Allocations: Aids to Decision Making

South Atlantic Fishery Management Council

September 2020

Introduction

- Council has been making allocation decisions for more than 30 years
- Recent events such as the GAO Report has focused more attention on sector allocation
- GAO Report recommendations, while stated differently, are not very different from what the Council said they wanted to consider when making sector allocation decisions
- Purpose here is help the Council apply consistent methods across all species that will allow them to consider more than just trends in landings

Landings and Catch History

- Can’t ignore – they show actual on the water behavior trends
- Long term data source, although methods for counting landings, particularly in rec sector have changed over time
- Introduction of ACLs have at times constrained catches for some some sectors
- Still useful for consideration to help determine sector allocations for species currently under consideration
- Methods other than the “Bowtie” method (below) can be considered:

  Sec Alloc = (50% * mean of long-term catch) + (50% * mean of short-term catch)

Accountability

- Sector's likelihood of staying within a respective ACL.
  - Adequate data and mechanisms to accurately track sector ACLs?
    - Some SAFMC-managed species have considerable fluctuation in landings from year to year or there may be inconsistent data on landings.
  - When reviewing allocations, may want to review accountability measures to help ensure that a sector does not consistently exceed its ACL.
- Determine how landings in excess of a sector ACL should be addressed.
  - If using historic landings for setting allocations, should landings above a sector ACL be considered?

Species Complex	Estimated Landings (lb)	ACL (lb)	Units	ACL (%)	Current Status
Atlantic spadefish	17,969	150,552	ww	11.9	OPEN
Bar Jack	1,674	13,228	ww	12.7	OPEN
Black Grouper [a]	57,932	96,844	ww	59.8	OPEN
Black Sea Bass (a) (b)	84,782	287,670	ww	29.5	OPEN
Blueline Tilefish	122,344	117,148	ww	104.4	CLOSED on 8/11/2020
Cobia [i]	42,121	50,000	as reported	84.2	OPEN
Cobia - East Coast Florida Zone	Gulf of Mexico Commercial Landings and Annual Catch Limits (ACLs) page				
Deep-water complex [c]	37,659	131,268	ww	28.7	OPEN
Dolphin	291,456	1,534,485	ww	19.0	OPEN
Gag [a] [k]	153,246	347,301	gw	44.1	OPEN
Golden crab	93,297	2,000,000	ww	4.7	OPEN
Golden tilefish (Hook-n-Line)	84,218	82,935	gw	101.5	CLOSED on 7/23/2020
Golden tilefish (Longline)	248,947	248,805	gw	100.1	CLOSED on 2/18/2020 RE-OPENED on 3/14-3/23/2020
Goliath grouper	-	0	ww	-	PROHIBITED
Grunts [d]	40,590	217,903	ww	18.6	OPEN
Hogfish (Georgia through North Carolina) [l]	7,529	23,456	ww	32.1	OPEN

Fairness and Equity

- National Standard 4 (NS 4) requires that an “allocation shall be fair and equitable” to all U.S. fishermen.
- NS4 specifies that allocations:
  - Should be connected to the achievement of optimum yield.
  - Justified in terms of the objectives of the FMP.
  - Need not preserve the status quo if restructuring maximizes overall benefits.
- Balance biological and human needs along with costs and benefits.
- Additionally, may want to consider fairness and equity of allocations if management changes encourage new participants (i.e. what is fair to the existing participants).
  - Examples:
    - Removing the “2 for 1 provision” for SG1 permits.
    - Bag limit sales of fish landed on for-hire trips.
    - Accommodating landings of Dolphin or Wahoo when certain unauthorized gears are onboard.

Market Needs and Trends

- Trends in ex-vessel price and directed effort.
  - Can offer insight into the demand for a species.
  - Potential future needs of a sector.
- Fishery performance reports (FPRs) may offer understanding of market needs and trends in demand for a species.
  - Assemble information from Council Advisory Panel members' experience and observations on the water and in the marketplace.
  - Complement scientific and landings data.

- Examples from the FPR for dolphin:

"The recreational demand for dolphin is strong and an important driver for booking charter trips. It is a very economically important species for the Keys."

"There has been a general increase in recreational effort and demand for private trips, largely reflective of an increase in center console, outboard powered vessels and relatively low gas prices."

