

SAFMC Citizen Science Projects Advisory Committee
Webinar Meeting Summary
10/3/2019

Welcome and Meeting Overview

- Staff gave a short welcome and Committee members introduced themselves to one another
- Since this was the first meeting of the Citizen Science (CitSci) Projects Advisory Committee, staff provided a brief overview of the role of this group
 - Meet via webinar 1-2 times per year
 - Primary tasks include: identifying citizen science research and data needs across all FMPs; assist with developing volunteer engagement strategies; serve as outreach ambassadors for the Program
- Staff reviewed the webinar goals:
 - Review and update current citizen science research priorities, as appropriate
 - Identify additional research and data needs across Council FMPs that could be addressed through citizen science
- Staff provided a brief overview and background of the Councils Citizen Science Program

Citizen Science Research Prioritization Process

- Process was developed by the Citizen Science Actions Teams; this will be the first time the CitSci research priorities will be updated – so feedback on the process is welcomed
- CitSci research priorities will be updated every two years in conjunction when the SAFMC updates their overall Research & Monitoring (R & M) Plan
- Process Overview
 - Step 1: Staff review and provide input on SAFMC's Overall Research & Monitoring Plan – this occurs every two years; input informed by SSC, APs, SEDARs, etc.; SAFMC members review and finalize R & M plan (typically occurs at June or Sept Council meeting)
 - Step 2: Citizen Science Projects Advisory Committee and Operations Committee review and recommend updates to the Citizen Science Research Priorities; input informed by newly approved R & M plan, issues discussed at APs, insights from Committee members; feedback from both groups incorporated into updated CitSci Research Priorities draft document
 - Step 3: SAFMC reviews and considers the updated CitSci Research priorities for adoption (typically at December Council meeting)
 - Additional step (to be developed): would like to build an online 'CitSci Project Portal' where members of the public could submit potential project ideas; these ideas would be shared with CitSci Projects Advisory and Operations Committees to consider when they recommend updates to the CitSci research priorities

Feedback on Current CitSci Research Priorities

- Staff walked through current research priorities with examples of potential projects under each priority topic; Committee discussed and provided feedback on each of the current priorities; brief summary of the feedback provided for each priority is summarized below

- **CitSci Research Priority: *Age Sampling***
 - **Support keeping as a research priority**
 - May be difficult/take too much time for commercial fishermen to do in conjunction with normal fishing activities
 - Could have two-pronged approach
 - For-hire – may be reasonable to have capt/mates collect otoliths when cleaning fish at the end of trips; process to collect and send data to age labs would need to be easy and streamlined; may make more feasible if scheduled days to do this?
 - Private recreational (PR) – CitSci volunteer port samplers; train invested group of volunteers to remove otoliths/collect data; could be stationed at fish cleaning stations/marinas/landings, etc.; would need to consider sampling strategy (where/when/what species to collect)
 - Carcass collection programs may be logistically easier for age sampling than removal on site

- **CitSci Research Priority: *Maturity Sampling***
 - **Support keeping as a research priority**
 - Commercial – could likely collect gonad samples during regular fishing activities; storage may be an issue if gonads couldn't be stored on ice for multi-day trips; if storing on ice is an issue, photos may be feasible
 - PR – consider more difficult to collect than age data; likely better to do with a biologist
 - For-hire - feasible to do this if have specified day to collect data (once per week could be feasible; more than that would be challenging); carcasses could be stored in cooler for work up the next day; this would help make process more efficient
 - Could potentially have state by state volunteer teams; dedicated group of volunteers trained by biologists to collect data/bio samples (similar to tagging programs)
 - Need to prioritize collection of bio samples/data so doesn't take too much time

- **CitSci Research Priority: *Discard Information***
 - **Support keeping as a research priority**
 - Commercial – would be difficult to do for every released fish on a trip especially when fish are biting; sub-sampling would make more manageable – would need to think about sampling design; would be a lot to ask for commercial fishermen to report through the discard logbook program and asked to do via a citsci project
 - Collecting a photo of released fish may be difficult; the rest of the data needed are feasible to collect, but may be hard to do while actively fishing; easier to write on paper/gunnel/etc. and then enter into app post fishing
 - PR – the simpler the data collection tool, the better

