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New England Fishery Management Council
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C. M. "Rip" Cunningham, Jr., *Chairman* | Paul J. Howard, *Executive Director*

MEMORANDUM

DATE: October 5, 2012

TO: Groundfish Oversight Committee

FROM: Groundfish Plan Development Team

SUBJECT: **Goal and Objectives for Groundfish Closed Areas**

1. The Groundfish PDT reviewed draft Goals and Objectives for closed areas that were developed by the Closed Area Technical Team (CATT); see the attached memorandum from the CATT. The PDT endorses this list but suggests two additions, shown below in underlined text.

The primary goals of groundfish closed area management are to:

- Enhance groundfish fishery productivity
- Maximize societal net benefits from the groundfish stocks while addressing current management needs

Objectives for the design of groundfish closed area management options:

1. Improved spawning protection; <u>including protection of localized spawning contingents or sub-populations of stocks</u>
2. Improved protection of critical groundfish habitats
3. Improved refuge for critical life history stages
4. Improved access to both the use and non-use benefits arising from closed area management across gear types, fisheries, and groups. <u>These benefits may arise from areas designed to address other three groundfish closed area objectives</u>.

2. Rationale for addition to Objective 1: There is evidence in the literature that cod may return to specific spawning locations, and that cod stock structure may include sub-stocks. An example includes the two spawning components that have been identified in the Gulf of Maine. There is also evidence that cod spawning components have already been extirpated off the coast of Maine. Loss of spawning components will result in loss of overall stock productivity and increased vulnerability to perturbation. Protection of individual spawning components may be needed to prevent the extirpation of local sub-stock structure. Individual sub-stocks could be particularly vulnerable to fishing when

aggregated for spawning. The PDT's suggested addition makes it clear that this should be evaluated when designing areas for spawning protection.

3. Rationale for addition to objective 4: The design of groundfish closed areas may lead to benefits to other fisheries or ocean users. While these benefits should be identified and may be considered by the Council, the PDT's suggested text is intended to make it clear that they are not envisioned as the primary reason for developing closed areas. At this stage, the CATT would design the areas primarily to meet groundfish management objectives.

4. The PDT agrees with the CATT that there are differences between objective 2 and the goals of the habitat management area design objectives. This objective will enable the PDT and CATT to comment on which of the existing or proposed habitat management areas may be particularly valuable form a groundfish productivity perspective. The CATT/PDT may also identify areas that are of particular importance for a certain species or life stage.

Attachment: CATT memo dated September 14, 2012

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MEMORANDUM

DATE: **September 14, 2012**

TO: Groundfish PDT

FROM: Closed Area Technical Team (CATT)

SUBJECT: **Goals and objectives to identify and evaluate groundfish closed area options.**

The Closed Area Technical Team believes it is important to identify and seek consensus on appropriate goals and objectives for closed area management, so that groundfish closed area management alternatives we develop for the Omnibus Amendment will have the intended effect and those alternatives and as well as those in Framework 48 can be evaluated in the proper context. The Team is seeking concurrence from the PDT and Oversight Committee on goals and objectives that we drafted based on CATT and PDT member input.

To the extent that the data allow, these goals and objectives if approved would be used to evaluate various closed area alternatives and identify those that would produce positive benefits for groundfish management.

Although achieving mortality reductions through area management restrictions is no longer a key factor for establishing year round or seasonal closed areas, closed area management could produce other types of useful benefits. The CATT and Groundfish PDT were polled to determine which biological, economic, social, and ecological factors are important within the context of existing and future groundfish management. A summary of the survey data are provided below.

The factors that ranked highest were spawning protection (mean score 4.5), reducing interaction between fishing activity and protected species (3.91) and life stage protection (3.9). Minimizing adverse impact on EFH also ranked high (3.9), but this issue is being addressed elsewhere in the Omnibus Amendment.

Based on the survey results and further discussion, the CATT identified the following potential goals and objectives for closed area management in the current groundfish regulatory environment, i.e. ACL management.

The primary goals of groundfish closed area management are to:

- Enhance groundfish fishery productivity

- Maximize societal net benefits from the groundfish stocks while addressing current management needs

Objectives for the design of groundfish closed area management options:

5. Improved spawning protection
6. Improved protection of critical groundfish habitats
7. Improved refuge for critical life history stages
8. Improved access to both the use and non-use benefits arising from closed area management across gear types, fisheries, and groups.

Secondarily, impacts on protected species and other managed species such as monkfish and skates should be considered. While deemed highly important, options to minimize the adverse effects of fishing on EFH are being considered and analyzed elsewhere in the amendment and not in the CATT.

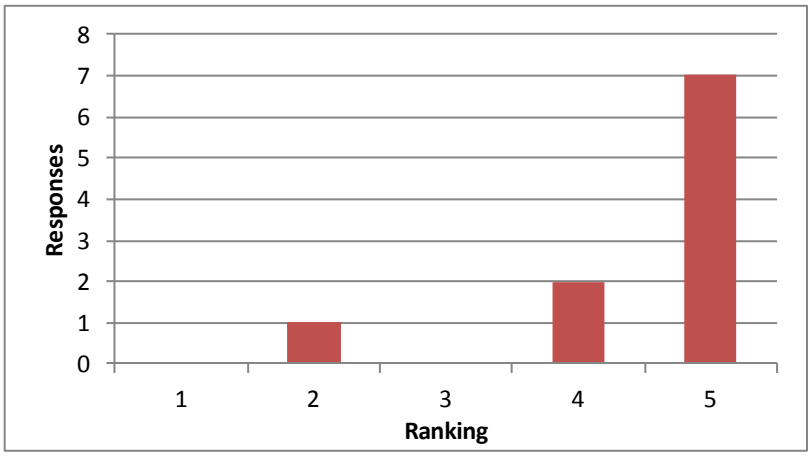
Closed Area Technical Team and Groundfish Plan Development Team Survey on Groundfish Closed Area Functions.

