



Red Snapper, Gag, and Greater Amberjack:

Discard Mortality in the Gulf of Mexico



Why do Anglers Discard Fish?

- Regulatory Discards
 - Size Limit
 - Bag/Trip Limit
 - Season Limit
- Prefer Catch and Release



All contribute to some additional mortality of released fish

How Big of a Problem is Released Fish Mortality?

- It's a big problem
- Growing population of anglers and requirements to limit retained harvest intensify this challenge
- Reductions in dead discards could extend fishing opportunities and increase retainable harvest



Establishing a Baseline

“You can’t really know where you are going until you know where you have been.”

Maya Angelou



Gulf Council's Discard Dashboard

- Developed a tool to allow exploration of reef fish discard information in the Gulf
 - Red snapper, gag, and greater amberjack
 - Emphasis on recreational data
- Learn where we have been to consider gains through discard mortality reductions
- Developed in collaboration with NOAA SEFSC and can be updated and expanded in the future
- Data provided from NOAA SEFSC
- Based on most recent stock assessments
- Some estimates may have high uncertainty
- Could be used to identify priorities and opportunities



Gulf Council's Discard Dashboard

Discard Dashboard

Dashboard

About the data

Gulf of Mexico discard data

<http://gulfcouncil.org/fishing-for-our-future/>

Select species

Red snapper

Select sector

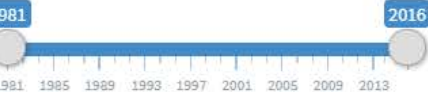
☒ Recreational

☐ Commercial

Select fishing type

Private recreational (East)

Select years:



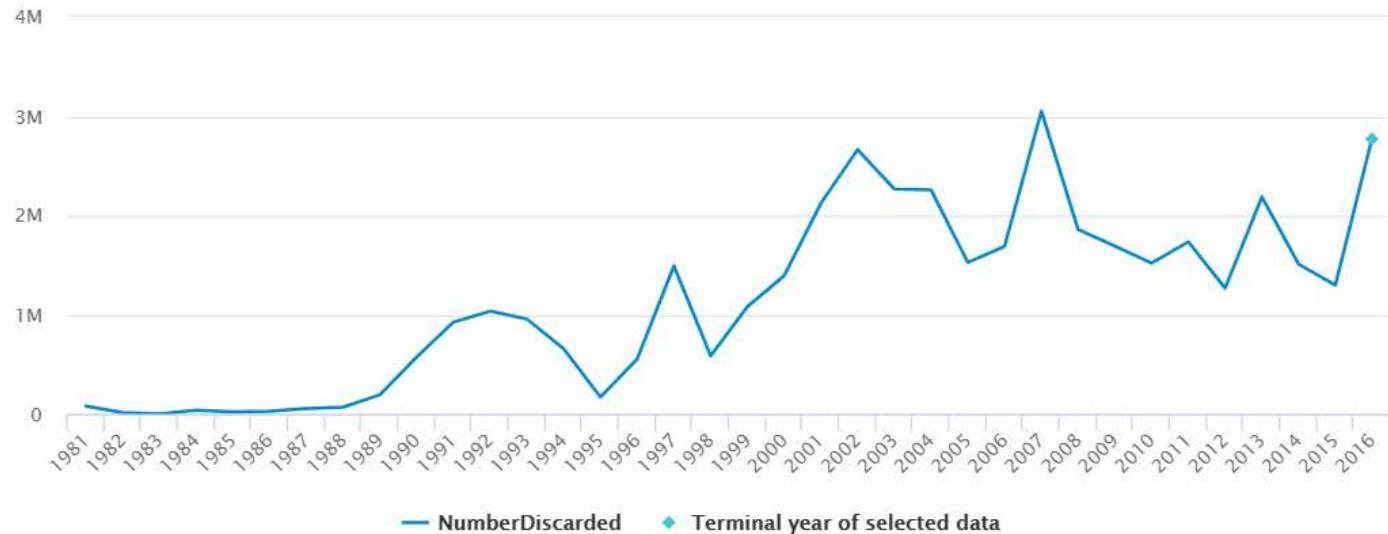
Select discard type

Numbers Discarded

How do I use this app?