- **CitSci Research Priority: *Genetic Sampling***
 - **Support keeping as a research priority**
 - Easier to collect if two people available to sample (for fish to be released); data could potentially be collected from harvested and released fish

- Coordination/submission of samples/data needs to be easy and streamlined
- Important to pilot with select volunteers to see how it would work, gauge feasibility, and develop streamlined process

- **CitSci Research Priority: *Monitoring in Managed Areas***
 - **Support keeping as a research priority; however, some feedback suggested this may be better suited for Cooperative Research Project (CRP) than CitSci**
 - Interest from fishermen in knowing what is happening in these managed areas; so likely interest in participating in projects
 - Commercial fishermen have successfully worked with researchers to collect data in these areas in the past; however compensation likely needed to make feasible to participate in projects
 - Charter (CH) fishermen noted they may have less overhead than commercial fishermen – so compensation may be less of an issue
 - PR – this may be difficult to do with rec fishermen due to location of managed areas
 - Noted scientists may need to be involved in data collection
 - Perception of fairness could be an issue (e.g. fishermen ‘chosen’ to participate in projects)

- **CitSci Research Priority: *Bottom Habitat Mapping***
 - **Recommend removing from research priorities**
 - Committee felt this topic may be challenging for citsci project; may be better for CRP project?

- **CitSci Research Priority: *Fishing Infrastructure***
 - **Support keeping as a research priority**
 - Recommend adjusting data needed to include not just GPS locations of existing infrastructure, but collecting locations for infrastructure that no longer exists (e.g. closed fish houses, old commercial dock areas, etc.); a lot of fishing infrastructure has already been lost – so it would be helpful to capture this information as well
 - Committee felt collecting this information would be feasible, especially if allowed to collect over period of time in conjunction with normal activities

- **CitSci Research Priority: *Historic Fishing Photos***
 - **Support keeping as a research priority**
 - Committee felt fishermen would have a strong interest in this topic; could help fill in data gap prior to when data collection programs started
 - Many photos would be available throughout the South Atlantic region; noted libraries may be good resource to find photos
 - Fishermen may be willing to provide photos and help validate species identifications; likely better for small, targeted group of volunteers
 - Noted most CH fishermen keep daily logbooks with photos; likely would be interest from many fleets

- **CitSci Research Priority: *Fishery Oral Histories***
 - **Support keeping as a research priority**
 - Recommend adjusting data needed to include interviews with fishermen to learn about the history of the fishery as well the current state of the fishery
 - Commercial fishermen would be interested in participating; there have been a lot of changes in the fishery over time and would be good to capture this information before older fishermen are no longer around to share this information

- **CitSci Research Priority: *Oceanographic/Environmental/Weather Conditions***
 - **Support keeping as a research priority**
 - Collecting this information would be feasible during normal fishing activities and fishermen would be interested in collecting this type of data

- **CitSci Research Priority: *Rare Species Observations***
 - **Support keeping as a research priority**
 - Noted PR fishermen would especially be interested in this type of project; would need clear training/structure and outreach for project to put into context
 - May be helpful to tie into work with historic photos; could help determine if reported observations are actually rare occurrences or if are just seeing more now due to social media, etc.

Brainstorm Additional CitSci Research and Data Needs

- Committee was asked to brainstorm additional research and data needs that could potentially be addressed through citsci; there was limited time left in the webinar to brainstorm, so Committee members are encouraged to send additional ideas to Julia as needed
 - Spiny Lobster
 - Limited information available on NC spiny lobster fishery; need to determine what data are available and what data are needed for better management (sizes, discards, spawning/eggs) and see if citsci could be used to help collect needed data
 - *To start addressing: could potentially add spiny lobster under the targeted species for the Maturity and Discards CitSci Research Priorities*
 - Was noted that citsci approach could be used to collect information on stone crab, specifically info on recreational harvest
 - *Since Council doesn't manage stone crab – wonder if it may be helpful to share this idea with state of FL?*
 - Dolphin Wahoo
 - Would like to determine what data are needed for a dolphin stock assessment and see if citsci could be used to collect needed data
 - Noted that there has been discussion on whether a dolphin assessment would be appropriate for ICATT or SEDAR; need more discussion on venue for potential dolphin assessment and on what type of assessment that would be appropriate for dolphin as this will drive data needs; this is a work in progress