Spawning Protection

Objective 1

Mean score

4.5



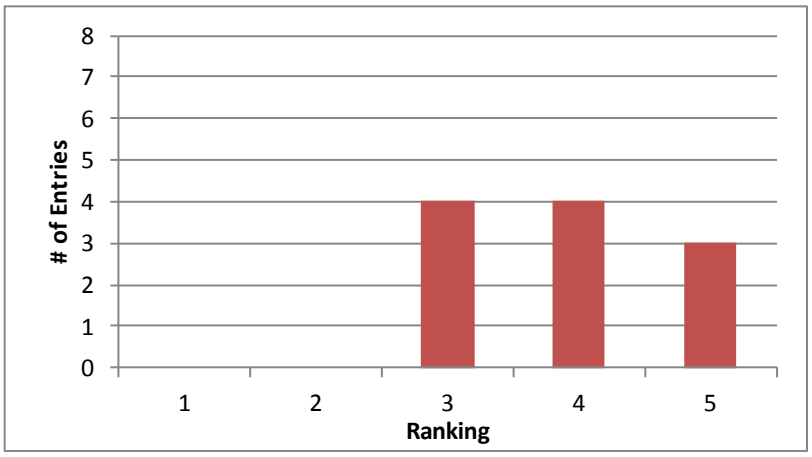
- Considered very important if fishing activity affects spawning activity
- More data is needed, such as if spawning locations and times can be reasonably identified
- Could be important if fishing activity alone reduces spawning success

Reduce interaction btwn fishing activity and protected species

Objective 2

Mean score

3.91

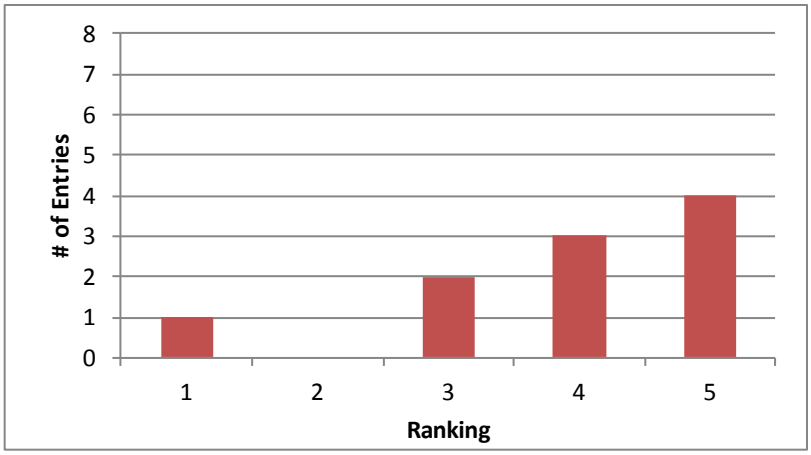


- Could be important for feeding grounds of endangered cetaceans.
- When interactions are at a critical level, areas should be seasonal and have a short duration
- Perhaps its own category (or an ecological function) rather than a social function
- Could be important when considering protected species impacts

Minimize adverse impact on EFH

Mean score

3.9



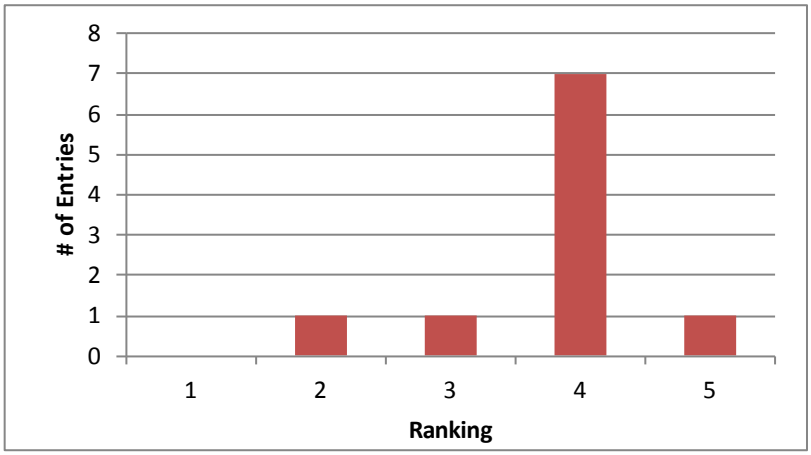
•Closures to bottom tending mobile gear may be the only way to allow habitat recovery
•Understanding the effects of adverse impacts on EFH is necessary
•Critical to maintaining healthy stocks and to allow for recovery, if needed.

Life Stage Protection

Objective 3

Mean score

3.8



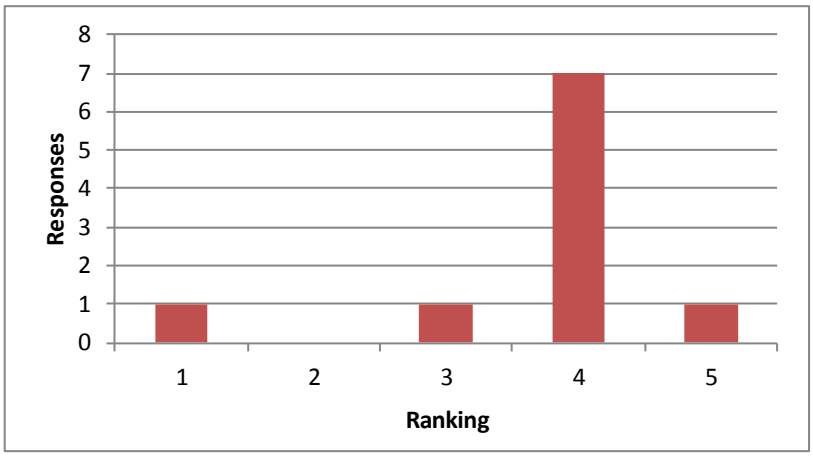
•Shares comments with other factors, possibly could be merged with another?
•Needs to be considered alongside other factors in closed area discussion
•Areas should be small and very specific
•Some life stages may use specific habitats and may not be considered important (SASI mod.)

