THE SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

South Atlantic Acceptable Biological Catch Control Rule

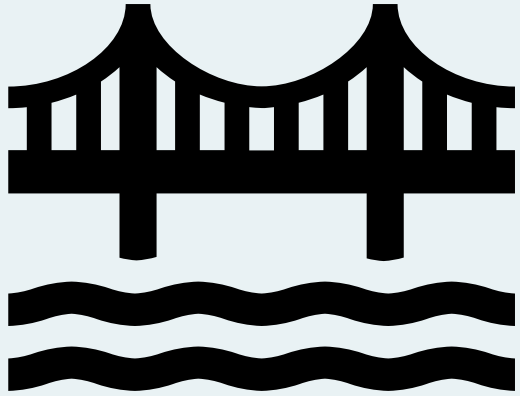
October 2024
SSC Meeting

ABC Control Rule Intro

- ABC: SSC-recommended max amount of fish that can be annually harvested after accounting for scientific uncertainty and management risk tolerance
  - Basis for fed fisheries management

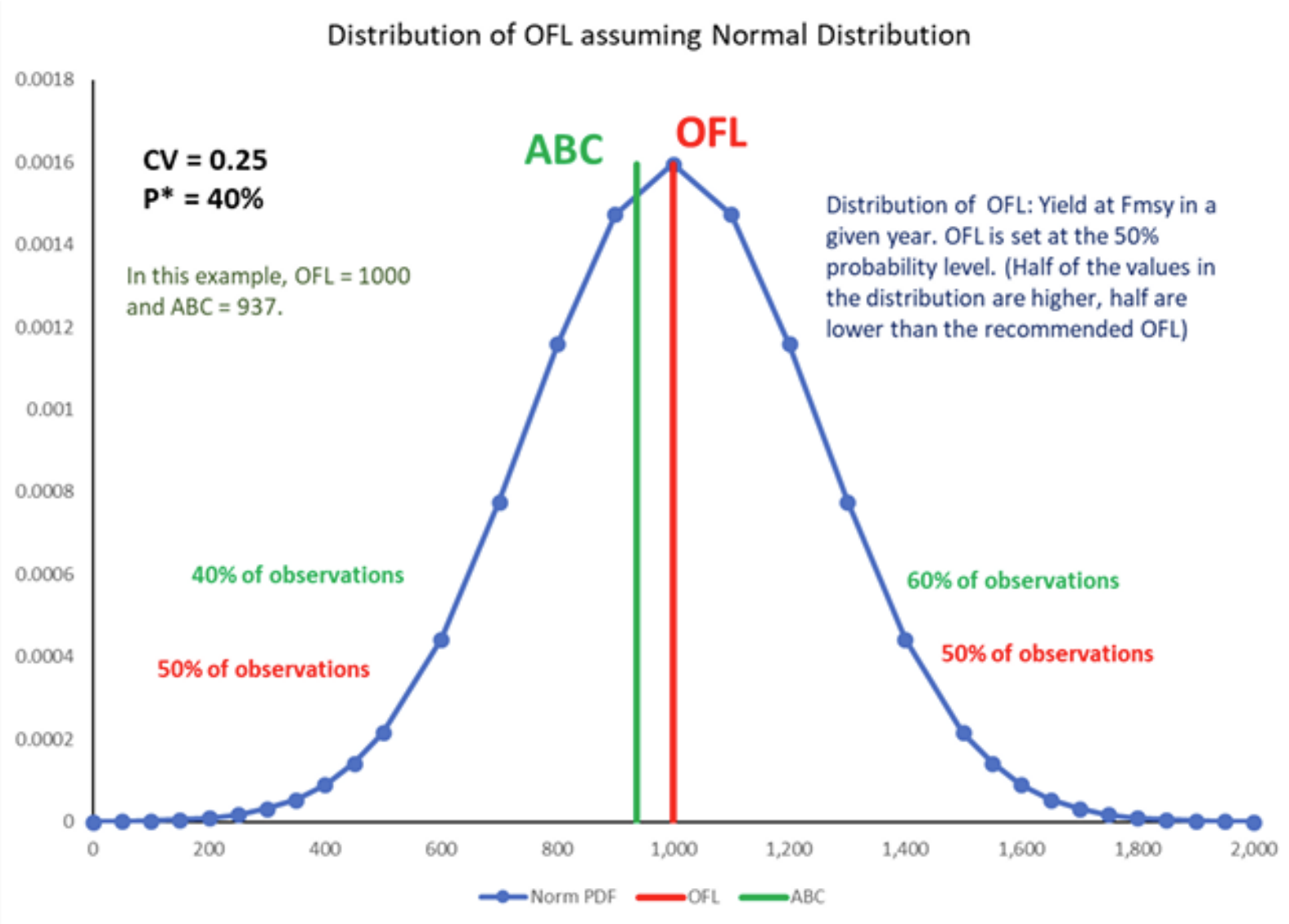
- ABC Control Rule – Bridge between science and management
  - Defines how risk and uncertainty are evaluated and used to estimate ABC
  - OFL – sci uncertainty/mgmt risk buffer (P*) = ABC

