in this field, is extensive and daunting. Together, staff and A-Teams produced Review of A-Team priorities and products revealed that these teams covered all recommended areas. Appendix A details priorities addressed and products produced by each team.

Not all components were relevant to all teams. In fact, it is notable that so many A-Teams covered the same components, with coordinated and cross-cutting work facilitated by staff. Beyond *establishing infrastructure* (central to the purpose of these teams), products show priority attention to: *Establishing staff capacity*; *Identifying goals for participants*; *Attending to participant engagement*; and *Managing expectations*. Further thought can be given to the priority discussions but limited A-Team products in the area of *Applying research to action*. It may be that the opportunity for application of data to action is narrow enough that needs are limited to the (comprehensive) data requirements templates and QA/QC controls produced by the Data Management A-Team.

Program. The concept of a "program" can be hard to explain to people who have not been part of this process. One consideration is that the SOPPs themselves constitute the program, providing the infrastructure for future projects. Interviewees, however, indicate strongly that this is a short-sighted view, and that the program is highly dependent upon the people who enable and enact the

work that those SOPPs guide. The SOPPs do help think about a program as the scaffolding, structure, procedures, rules of engagement, and a system that provides rigor for the development of projects that have rigorous data requirements. But people are required to cultivate both projects and strategies to meet data needs; staff point to the value of keeping A-Teams engaged, while interviewees strongly point to the need for retaining and augmenting staff (see Appendix B for an incomplete list of critical staff roles). Each say the other is invaluable to sustain their own work.

Beyond that, the program also has components of the *relationships* that were built during the process of participating in the A-Teams.

Relationships. Interviewees valued that this effort (in contrast to other Council teams) was both cross-cutting and collaborative. People from various fisheries, perspectives, and areas of expertise worked together - on something that wasn't threatening - to build something new. *This process built relationships* – that itself is seen by some as having long-term value, and as a potential indicator of success.

Pilot project. Observation and interview data suggest that the program and pilot project (Scamp discards) were mutually reinforcing. The project built on the program infrastructure where available at that point. The project gave context for reviewing and even "testing" existing infrastructure and finalizing templates in the works. Some interviewees suggested earlier-phase projects could have better informed program planning; others suggested that the pilot project did not have full benefit of review by comprehensive program infrastructure to best situate it for success.

Recommendations and next steps:

For SAFMC.
- Invest in the continuity of the program by maintaining and growing staff support
- Retain the A-Teams, which will both require and offset staff time (e.g., mobilize to review/update products)
- Seek and secure funds on hand to anticipate and enable timely project roll-out
- Conduct analytic study of success factors, and evaluation of both program and project, to document factors influencing outcomes and to guide continuous improvements

Evaluation. There is broad consensus that the use of data in stock assessments and other management and regulatory decisions is a paramount goal and metric for evaluation. Interviews sought additional considerations of program success that could inform development of program evaluation metrics. These include:
- Having multiple projects running simultaneously, collecting different kinds of data
- Qualitative, not just quantitative, use of data
- How frequently the Council is approached for a partnership
- How frequently the Council is approached for an endorsement letter
- Partner reviews of the process: was it straightforward, clear?
- How many volunteers express interest
- What are the diverse backgrounds of volunteers expressing interest?

Given emergent insights that the process of program development itself brought people together around a common goal, evaluation may also consider addressing the number, and nature, of connections and relationships established.

<u>Recommendations for others</u>. Consensus of interviewees shows that the Council's process has merit, and that other Councils would be well served to adopt the program-first approach. Additionally, with the SOPPs and related planning documents publicly available, Councils could short-cut that process by applying and/or adapting the materials produced. First and foremost, interviewees recommend that a Council determine and agree upon the true data need for citizen science, as consideration of citizen science as a "publicity stunt" is insufficient to warrant the investment.

Synthesis:

With minimal financial commitment, the Council has demonstrated high return on investment. One full-time staff person mobilized a volunteer corps of more than 45 people, devoting the estimated equivalent of over $50K worth of time, to developing the SOPPs and the community capacity to implement them. Outside investment in app development has been leveraged to not only launch the Scamp project but to expand the same infrastructure to new projects and new partnerships.

The SOPPs document represents over four years of planning and relationship-building, and a full year of work by A-Teams. Staff investment was critical for the A-Team approach to result in a cohesive product. The Teams' emphasis on participants and on managing expectations align with program goals; consistent staff attention will be necessary for continuity in these priority areas. Such deep investments and attention to shared goals, not just scientific goals, align with best practices for community-based work where there are high stakes for trust in the management process.