Promote species diversity

Objective 2

Mean score

3.7



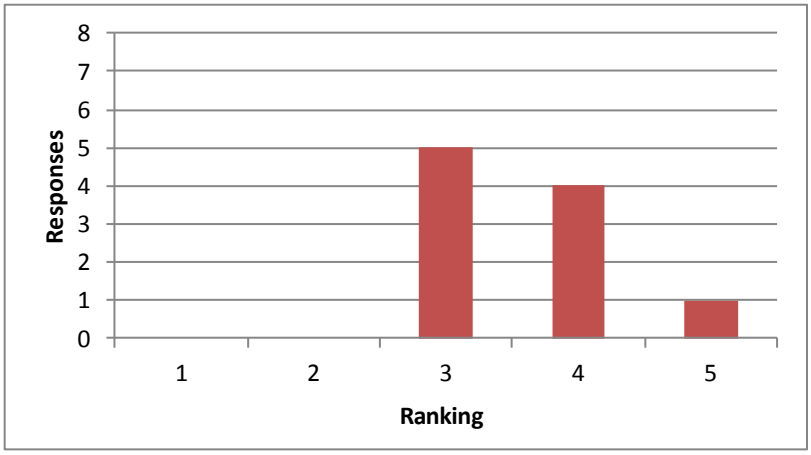
- Difficult to keep mortality at optimal levels for all species
- Could be considered as a biological function
- Protecting species diversity is a core tenant of fisheries science

Improve survival of young fish

Objective 3

Mean score

3.6

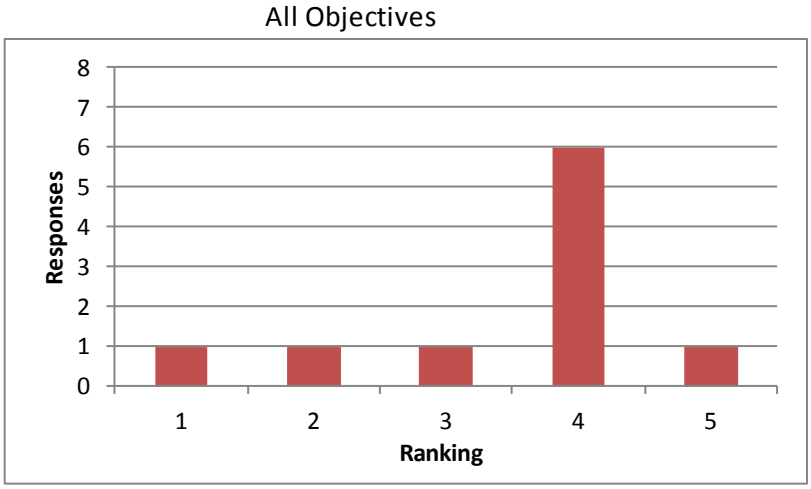


- Considered very similar to refuge and life stage protection, and can be treated similarly
- Could seasonal closures have malleable times and locations?
- This could benefit overfished stocks if the juveniles aggregate to other areas

Changes in Stock Productivity

Mean score

3.5



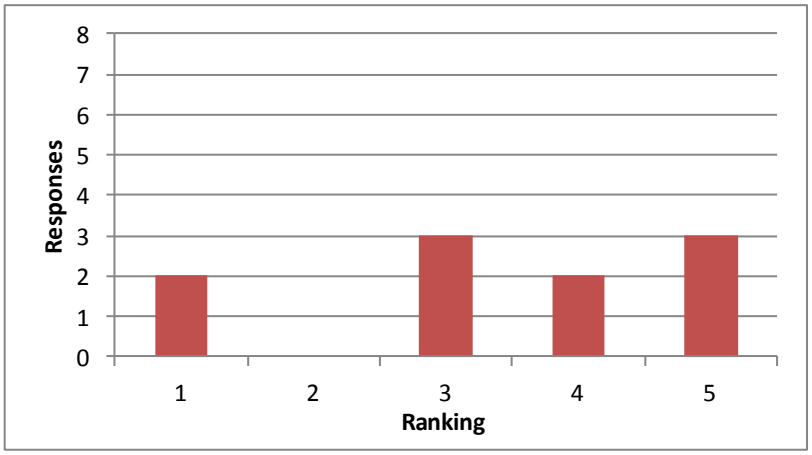
•More data is needed to validate if closed areas benefit productivity

•This is difficult to quantitatively demonstrate for specific groundfish stocks

Spawning protection for herring and other species

Mean score

3.4



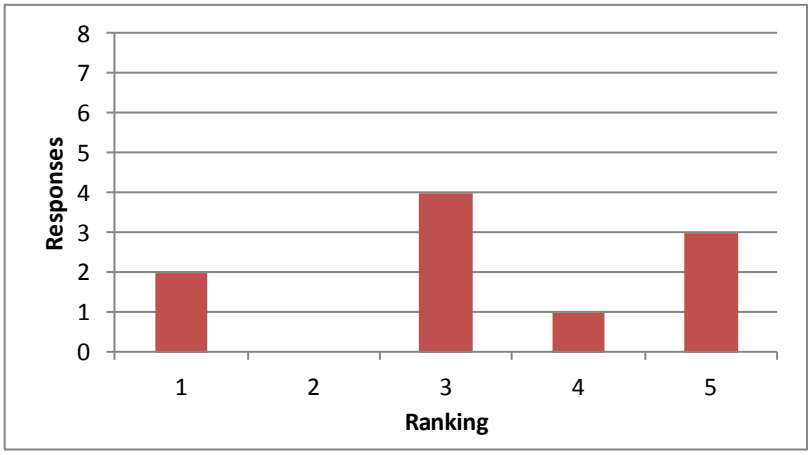
•Can be combined with the biological spawning protection function

Reduce catches of depleted or overfished species

Covered by ACLs

Mean score

3.3



•Similar to mortality control and bycatch functions

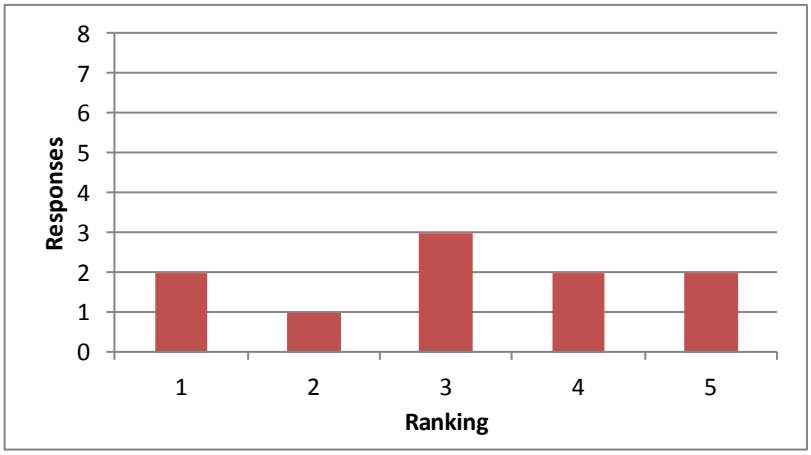
•Is this already covered by the ACLs or sector ACEs?

