SAFMC Citizen Science Initial Evaluation: Preliminary survey report

Fisheries Scientists/Managers 5/14/24

Rick Bonney

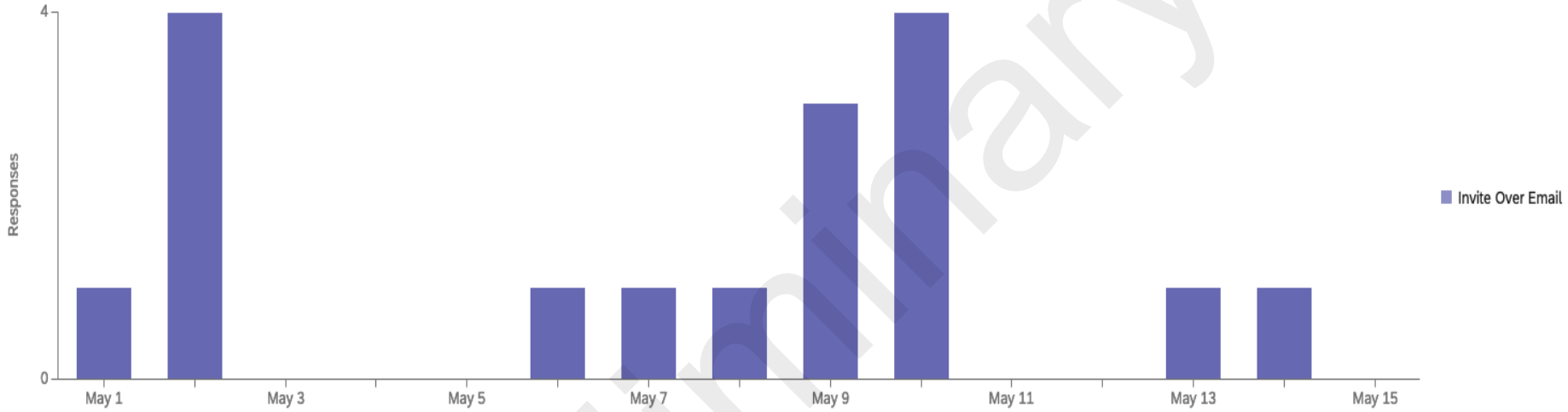
- Initial questions worked through with CS Ops Committee over two meetings.

- “Final” survey pretested by eight individuals.

Final survey sent to names supplied by several groups. Duplicate names were eliminated.

- FL Fish and Wildlife Commission
- NC Department of Environmental Quality
- GA Coastal Resources Division
- SC Dept. of Natural Resources (not yet sent)
- NOAA Fisheries Service Southeast Regional Office
- NOAA Southeast Fisheries Science Center
- SEFSC Recent SEDAR Participants
- SAFMC Scientific and Statistical Committee
- SAFMC Socio-Economic Panel
- SAFMC Council Members

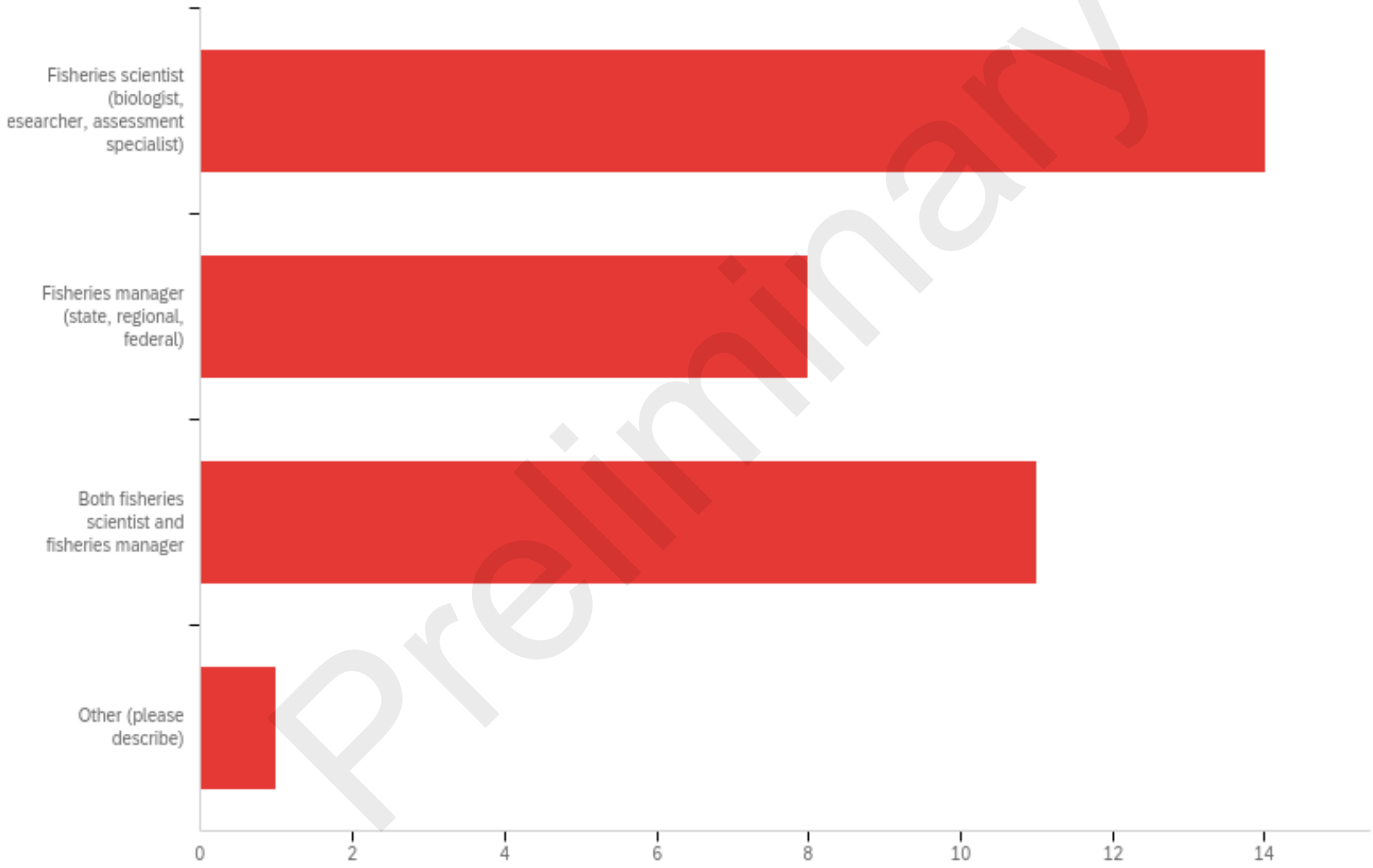
Recent Responses



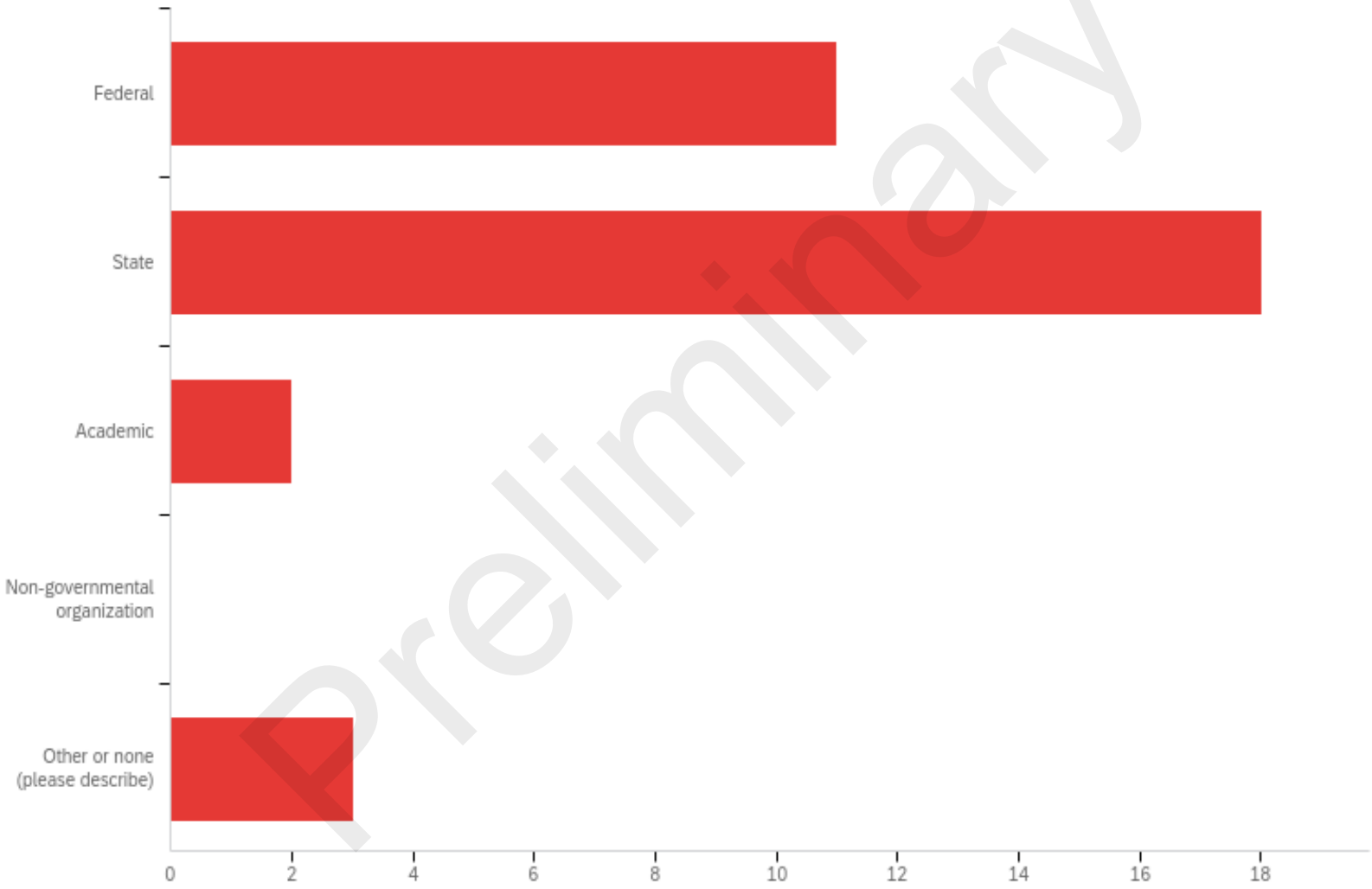
All Responses

Distribution Channel	Audience size	Surveys started	Surveys finished	Response rate	Completion rate
Invite Over Email	**126**	**37**	**35**	**29%**	**95%**

