



NOAA
FISHERIES
SEFSC

Erik H. Williams

Beaufort, NC Laboratory

SEDAR Stock Assessments:

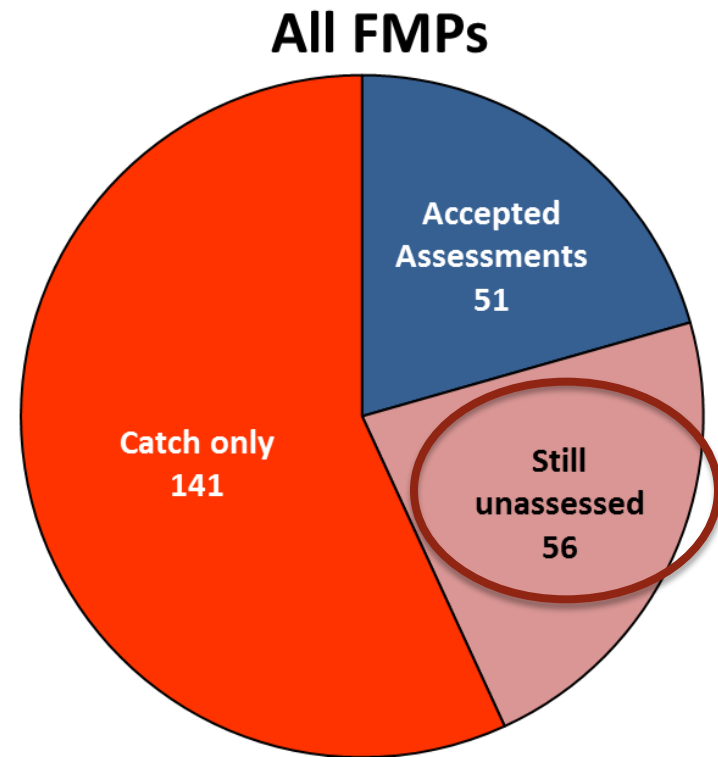
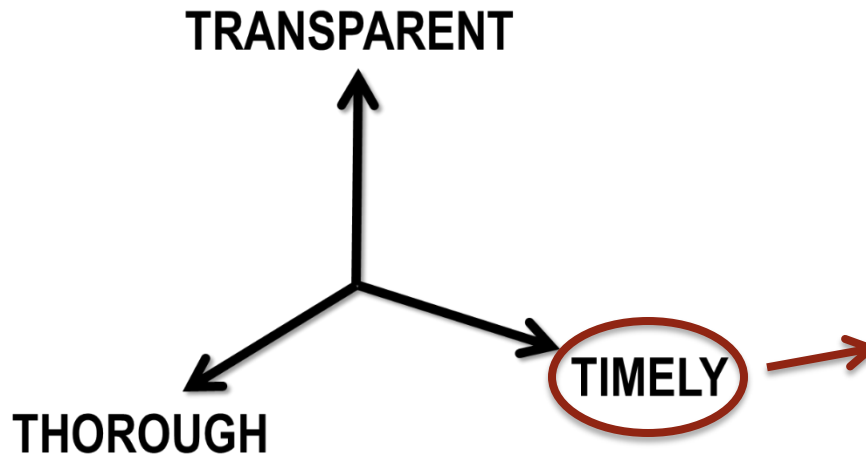
Transitioning from
Benchmarks/Updates
to
Research/Operational



NOAA FISHERIES

The problem: Balancing the three T's

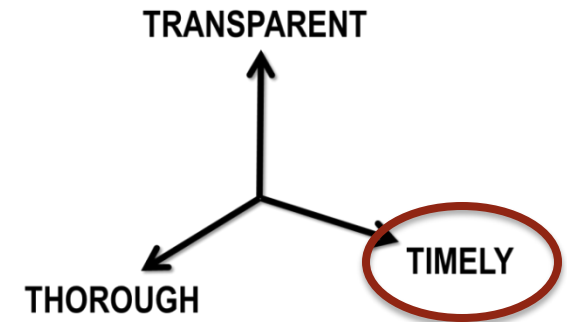
Existing combination of benchmark, standard and update assessments is very transparent, reasonably thorough, but too slow for the demand



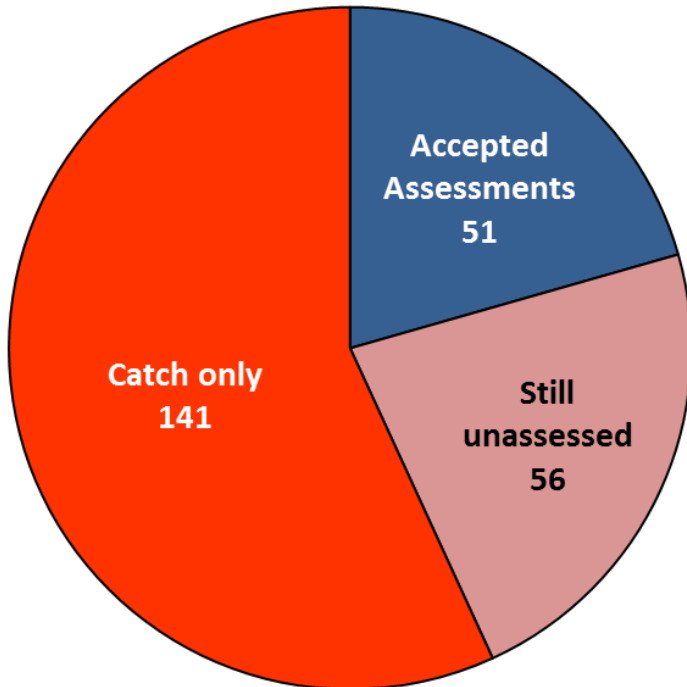
**Data from Gulf of Mexico and South Atlantic, last updated 2015*