Concentration of fishing effort

Outcome

Mean score

3.1



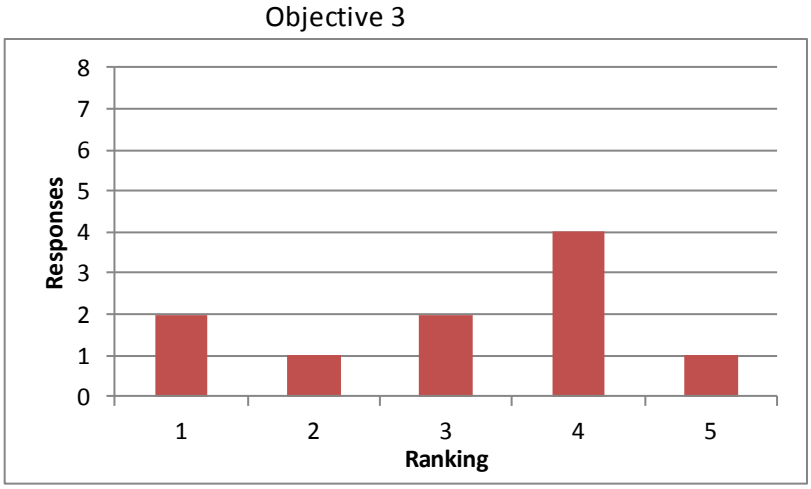
•Possibly an important social and economic function as well.

•The effects of concentrated efforts in areas adjacent to closed areas must be considered

Improved age/size structure

Mean score

3.1

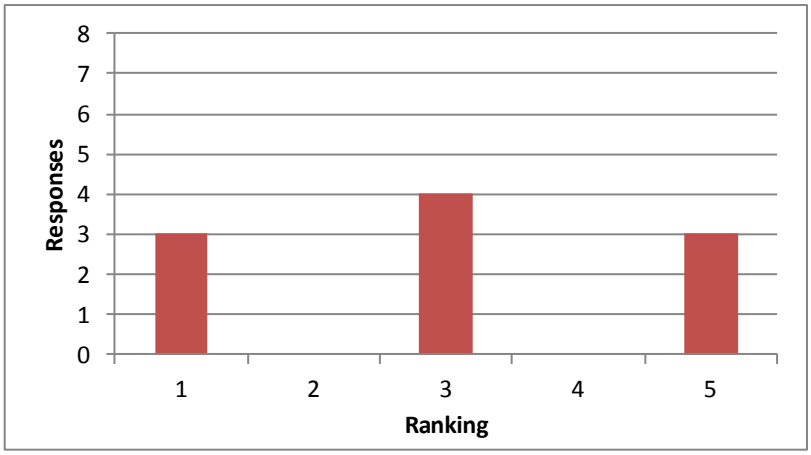


•Related to other functions, such as refuge and life stage protection
•Protection of older fish could disproportionately improve recruits
•Lower mortality is better and more important for improving age structure

Modify or control bycatch

Mean score

3



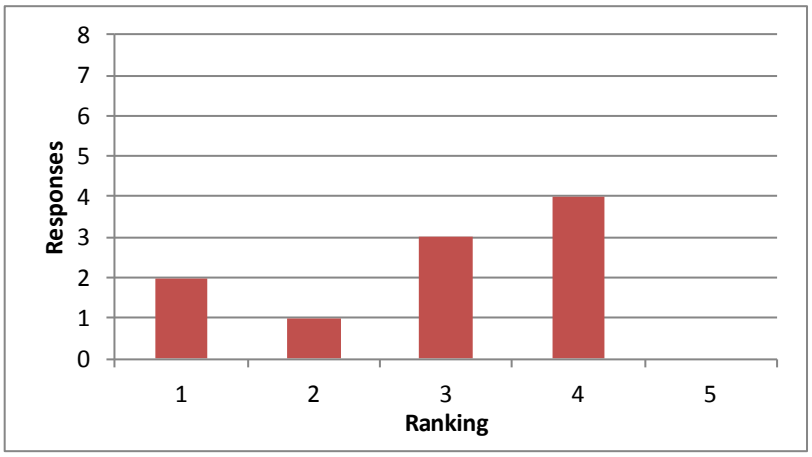
•This may already be covered by the groundfish ACLs
•Area management where retention is prohibited is more effective than other measures.
•This could improve stock rebuilding and reduce fishery closures.

Community Structure

All Objectives

Mean score

2.9



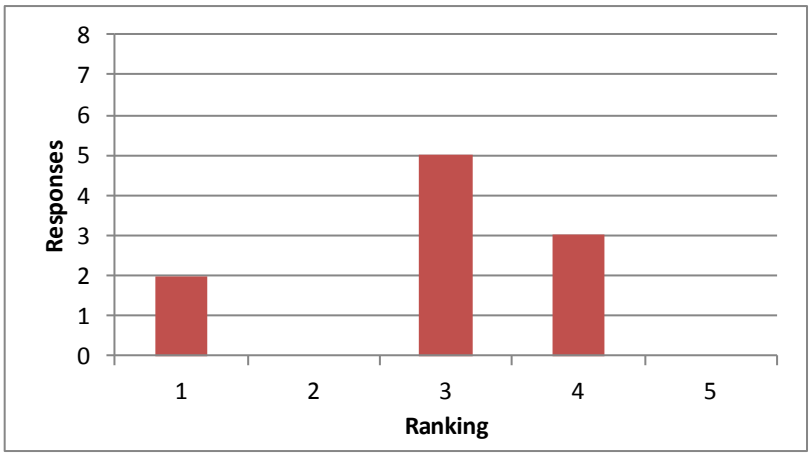
•Similar to species diversity and and habitat, possibly could be combined?

