Prioritizing Fish Stock Assessments

Moving Forward for CFMC Stocks

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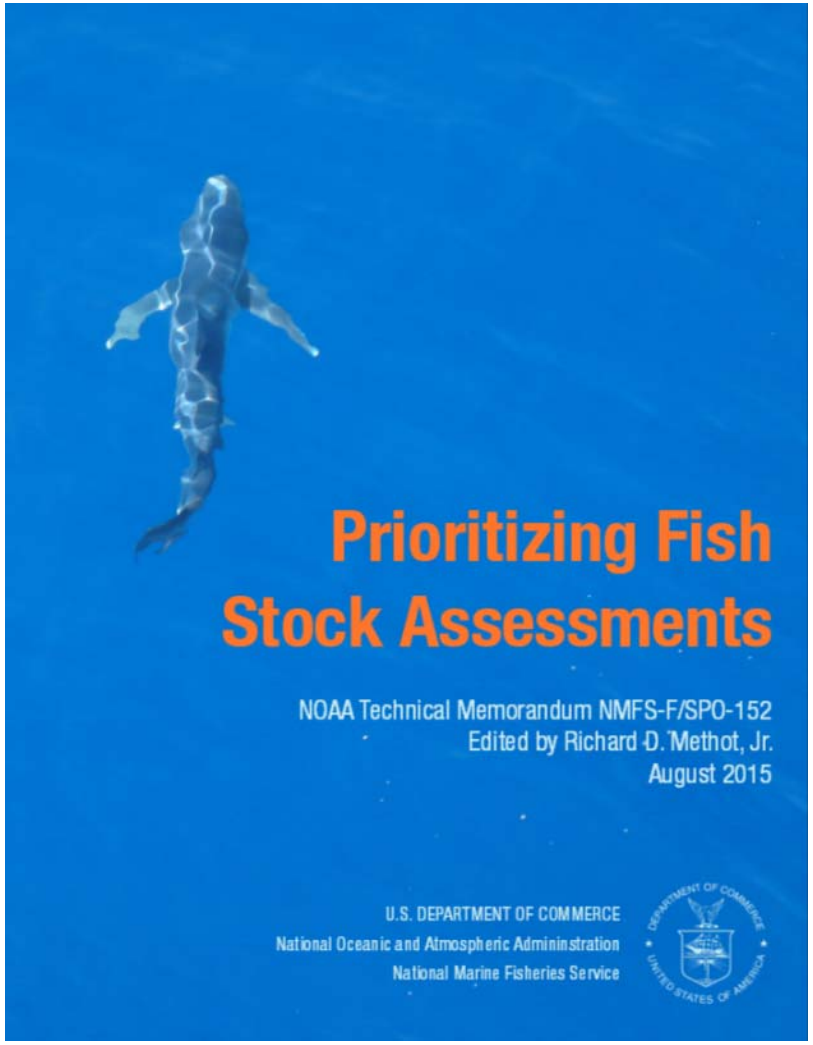
Overview

- History of prioritization
- Prioritization goals
- Process and factor overview
- Implementation for data-limited stocks
- Roles and timelines

