



Expert Group: Science

Expert Group Participants:

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Citizen Science Program

Science vs. Data Collection

- All data are good!
- However, Data \neq Science
- Data are scientifically valuable when it follows the rigors of the scientific process.

DRAFT
RECOMMENDATIONS



Citizen Science Program Component: *Proposal Development*

Recommendations:

- Council and Fishery AP's help to develop a list of issues/needs/data gaps
 - However, all ideas are welcome to be submitted as a proposal
- List goes out to fishing community via AP's/Council/etc. to gather ideas for projects to address these issues
- Proposals come back to a new Citizen Science AP to be reviewed



Citizen Science Program Component: *Project Criteria/Proposal Review*

Recommendations:

- Define goal of project
 - Does it address a data gap?
 - Is the goal achievable/measurable?
- Full and clear description of methods
 - Including a table of milestones/timeline
 - Include QA/QC and validation procedures
- Identify issues/biases with data (Data Integrity)
- How might data be used? (Stock Assessment, Management, Other?)



Citizen Science Program Component: *Project Review*

Recommendations:

- Different levels/types of review depending on type of project
 - Match projects with appropriate funding program
- Scientist involvement from beginning and in all aspects
 - Design, Testing, Evaluation
- Citizen Science AP should include scientists, managers, and fishermen



Citizen Science Program Component: *Evaluation*

Recommendations:

- All projects should be evaluated for success
- Long-term projects need regular evaluation
 - All projects should have an evaluation mid-stream
 - Will help determine if methodology adjustment/data validation is necessary
- Short-term projects need evaluation for how well they achieved their goals



Citizen Science Program Component: *Data Validation*

Recommendations:

- Will strengthen scientific rigor and utility of data
- Will be project specific
- Different types of projects will require different methods to validate the data



Citizen Science Program Component: *Overall Citizen Science Database*

Recommendations:

- All participants given unique id and an overall database is kept across all projects
 - Can help with socioeconomic analyses across projects
- Clearly described documentation
 - Secure and transparent
- Rigorous QA/QC procedure at multiple stages
- People can access all their data, for all projects they are involved in
 - Secure access to personal data, public access to all data in aggregated fashion



Citizen Science Program Component: *Communication*

Recommendations:

- All data are valuable, but must take care not to oversell a project or dataset
 - Zeros are important
- Need to be realistic about the potential use of certain data
 - Negative reviews will occur



Questions?

DRAFT
RECOMMENDATIONS