•Could be merged with habitat and labeled as a habitat/ecological function instead

Resilience

Mean score

2.9



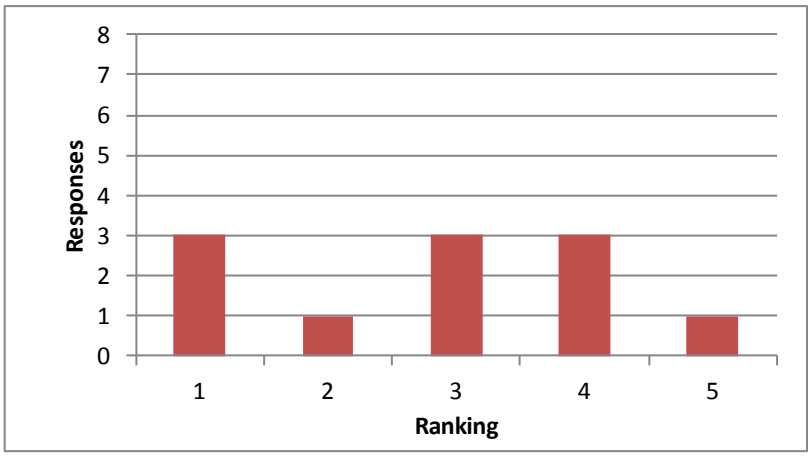
•Same possibility for combination as community structure

•Could only be important for species that are sensitive to low levels of fishing

Dedicated areas for user groups

Mean score

2.82

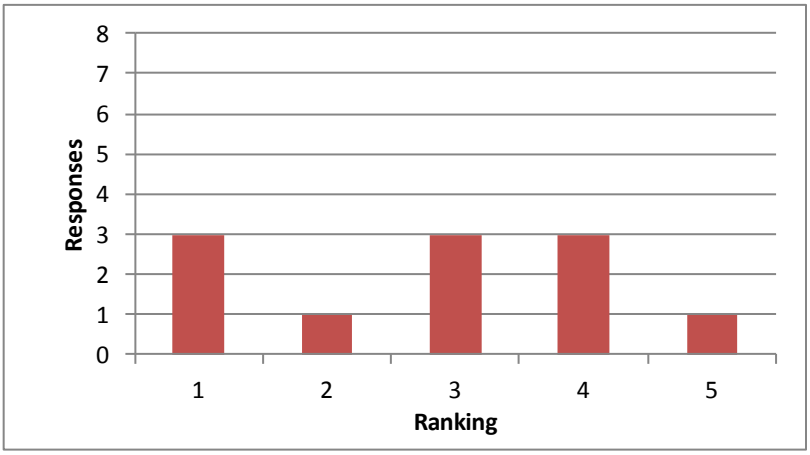


- An effective non-commercial area can greatly benefit the recreational fishing industry
- Equitable opportunity needs to be considered when considering special access
- Dedicated areas are necessary for the purpose prosecuting specific fisheries or gears

Prevent/Reduce gear conflicts

Mean score

2.82

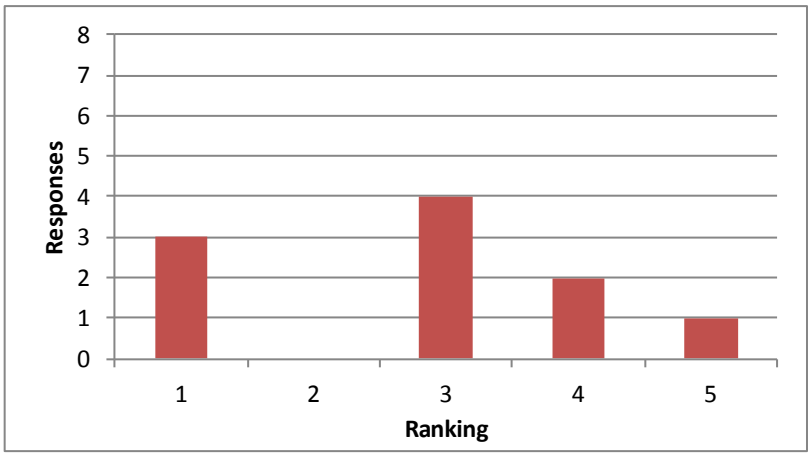


- Can be considered an economic factor as well
- Politics will likely get involved
- More data or fishermen feedback would be needed to determine the importance
- The benefits of allowing one user group access while denying others must be stated

Research Value

Mean score

2.8

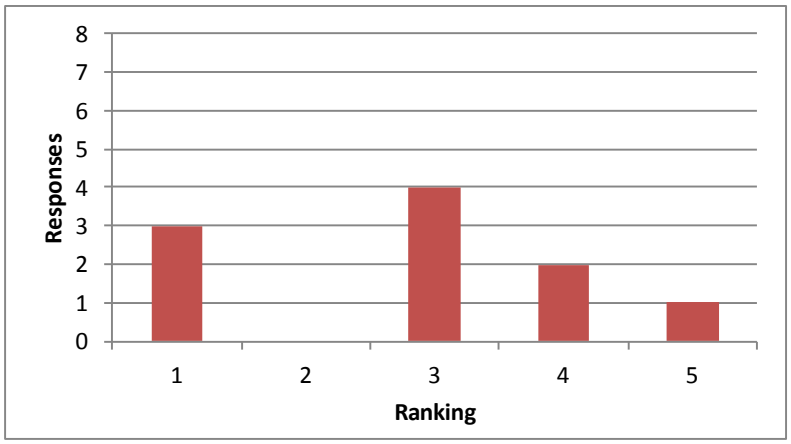


- Closed areas are an important way to answer certain research questions
- Extensive literature on the impacts of fishing on habitat does exists
- The response is going to vary over areas and time, depending on other events.