RedSnapper 1981 – 2016

NumberDiscarded: Private recreational (East)



Summary of discards for most recent year selected

12.0%

Release mortality rate

2,776,896

NumberDiscarded

Red Snapper – Summary of Discards

Recreational (Private and For-Hire)

- Discards (pounds and numbers)
- Dead discards
- Data available from 2004 – 2018
- Release mortality (12 – 22%)
- Four components included
- Includes private angler, headboat, and charter



Gag and Greater Amberjack – About the Data

Recreational Data (Private and Charter)

- Discards (pounds and numbers)
- Dead discards
- Data available from 2004 – 2018
- 20% release mortality (Greater Amberjack)
- 12% release mortality (Gag)
- Data does not include data from headboats or Texas



Things to consider: Data

- Discard information is less well known than other types of information used in management
- Imprecise estimates
 - Self-reported data
 - Small sample size
 - Changes in the fishing behavior
 - Seasonal effects
- Both challenges and opportunities



Looking Ahead...

- Minimizing discard mortality is a management priority
- Information about discard rates and release mortality can be improved through research and monitoring
- Changes expected in estimates of historical landings and discard information (MRIP – FES)
- Information may increase awareness of potential benefits of barotrauma mitigation

Reducing Discards Addresses at least 3 MSA's 10 National Standards

1. Prevent overfishing while achieving optimum yield;
8. Provide for sustained participation by fishing communities; and
9. To the extent practicable, minimize bycatch and bycatch mortality.



Questions

Share your thoughts with the Council

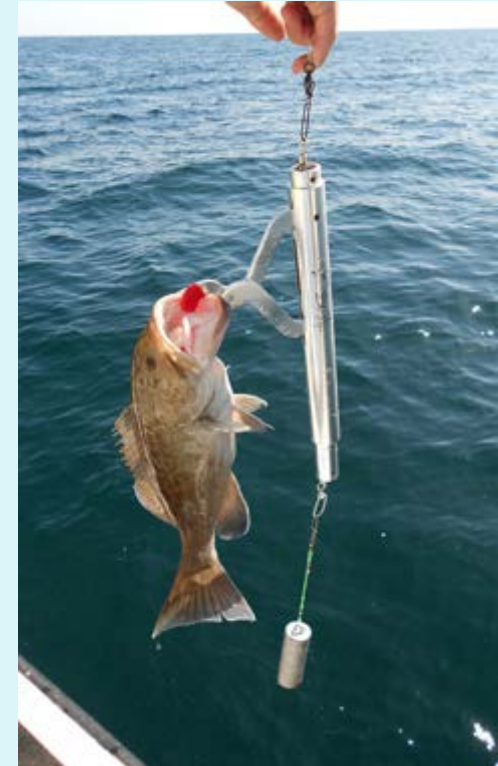
- At Council meetings
- At scoping workshops
- At public hearings
- Online comment forms at www.gulfcouncil.org
- Email gulfcouncil@gulfcouncil.org



Evaluating the impact on OFL of reducing discard mortality

Strategy

- Data were not immediately available regarding the absolute reductions in mortality that should be expected.
- Two theoretical reductions in discard mortality from all sources combined were explored.
 1. A 50% reduction in future recreational discard mortality (Feasible).
 2. A 100% reduction in future recreational discard mortality so all discarded fish survive (Maximum Possible).