Appendix A. Coding A-Team priorities and products

The priorities addressed and products produced by A-Teams, coded using a synthetic framework detailing components of effective project design elements (Shirk and Bonney 2015).
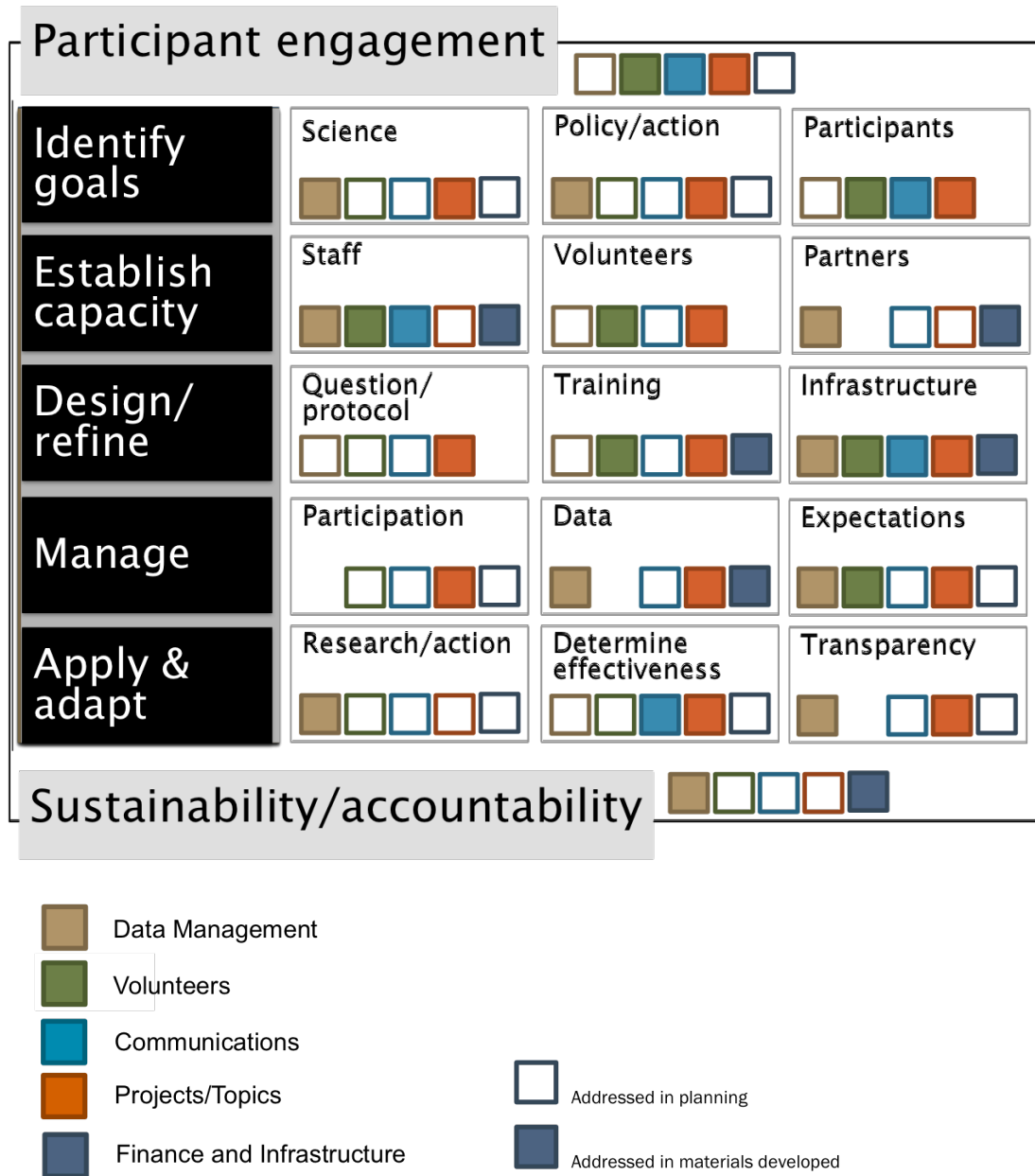
Appendix B. Incomplete list of needs expressed by interviewees for staff in support of program continuity

What staff are needed to do:
- Get projects started, move them forward, see them completed
- Continuous evaluation of data needs
- Anticipate data needs and project opportunities enough in advance, and be nimble, to facilitate timely project development
- Strategically implement and coordinate across multiple projects
- Keep A-Team members informed and active
- Maintain and build relationships with volunteers, potential volunteers
- Raising the visibility of the program and keeping visibility high (for potential partners, not just potential volunteers)
- Recognizing volunteer contributions in a consistent way over time
- Managing everyone's expectations that building a program – as well as any project that has management outcomes – takes time