Skate and Monkfish mortality

Mean score

2.8

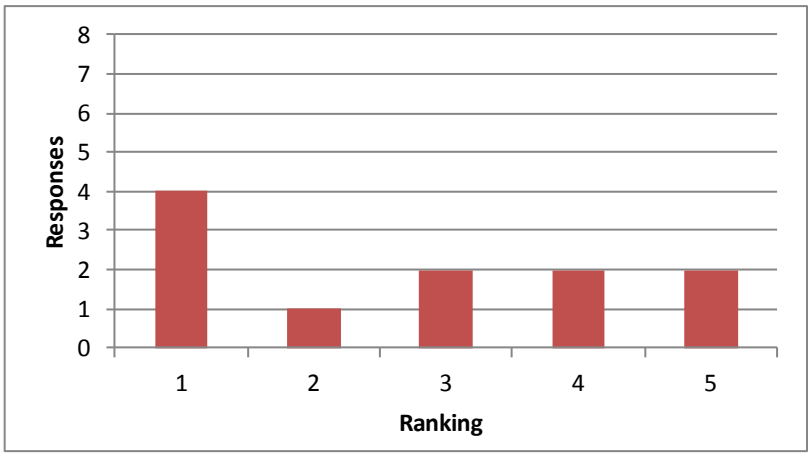


- The presence of ACLs could allow for adjustment and regulation
- If specific portions of current closures relate to skate/monkfish mortality, they should be considered

Scallop Access

Mean score

2.73

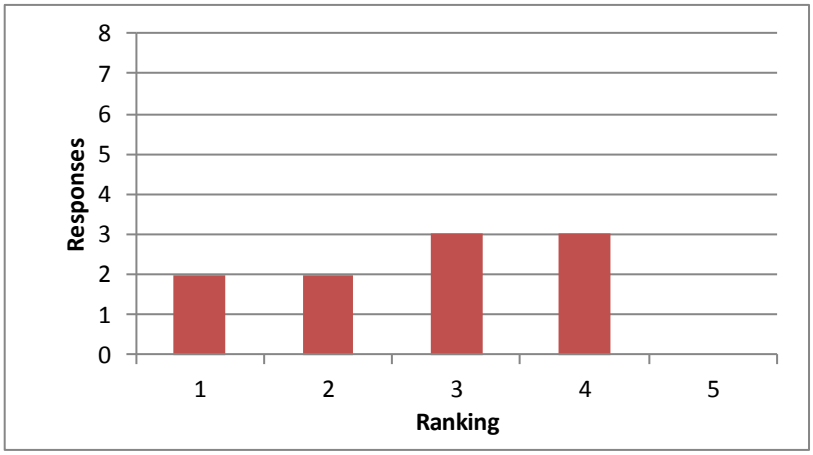


•Groundfish CA Management is not related to Scallop Access Area Management
•Scallop FMP could maybe take care of this issue
•Equitable opportunity should be considered

Refuge

Mean score

2.7

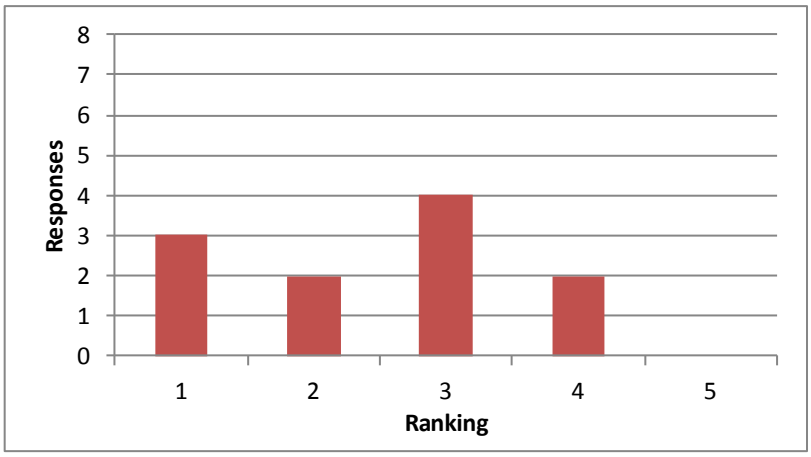


•More data is needed
•Important for sedentary species such as scallops and sea urchins
•Movement rates of fish across closed boundaries would need to be determined
•Can fish identify and stay within a closed area?
•This could be combined with life stage protection

Catch Rate Changes

Mean score

2.46

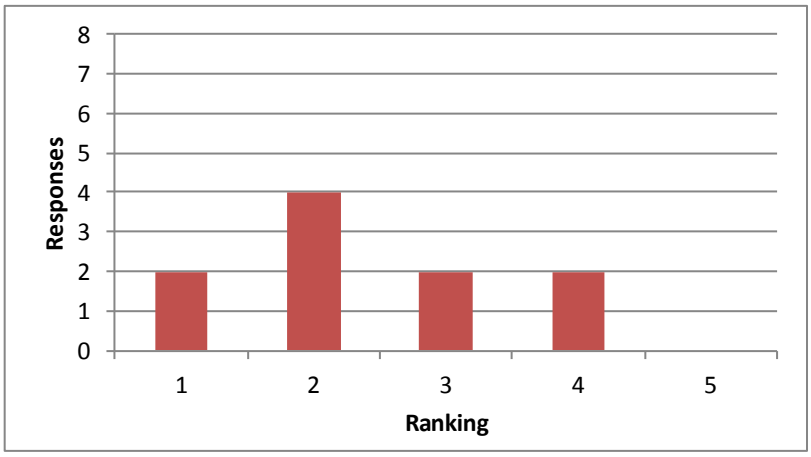


•Economically better to let fishermen fish where it is most efficient
•Efficiency could be increased by fishing on the border and the spill-over of biomass
•Perhaps should not be considered at the design stage

