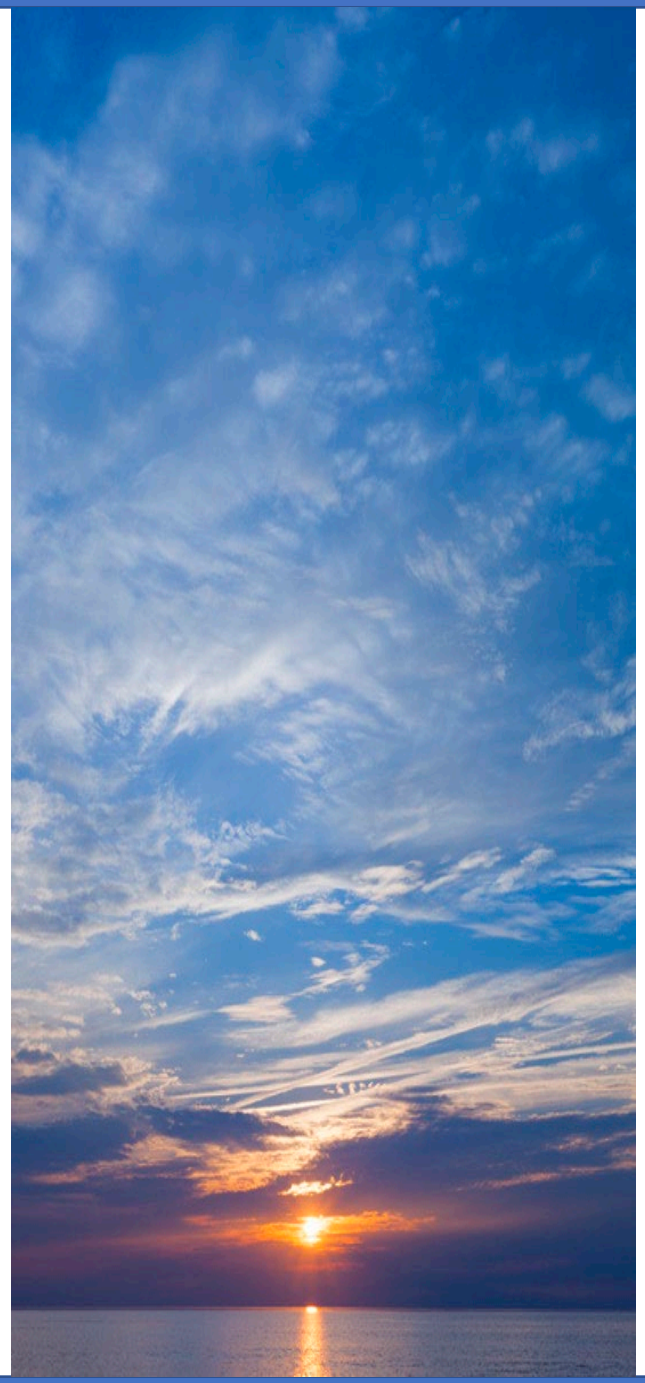


MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

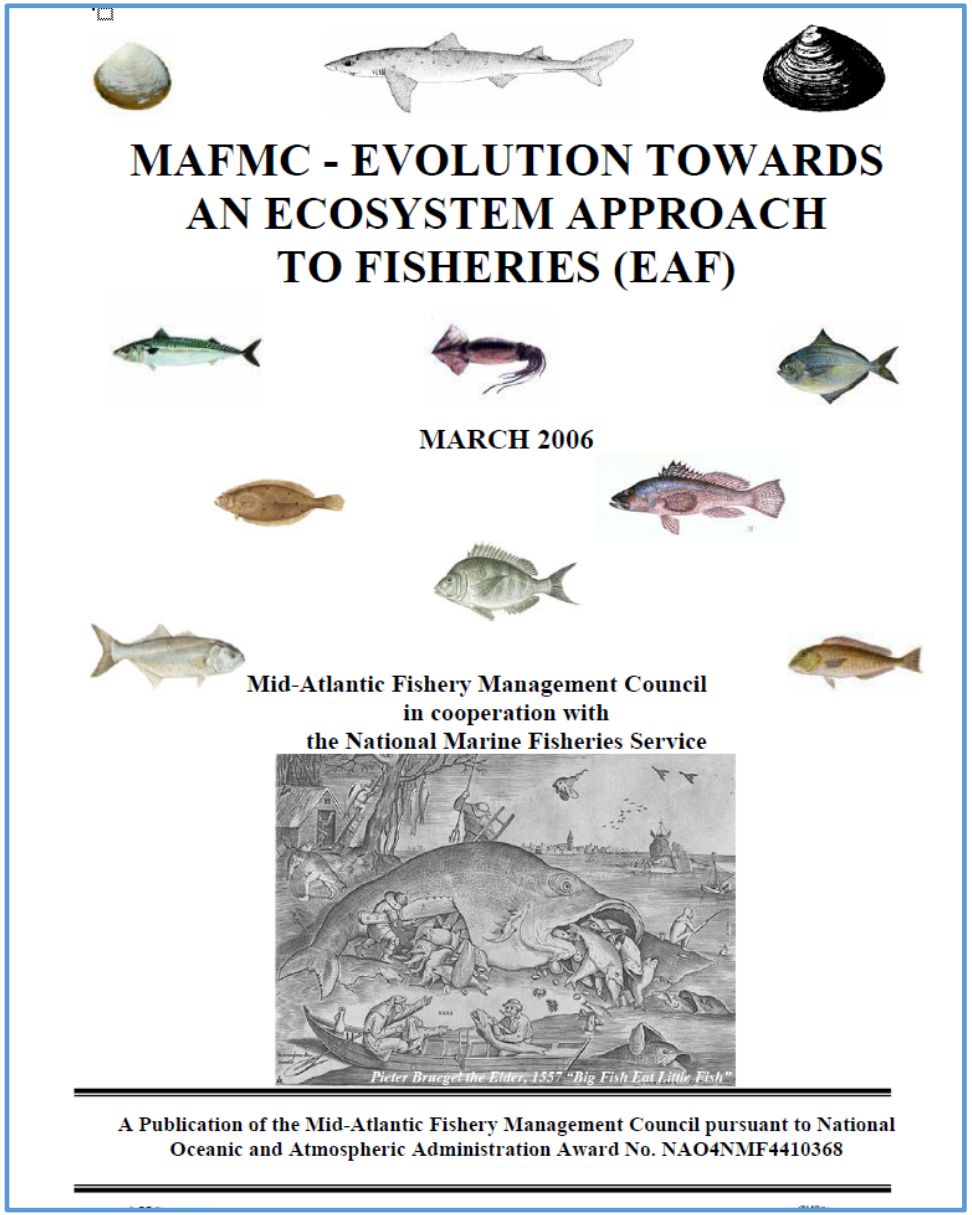
IEA to EAFM: The Mid-Atlantic Fishery Management Council Perspective