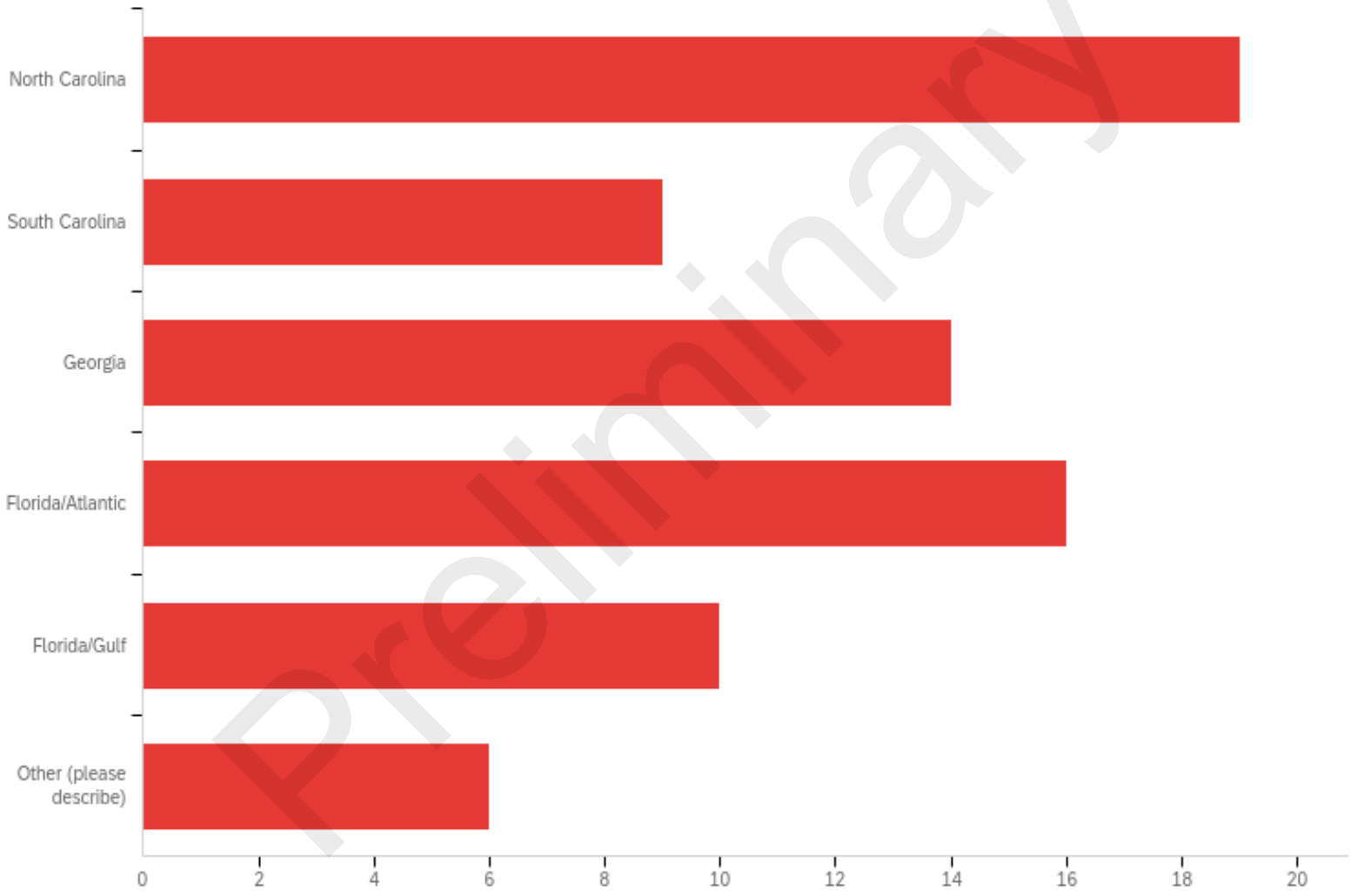
Q2 - Which category best describes your role in the saltwater fisheries community?



Q3 - What type of agency do you work for?



Q4 - What state or states do you work in? (Check all that apply.)

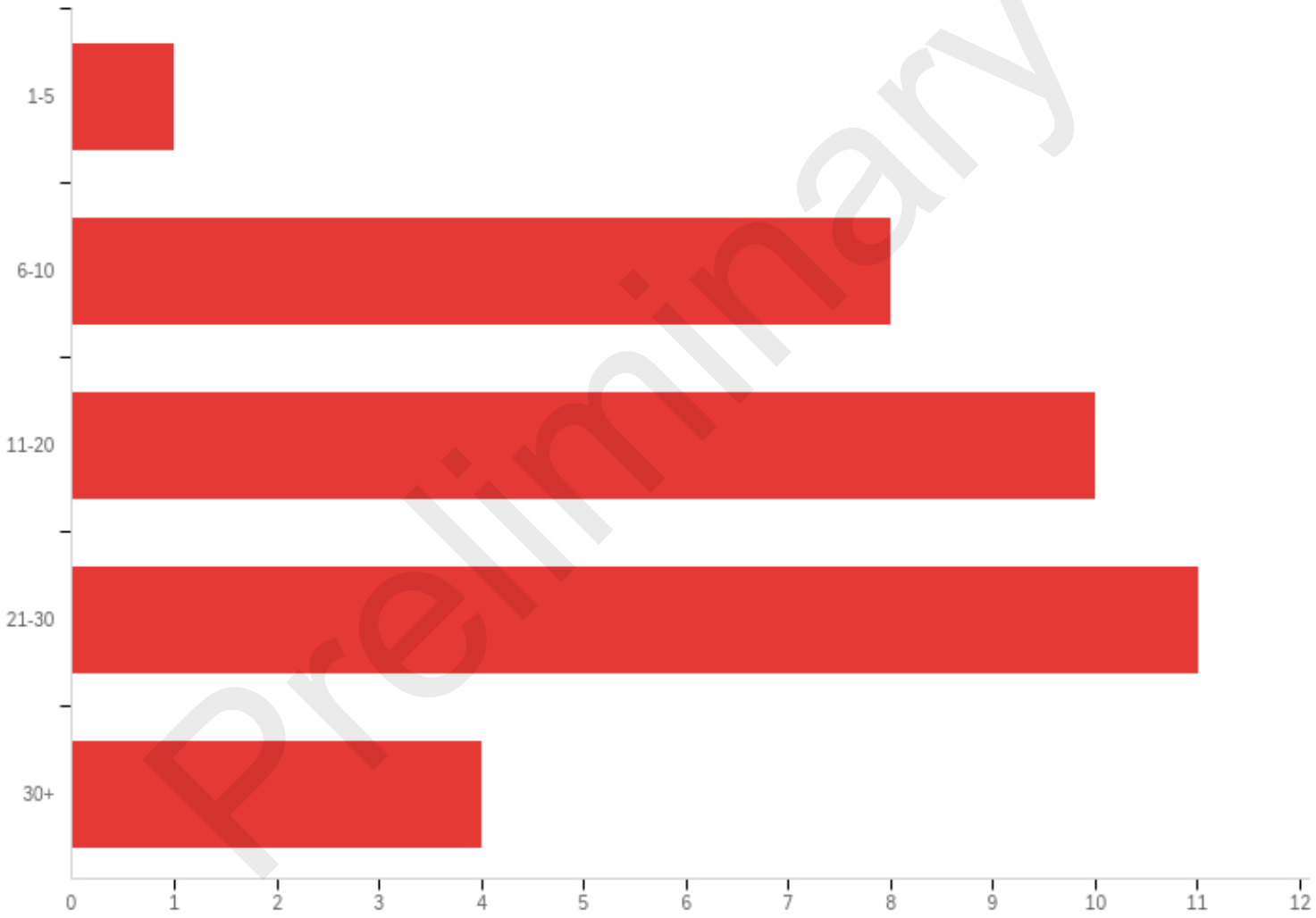


Q4 - What state or states do you work in? (Check all that apply.)

Q4_6_TEXT - Other (please describe)

Other (please describe) - Text
I am outside of SE jurisdiction
Gulf States and Caribbean territories
All other Gulf States and U.S. Caribbean
USVI
Maryland
Federal waters of the South Atlantic, Gulf of Mexico, and U.S. Caribbean.