Evaluating the impact on OFL of reducing discard mortality

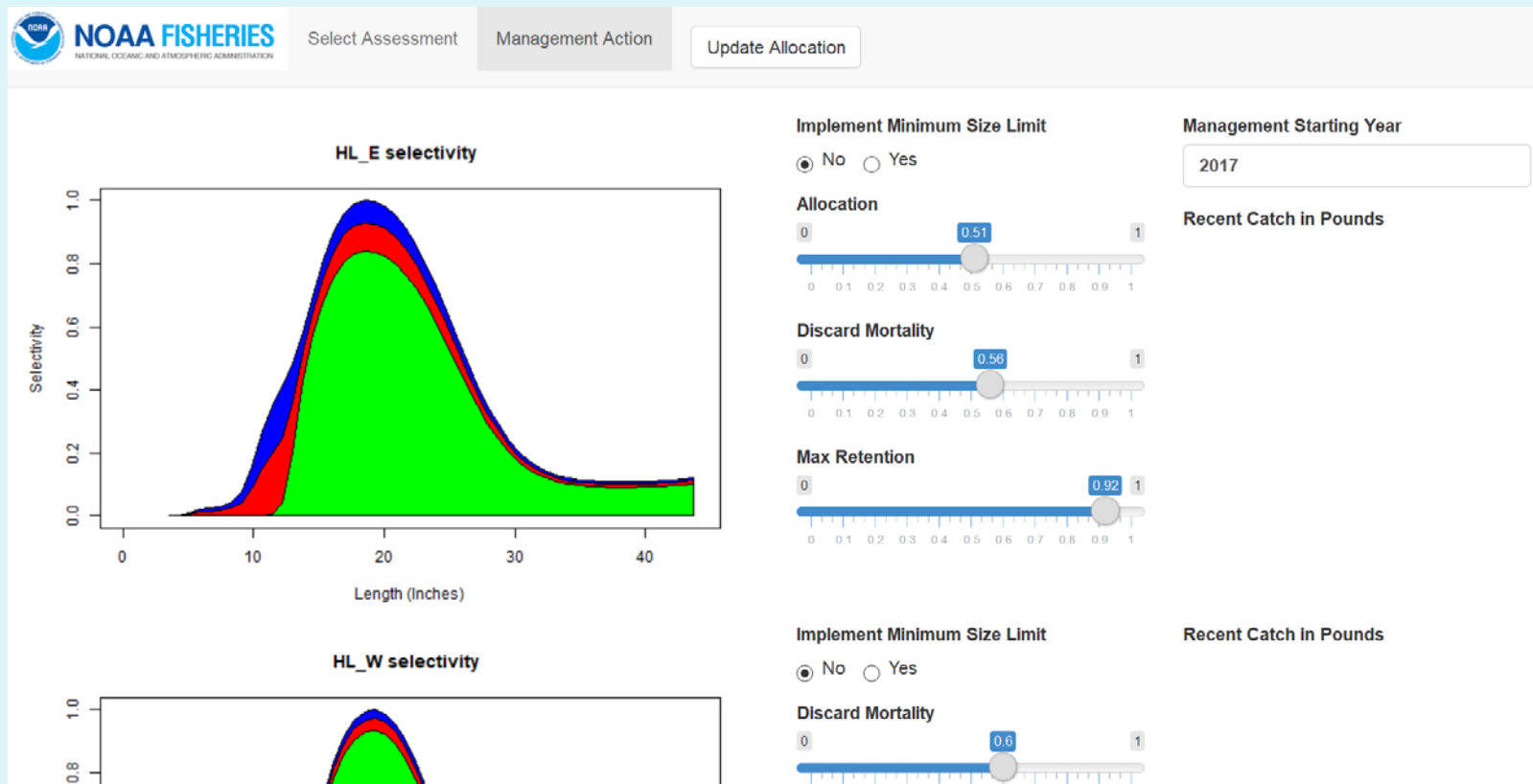
Methods

- A recently developed stock assessment decision support tool was applied to answer this question.
- The decision support tool facilitates rapid forecasting of OFL and catch composition under a variety of changes in fishery dynamics including; discard mortality, retention size, and catch allocation.