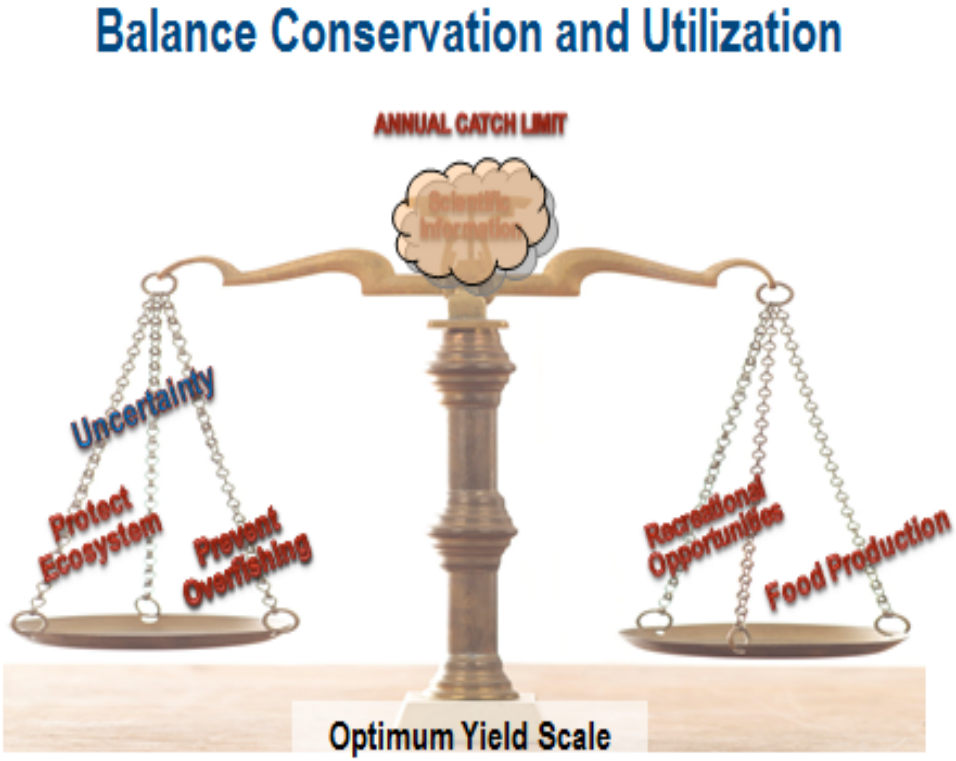


Prioritization History

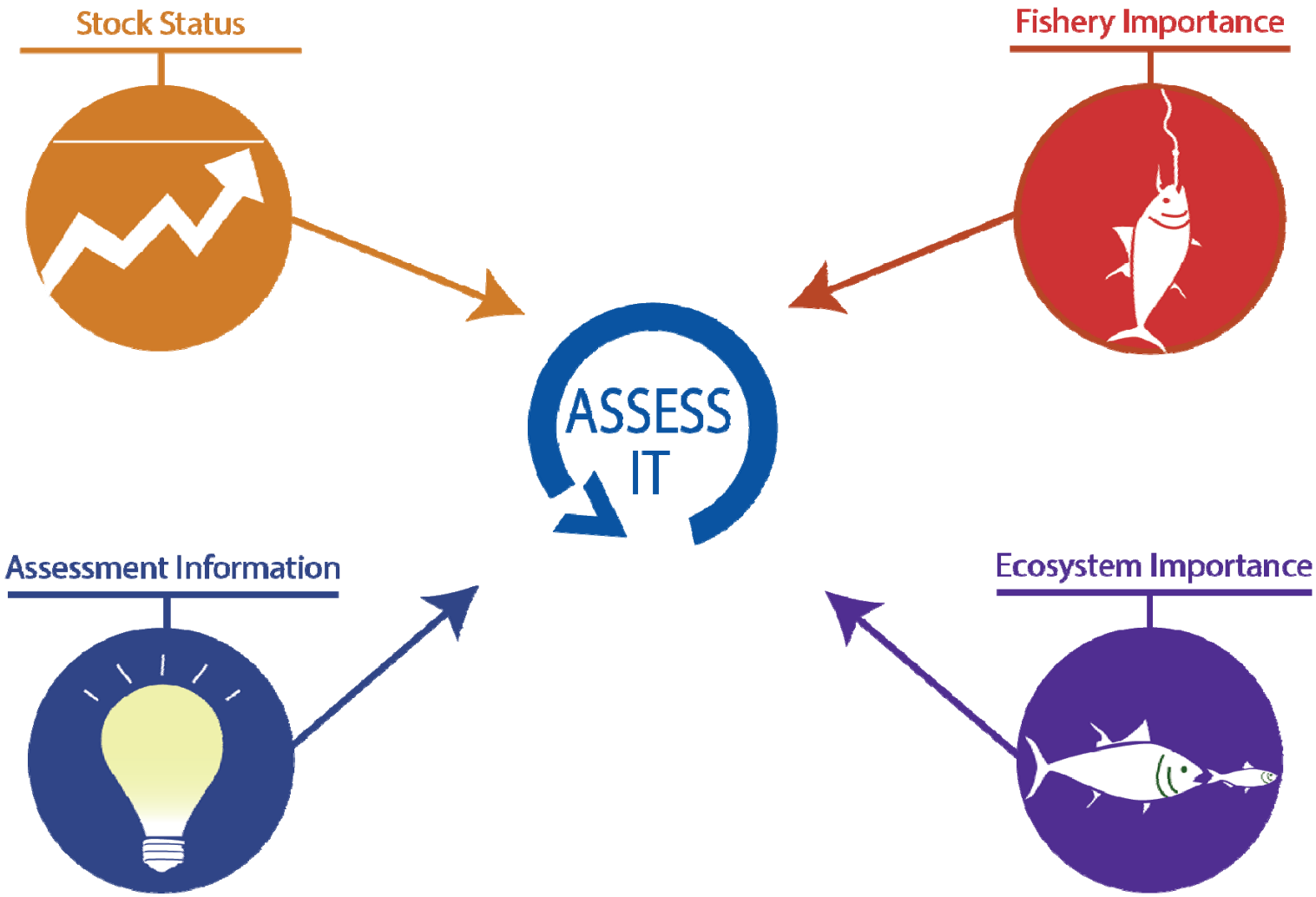
2011	• Initiate development in response to budget inquiries
2013	• Needs discussed in proposed MSA reauthorization
Feb 2014	• Draft process presented to CCC and open for public comment
June 2014	• Public comments summarized for CCC
Sept 2014	• GAO report endorses draft plan
June 2015	• Process revised based on comments; presented to CCC
Aug 2015	• Prioritization document released to public; implementation initiated with FMCs