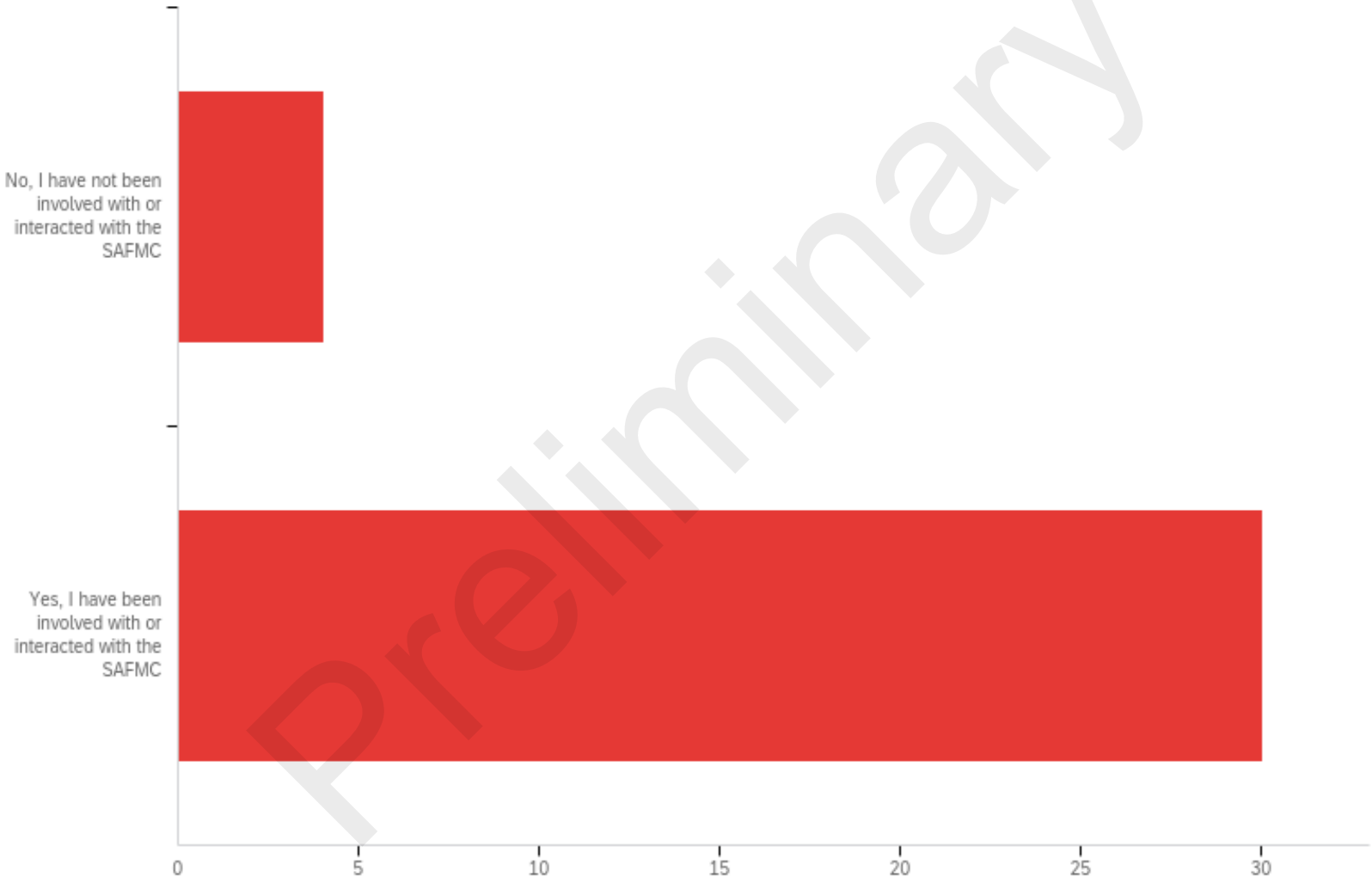
Q5 - How many cumulative years have you been working in fisheries science/management?



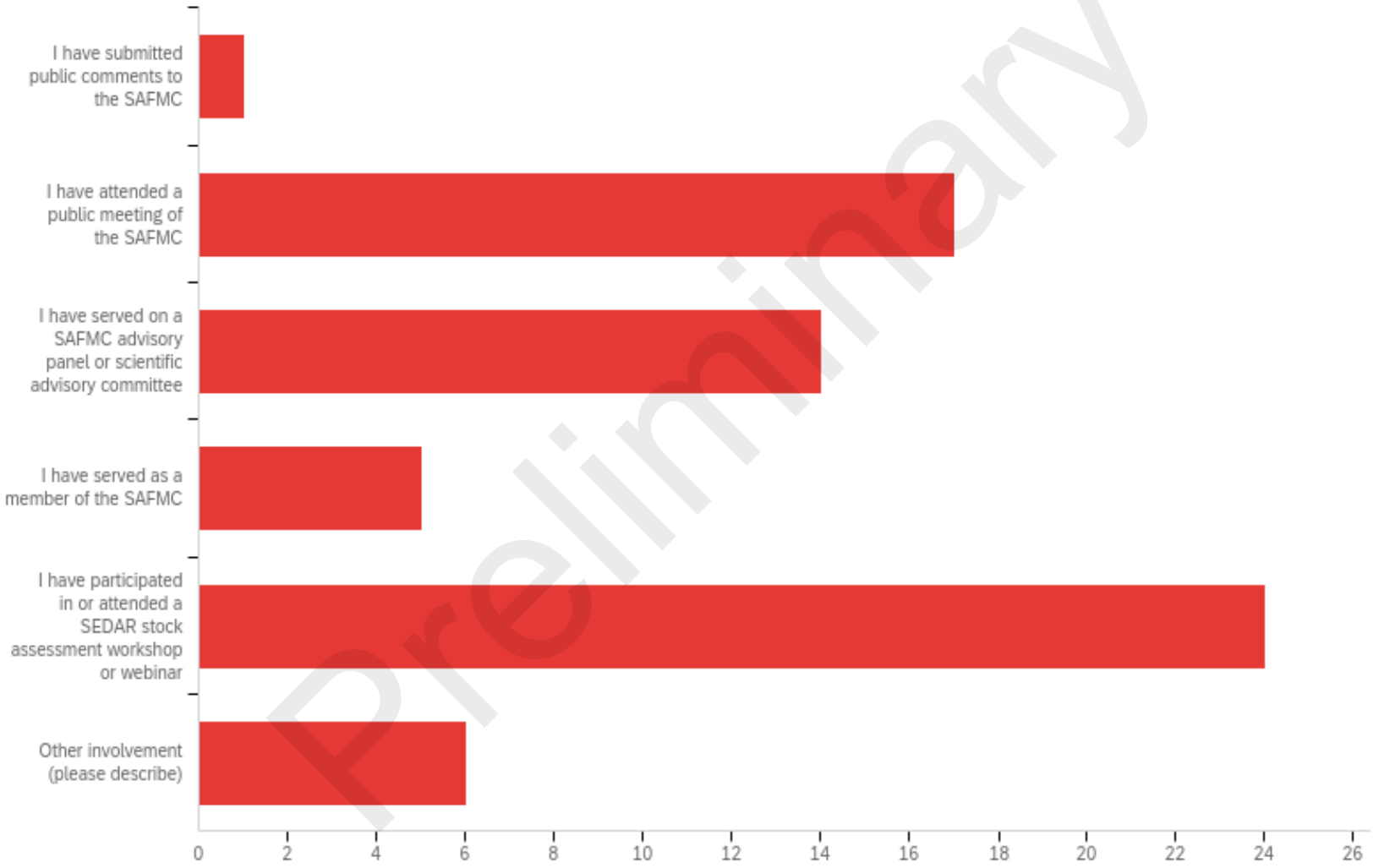
Q6 - If you work within a specific area/aspect of south Atlantic fisheries (i.e., species assemblage, fishery dependent or fishery independent data collection, or policy type), please describe it briefly:

If you work within a specific area/aspect of south Atlantic fisheries (i.e., species assemblage, fishery dependent or fishery independent data collection, or policy type), please describe it briefly:
Angler surveys
Fishery analyses, electronic data collection, catch share programs, data governance
stock assessment
interstate and federal fishery management policy
stock assessment
Fishery-dependent data collection
stock assessment
NOAA Fisheries SEFSC Recreational Fisheries Statistics: Data Management, Survey Design, Automation
stock assessment
My work is primarily fisheries dependent working with recreational anglers, charter captains and commercial fishermen.

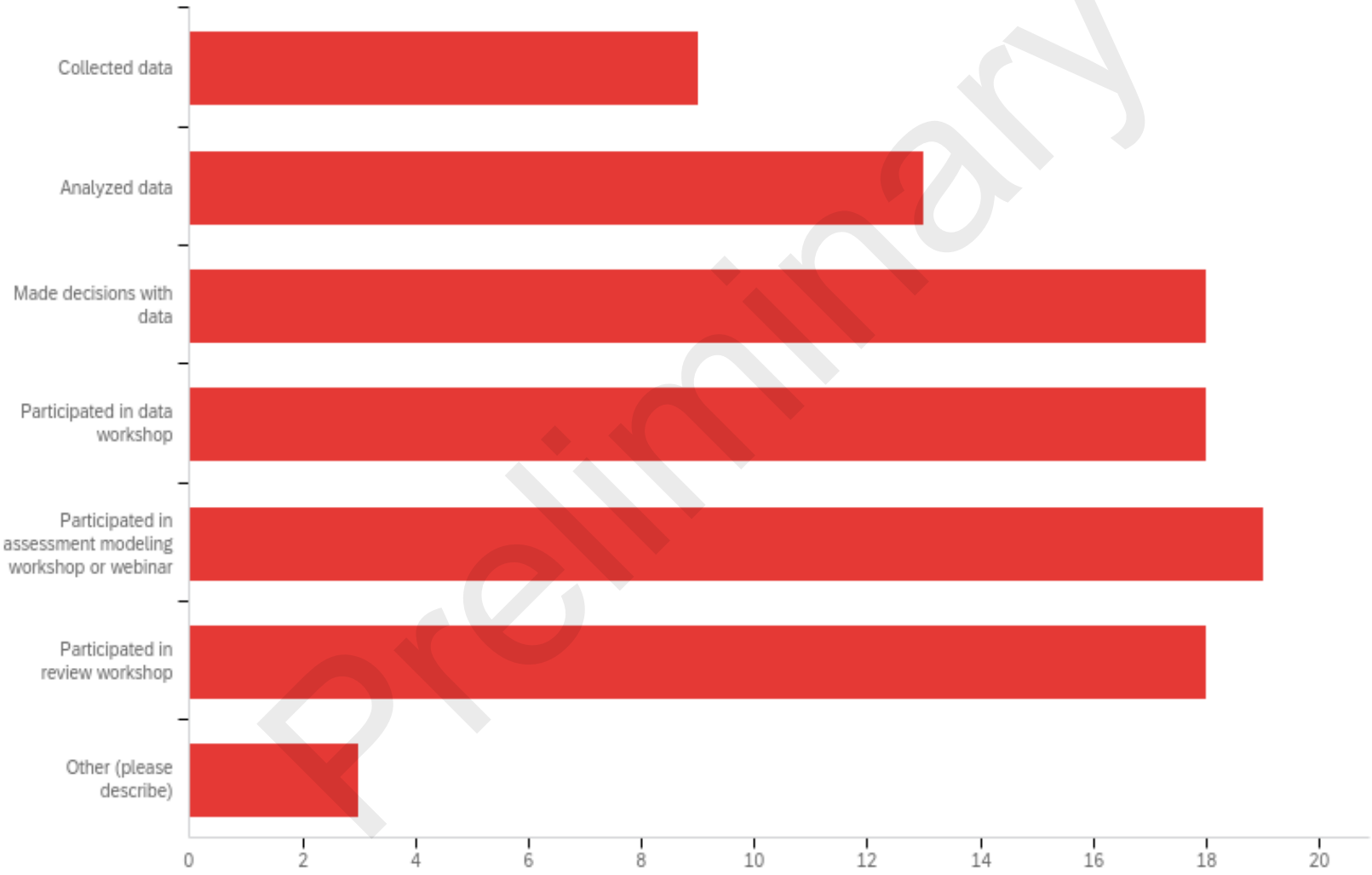
Q8 - Have you been involved with or interacted with the SAFMC in the course of your work as a fisheries scientist or manager?