"There seems to be an increasing demand for dolphin. Dolphin is very marketable and has a good shelf life. The CPUE seems to be relatively consistent, with about the same amount of effort needed to land fish, but the price has seen about a 30% increase over the past several years, with about a 10% increase annually."

Importance to a Sector (Dependence)

- Economic Factors:
  - The percent of total revenue that a species represents on an annual basis or on trips where the species being examined is landed.
  - Targeted or directed trips for a species in comparison to other South Atlantic Council managed species.
- Social Indicators:
  - Engagement and Reliance Indices
  - Regional Quotient (RQ)
  - Local Quotient (LQ)
  - Vulnerability Indices
- Fishery Performance Reports

Photo Credit: Kari Buck

Cultural Importance

- Oral histories involve the collection of historical information through the eyes of those who experienced both important events and everyday life. Collecting and synthesizing oral histories helps to document the human experience. NMFS runs a project called *Voices* that serves as a repository of oral histories from fisheries stakeholders throughout the United States.
    - 1997 North Carolina Fisheries Reform Act Oral Histories
    - Changes in the Florida Marine Ecosystem
    - Gathering, Preserving, and Sharing Traditional Fisheries Knowledge from Down East Communities in North Carolina
    - Georgia Black Fishermen
    - Lowcountry Maritime Project
    - Matanzas Voices
    - SERO Fishery Manager Oral History Project
    - Voices from the Science Centers
    - Wild Caught: The Life and Struggles of an American Fishing Town
    - Fishing Traditions & Fishing Futures in Georgia.
    - NOAA 50th Anniversary Oral History Project

Ben Hartig's Oral History Interview: https://voices.nmfs.noaa.gov/benjamin-hartig
Photo Credit: John Carmichael

Informed Judgement

- The Council relied on their knowledge of the needs of a fishery and feedback from constituents to use informed judgement to set allocations.
  - *Dolphin Wahoo FMP Example*: initially the Council established a non-binding cap of 1.5 million pounds or 13% of total dolphin landings.
  - *CMP FMP Example*: allocations for Spanish mackerel originally used the average ratio of catch from 1979 through 1985. However, the Council chose to revise the allocations to a 50/50 split between the commercial and recreational sector based on Council knowledge at the time.
  - *Snapper Grouper FMP Example*: A 50/50 split of the total red porgy ACL between the commercial and recreational sectors was selected because it was closest to status quo at the time.

A New Approach: Decision Trees

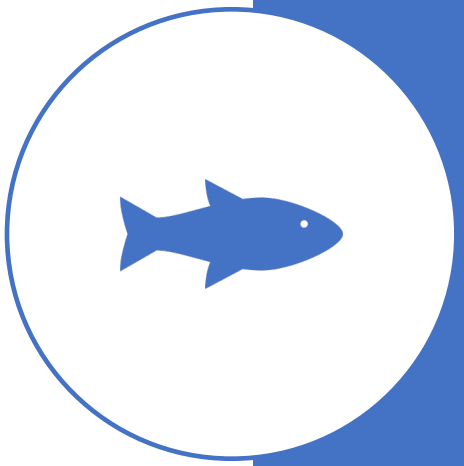
- A decision tree is a series of decision questions whose answers lead to a course of action.
- Have been used by the SSC for determining OFLs and ABCs for unassessed species.
- Can have separate trees for each major content area to identify potential salient decision topics, if any, from a tree that ought to be considered.
- Separate trees for: landings, stock assessment results, biological/ecosystem factors, economic factors, and social factors.
- Won’t necessarily provide the percent allocation “solution” but will help guide the Council towards making that decision.
- All species go through the same decision trees making the method defensible.

Examples of Landings Questions

- Has either sector met or exceeded its ACL in two of the past five fishing years?
- If a sector has exceeded or met its ACL in two of the past five fishing years, has it met its ACL in the last two months of the fishing year?
- Has either sector underharvested its ACL by at least 40% in two of the past five fishing years?
- Has the rate of participation in the fishery increased in recent years?
- How many other species are commonly caught on trips with this species?

Examples of Stock Assessment Questions

- Did the stock status change to overfishing?
- Did the stock status change to overfished?
- Did the stock status change from overfishing or overfished?
- Is the stock making adequate progress in a rebuilding program?
- Is the stock rebuilt?