Supporting Sustainable Fisheries

- All stocks need some level of assessment, but some need higher levels or greater frequency
- Assessment capacity is limited
- Goal is a prioritized portfolio of right-sized assessments for each stock
- Nationally, gaps in capability will be more visible



Which Stocks Need Assessments?



Prioritization Process – Overview of Steps

1. Define stock list (~FMP)
2. Assemble data for 12 factor scores
3. Assign target level for each stock
4. Assign target frequency for each stock
5. Science experts assign scores, regional managers assign weights
6. Stock rank = sum(scores times weights)
7. Ranks are objective advice, not rigid prescription

Step 1: Organize Stocks for Prioritization

- Best to include all stocks in a region for which there are shared data sources, constituencies, assessment resources
- Separate prioritization groups where there are very distinct separations in one of the above
- Where there are species-rich complexes, consider where to include each potentially assessable stock in prioritization

Step 2: Get Values/Scores for each Factor

Category	Factor	Source	Raw Scores*
FISHERY	Commercial Fishery Importance - rescaled log(ex-vessel value)	SIS- ACL	0-5
	Recreational Fishery Importance - from regional input	Experts	0-5
	Importance to Subsistence	Experts	0-5
	Non-Catch Value	Experts	0-5
	Constituent Demand/Choke Stock	Experts	0-5
	Rebuilding Status	SIS	0-1
STOCK	Relative Stock Abundance	SIS	1-5
	Relative Fishing Mortality	SIS	1-5
ECO	Key Role in Ecosystem	Experts	1-5
ASMT	Unexpected Changes in Stock Indicators	Experts	0-5
	Relevant New Type of Information Available	Experts	0-5
	Years Assessment Overdue - relative to Target Frequency	SIS	0-10