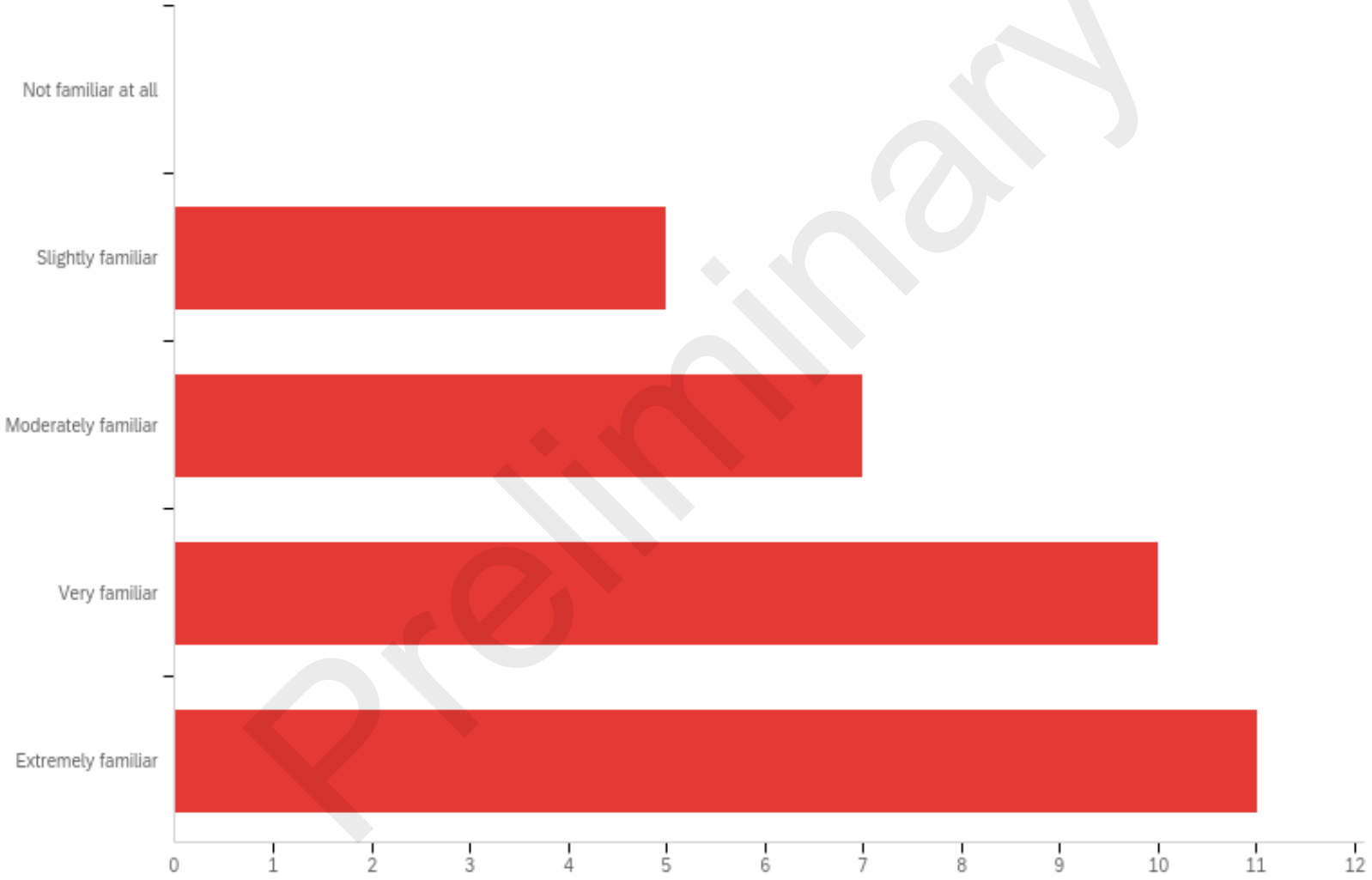
Q9 - In what way(s) have you been involved with or interacted with the SAFMC? (Please check all that apply.)



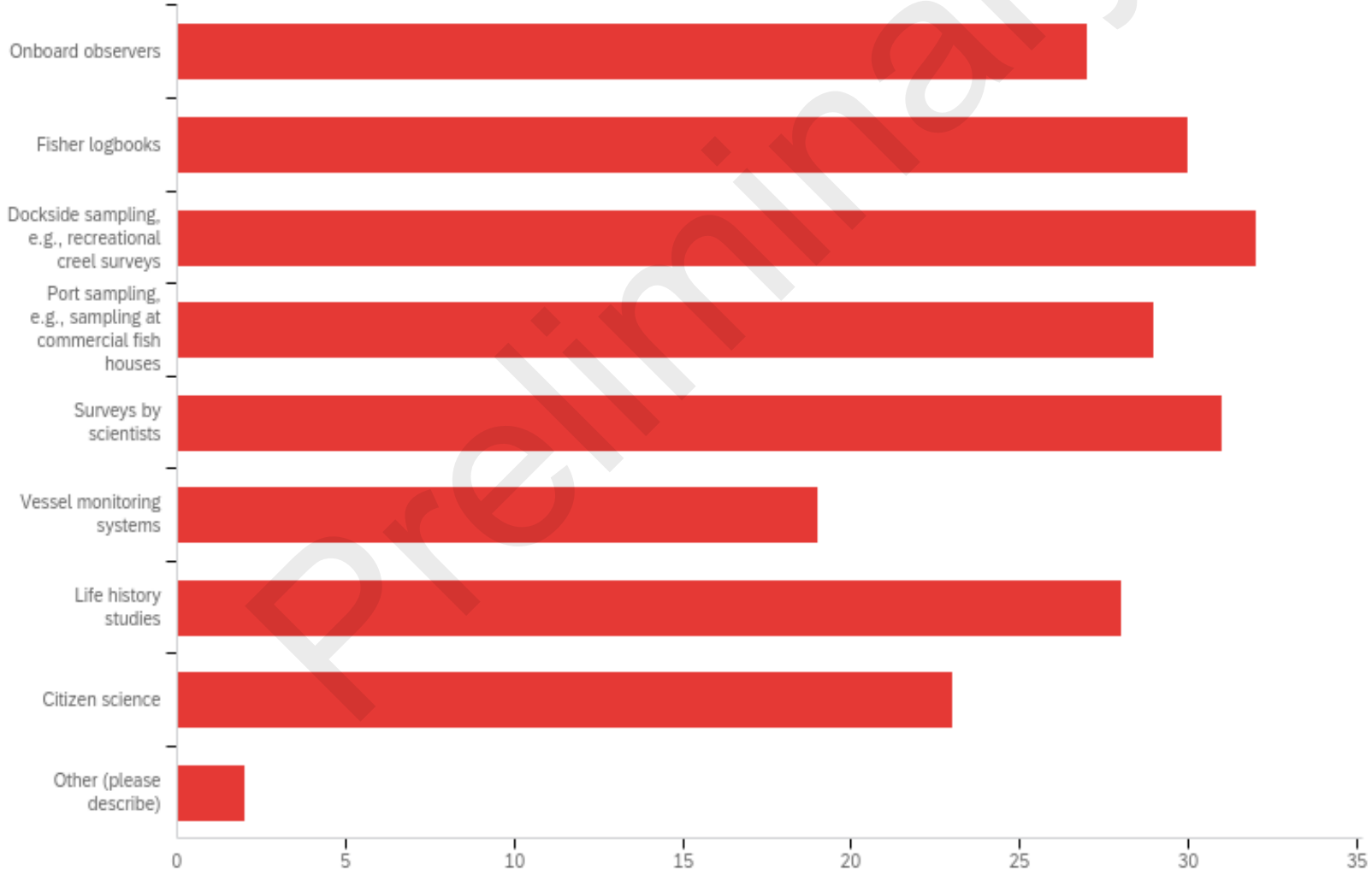
Q10 - In what ways have you participated in SEDAR? (Check all categories that apply.)



