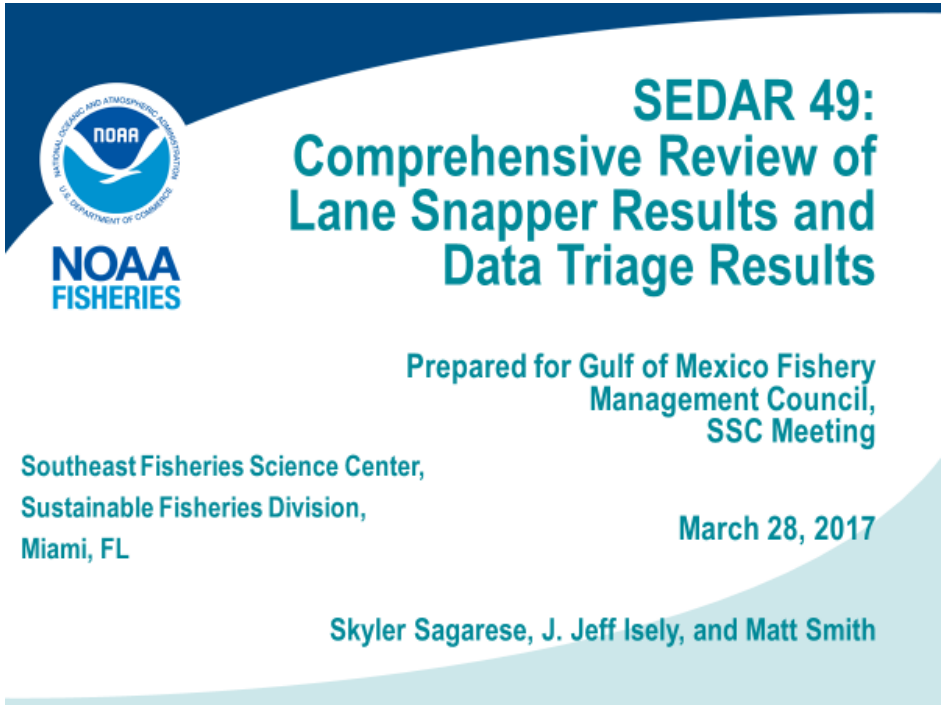
Standing and Reef Fish SSC Report



Tab B, No. 11(b)(1)

SEDAR 49 – Stock Assessment for Data-Limited Stocks

Gulf of Mexico Fishery Management Council Meeting
April 3-6, 2017
Birmingham, AL

Utility of DLMs in US fishery management

- Methods considered all aim to achieve some historical target (and not necessarily achieve B_{MSY} in the long term)
- These alternatives represent a small step towards data-limited management that is better than status-quo
  - Allow for the catch advice to exceed mean landings if data allowed
- Can set up an interim policy to avoid further stock declines in the absence of an ability to move the stock towards B_{MSY}

Outline

Lane Snapper
Lutjanus synagris
Photo by W Toller.

- SEDAR 49 Results - Lane Snapper
  - DLMtool application (version 3.2.2)
    1. Feasible methods
    2. Management strategy evaluation of feasible methods
    3. Catch recommendations

- Review of data triage
  - Data availability
  - Feasibility of data-limited assessments

SEDAR 49 species selection

- Eight species chosen by the GMFMC
  - Based on data availability & quality

Almaco Jack
Seriola rivoliana

Lane Snapper
Lutjanus synagris
Photo by W Toller.

Lesser Amberjack
Seriola fasciata
Image Credit: © Diane Rome Peebles

Red Drum
Sciaenops ocellatus
Image Credit: © Diane Rome Peebles

Snowy Grouper
Hyporthodus niveatus

Speckled Hind
Epinephelus drummondhayi
Image Credit: © Duane Raver

Yellowmouth Grouper
Mycteroperca interstitialis
Photo by W Toller.

Wenchman
Pristipomoides aquilonaris
Photo by W Toller.