Next Steps for Updating CitSci Research Priorities:

- **Oct 25:** CitSci Operations Committee Meeting; will provide feedback on research priorities
- **Week of Oct 21st:** Habitat AP will meet and provide feedback on research priorities
- **Oct 30:** DRAFT Updated Cit Sci Research Priorities sent out to CitSci Projects Advisory & Operations Committees for review
- **Nov 6:** Edits on Updated CitSci Research Priorities due to Julia
- **Nov 8:** DRAFT Updated Cit Sci Research Priorities finalized for SAFMC review

Webinar Attendance:

Committee Members: Steve Donalson, Mackerel Cobia Advisory Panel

Jimmy Hull, Snapper Grouper Advisory Panel

Bob Lorenz, Snapper Grouper Advisory Panel

Kerry O'Malley-Marhefka, Snapper Grouper Advisory Panel

Jon Reynolds, Dolphin Wahoo Advisory Panel

Justin Smith, Spiny Lobster Advisory Panel

Mimi Stafford, Spiny Lobster Advisory Panel

Council Members: Mel Bell, SCDNR

Council Staff: Julia Byrd & John Carmichael

Other Attendees: Erika Burgess, Bob Crimian, Patrick Findley, Rusty Hudson

**SAFMC Citizen Science Operations Committee
Webinar Meeting Summary
10/25/2019**

Welcome and Meeting Overview

- Staff gave a short welcome and reviewed Committee membership
- Staff reviewed the webinar goals:
 - Provide update on Citizen Science (Cit Sci) Program & Projects
 - Discuss development of a Cit Sci Program evaluation and provide feedback on objectives and indicators of success
 - Review and update current citizen science research priorities, as appropriate

Cit Sci Program & Project Update

- Staff provided an update on Programmatic activities that have occurred over the last year; brief summary below
 - **Dec 2018/Jan 2019:** Cit Sci SOPPS adopted
 - **Spring 2019:** Program Manager transition
 - **March 2019:** SAFMC team participation in CitSci 2019 Conference
 - **Summer 2019:** Formation of Cit Sci Projects Advisory Team
Submission of Bioscience Manuscript (Bonney et al.)
 - **Summer/Fall 2019:** Updating Cit Sci Research Priorities
 - **Fall 2019:** Work on Program & Project Evaluation
 - **Oct 2019:** Cit Sci Projects Advisory Committee & Operations Committee webinars
 - **Dec 2019:** SAFMC Cit Sci Committee will meet; updates have been provided during full Council at other SAFMC meetings during 2019
 - **Presentations:**
 - Spring 2019: I&E, Mackerel/Cobia, Snapper Grouper, Habitat APs
 - May 2019: CCC meeting
 - June 2019: Panel for Federal Community of Cit Sci & Crowdsourcing Meeting
 - Fall 2019: Mackerel/Cobia, Snapper Grouper, Habitat APs
 - **Program Promotion & Outreach Events:**
 - July 2019: Cit Sci Program featured at SAFMC ICAST booth
 - Oct 2019: GA CoastFest
 - Nov 2019: NC Industry Summit
 - **Program Outreach:** Cit Sci brochure, Cit Sci Corner in SAFMC quarterly newsletter, #CitSciFri; email distribution list; annual report
- Committee member asked about how CCC presentation was received; CCC presentation was part of overall presentation highlighting SAFMC projects; interest from many Councils in Cit Sci Program, but some skepticism on how data would be used in science and management decision making; interest in seeing results from pilot projects
- Committee member asked for more details about Federal Community of Practice on Crowdsourcing & Cit Sci; it is a work group of federal employees working in Cit Sci to share

lessons learned and best practices for developing/evaluating Cit Sci and crowdsourcing initiatives