SAFMC Habitat & Ecosystem Advisory Panel Meeting

June 30-July 1, 2026

Evolution to EAFM (2006)

- Developed with input from stakeholders and partners of Council
- Documented Council positions on moving towards EAFM
- Early on the Council noted desire to *"be evolutionary, not revolutionary"* in approach – systematically incorporate ecosystem considerations into the current management framework



MAFMC Visioning Project and Strategic Plan

- Ecosystem related issues ranked high on the list of concerns raised by stakeholders <u>across all user groups</u>

- EAFM development was identified as a priority in the Council's **2014-2018 Strategic Plan**
  - "A non-regulatory umbrella document intended to guide Council policy with respect to ecosystem considerations across existing Fishery Management Plans"

EAFM Development Process

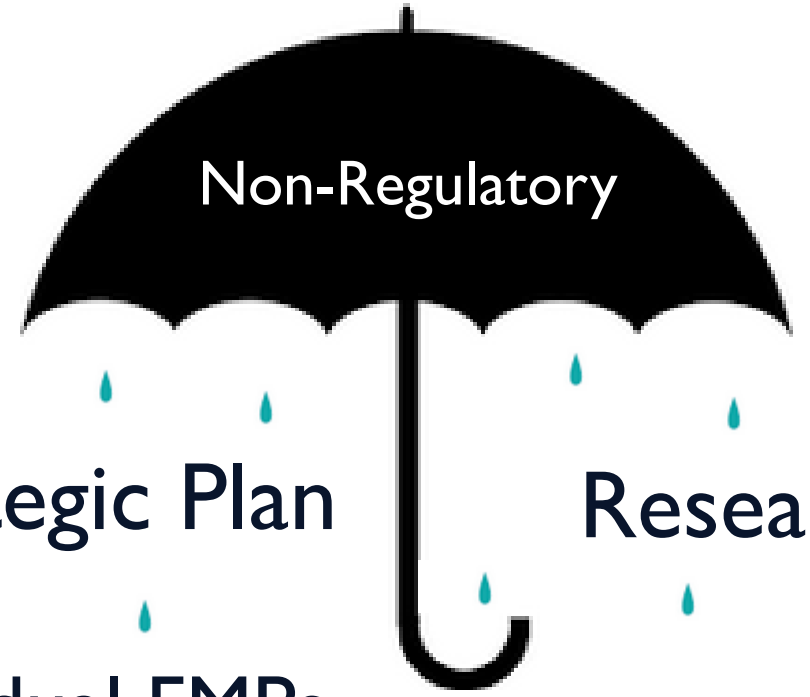
- **Modular, Step-wise Approach**
- **Workshops** - evaluate science (and policy) aspects of each issue

  Forage – Habitat – Climate Science & Fisheries – Species Interactions

  Brought Council members, staff, scientists (SSC and academia) and stakeholders together to openly talk about these issues

- **White Papers** - include recommendations for best practices to be incorporated into Council's EAFM operational guide
- **Guidance Document** - provides summary and synthesis "under one roof"

