

## **Citizen Science Program: DRAFT INDICATORS**

In 2020, the Citizen Science Operations Advisory Panel (AP) developed draft indicators of success to help monitor and evaluate the Citizen Science Program. The draft indicators (highlighted in bold below) are primarily 'outputs' measuring direct products of Citizen Science Program activities. Staff have provided example measures for many of these indicators (listed as bullet points under each), intended to facilitate the APs review and discussion. Please note that these measures are drafts and will require further refinement before they can be finalized.

**CitSci Program organizational infrastructure was developed to include the SAFMC Citizen Science Committee, Citizen Science Advisory Panels, and ad-hoc work groups and these groups met, as needed.**

- SAFMC Citizen Science Committee formed in 2016 and has met 15 times; typically meet 1-2 times per year
- SAFMC Citizen Science Operations AP formed in 2018 and has met 14 times; typically meet twice per year; met more often in 2020 when developing goals, objectives, strategies, and draft indicators
- SAFMC Citizen Science Projects AP formed in 2019 and has met five times; typically meet once per year
- Ad-hoc work groups (e.g., 'CitSci Action Teams') were appointed in 2017 and met 49 times over 18 months to develop the overall Program approach and best practices

**SOPPS adopted by Council and updated as needed.**

- Citizen Science Program SOPPS were initially adopted by the Council in Dec 2018. The Citizen Science Research Priorities within the SOPPS have been updated in 2019, 2021, and 2023. The Program vision, mission, goals, and objectives were updated in December 2020.

**Research Priorities updated every two years using process identified in SOPPS.**

- Citizen Science Research Priorities were initially adopted by the Council in 2018. They have been updated following the process outlined in the SOPPS (with the exception of the 'Project Idea Portal') in 2019, 2021, and 2023.
- The Citizen Science Project Idea Portal launched in 2024 and ideas submitted through the portal will be used to help update the Citizen Science Research Priorities in fall 2025.

**Number of policies and procedures that have been created and have been used # times to create # of projects and # of research priorities.**

- Staff are looking for additional guidance on how best to measure this indicator. The Citizen Science Program SOPPS are used regularly and guide the Program's overall approach. So, it can be challenging to quantify how they have been used. The bullets below highlight examples of how the policies have been used.
- Program staff led a collaborative effort with multiple partners to develop the SciFish platform's policies and procedures which were largely based on the Citizen Science Program's SOPPS

- Citizen Science Program’s Research Priorities have been updated using the process outlined in the SOPPS three times
- When approached by organizations that are interested in collaborating with the CitSci Program, staff initially share the Citizen Science Research Priorities as a tool to help determine overlapping interests
- Design Teams have been used to guide the development of all projects under the Council Citizen Science Program’s umbrella

**Number of visits to Program webpages; number of downloads of the SOPPS and/or other project support resources**

- Council transitioned to a new website in July 2023; webpage views from the previous website will be difficult to obtain; new website can track page views but cannot track document downloads
- Citizen Science Program webpage views between July 2023 – April 15, 2025
  - Citizen Science Program main webpage: 1,581 views
  - Citizen Science Action Team tables: 124 views
  - Citizen Science Program Development: 188 views
  - SAFMC Release: 3,037 views
  - FISHstory: 1,377 views
  - SMILE: 286 views (typically push people to REEF’s SMILE webpage)

**Number of external funding sources/partners (e.g., non-SAFMC budget)**

- NOAA Fisheries Fisheries Information System Program
  - 1 proposal in collaboration with NOAA Fisheries
- Atlantic Coastal Cooperative Statistics Program
  - 3 proposals in collaboration with NCDMF
  - 2 proposals in collaboration with NC State and NOAA Fisheries
  - 1 proposal in collaboration with NOAA Fisheries, SCDNR, and GADNR
- NOAA Fisheries Coral Reef Conservation Program (1 proposal)
  - 1 proposal in collaboration with REEF (project lead) and SECOORA
- MOU between SAFMC Citizen Science Program and Atlantic States Marine Fisheries Commission was finalized in November 2024