Lane snapper: feasible methods

Method	Data Inputs		
	Total Removals	Index of Relative Abundance	Mean Length
Catch-based			
Tier3AStatusQuoABC*			
Index-based			
Islope			
Itarget			
Length-based			
LstepCC			
Ltarget			

*ABC = Mean landings + 1 SD (1999-2008; GMFMC 2011)

Lane snapper discussion points: stock status

- Tier 3A
  - Stocks already identified as unlikely to undergo overfishing in GMFMC (2011)
- Assumed lane snapper was at or near MSY during the reference period:
  - Target CPUE = mean CPUE
  - Target length = mean length

SEDAR 49 Species in Tier 3A
Lane Snapper
Wenchman
Yellowmouth Grouper
Lesser Amberjack
Almaco Jack

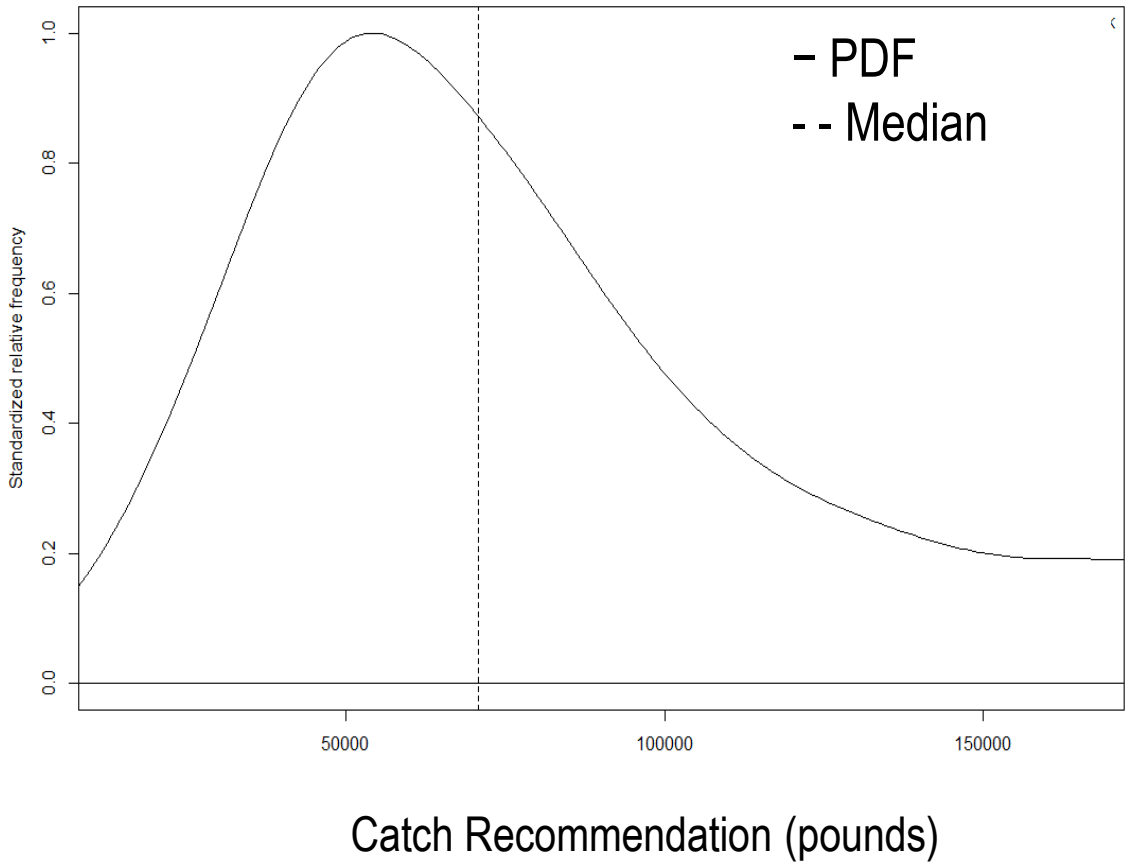
Viable methods

Method	Data quality	LTY	STY	Sensitive to depletion?	Other sensitivities
Ltarget	Good	43.8	61.8	Yes (depleted)	Time interval
Itarget	Good	37.8	52.5	No	None
Islope	Good	24.3	43.2	No	None
LstepCC	Good	16.9	42.5	No	None

Fair (33-67.0%)
Poor (0-33%)