- Rick Bonney provided more details on the Bioscience manuscript; reviews recently received were positive, some noted interest in having 'results' available before publication; interest in having Operations Committee provide feedback on draft and potentially provide insight on whether to make substantial revisions and resubmit to Bioscience (either now or later) or potentially look at making minor revisions and submit to another publication (e.g. North American Journal of Fisheries Management)
 - **ACTION ITEM:** Julia will follow up with Rick Bonney to facilitate how best to get feedback from Operations Committee
- Staff provided updates on projects & collaborations
 - Projects in process
 - SAFMC Scamp Release
 - FISHstory
 - Collaborator on TNC/GRNMS Project
 - Projects under development: rare species observations & diver observations for data limited species
 - Collaborations under development: Participatory Workshops & Shifting Species Proposal
- Staff provided update on SAFMC Scamp Release Project
 - App development completed; beta tested by fishermen and Cit Sci S-Team members
 - Relied and built upon Cit Sci A-Team member work
 - Training and promotional materials developed and available
 - Project/app launched June 20, 2019
 - Currently recruiting fishermen to participate; data collection underway
 - Tried multiple avenues for project promotion; one on one contact seems most successful but time consuming
 - Shared information on additional grant proposals submitted:
 - ACCSP: proposal combines SAFMC Release app with NCDMF Catch U Later app to be a flexible release reporting tool under the ACCSP SAFIS umbrella; will allow other ACCSP partners to adapt and use; will allow for expansion of species to shallow water grouper; if funded, ACCSP would take over app maintenance
 - Waitt Foundation: outdoor media tours to help with app promotion; didn't receive funding but looking for other avenues to fund proposal
 - Growing interest in app from ACCSP partners and potentially west coast
 - Additional research: Jennifer Shirk (see notes below); potential collaboration with graduate student
 - Reviewed lessons learned – in particular noting that recruitment and retention is very labor intensive and that scamp is a challenging species due to the nature of the fishery (often not targeted; can be somewhat rare catch; don't seem to have many scamp released during open season - bag and trip limits typically don't influence releases, driven by size limit; anticipate seeing more release data submitted during closed season)

- Staff provided update on FISHstory Project
 - NOAA FIS funded project
 - Pilot project focused on documenting historic catch and length estimates from historical photos; photos for project provided by Rusty Hudson; focuses on his family's headboat fleet in Daytona Beach, FL
 - Two primary data collection components:
 - Species Composition - which will use crowdsourcing through creation of project in Zooniverse; will develop online training material and tutorials; will use Validation Team comprised of fishermen and scientists to confirm citizen scientists' species IDs
 - Length Estimates – staff will develop methodology using Image J and pilot test on one species
 - Allie Iberle hired as Project Coordinator
 - Design Team formed to provide guidance during project development; have met 3 times
 - Recruiting Species ID experts for validation team
 - Hope to beta test FISHstory test project in Zooniverse in Nov 2019 and launch in early 2020
 - If Operations Team members are interested in viewing FISHstory test project contact Julia (Julia.byrd@safmc.net) or Allie (allie.iberle@safmc.net)
- Jennifer Shirk provided update on research and preliminary findings
 - Looks at the Shirk and Bonnerly 2015 Citizen Science Framework Review which identifies what 'buckets' are needed to develop a Cit Sci program or project; research compares what 'buckets' the Council's A-Teams addressed through their work developing programmatic infrastructure
 - Work thus far has focused on products the A-Teams developed as well as the A-Team meetings themselves; still planning to conduct interviews with A-team members (many Operations Committee members will likely be contacted in the upcoming weeks to set up interviews)
 - Presented results should be considered preliminary; can be made available to Operations Team members but not for further distribution

Cit Sci Program Evaluation

- Rick Bonney gave a presentation highlighting what evaluation is, its importance, and differences between goals, objectives, and indicators of success
- Group briefly reviewed SAFMC Scamp Release project goals, objectives, and indicators of success as an example before beginning discussion on Program evaluation
- Group briefly walked through DRAFT Program objectives; noted it would be helpful to move goals/objectives into a google doc for feedback from group on draft objectives and to initially brainstorm indicators of success; noted it would be helpful to place objectives under the relevant goals
- Group members noted interest and willingness to have separate call with Rick Bonney and staff to further discuss objectives and potential indicators of success
- **ACTION ITEMS:** Julia will create google doc with goals/objectives and provide to Committee