EAFM Guidance Document



Strategic Plan

Research Plan

Individual FMPs
Activities

Other Council
Activities

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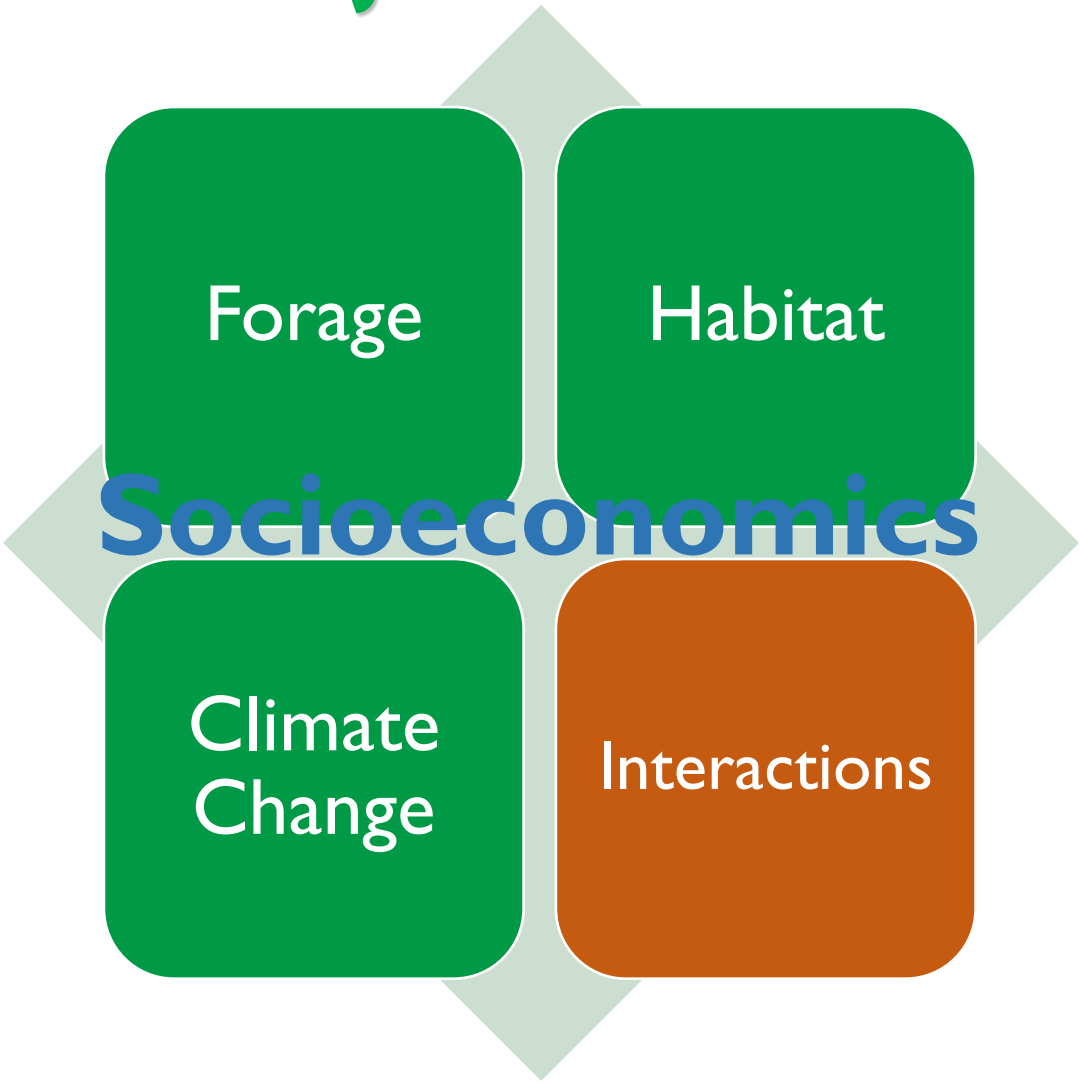
Ecosystem Approach to Fisheries Management Guidance Document

Approved by Council August 8, 2016

Revised February 8, 2019

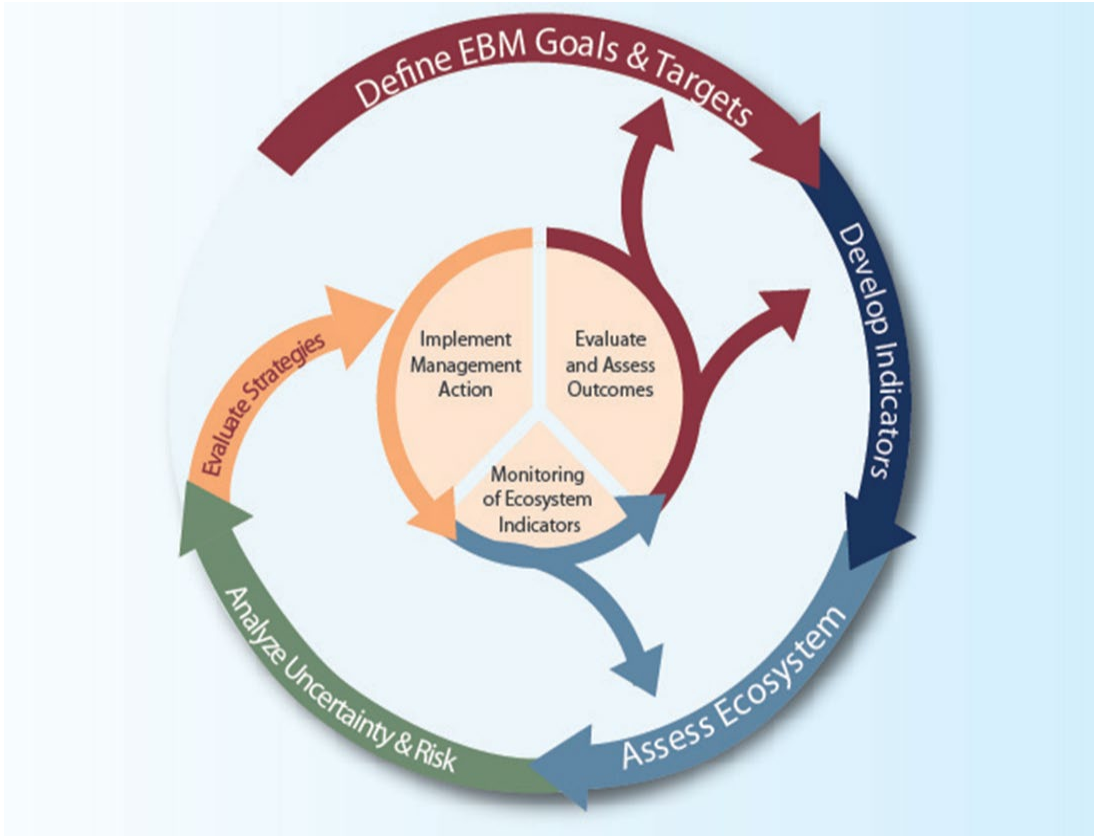
EAFM Goal: To manage for ecologically sustainable utilization of living marine resources while maintaining ecosystem productivity, structure, and function.