Reduce scientific uncertainty

Mean score

2.4

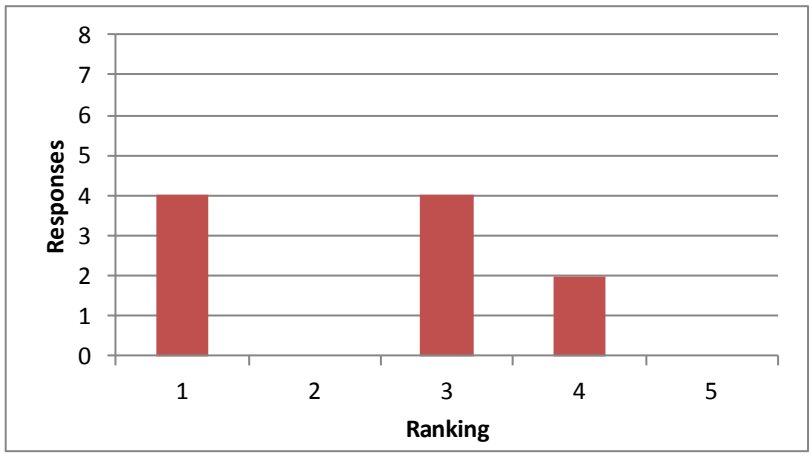


•May be important for overfished stocks
•There may be important benefits to reducing the proportion of the stock vulnerable to fishing for overfished species
•ACLs and Ams should act as buffers against potential overfishing
•Concern over closed areas increasing scientific uncertainty

River herring

Mean score

2.4



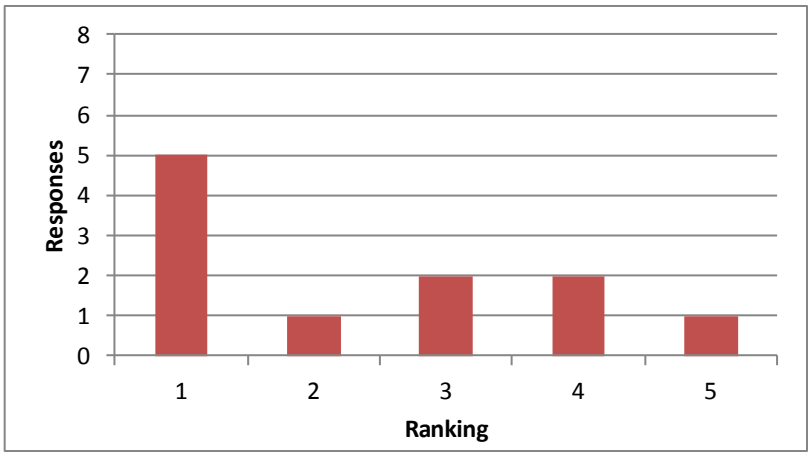
•Are area-based or catch cap-based measures more effective?

•Could be a groundfish bycatch issue

SAP Opportunities

Mean score

2.36



•Closed areas are a good opportunity to fish with selective gears and methods

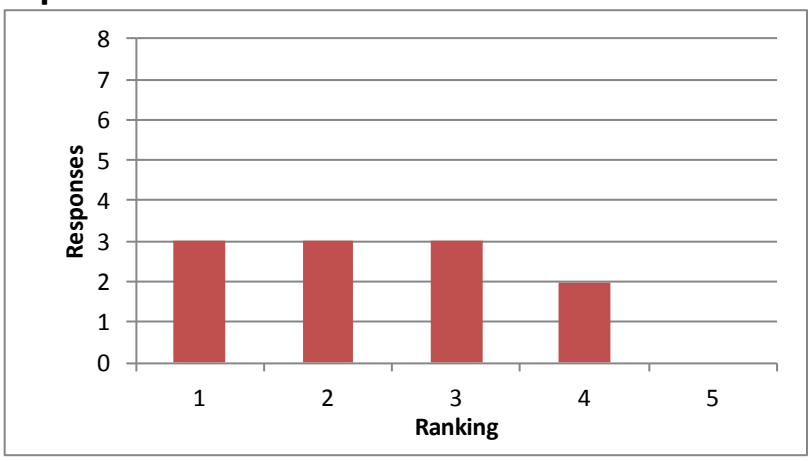
•Areas should not be designed to create a SAP opportunity in the future

•Sector exemptions can get around restrictions

User Group Competition

Mean score

2.36

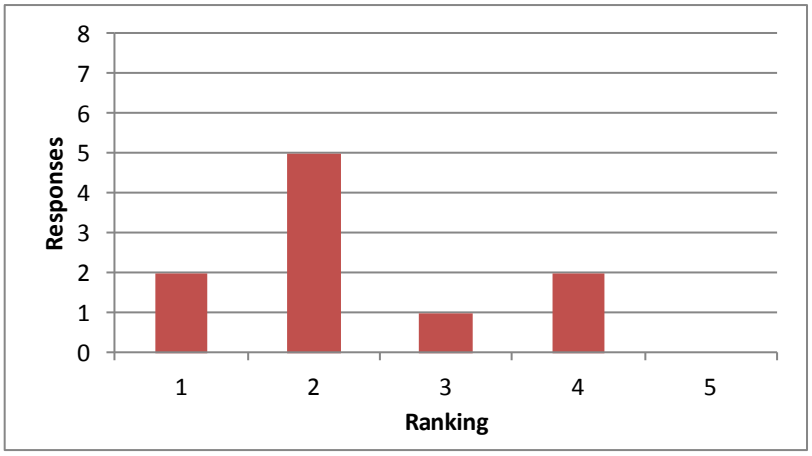


•Aggravation should not exist as long as the areas were well-chosen with fishermen input
•Not much can be done with this group. The system needs to be well-designed, etc.

