Prioritizing Fish Stock Assessments

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U.S. DEPARTMENT OF COMMERCE

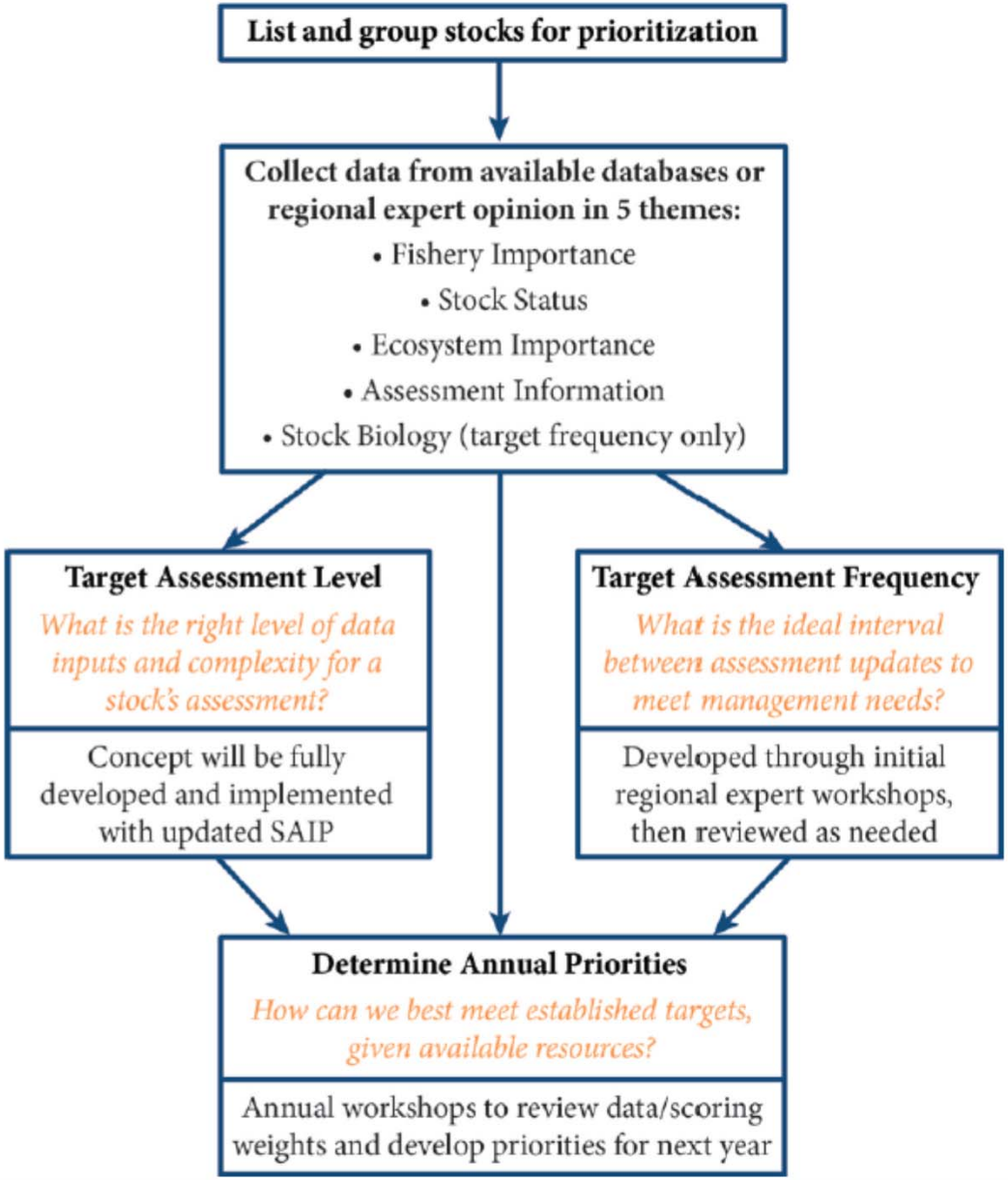
National Oceanic and Atmospheric Admininstration

National Marine Fisheries Service

Prioritization Steps in Each Region

1. Organize stocks for prioritization by shared data resources, constituencies, and assessment resources
2. Work with Council advisors and SSC to develop scores for each of the 12 prioritization factors (e.g. ecosystem importance, recreational importance)
3. Identify targets
   a. Target frequency based on stock biology & importance; regionally scaled
   b. Update process with target level once SAIP update is finalized
4. Work with Council to assign factor weights – provide prototype weights for initial implementation
5. Calculate and rank weighted scores
6. Use final ranks as objective <u>guidance</u> in selecting assessments for upcoming cycle