EAFM Guidance Document: Major Themes

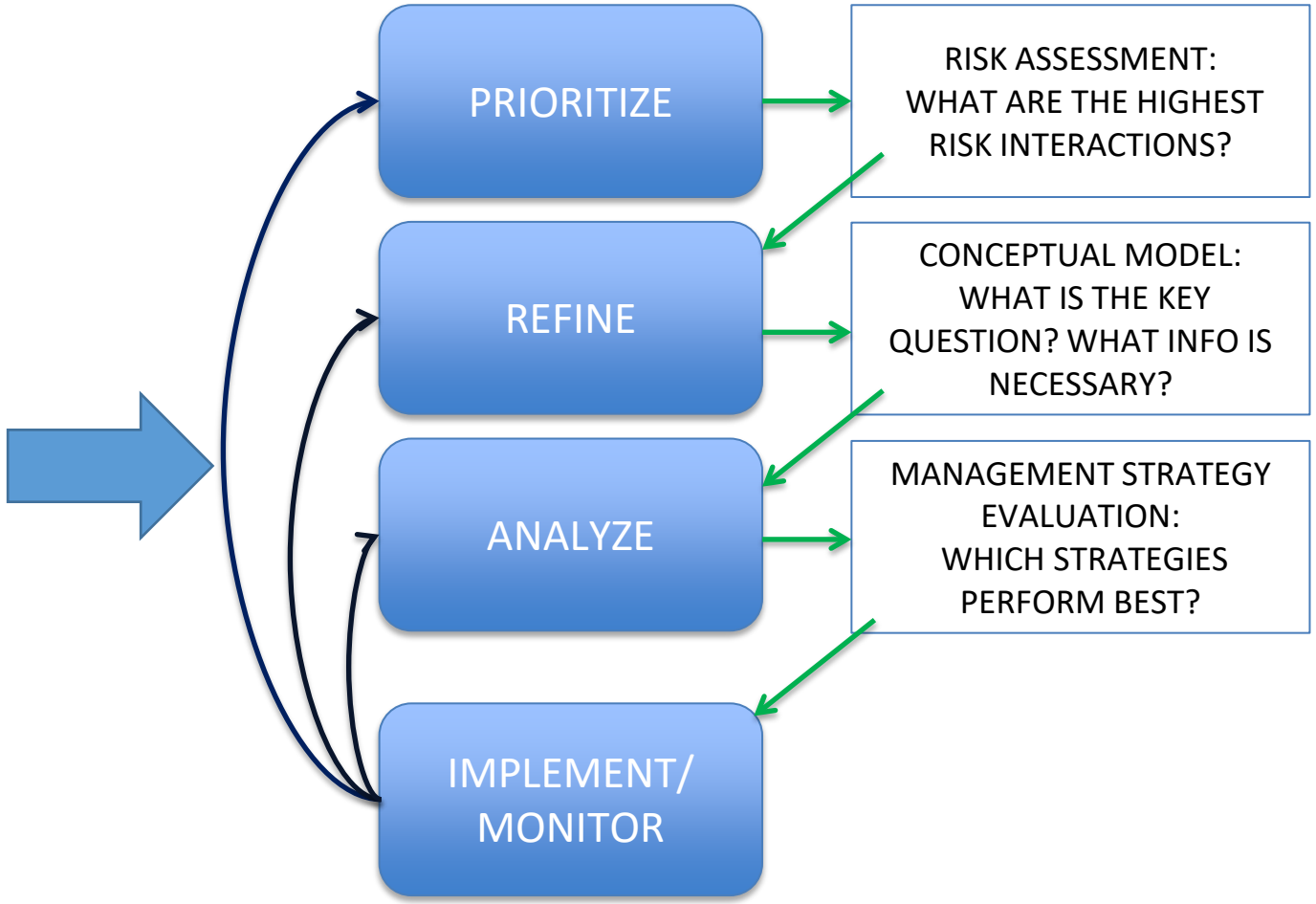


Addressing Interactions in the Mid-Atlantic

NOAA IEA Loop



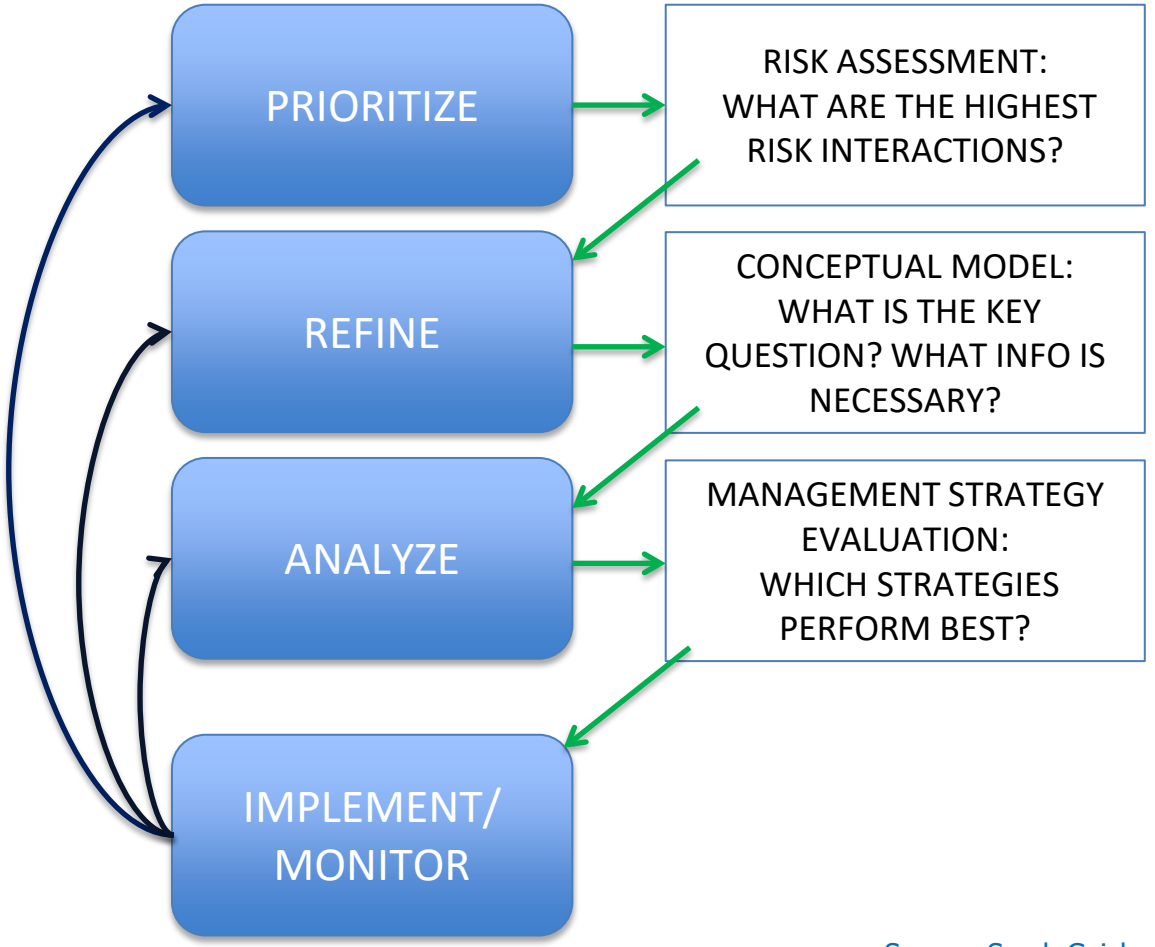
Mid-Atlantic Decision Framework



Source: http://www.noaa.gov/iea/loop.html

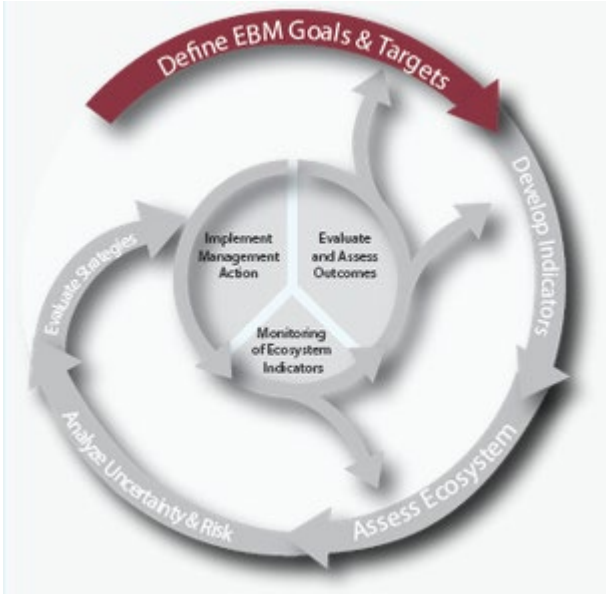
Council's EAFM Decision Framework

- Developed a strategic, deliberative, and structured process
  - Goal of incorporating species, fleet, habitat and climate interactions into management
  - Planning and prioritization tool to help Council transition and incorporate EAFM approaches
  - Not an end to itself