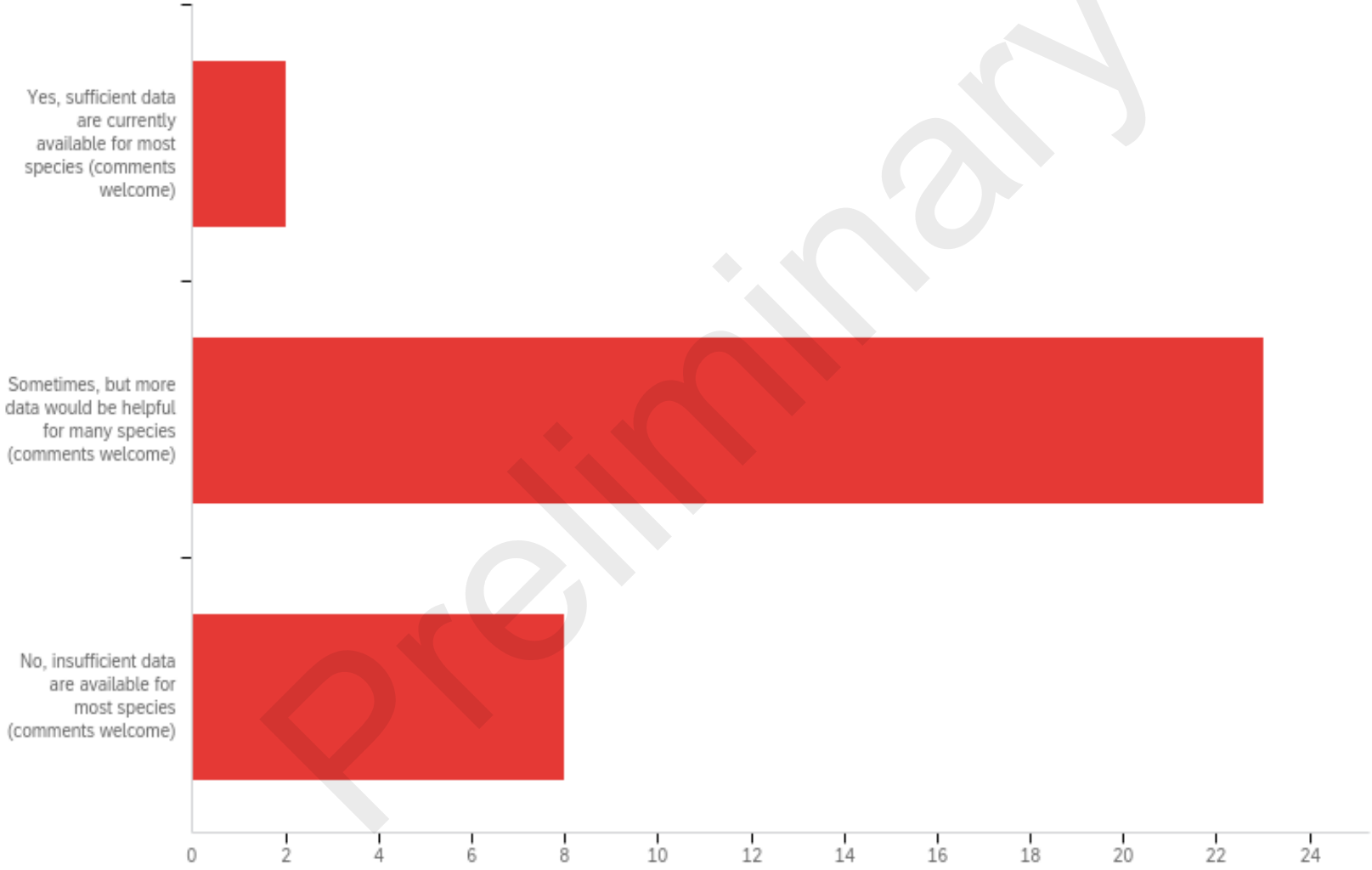
Q11 - How familiar are you with SEDAR, the stock assessment process that the SAFMC uses to recommend fisheries management regulations to NOAA?



Q12 - To make recommendations for managing fisheries, SAFMC requires reliable data about fish life histories, fishing effort, fish harvest, abundance information, and fisheries socioeconomics. Please indicate the sources of fisheries data used by the SAFMC with which you are familiar (check all that apply).



Q13 - Do you feel that the above sources of data, taken together, currently provide sufficient information on which to base management recommendations?



Q13 - Do you feel that the above sources of data, taken together, currently provide sufficient information on which to base management recommendations?

Q13_6_TEXT - Sometimes, but more data would be helpful for many species (comments

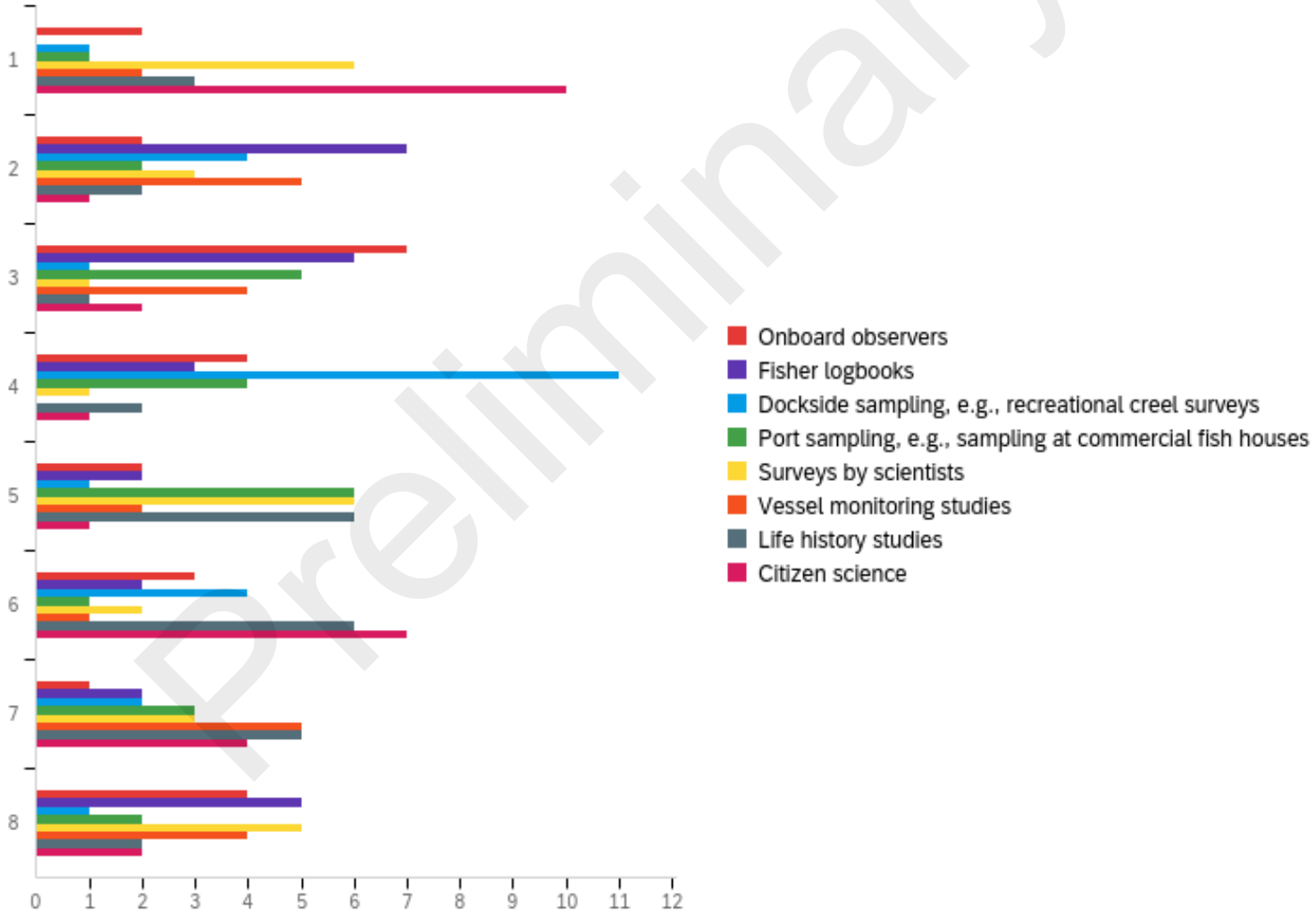
Sometimes, but more data would be helpful for many species (comments welcome) - Text
Life history - more samples of less common species would help, as both fishery dependent survey and Marmap have limitations in the size of fish collected. More juvenile studies would also help. Social and economic sciences offer valuable insight into trends but are not consistently used (or sometime not used at all). Recreational (private angler) data is still our weakest point and one of the largest harvesters of fish.
better recreational catch estimates are needed for most species in the region
Sometimes basic life history information (natural mortality (longevity), fecundity, maturity, hermaphroditism, movement/tagging) isn't available/adequate for some species. Age/length composition data by year and fleet can often be sparse. In many species, an adequate fishery independent indices of YOY and adult abundance is crucially needed (e.g. Spanish Mackerel). Accurate commercial discard information is needed.
Very species dependent. Some managed species we have almost no data for.
there are a LOT of snapper grouper species but not all are particularly important to the fishery
Recreational harvest for all species, and post-release mortality studies, impacts of local tournaments on smaller populations

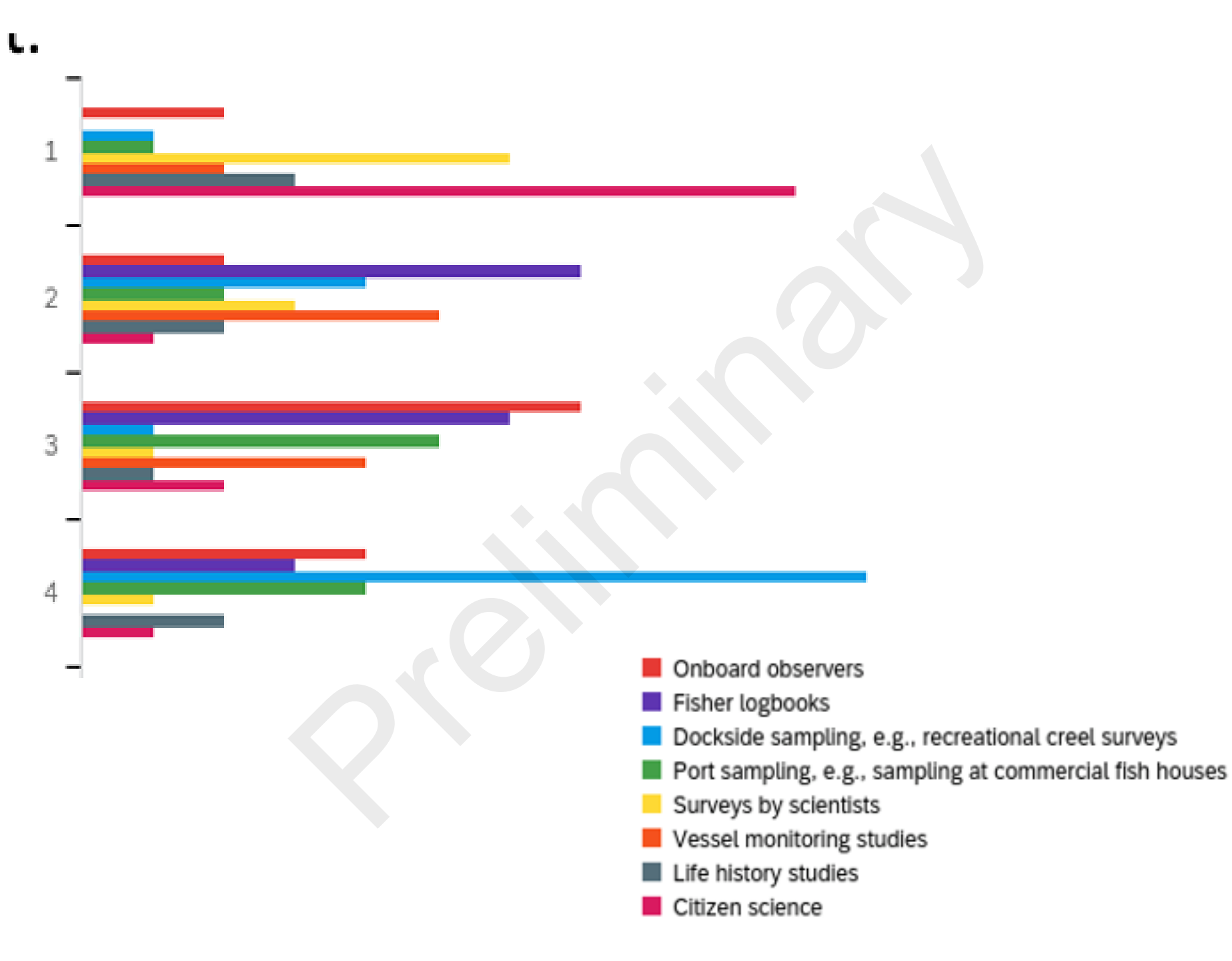
Q13 - Do you feel that the above sources of data, taken together, currently provide sufficient information on which to base management recommendations?