**Number of citizen science projects that have been developed.**

- Five projects have been developed through or in collaboration with the Citizen Science Program
  - SAFMC Release (SAFMC lead; ongoing)
  - FISHstory (SAFMC lead; ongoing)
  - SMILE (REEF lead; ongoing)
  - Development of SciFish Platform (SAFMC, NCDMF, and ACCSP co-leads; 2020-2024; administration transitioned to ACCSP in 2024)
  - Dolphin Wahoo Participatory Workshops (NOAA Fisheries SEFSC lead; 2019-2020)

**Number of citizen science proposals submitted.**

- 9 proposals as PI or co-PI
- 11 proposals as collaborators

**Number of stakeholders involved in development of citizen science projects. Stakeholders are from number of different organizations such as (list affiliations).**

- The bullets below summarize Design Team membership for projects under the Citizen Science Program’s umbrella. Overall, there were 50 individuals involved in project Design Teams representing 22 organizations and/or divisions.
  - SAFMC Release Design Team members: 8 individuals (plus Council staff) representing charter/private fishermen, NOAA Fisheries SEFSC, ACCSP, NC Sea Grant, Harbor Light Software, NCDMF (plus Council staff)
  - FISHstory Design Team members: 10 individuals (plus Council staff) representing for-hire captain, NOAA Fisheries SEFSC and Science & Technology, NC State, SCDNR, and Coastal Carolina University
  - SMILE Core Team & Stakeholder Panel members: 21 individuals (9 Core Team + 12 Stakeholder Panel’ plus Council staff) representing recreational diver, REEF, SECOORA, Axion Data Science, Semmens Lab at Scripps Institution of Oceanography, University of San Diego Engineers for Exploration, FL FWC, NOAA Fisheries SEFSC, FL Keys National Marine Sanctuary, and Nature Analytics.
  - SciFish Core Team members: 11 individuals (plus Council staff) representing ACCSP, NCDMF, GADNR, NOAA Fisheries Science & Technology, Harbor Light Software, RIDMF

**Diversity of research priorities that have been addressed through projects.**

- Projects developed under the Program have addressed three Citizen Science Research Priorities: discard information, historic fishing photos, and data limited species observations.
- The Citizen Science Program also helped connect partners who developed a project to address the ‘observations in managed areas’ research priority.

**Citizen science projects have contributed to (insert type of decision-making component) and used to make management decisions for # species/complex.**

- Limited data from Council Citizen Science projects have been considered for use in management decisions to date; this is due in large part to the projects being relatively new
- SAFMC Release data were provided for consideration at the SEDAR 68 (South Atlantic and Gulf Scamp) assessment (Spring 2020); limited data were available from the project at that point in time and could not be used directly within the assessment; however, SEDAR 68 participants found the information useful when interpreting trends in other data sources and a research recommendation noted the need to increase sampling of the recreational sector to improve discard data collection, in particular discard length data and discard mortality.
- FISHstory and SAFMC Release data were provided for consideration at the SEDAR 90 (South Atlantic Red Snapper) Data Workshop (April 2025); length composition data from FISHstory and SAFMC Release were both recommended for use by the S90 Data Workshop panelists and

SAFMC Release data are being considered in the development of release mortality estimates; preliminary research recommendations include developing more opportunities (e.g., citizen science, catch cards) to collect discard lengths from the recreational fleet and expanding the spatial and temporal range of historic records (e.g., FISHstory)

**Number of projects have been evaluated for effectiveness. Effectiveness is shown by (insert measure showing how the project has been effective in management decisions).**

- Citizen science projects developed through the Council's Program have been evaluated internally by staff and/or through project partners via grant reports. Formal evaluation of individual projects has not yet been done.

**Number of new partnerships that were created; Number of partners that continue to be part of the program. Partners include (list of partner organizations or types of partners).**

- Staff are looking for additional guidance on how best to measure these indicators. There are many organizations and individuals who have contributed to the Program in various ways (e.g., data management partners, captains who have collaborated on seminars, outreach partners who have helped with project promotion). To be able to measure this indicator consistently over time, we will need to develop a definition of a 'partner' and/or determine how we want to characterize partners.