Source: Sarah Gaichas, http://www.mafmc.org/s/3_Habitat_in_IEAs_Gaiches.pdf

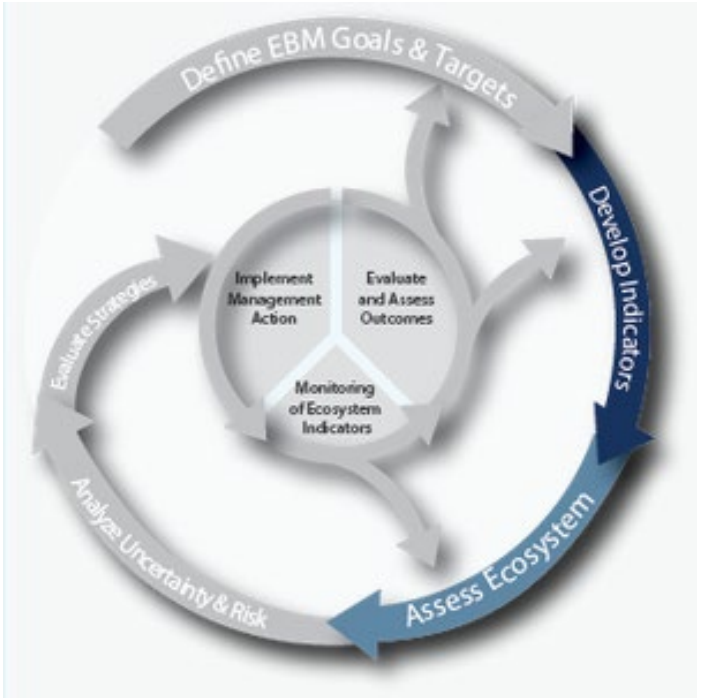
Define System and Management Goals



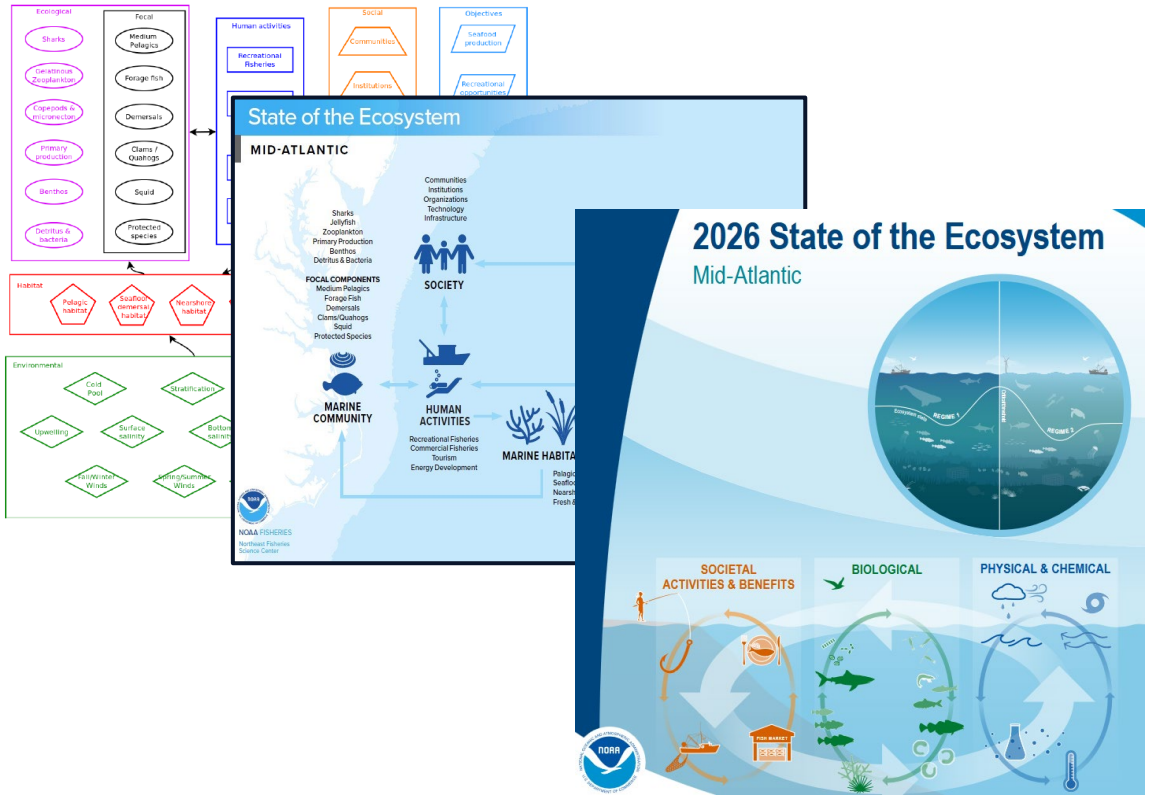
- Define ecological, social, economic characteristics
- Management goals and objectives
- Conceptual models to define ecosystem