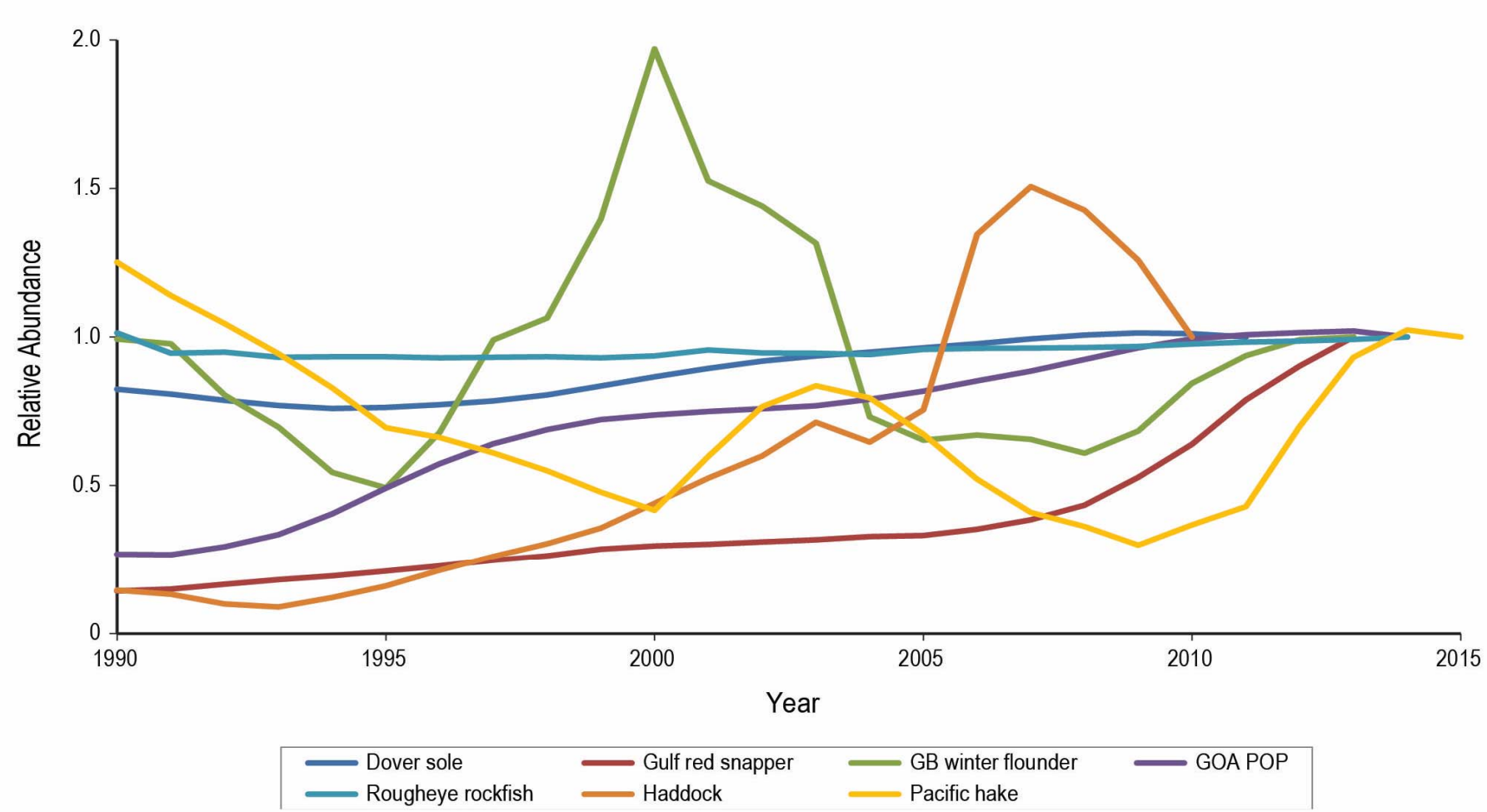
**Scores are standardized (divided by total possible) as part of final calculations.*

Step 3: Identify Target Assessment Level

1. For now, we'll just assume that each stock needs a somewhat more data-rich and "better" assessment
2. In a year, the updated Stock Assessment Improvement Plan will describe an approach to identify gaps between current and species-specific target levels of assessment
3. Will consider where better surveys, age data, ecosystem-linkages, etc. are:
   - Needed, feasible, good benefit/cost
   - Pie-in-the-sky is not useful

Step 4: Target Assessment Frequency

→ Goal is to assess variable stocks more often



Step 5: Assign Factor Weights

- Factor weights will be the same for all stocks in a prioritization group
- Intended to be developed by regional NMFS and Council leaders
- Allows for regional tailoring of the contribution of each factor to the overall score
- For example, the factor for subsistence is expected to be high for insular species
- Prototype factor weights will be provided

Step 6: Calculate and Rank Weighted Scores

Regional experts provide scores for stocks across each of the 12 prioritization factors

	Stock 1	Stock 2	…	Stock X
Factor 1				
Factor 2				
…				
Factor 12				

Regional managers weight each of the 12 prioritization factors

	Weight
Factor 1	
Factor 2	
…	
Factor 12	

Product of relative scores and weights are summed across all 12 factors for each stock

Sorted list of results provides guidance on assessment priorities for upcoming cycle

Final Steps

- The sorted list of ranks is intended as strong, objective guidance
- Final decisions can deviate from this list for various practical reasons
- Documentation of rationale for these final changes will provide transparent process and aid improving future process

Prioritization for Data-Limited Stocks

- Opportunity to periodically examine info from unassessed stocks and determine which stocks are sufficiently at risk to warrant an assessment, and have data to support at least a data-limited assessment
- Process outlines data-limited methods to assign scores where more comprehensive data is not available (e.g. PSA vulnerability scores, etc.)
- Use data from stocks with similar life histories as proxies to assign scores
- Systematic gap analysis between current data availability and requirements to meet targets

Future Directions

- Management Strategy Evaluations for select stocks can better inform setting of target assessment level and frequency
- Gaps between current and target assessment levels, and the number of overdue assessments, informs future investments in capacity
- The simple “factor score x weight” approach evolves to calculate a portfolio of assessments that achieve the greatest overall benefits