Evaluating the impact on OFL of reducing discard mortality

Methods



Evaluating the impact on OFL of reducing discard mortality

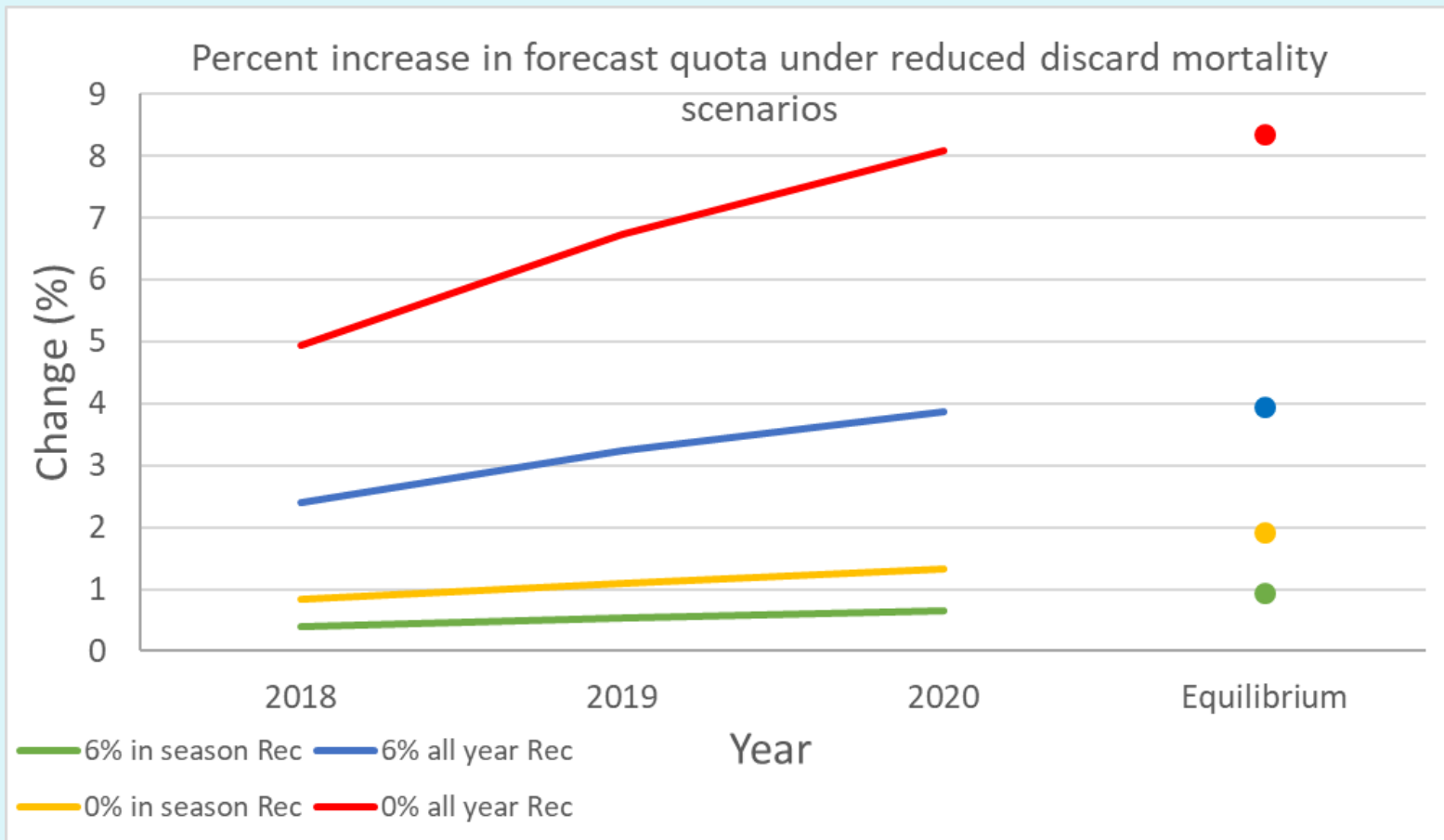
Results

- Potential gains in OFL through reduction in discard mortality rate were highly species specific.
- Further research into the attainable levels of discard mortality reduction will enable refinement of these results.
- The accuracy of these results is directly dependent on the accuracy of current discard mortality rate estimates.