- Visioning Project – defined characteristics
- Strategic Plan – identified Council goals and objectives
- EAFM Guidance Doc – identified ecosystem policies actions items, and processes

Develop Indicators and Assess Ecosystem

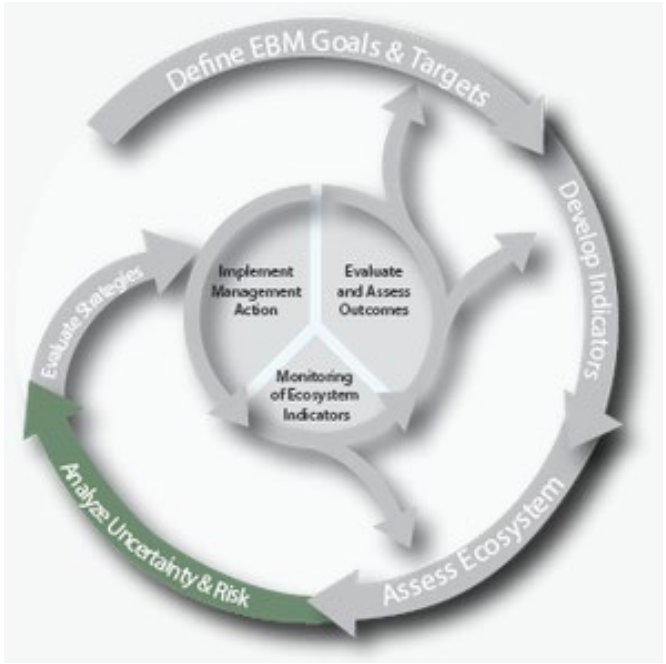


- Identify, select, and develop indicators
- Assess using Ecosystem Status Reports

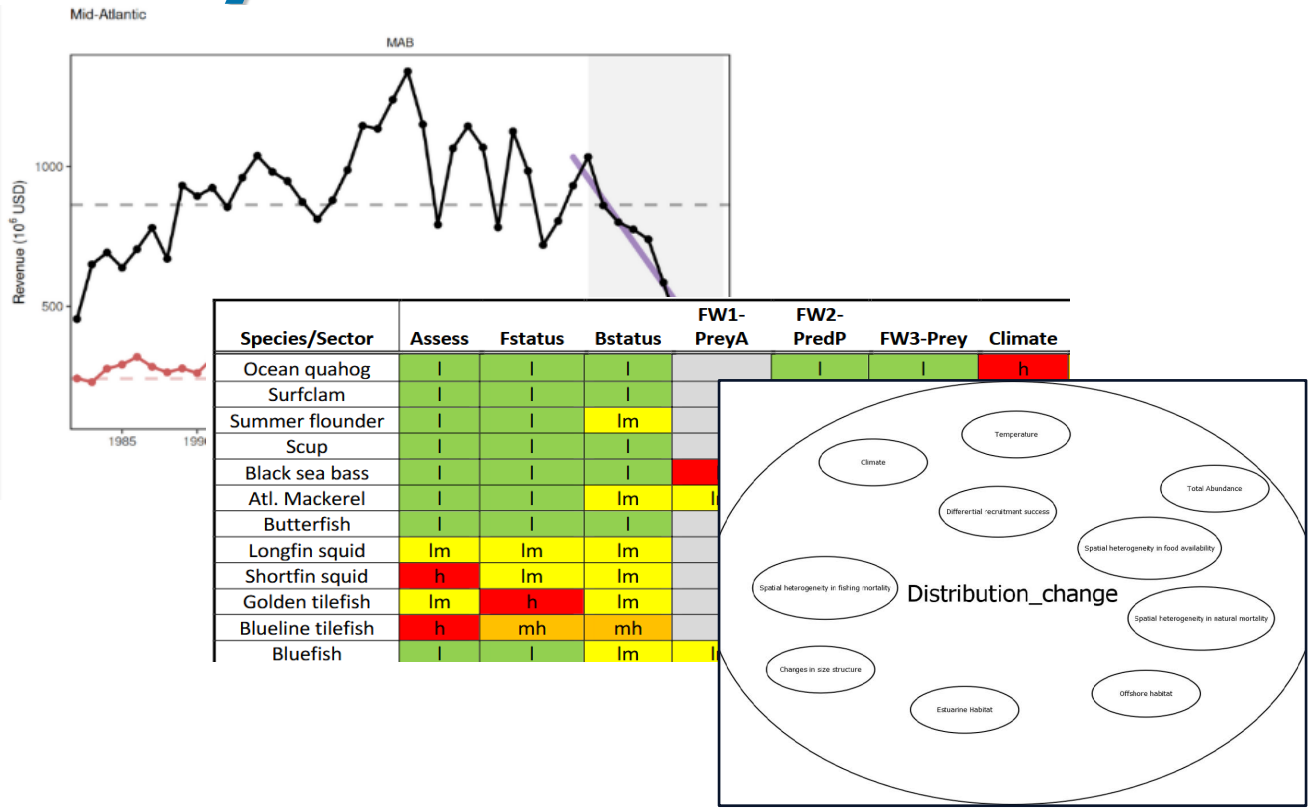


- Mid-Atlantic State of the Ecosystem Report
- Developed at same time as EAFM Guidance Document
- Provided to Council annually – familiarity with ecosystem concepts and indicators
- Supports/linked to risk assessment (next slide)