Stock Assessment

Mean score

2.3

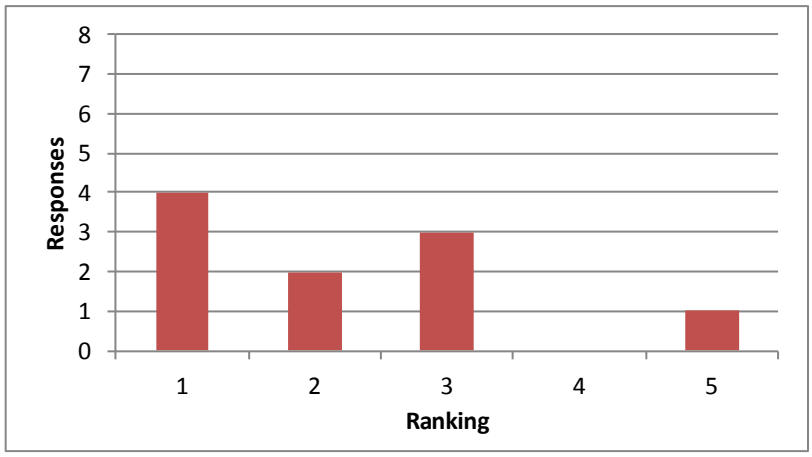


•Scallop assessment may provide some clarity into this
•Effects of area management on assessment results should be recognized
•This could be a problem if closed areas provided large spatial benefits to stocks

Mortality Control

Mean score

2.2

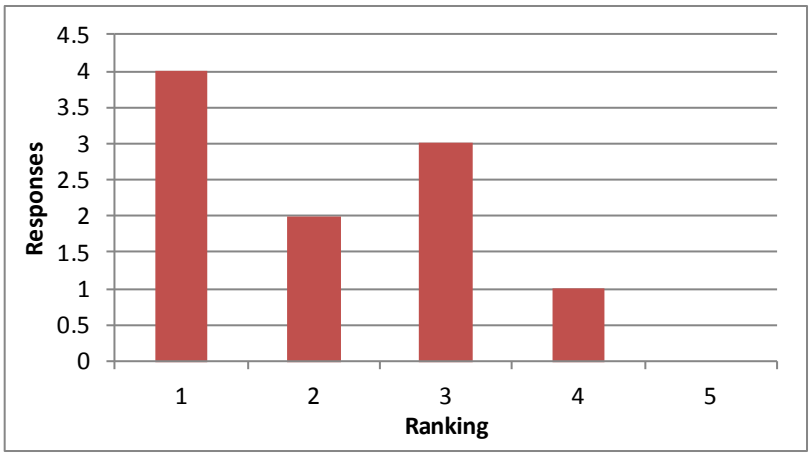


•ACLs should handle this, as well as Ams

Other ocean uses

Mean score

2.1

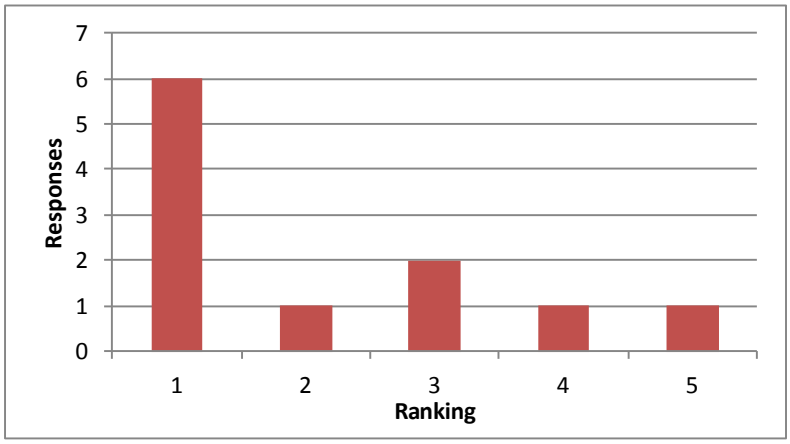


•Difficult to predict what other potential ocean uses may arise
•Not up to fishery management to make areas available for other uses
•Eventually, trade-offs with other sectors will have to be discussed

Restrict access to resources that cannot be accessed in other ways

Mean score

2.09

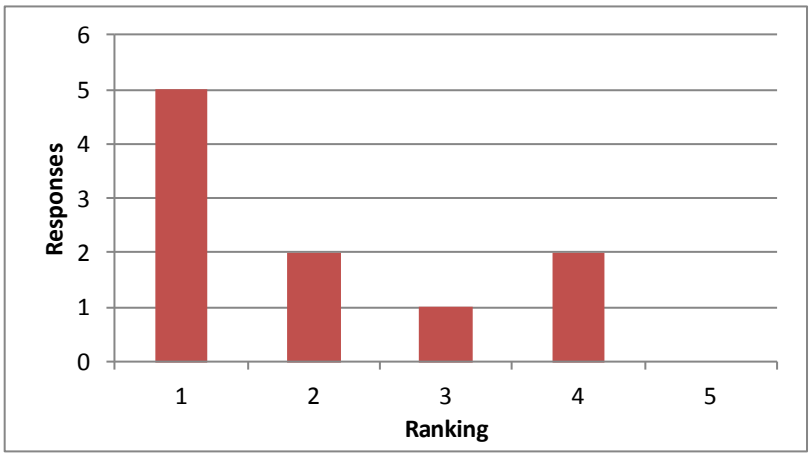


•May lessen other adverse economic effects to allow fleets access to areas w/ higher ACLs
•Could be counter-intuitive

Increase scientific uncertainty (misspecified models)

Mean score

2

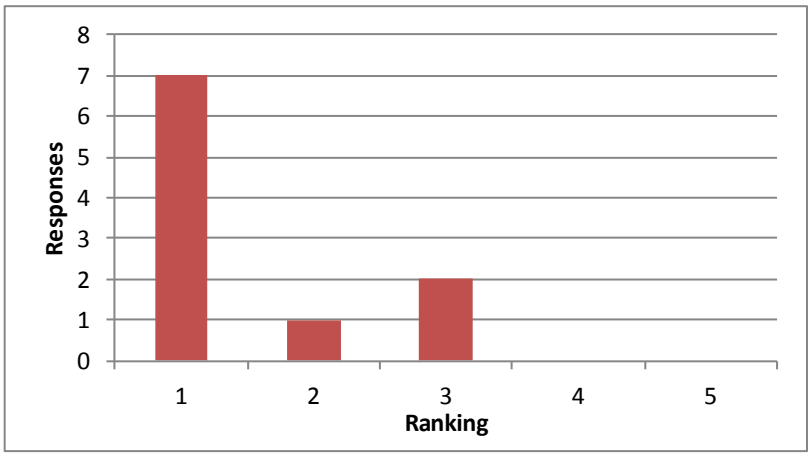


•May not be able to be avoided without spacially explicit models
•Stock assessments should be able to deal with these kinds of changes

Public Health

Mean score

1.5



•Outside of the Council's jurisdiction, doesn't apply, low importance, etc.