Regional Assessment Prioritization



Roles in Regional Prioritization

NMFS	Collates data from databases and past assessments
NMFS Councils Commissions Other Partners	Provide scores for each stock for the other factors
Gulf Council Staff/SEFSC SSC?	Assigns weights within ranges to each factor Factor Scores x Factor Weights = Proposed Priority List
SEDAR Steering Committee	Uses the proposed list, upcoming management cycle, data availability, and assessment capacity to determine set of assessments to do

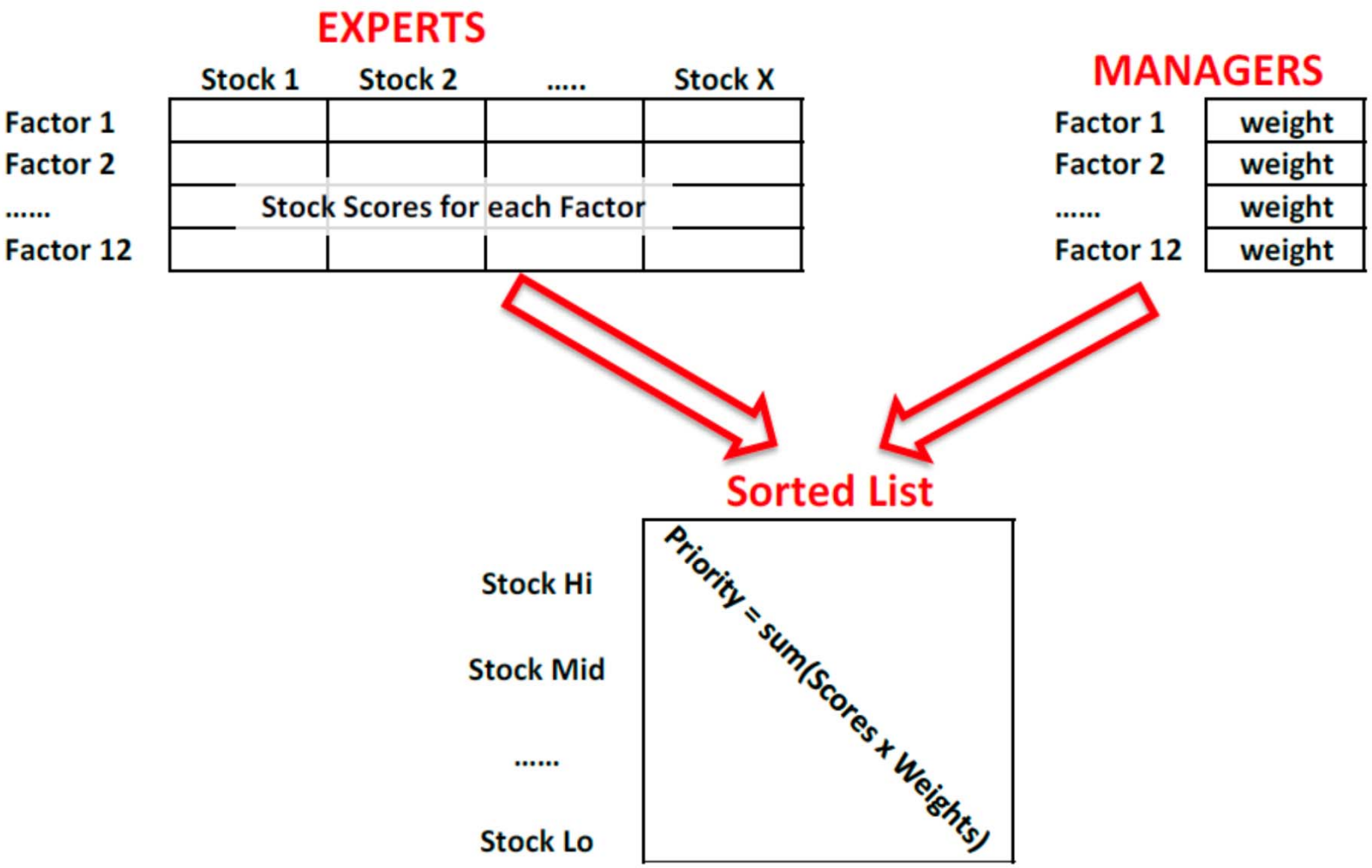
GMFMC Preliminary Scoring

Category	Factor	Description
FISHERY	Commercial Fishery Importance	Non-linear ranking based on landed catch from regional catch databases; scale against regional stock with highest landings
	Recreational Fishery Importance	Uses recreational landings data – work towards better data for future iterations (e.g. value-based)
	Importance to Subsistence	An expert regional panel will assign scores for each stock with regard its importance to subsistence fisheries
	Non-Catch Value	An aspect of a stock's value not associated with harvest, instead based on the relatively undisturbed existence of that stock in its ecosystem (e.g. underwater viewing of reef fish). This category could extend to include other species for which there is a public sentiment for protection and hence a demand for some level of assessment
	Constituent Demand	Some stocks have a particularly high constituent demand for excellence in stock assessment (e.g. stocks in share programs, choke stocks, stocks with controversy over the existing assessment).
	Rebuilding Status	Binary score based on data available within SIS

GMFMC Preliminary Scoring

Category	Factor	Description
STOCK	Relative Stock Abundance	Based on data from most recent assessments
	Relative Fishing Mortality	
ECO	Key Role in Ecosystem	Scores based on bottom-up (e.g. forage, habitat) and top-down (predator, ecosystem interaction) components
ASMT	Unexpected Changes in Indicators	Examine reference indices to identify departures from projected biomass trends – angler testimony could also be useful