Q13_7_TEXT - No, insufficient data are available for most species (comments welcome)

No, insufficient data are available for most species (comments welcome) - Text
Not enough quantitative social science being conducted to answer questions related to recreational anglers
While there is some data streams from all the above identified sources, most of it very limited in temporal and spatial converage resulting in a high degree of uncertainty.
Majority of species managed by SAFMC are considered "rare event" species and not encountered frequently enough in current surveys to produce precise catch estimates. Best available data is used far too often for data that is in actuality "only available data".
The above works well for commercial, but not recreational.

Q14 - Fishery scientists and managers wish that unlimited resources were available to collect data to inform fisheries management. Knowing that is not possible, how do you think that more data could best be acquired? Please rank these options in order of most (1) to least (8) effective considering cost and effort:





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#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Onboard observers	1.00	8.00	4.40	2.15	4.64	25
2	Fisher logbooks	2.00	8.00	4.44	2.25	5.06	27
3	Dockside sampling, e.g., recreational creel surveys	1.00	8.00	4.28	1.73	3.00	25
4	Port sampling, e.g., sampling at commercial fish houses	1.00	8.00	4.54	1.87	3.50	24
5	Surveys by scientists	1.00	8.00	4.52	2.59	6.69	27
6	Vessel monitoring studies	1.00	8.00	4.65	2.53	6.40	23

Practice	Mean
Citizen Science	4.04
Dockside Sampling	4.28
Onboard Observers	4.40
Fisher Logbooks	4.44
Surveys by Scientists	4.52
Port Sampling	4.54
Vessel Monitoring	4.65
Life History Studies	5.00

Q15 - Please rate your agreement with the following statements:

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#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Fisheries managers use data to make management recommendations	1.00	3.00	1.44	0.61	0.37	32
2	Fisheries managers consider the needs of fishermen when making management recommendations	1.00	3.00	1.63	0.54	0.30	32
3	Fishermen trust managers to make sensible fishing regulations	2.00	5.00	4.03	0.68	0.47	32

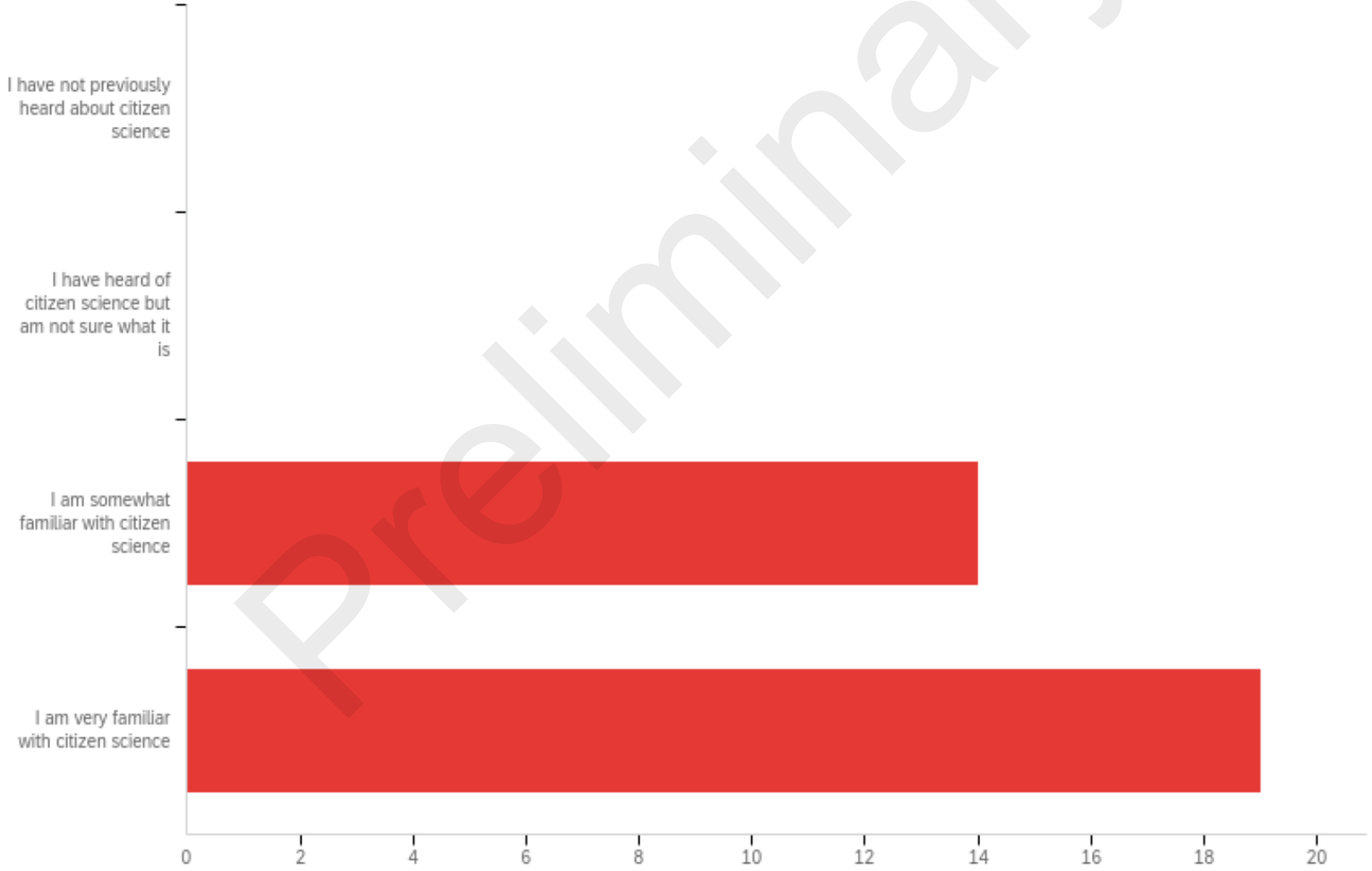
1= Strongly Agree
2 = Somewhat Agree
3 = Neither Agree nor Disagree
4 = Somewhat Disagree
5 = Strongly Disagree

Fisheries managers use data to make management recommendations	1.44
Fishermen should have a voice in fisheries management decisions	1.50
Fishermen have a responsibility to participate in fishery management	1.53
Fisheries managers consider the needs of fishermen when making management recommendations	1.63
Fishing regulations help to preserve the fishing industry	1.72
The science used by managers to make recommendations can be trusted	2.03