DLMtool catch recommendations

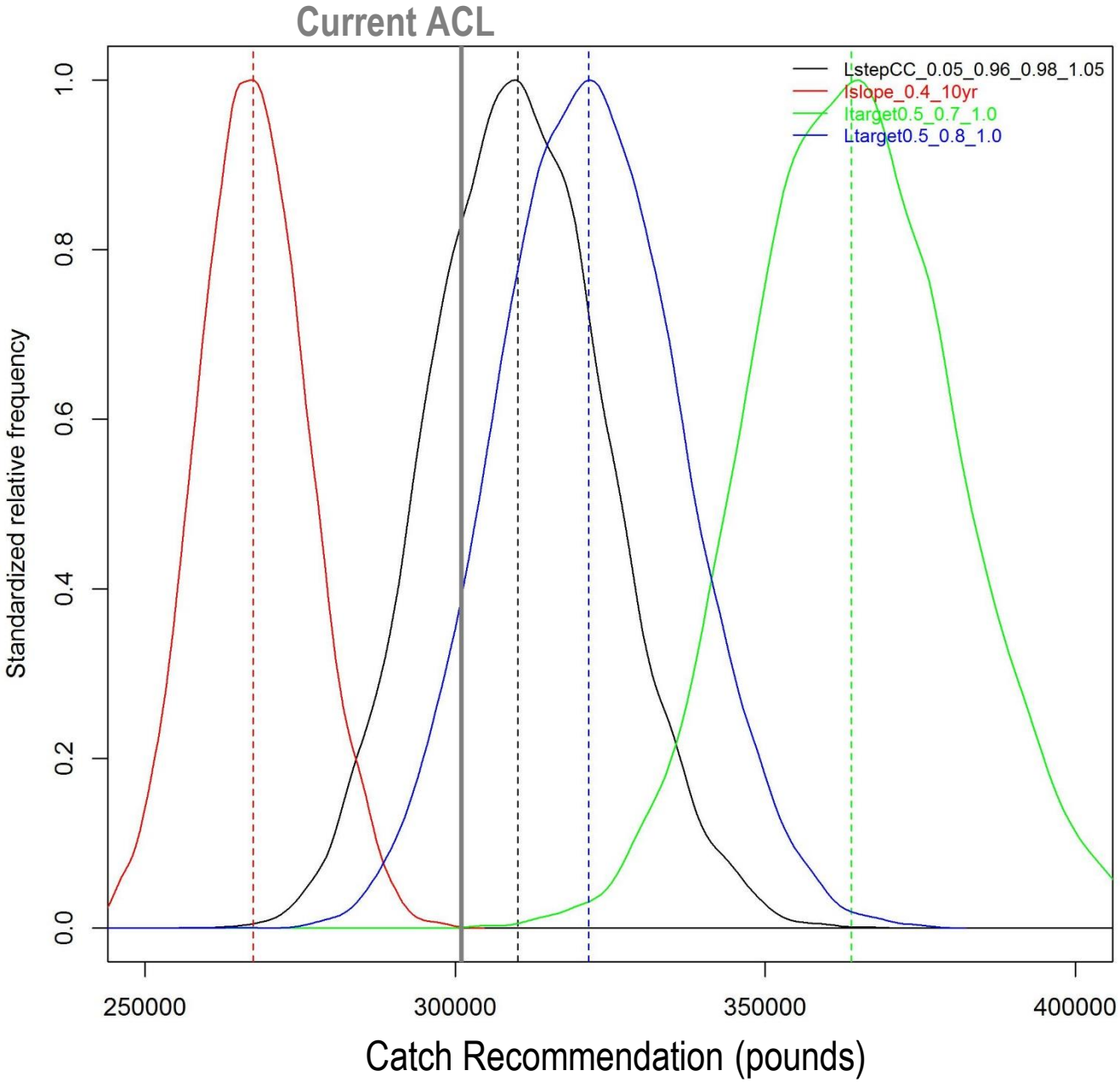
- Methods in DLMtool produce a probability density function of recommended catch given input data



10,000 random draws of data inputs create distribution above

Lane Snapper: *proposed* catch advice

- Recommend ltarget
  - Robust to assumptions
  - Greater chance of higher yields



Lane Snapper – SSC Catch Advice

ABC (30%)	OFL (50%)
355,500	364,100

- The estimates of ABC and OFL should be recomputed at a frequency of no greater than every 3 years.

Species recommended for next evaluation

Note that available data have not been vetted for quality, and hence feasibility may change

Rank in total removals	Species	Assessment feasibility
1	Gray Snapper	Alternative
2	Scamp	Alternative
3	Warsaw Grouper	Alternative
4	Silk Snapper	Alternative
5	Banded Rudderfish	Alternative
6	Blueline Tilefish	Alternative
9	Queen Snapper	Alternative
11	Blackfin Snapper	Alternative
7	Cubera Snapper	Catch-only
8	Yellowfin Grouper	Catch-only
10	Goldface Tilefish	Catch-only