	New Information Available	Work with SSC to compare new data against cited Research & Data Needs
	Years Assessment Overdue	Use mean age of species with similar life histories to calculate target frequency for unassessed and Data-Moderate assessments; adjust up or down to fit biennial assessment cycle

Scoring


EXPERTS
Stock 1
Stock 2
.....
Stock X
Factor 1
Factor 2
.....
Factor 12
Stock Scores for each Factor
MANAGERS
Factor 1
weight
Factor 2
weight
.....
weight
Factor 12
weight
Sorted List
Stock Hi
Stock Mid
.....
Stock Lo
Priority = sum(Scores x Weights)

Take a Tour of the Spreadsheet

Preliminary Results

Rank	Stock	Score
1	Red Snapper	6.4
2	Greater Amberjack	6.4
3	Gray Triggerfish	6.1

Rank	Stock	Score
4	Red Drum	3.6
5	Hogfish	3.1
6	Lane Snapper	3.0
7	Spiny Lobster	2.8
8	Scamp	2.8
9	Gray Snapper	2.8
10	Red Grouper	2.6
11	Banded Rudderfish	2.6
12	Gag Grouper	2.5
13	Goldface Tilefish	2.5
14	King Mackerel	2.4
15	Yellowmouth Grouper	2.4
16	Cobia	2.4
17	Mutton Snapper	2.3
18	Vermilion Snapper	2.3
19	Snowy Grouper	2.2
20	Stone Crab	2.2
21	Warsaw Grouper	2.1
22	Spanish Mackerel	2.1
23	Silk Snapper	2.1
24	Black Grouper	2.0

Rank	Stock	Score
25	Lesser Amberjack	1.9
26	Queen Snapper	1.9
27	Yellowfin Grouper	1.9
28	Nassau Grouper	1.9
29	Brown Shrimp	1.8
30	Cubera Snapper	1.8
31	Yellowtail Snapper	1.8
32	Royal Red Shrimp	1.8
33	White Shrimp	1.8
34	Almaco Jack	1.7
35	Blackfin Snapper	1.7
36	Blueline Tilefish	1.6
37	Pink Shrimp	1.6
38	Speckled Hind	1.5
39	Yellowedge Grouper	1.5
40	Wenchman	1.2
41	Goliath Grouper	1.1

Next Steps for Each Region

1. Update stock assessment results and annual landings
2. Finalize target frequency
3. Finalize importance scores for:
   - Recreational
   - Subsistence
   - Constituent demand
   - Non-catch value
   - Ecosystem
   - Unexpected changes
   - New information
4. Work with managers to finalize factor weights

- *Initially envisioned as needing several workshops/dialogues, with Center and other regional scientists, potentially the Plan Teams*
- *Bigger effort in first year; lesser annual maintenance*

Questions?