- Research
- Monitoring
- Assessment
- OFL



- ABC-Based Management Regulations

ABC Control Rule Intro



- Example distribution illustrating OFL and ABC
- Risk tolerance (P*) = 40%

Old ABC Control Rule

- Based on assessment category, organized into assessment Levels:
  - 1. Assessed using age, length, or biomass-based model (Tiers and P* adjustments in Table 1)
  - 2. Unassessed, DBSRA (reliable landings and life history)
  - 3. Unassessed, DCAC (data deficient for DBSRA)
  - 4. Unassessed, ORCS (Only Reliable Catch Stocks; SG only)
  - 5. Unassessed, Decision Tree (No reliable catch)

→ Limited flexibility for incorporating additional methods
→ SSC recommended that methods for data-limited stocks are not “one size fits all”

Old ABC Control Rule – Level 1 Stocks

- Initial P* is 50% (OFL); tiers are evaluated and P* reduced by up to 10% for each tier
- Tiers:
  - 1. Assessment Information
  - 2. Uncertainty Characterization
  - 3. Stock Status
  - 4. Productivity and Susceptibility Analysis (PSA)
- Adjusted P* is then applied to assessment projections to determine ABC

Old ABC Control Rule – Level 1 Stocks

Tier	Tier Classification
1. Assessment Information (10%)	1. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 2. Reliable measures of exploitation or biomass, no MSY benchmarks, proxy reference points. (2.5%) 3. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) 4. Reliable catch history. (7.5%) 5. Scarce or unreliable catch records. (10%)
2. Uncertainty Characterization (10%)	1. Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of FRMSYR and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)

Old ABC Control Rule – Level 1 Stocks

Tier	Tier Classification
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)

New ABC Control Rule

(for Snapper-Grouper, Dolphin-Wahoo, Golden Crab FMPs)

WHAT CHANGED FROM PREVIOUS CONTROL RULE?

- New structure/terminology
- Uncertainty: SSC can adjust or derive OFL uncertainty
- Risk Tolerance: P* specified by Council using biomass and stock risk rating
- Overfished Stocks: Specifies rebuilding plan takes precedence
- Unassessed Stocks: SSC will evaluate best method to estimate ABC (not restricted to a set group of methods)
- Incorporate Phase-In and Carry-over provisions

ABC Control Rule Categories (Table 2.1.1.2)

Category	Criteria	ABC Determination
Category 1	Stock is assessed; scientific uncertainty is adequately incorporated.	The P* is applied to the assessment information to derive ABC.
Category 2	Stock is assessed; scientific uncertainty is not adequately evaluated or some assessment outputs may be lacking.	The SSC will adjust the measures of uncertainty, P* will then be applied to the assessment information.
Category 3	The stock is assessed; scientific uncertainty is not adequately evaluated and cannot be addressed by adjusting the available uncertainty measures.	The SSC will develop uncertainty measures as necessary to apply the P* to the available assessment information. Alternatively, the SSC may apply a direct buffer to the overfishing limit (or an overfishing limit proxy) to derive the ABC.
Category 4	No formal stock assessment accepted to provide OFL and ABC recommendations (reviewed through Southeast Data, Assessment, and Review [SEDAR] or SSC).	OFL and ABC will be developed according to the strategy proposed by the SSC's Data-Limited Working Group (Appendix I). The SSC will attempt to estimate OFL and its uncertainty using available data, applicable methods, and expert judgement. If an OFL and its uncertainty are defined, the SSC will apply P* to derive ABC. If an OFL is unable to be defined, the SSC will directly recommend an ABC. The process of updating OFLs and ABCs for unassessed stocks will occur over time as directed by the Council. The current OFL and ABC for unassessed species and species complexes will be maintained until updated levels are recommended by the SSC and approved by the Council.

ABC Control Rule Summary Table of Default Risk Tolerance Levels (Table 2.1.1.3)

Stock Risk Rating	High Biomass Biomass exceeds B_{MSY} (or 110% B_{MSY})	Moderate Biomass Biomass is ABOVE the midpoint between B_{MSY} and MSST	Low Biomass Biomass is below the midpoint between B_{MSY} and MSST
Low	45%	45%	40%
Medium	45%	40%	30%
High	40%	30%	20%

→ The stock risk rating and stock biomass would be used together to derive P*

What is the Stock Risk Rating based on?

Biological	Human Dimensions	Environmental
Estimated natural mortality	Ability to regulate fishery	Ecosystem importance
Age at maturity	Potential for discard losses	Climate change
	Annual commercial value	Other
	Recreational desirability	
	Social concerns	

→ See excel table for descriptions of stock risk rating categories

Steps for Stock Risk Rating Use

- Before an Assessment:
  - SSC and AP recommend risk levels for attributes that contribute to the stock risk rating to the Council.
  - The Council reviews SSC and AP recommendations and determines the stock risk rating
- During Assessment:
  - P* will be derived using an estimate of relative biomass and the Council's stock risk rating (Table 2.1.1.3)
  - Projection analyses will be run using P*=50% and the P* value defined by Table 2.1.1.3 to derive estimates of OFL and ABC.

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