**Number of times Program is approached for an endorsement letter (see SOPPS for details on endorsement program) and/or a letter of support for an outside project/grant.**

- Citizen Science Program's Endorsement Program has not been created yet. The Program provides support for other projects more informally through letters of support.
- Letters of support have been provided for four projects focusing on four different research priorities (shark depredation, oceanographic/environmental/weather conditions, data limited species observations, and observations in managed areas).

**Number of new stakeholders that were engaged. These stakeholders come from # of different organizations including (list affiliations).**

- Staff are looking for additional guidance on how best to measure this indicator. We will need to develop a definition of what would be considered a 'new' stakeholder so that we can measure this indicator consistently over time.

**Number of volunteers who were recruited for the program.**

- The three primary projects developed under the Council's Program focus on different audiences - fishermen (SAFMC Release and to a lesser extent FISHstory), recreational divers (SMILE), and the general public (FISHstory).
- Over 4,800 volunteers have been recruited to the Program through the SAFMC Release, FISHstory, and SMILE projects.

**Number of volunteers who were trained through the program. Number of projects volunteers participated in.**

- We would likely assume the number of volunteers who were trained through the Program would be similar to the number of volunteers who were recruited for the Program.
- The number of projects volunteers participate in is typically one. There's occasional crossover between SAFMC Release and FISHstory in that some Release participants have contributed photos to the FISHstory project.

**Number of volunteers retained in the program. Number of projects volunteers participated in.**

- Staff will need to determine what constitutes a volunteer being 'retained' in a project so that we can measure this indicator consistently over time.

**Number of people reached through communication and outreach plan. Number of people who were engaged or responded to communication and outreach plan by (list type of engagement).**

- Staff are interested in additional feedback on how best to measure this indicator. It may be challenging to identify the overall number of people reached through Citizen Science Program outreach and communication activities. Potential measures could include webpage views; number and reach from social media posts; number of articles/blogs written about the program or projects; number of project participants and/or how participants heard about projects; number of attendees / views from presentations and webinars; number of outreach events; number of people attending in-person outreach events (easier to do for smaller seminars; more challenging to do for larger events e.g., fishing expos), etc.
- Staff are currently brainstorming ways to measure the reach and effectiveness of our communication and outreach efforts. These efforts may be helpful in figuring out how to best measure this indicator.

**Number of presentations and/or requests for presentations.**

- 15 presentations have been given on the Council's Citizen Science Program and/or projects at professional conferences by Council staff or project collaborators
- Council staff have been invited to present 8 times on the Citizen Science Program and/or projects at local, regional, national, and international meetings and workshops
- Staff have served on two citizen science related working groups (Gray's Reef National Marine Sanctuary Advisory Council's Citizen Science Working Group – 2023-2024; SciFish Advisory Panel – ongoing) and as an advisor to the Federal Land Management Inter-Agency Citizen Science working group

**Citizen Science Corner article included in quarterly newsletters, number of views.**

- In 2021 the Council transitioned from a monthly newsletter to a bi-weekly 'South Atlantic Bite' newsletter which typically includes shorter blurbs of information; Citizen Science Program and project related information is shared via the South Atlantic Bite and shared via the Council's social media platforms

- Staff can potentially count the number of citizen science related blurbs included in the South Atlantic Bite and the number of citizen science related social media posts on the Council's platforms with corresponding analytics.

**Citizen Science Program Annual Report completed and distributed, number of views/downloads.**

- Citizen Science Program Annual Reports were completed and distributed in 2019, 2022, 2023, and 2024
- SAFMC Release Annual Data Summaries were completed and distributed in 2021, 2022, 2023, 2024

**Number of ideas submitted through Project Idea Portal.**

- Project Idea Portal launched in summer 2024 with limited promotion; two ideas have been submitted through the portal to date

**Number of matchmaking successes (e.g. connecting stakeholders/groups for project development).**

- One direct matchmaking success - helped connect TNC with researchers at LGL consultants who developed a cooperative project in collaboration with the Council to collect information on spawning special management zones in the South Atlantic