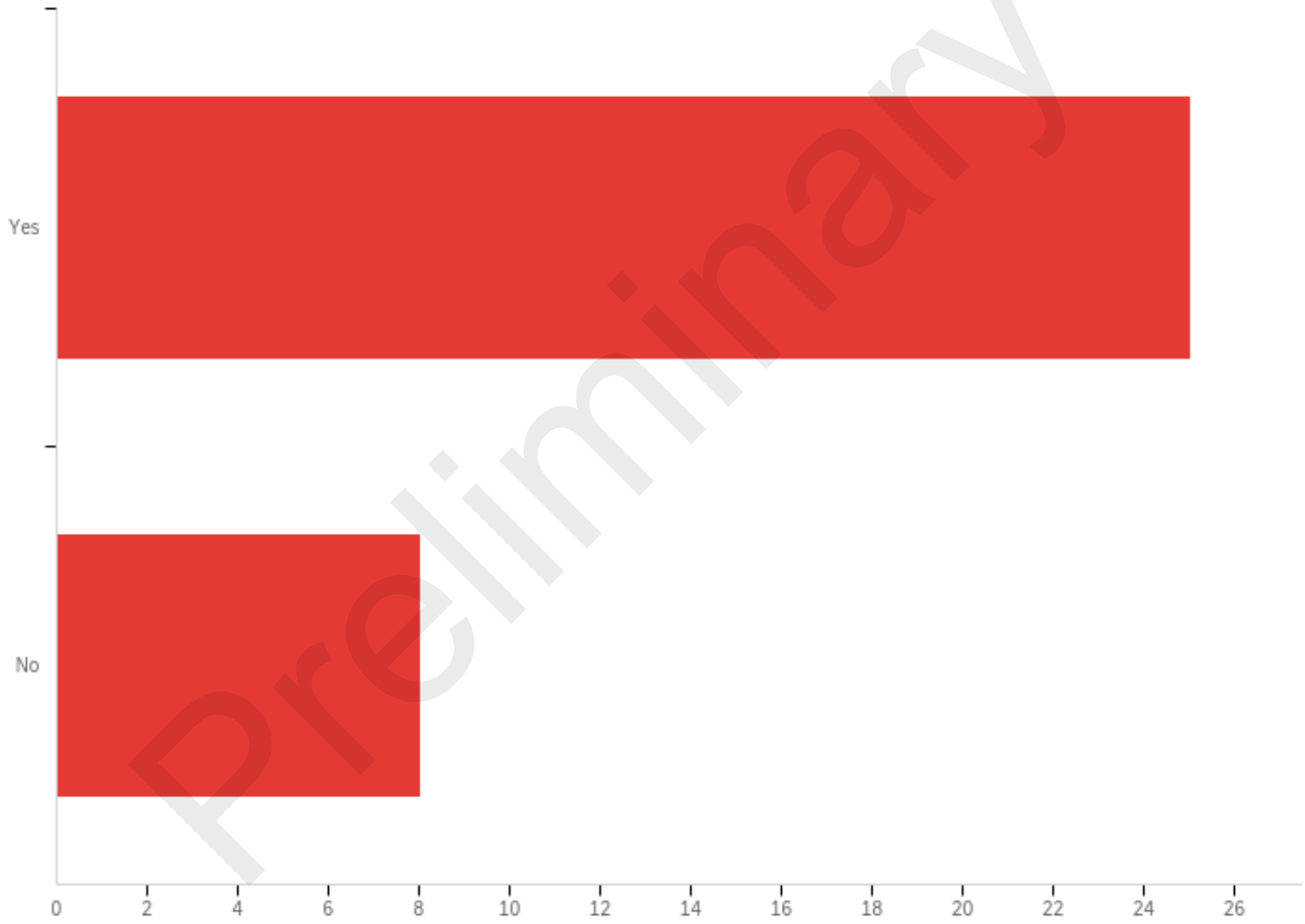
1= Strongly Agree
2 = Somewhat Agree
3 = Neither Agree nor Disagree
4 = Somewhat Disagree
5 = Strongly Disagree

Managers make informed decisions about fisheries management	2.13
The opinions of fishermen are taken seriously	2.13
Scientists trust managers to use data to make management regulations	2.75
Fishing industry associations have the best interests of fishermen at heart	2.88
South Atlantic fisheries are generally healthy	3.31
Fishermen trust managers to make sensible fishing regulations	4.03
Fishermen trust scientists to collect data that are representative of their fisheries	4.13

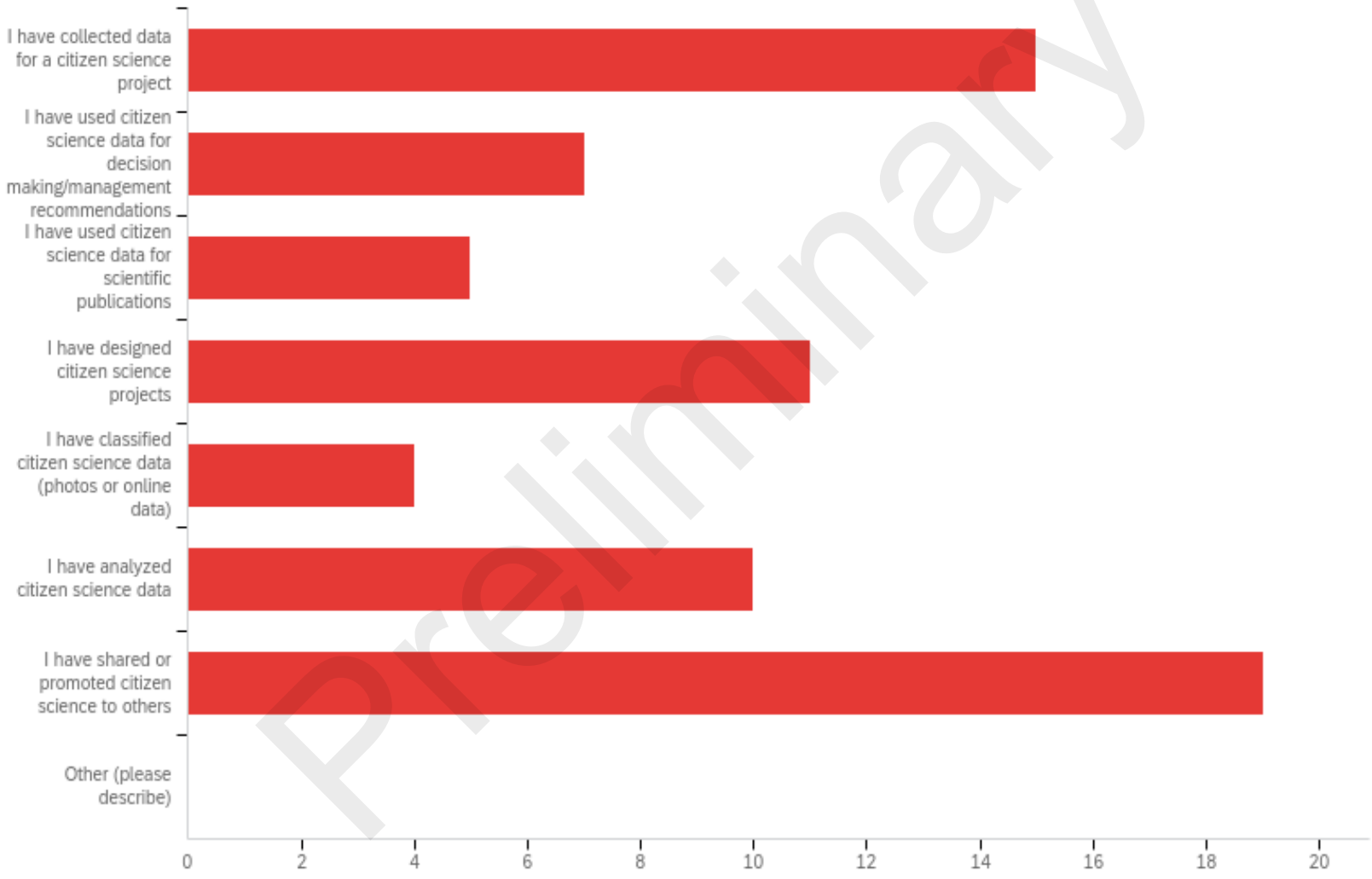
Q17 - One method of data collection mentioned in an earlier question is citizen science, which refers to projects for which non-scientists collect and submit data about the natural world. In the past, several citizen science projects have involved fishermen, such as fish-tagging projects, genetics projects for which fishermen collect fin clips, and projects where fishermen log information on their catches in a mobile app. How familiar are you with the concept of citizen science?



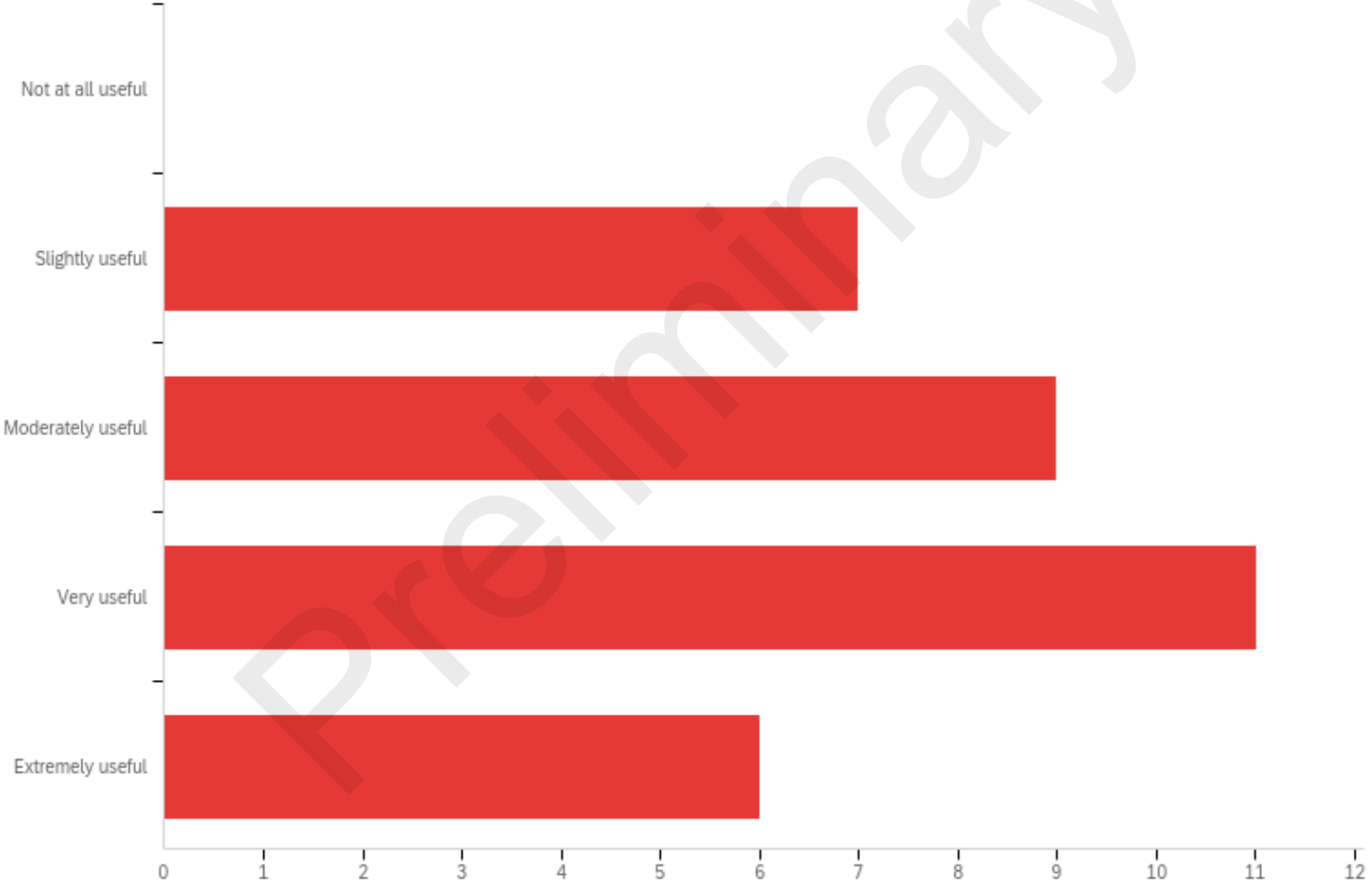
Q18 - Have you participated in citizen science or used citizen science data?