Julia will follow up with Rick Bonney and Operations Committee to schedule a webinar focused on Program Evaluation to discuss objectives and brainstorm indicators of success

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 - Additional step (to be developed): would like to build an online ‘CitSci Project Portal’ where members of the public could submit potential project ideas; these ideas would be shared with CitSci Projects Advisory and Operations Committees to consider when they recommend updates to the CitSci research priorities
- Cit Sci Research Priorities Timeline
 - **Oct 3:** Cit Sci Projects Advisory Committee Meeting to provide feedback
 - **Oct 25:** CitSci Operations Committee Meeting to provide feedback
 - **Week of Oct 21st:** Habitat AP Meeting to provide feedback
 - **Oct 30:** DRAFT Updated Cit Sci Research Priorities sent out to CitSci Projects Advisory & Operations Committees for review
 - **Nov 6:** **ACTION ITEM: Edits on Updated CitSci Research Priorities due to Julia**
 - **Nov 8:** DRAFT Updated Cit Sci Research Priorities finalized for SAFMC review
- Committee member asked for more details about the ‘Cit Sci Project Portal’; idea here is to allow members of the public to submit potential project ideas that can be considered when Cit Sci project priorities updated; recommendation developed by Projects A-Team; since it is not yet available all details have not been worked out; want to provide an avenue for members of the public to provide submit ideas; will have to balance not stifling creativity and trying to ensure ideas are relevant to Council data needs
- Committee member asked for more detail on how the Program is planning to use the citizen science research priorities; used to guide what projects the Program pursues and to try and focus on/support projects where there is an identified data need; projects may arise

opportunistically that do not specifically address one of these needs and those can be further discussed as others may be able to identify additional needs not captured by this list

Feedback on Current CitSci Research Priorities

- Staff walked through current research priorities and gave overview of feedback received from the Cit Sci Projects Advisory Team & Habitat AP; Committee discussed and provided feedback on each of the current priorities; brief summary of the feedback provided for each priority is summarized below

- **CitSci Research Priority: *Age Sampling***
 - **Support keeping as a research priority**
 - Liked the idea of ‘volunteer port samplers’; could potentially coordinate or map out ‘volunteer port samplers’ with federal/state port samplers
 - Noted that there may be ways to address concerns that it could be challenging for commercial fishermen to collect in conjunction with normal fishing activities; can look to NC DMF Blueline Tilefish EFP for ideas
 - Noted that age data are critical to an assessment so this type of data could be very valuable; however, they are often also very influential so sampling design and protocol are important
 - Important to have life history and assessment experts identify data ‘holes’ (e.g. species, spatial, temporal) so ‘call’ can be put out to collect needed samples
 - Concern by Committee member that anticipated outcome may be too lofty since sampling design often critical to how age data can be used; no specific suggestions made to change language

- **CitSci Research Priority: *Maturity Sampling***
 - **Support keeping as a research priority**
 - Sampling would likely need more training than otolith removal; difficult to sample, keep preserved, and transfer to lab; may be more appropriate for small more targeted effort (e.g. tournament?)
 - Sampling design not as critical with repro as with age samples; ideally would like to have samples covering the entire spawning season
 - Target species seem to be focused on those species that are coming up for assessment; likely others species that could benefit from this data
 - Recommend getting feedback from reproduction experts to identify additional target species (e.g. MARMAP, FL FWCC, etc.)

- **CitSci Research Priority: *Discard Information***
 - **Support keeping as a research priority**
 - Noted that to potentially make more feasible for commercial sector to participate could improve usability of discard logbook so would potentially not have to report in both
 - Noted there is very limited discard data available on all species (especially on discard lengths, condition, treatment, etc.)