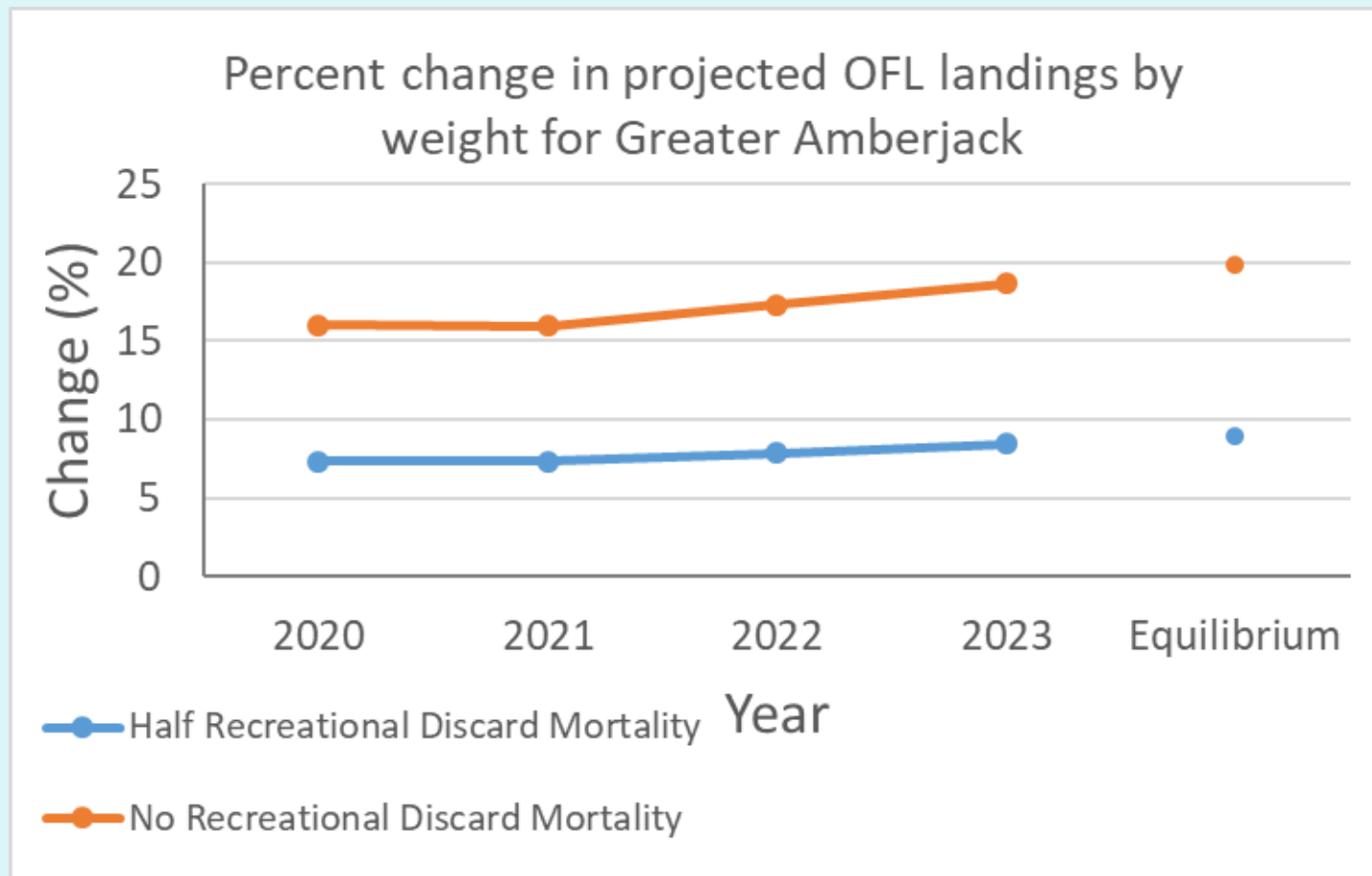
Evaluating the impact on OFL of reducing discard mortality