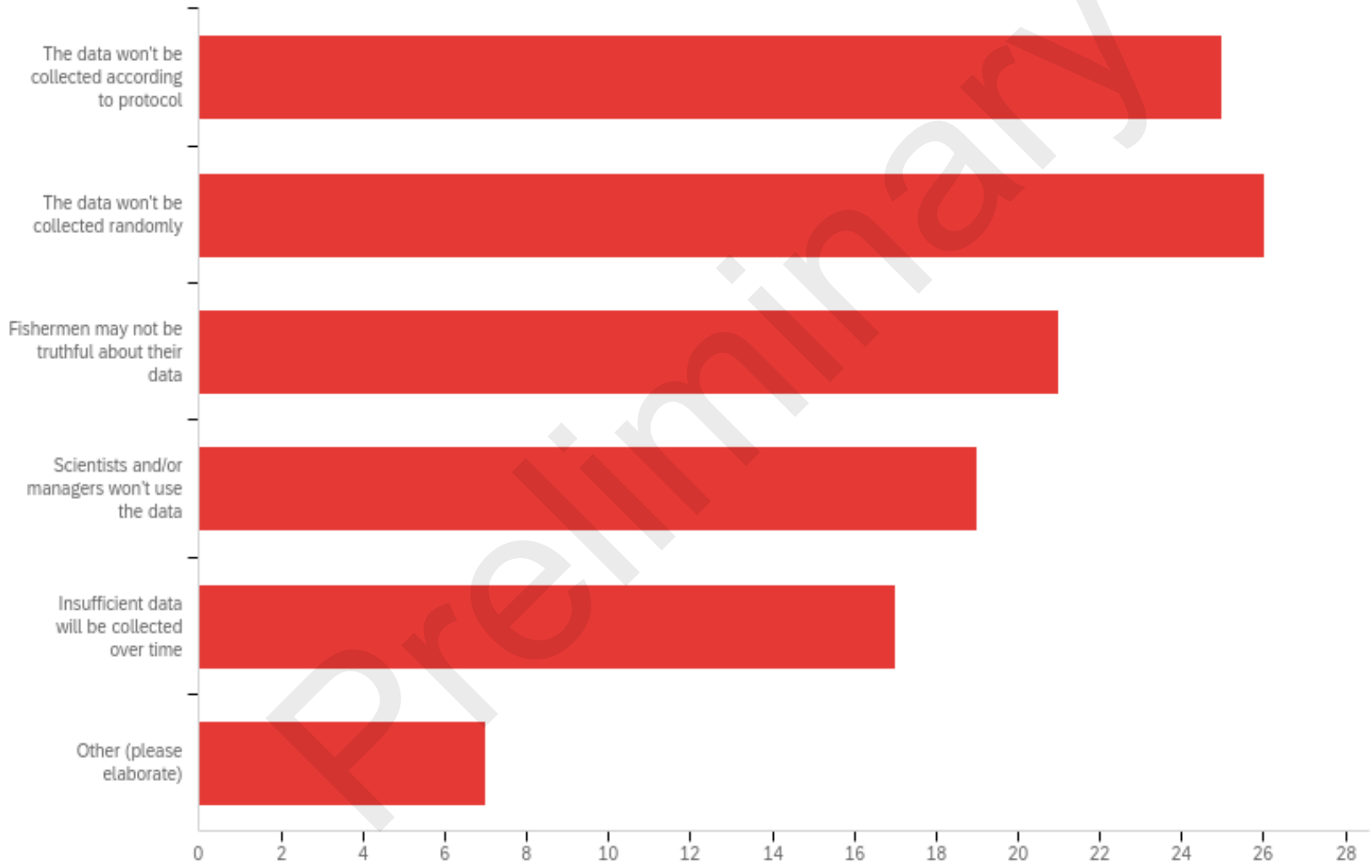
Q19 - In what ways have you participated in citizen science? (Check all that apply.)



Q20 - Assuming that citizen science projects are professionally developed by knowledgeable scientists, managers, and fishermen, do you think that citizen science can be a useful tool for collecting data that could inform fisheries management?



Q21 - What concerns do you have about citizen science? (Please check all that apply.)

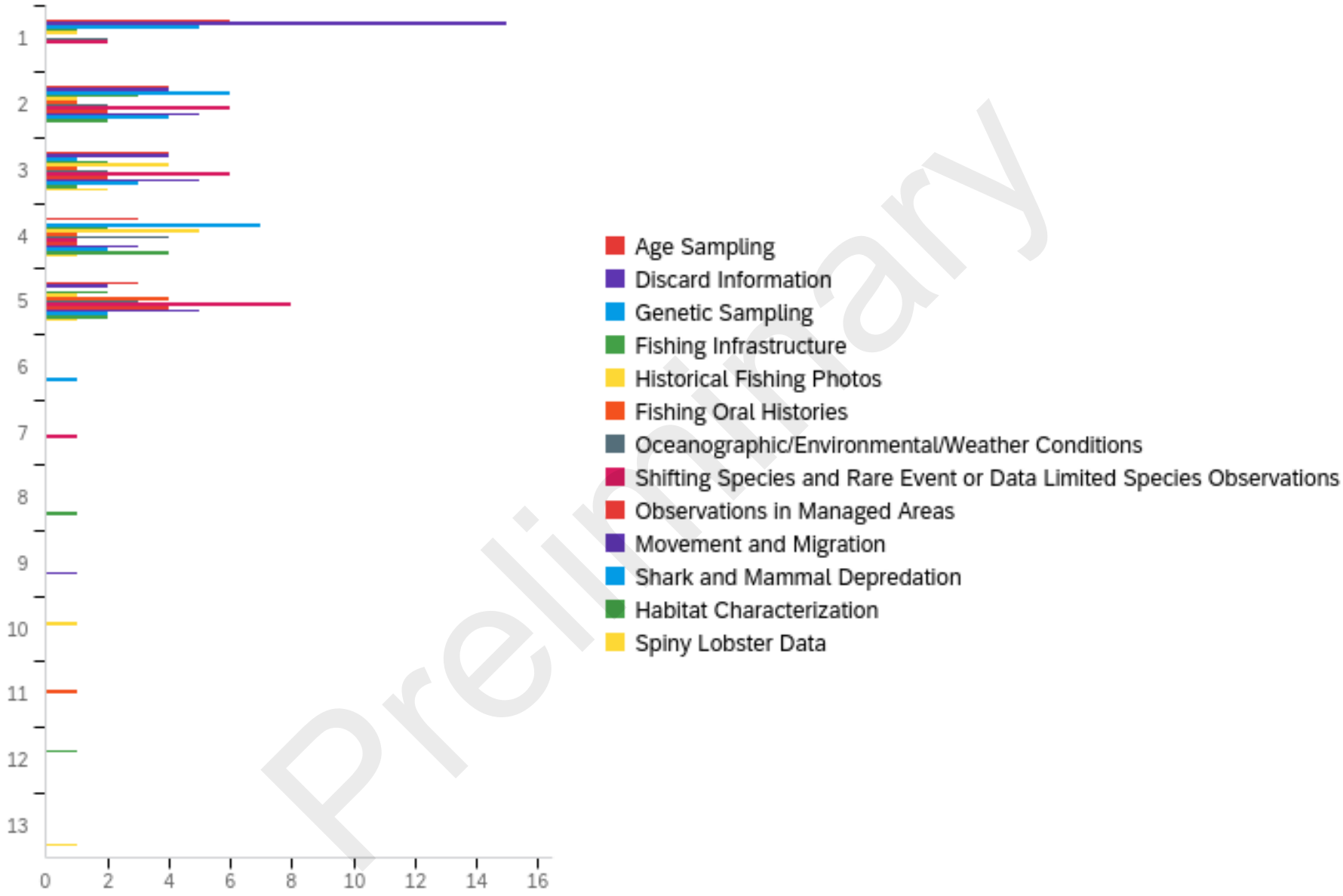


Q21 - What concerns do you have about citizen science? (Please check all that apply.)

Q21_6_TEXT - Other (please elaborate)

Other (please elaborate) - Text
Citizen science data will be over valued by certain groups who will insist that it should be weighted more heavily in management decisions than data collected by government surveys.
Bias in sampling due to selective reporting and non reporting biases
citizens will lose interest/trust in the project and participation will dwindle over time
Bias
Avidity bias. Only avid anglers will participate.
No QAQC
My concerns expressed above have to do with projects that are not designed by and/or closely monitored by scientists

Q22 - The SAFMC has created a list of topics for which citizen science data could be collected to inform fisheries management. Please rank the five topics that you think would provide the most useful data to the SAFMC Citizen Science Program in order of most useful (1) to least useful (5). (If you would like more information about any of these topics before ranking them, please click here.)



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Age Sampling	1.00	5.00	2.65	1.42	2.03	20
2	Discard Information	1.00	5.00	1.80	1.20	1.44	25
3	Genetic Sampling	1.00	4.00	2.53	1.23	1.51	19
4	Fishing Infrastructure	1.00	12.00	3.91	2.84	8.08	11
5	Historical Fishing Photos	1.00	10.00	3.85	2.03	4.13	13
6	Fishing Oral Histories	2.00	11.00	5.00	2.50	6.25	8
7	Oceanographic/Environmental/Weather Conditions	1.00	5.00	3.31	1.38	1.91	13

Discard Information	1.80
Genetic Sampling	2.53
Age Sampling	2.65
Oceanographic/Environ-Mental/Weather Conditions	3.31
Shark and Mammal Depredation	3.42
Shifting Species and Rare Event Or Data Limited Species Observations	3.46
Movement and Migration	3.74
Observations in Managed Areas	3.78
Historical Fishing Photos	3.85
Fishing Infrastructure	3.91
Fishing Oral Histories	5.00
Habitat Characterization	5.10