Examples of Biological/Ecological Questions

- Are there sector differences in the rate of bycatch?
- Are there sector differences in the rate of dead discards?
- Is there a high rate of bycatch?
- Have fishermen changed how they target the species over time?
- Do fishermen negatively interact with habitat when fishing for this species?

Examples of Economic Questions

- What are the trends in demand for the species?
- How economically important is the species?
- Are there clear indications that changing allocations will likely yield net economic benefits?
- Are there notable distributional (geographically or user group) economic effects from changing allocations?
- Is it possible to make one sector better off without economically harming the other sector?

Examples of Social Questions

- To what extent are recreational fishermen dependent on the resource for trip satisfaction?
- To what extent are commercial fishermen dependent on the resource for their livelihood?
- How much importance do recreational and/or commercial fishermen place on the resource?
- How many communities with a high regional quotient for the resource are highly engaged in commercial and recreational fishing?
- How many communities with a high regional quotient are highly vulnerable to changes in the management environment?

Example of a Decision Tree

Has either sector exceeded its alloction at least two out of the past five fishing seasons?

- No → Consider not changing allocations
- Both → Neither sector has enough fish
- One → Does the sector going over, hit its ACL near the end of the fishing year?
  - Yes → Consider whether transferring allocation or removing sector allocations is appropriate
  - No → Do not consider revising allocations based just on landings

Working with Decision Tree Results

The five different Decision Trees may give different recommendations

Sometimes there may not be enough information for a Decision Tree to be informative for a given species

There are two recommendations at this point:

If the Decision Trees are not all in agreement, then go with majority of agreement among the Decision Tree results.

Council should provide a rank order of the Decision Trees in terms of criteria like confidence in the data, overall importance to the fishery, etc. If the Decision Trees themselves are not conclusive, the Council should go with the recommendation of the Decision Tree that is most highly ranked.

Making It All Work Will Take Time

- We are only presenting concepts here
- Will need lots of work and review – SSC, SEP, etc.
- **Draft timeline:**

Action	Timing
Council Approves Decision Tree Approach	September 2020
Staff Develops Decision Trees	Winter 2020/2021
Review by the SEP and SSC	April/May 2021
Review by the Council	June 2021
Staff Modifies Trees Based on Input	Summer 2021
Final Decisions Trees to Council	September 2021

Assessment	Tentative Timeline for Assessment Amendments									
	Sep 2020	Dec 2020	Mar 2021	Jun 2021	Sep 2021	Dec 2021	Mar 2022	Jun 2022	Sep 2022	Dec 2022
Red Porgy	O	Doc	Doc	PH	Doc	A				
King Mackerel		O	S		Doc	PH	Doc	A		
Yellowtail Snapper		AR	O		S	Doc	PH	Doc	A	
Snowy Grouper		AR	O	S	Doc	PH	A			
Greater Amberjack			O	S	Doc	Doc	PH	Doc	A	
Golden Tilefish				AR	O/S	Doc	PH	Doc	A	
Red Snapper				AR	O/S	PH	Doc	A		

Timeline Key	
O	Initial Options Discussion
S	Approve for Scoping
PH	Approve for Public Hearings
Doc	Council Review of Amendment
A	Final Approval by Council
Red	Statutory Deadline
Yellow	1-2 Hours of Discussion
Orange	3-4 Hours of Discussion

Current Workload

What about Unassessed SG Species?

Species/Complex	Alternative	% Comm	% Rec	Total ACL	Comm ACL	Rec ACL
Atl. Spadefish	No Action	18.53%	81.47%	812,478	150,552	661,926
	Same % Allocation	18.53%	81.47%	1,976,097	366,171	1,609,926
	Bowtie	5.20%	94.80%		102,757	1,873,340
	Same Comm	7.62%	92.38%		150,552	1,825,545
Bar Jack	No Action	21.25%	78.75%	62,249	13,228	10,417
	Same % Allocation	21.25%	78.75%	105,363	22,390	82,973
	Bowtie	16.18%	85.56%		17,048	90,148
	Same Comm	12.55%	87.45%		13,228	92,135

Actions for the Council to Consider Now

- Direct staff to continue work on Decision Tree Approach
- Approve/modify the timeline
- Give staff direction on how often and what type of progress reporting they want on the progress and development of the Decision Tree Approach
- Provide guidance on alternatives for unassessed species