- Recommend reviewing target species and adding additional species to list; noted that all species could potentially be added to the list since discard data are so limited
- **CitSci Research Priority: *Genetic Sampling***
 - **Support keeping as a research priority**
 - Can reach out to states that collected samples in advance of SEDAR 58 (ATL Cobia; e.g. Steve Poland, Matt Perkinson/Tanya Darden, etc.) to learn more about process used/logistics
 - Recommend further refining target species list; potentially reach out to geneticists who provided data to cobia and blueline stock ID workshops
- **CitSci Research Priority: *Monitoring in Managed Areas***
 - **Recommend removing; think may be more appropriate for Cooperative Research Project (CRP) than CitSci**
 - Challenging to sample and coordinate (e.g. deepwater MPAs; compensation likely needed)
 - May be hard to provide actionable results
 - Perception of fairness could be an issue (e.g. fishermen 'chosen' to participate in projects)
- **CitSci Research Priority: *Bottom Habitat Mapping***
 - **Recommend removing from research priorities but revisiting when update done in 2 yr**
 - Potentially NOAA project already doing this (<https://www.citizenscience.gov/catalog/485/#>); want to avoid duplication
 - May be interest in sharing this sort of information which could potentially lead to further exploitation
 - Could potentially support if there is a carefully constructed data gap that lends itself to cit sci approach but may be more suitable for CRP
- **CitSci Research Priority: *Fishing Infrastructure***
 - **Support keeping as a research priority**
 - Likely especially important to commercial sector
 - NCDMF has already done some work on this; NC Sea Grant has done fish house inventory in 2006, 2011, and 2019
 - NOAA may already have a list of infrastructure (could provide baseline); FL Sea Grant asked by NOAA to update list to assist with disaster relief; Holly A will provide contact
- **CitSci Research Priority: *Historic Fishing Photos***
 - **Support keeping as a research priority**
- **CitSci Research Priority: *Fishery Oral Histories***
 - **Support keeping as a research priority**
 - Support expansion for data collection to include current state of the fishery
 - Target volunteers should be commercial and for-hire

- NOAA has done similar work through 'Voices in the Fishery' project; can involve students in interview process; may be good to contact Mike Jepson about this work
- **CitSci Research Priority: *Oceanographic/Environmental/Weather Conditions***
 - **Support keeping as a research priority**
 - COCORHAS project does similar work for rain and hail; their data very important of the National Weather Service and is considered rigorous
- **CitSci Research Priority: *Rare Species Observations***
 - **Support keeping as a research priority**
 - Could be valuable to capture shifting species which is an important topic to the Council

Additional Research Priority Topics

- **CitSci Research Priority: *Diet Samples***
 - Initially recommended by Habitat AP; **Operations Committee supports adding**
 - Similar to reproduction samples (e.g. collection preservation challenges)
 - Think feasible and of interest to fishermen
- **CitSci Research Priority: *Fishing Effort***
 - Recommended by Habitat AP to potentially focus on getting higher spatial and temporal resolution and/or potentially estimate effort differences between public and private access points for the recreational sector
 - **Operations Committee doesn't support adding**; thinks it could be challenging for Cit Sci approach; sensitive topic
- **CitSci Research Priority: *Personal Fishing Logbooks/Diaries***
 - **Operations Committee recommends adding**
 - Translate fishermen logbooks into electronic data/database; 'donate logbooks to science'
 - Potential to develop relative abundance indices; Erik W can illustrate how has been used in the past (e.g. Swordfish Harpoon fishery)
 - Zooniverse could be data collection tool; but likely challenging because information sensitive
- Committee member also noted it would be good to develop some projects with short engagement opportunities (e.g. Xmas Bird Count); may take longer to promote, but would be short data collection period; could build positive experience so more likely to be involved in future projects; need to think more about what type of projects could allow for these opportunities

Webinar Attendance:

Committee Members: Holly Abeels, Scott Baker, Rick DeVictor, Michelle Duval, Bob Lorenz, Erik Williams

Advisors: Rick Bonney & Jennifer Shirk

Council Staff: Julia Byrd, Allie Iberle, Cameron Rhodes

Other Attendees: Alan Bianchi