Results – Red Snapper



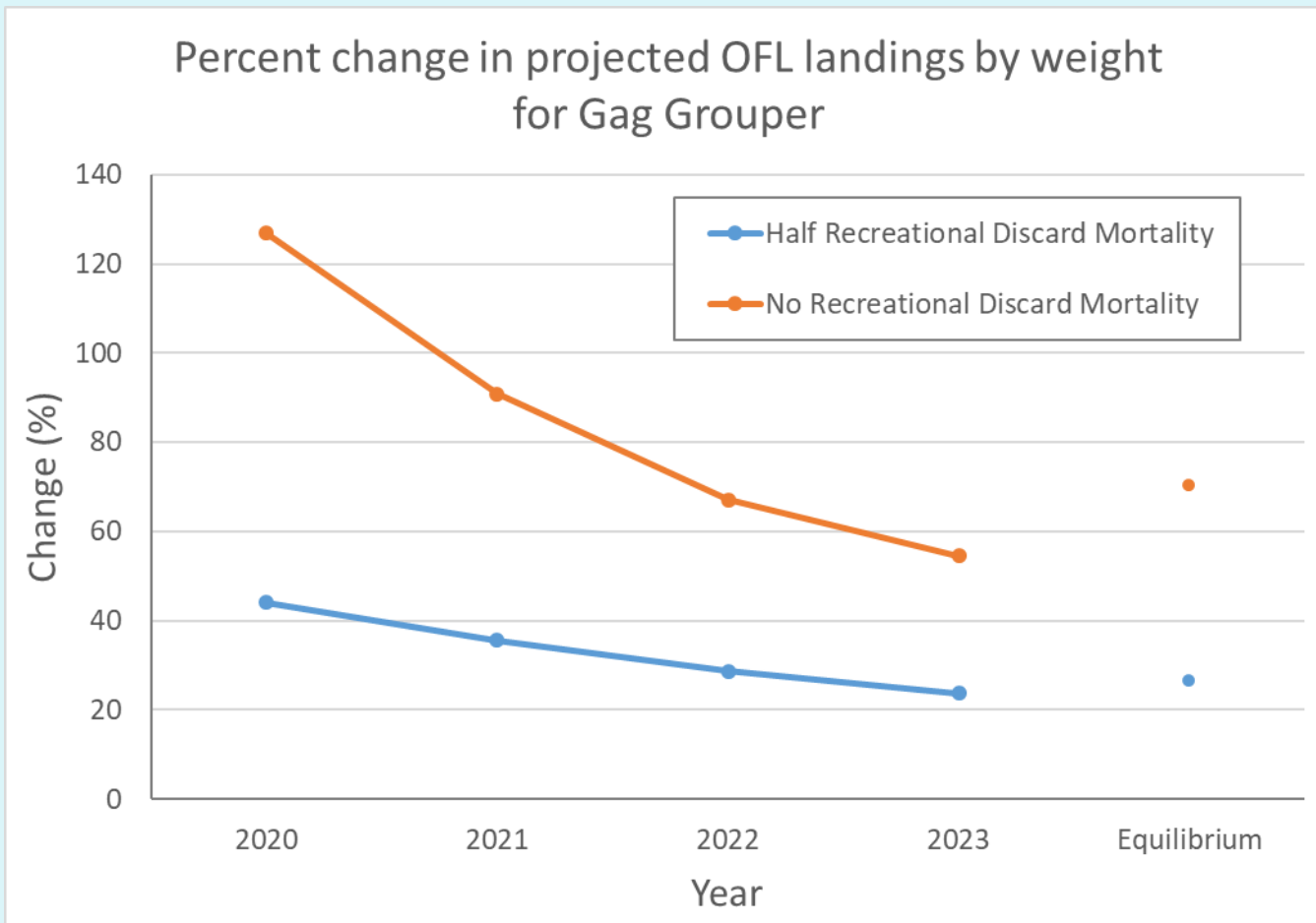
Evaluating the impact on OFL of reducing discard mortality

Results – Greater Amberjack



Evaluating the impact on OFL of reducing discard mortality

Results – Gag Grouper



Evaluating the impact on OFL of reducing discard mortality

Summary

- Maximum possible equilibrium increase ranged from ~8% to 70% depending on species.
- The high theoretical gains for Gag may be unrealizable as recent years annual landings have been <50% of the target ACLs.
- A maximum possible reduction discard mortality rate is likely only 50% which results in a ~4% increase in OFL for Red snapper and ~9% for Greater amberjack.