Balancing the three T's

Current assessment rates are too slow ≈ 1 per year per person



All FMPs



Potential assessment leads: 20 people**

Stocks that can be assessed: 107

Assessment rate in current processes: 1 pyr^{-1}

Average time between assessments: 5.3 years

**Hypothetical and illustrative staff size, actual staff size is smaller and fluctuates

*Data from Gulf of Mexico and South Atlantic, last updated 2015

Existing process

Benchmark

Intended to complete a thorough evaluation that accommodates the input of stakeholders and reviewers while under strict deadlines for providing management advice

Standard

Address specific concerns (expressed in the TORS) without deviating too much from previous benchmark

Update

Deviates as little as possible from previous benchmark

Existing process

Benchmark

Intended to complete a thorough evaluation that accommodates the input of stakeholders and reviewers while under strict deadlines for providing management advice

Standard

Address specific concerns (expressed in the TORS) without deviating too much from previous benchmark

Update

Deviates as little as possible from previous benchmark



Issues

Data providers have difficulty meeting deadlines because key decisions made along the way can change what is required

Results often criticized by reviewers, but there is little time to address their concerns

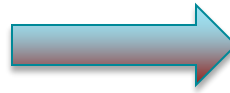
Deadlines are pushed and often missed

Word "benchmark" implies "best" to many when in fact it is the first time some components have been examined and implemented

Existing process

Benchmark

Intended to complete a thorough evaluation that accommodates the input of stakeholders and reviewers while under strict deadlines for providing management advice



Issues

Data providers have difficulty
Can't address suggestions
Deadlines pushed or missed
Loaded language (Benchmark)

Standard

Address specific concerns (expressed in the TORS) without deviating too much from previous benchmark



Reasonably fast, but sometimes criticized by stakeholders who think a "benchmark" is better

Update

Deviates as little as possible from previous benchmark



Fast, but often criticized by stakeholders who think a "benchmark" is better and would like more involvement.

Existing process

Benchmark

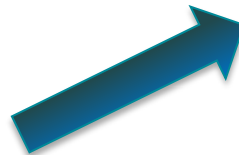
Intended to complete a thorough evaluation that accommodates the input of stakeholders and reviewers while under strict deadlines for providing management advice

Standard

Address specific concerns (expressed in the TORS) without deviating too much from previous benchmark

Update

Deviates as little as possible from previous benchmark



Proposed Changes

Research Cycle

Like a Benchmark, but not intended to produce assessment results for immediate advice to management. The goal is to build a robust tool that will be used to develop timely advice.

Operational Assessment

May follow existing Standard or Update Processes: Designated analysts apply the tool developed by the Research Assessment to the most recent data sets to produce timely management advice.

Research Cycle

- Test, document and review assessment approaches, incorporate new research findings, and evaluate new data streams;
- Conducted similar to current benchmark process with an assessment panel, IPT-style communication and 1-2 workshops
- Review panel meeting with independent external participants (e.g., CIE)
- Findings thoroughly documented as an assessment report, and possibly a NOAA Tech Memo or journal publication commensurate with the degree of novelty of the methods.
- Unresolved issues and ideas for future improvements reported to begin the next cycle of research.
- **Not intended to produce assessment results for immediate advice to management, but once vetted, will be operationalized**

Operational assessments

- Produce timely advice to management
- Conducted by designated analysts using a suite of previously reviewed procedures and data sets, in consultation with an advisory body comprised of scientists and stakeholders with local expertise
- Minor changes to previous approaches may be considered, if agreed to by the SSC as part of the TORs.
- Findings documented succinctly with an executive summary that makes fishery management advice clearly and quickly accessible
- Anomalies, concerns and research recommendations are documented and made available for future considerations

Advantages of new approach

During research cycles

- Analysts can focus on more thoroughly addressing the major concerns of scientists and stakeholders without the conflicting pressure of finishing the assessment in time for management deadlines
- Suggestions from reviewers can be incorporated and used in the operational phase
- Data providers are not under pressure to provide the most recent data or repeatedly revise inputs
- More opportunities for scientific research that advance the state of the art

During operational assessments

- Standardized, pre-approved approaches will be used such that
 - Implementation errors will be reduced and throughput increased (analysts can focus on updating inputs, implementing only minor changes, and model diagnostics)
 - Assessments will be more reproducible and require less advanced technical skills
 - Data providers will be able to produce inputs more quickly and with minimal effort
- Emphasis will be placed on succinct communication of management advice in plain language (rather than the details of the assessment)

How will it work?

Below is a hypothetical example of two years in the SEDAR cycle with five lead assessment analysts available.

- After two years, 3 research track assessments and 10 operational assessments would be complete
- Long term averages with 5 analysts
 - 1-2 research track assessments per year
 - 4-6 operational assessments per year

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Research Track Assessment	Stock 1												Stock 2											
Research Track Assessment													Stock 3											
Operational Assessment													Stock 4											
Operational Assessment				Stock 5						Stock 6						Stock 1								
Operational Assessment	Stock 7						Stock 8						Stock 9											
Operational Assessment				Stock 10						Stock 11						Stock 12								

Why make this change now?

We are fast approaching SEDAR 60

- This has provided a tremendous amount of experience and knowledge about the required data, modeling, and communications for our stock assessments
 - Use this experience and knowledge to make the process more efficient.
 - The wheel has been well thought out, designed and built – now lets put it to regular use and not try to re-think it.

Where do we want to be in 20 years?

- Not unreasonable to have annual population estimates for every managed stock
 - This is a step in that direction, shifting us toward more timeliness and efficiency

Questions?