Assess Uncertainty and Risk



- Assess risk using risk assessment
- Range in scope and complexity and tailored to management need, urgency, and capacity



- Step 1 – Prioritize through Risk Assessment
  - Characterized risk across all Council managed stocks and sectors
- Step 2 – Refine priority issue with Conceptual Models
  - Identify linkages/relationships between risk factors and ecosystem drivers

Mid-Atlantic EAFM Risk Assessment

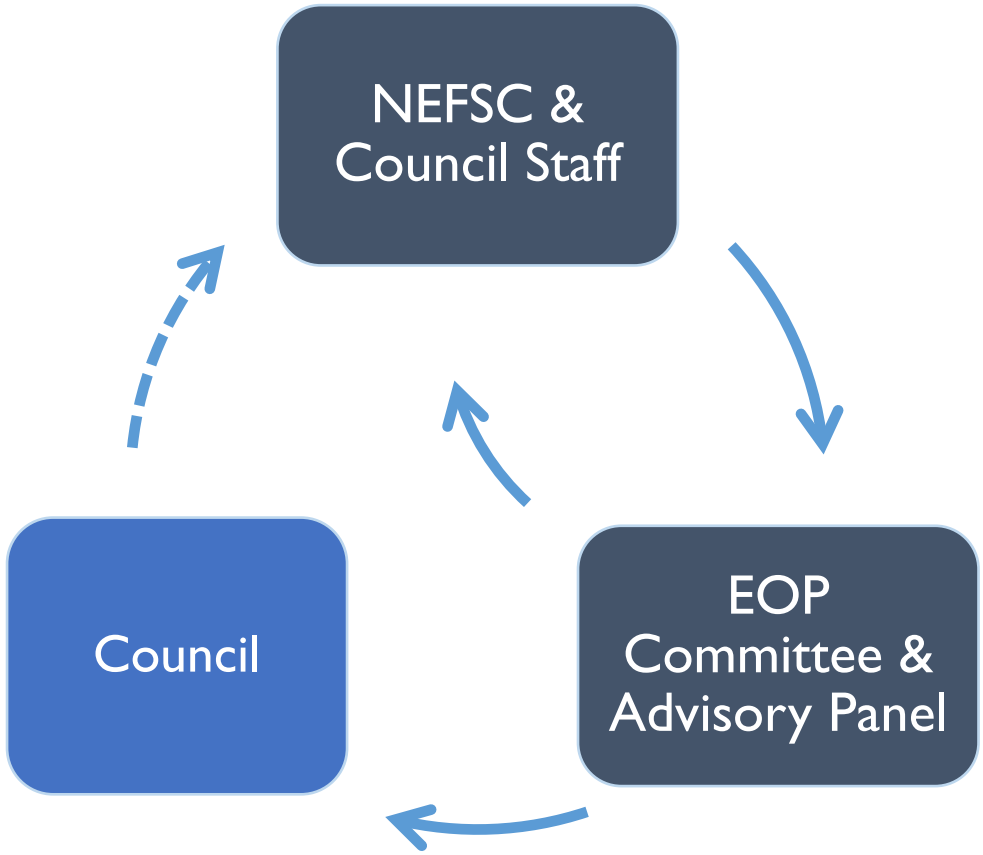
- Given limited resources, develop highest priority ecosystem considerations
- **Risk Element** - aspect that may threaten achieving the biological, economic, or social objectives that the Council desires from a fishery. Currently have 28 risk elements evaluated and tracked.
  - Ecological
  - Economic
  - Social
  - Food Production
  - Management
- Evaluated at the:
  - Species level
  - Species and sector level
  - Ecosystem level

Species	FControl	Interact	OSW1	OSW2	OtherUse	RegComplex	Discards	Allocation
Ocean Quahog-C	low	low	lowmod	low		low	modhigh	low
Surfclam-C	low	low	modhigh	modhigh		low	modhigh	low
Summer flounder-R	lowmod	low	lowmod		low	high	modhigh	high
Summer flounder-C	low	lowmod	lowmod	lowmod	low	lowmod	modhigh	low
Scup-R	high	low	lowmod			high	modhigh	high
Scup-C	lowmod	lowmod	lowmod	lowmod		lowmod	modhigh	low
Black sea bass-R	high	low	modhigh			high	modhigh	high
Black sea bass-C	lowmod	lowmod	modhigh	modhigh		lowmod	modhigh	low
Atl. mackerel-R	lowmod	low	lowmod			lowmod	lowmod	low
Atl. mackerel-C	low	lowmod	lowmod	lowmod		high	lowmod	low
Butterfish-C	low	lowmod	modhigh	lowmod	low	modhigh	modhigh	low
Longfin squid-C	low	modhigh	lowmod	lowmod		modhigh	modhigh	low
Shortfin squid-C	lowmod	lowmod	modhigh	lowmod	low	modhigh	low	low
Golden tilefish-R	na	low	low			low	low	low
Golden tilefish-C	low	low	low			low	low	low
Blueline tilefish-R	lowmod	low	low			lowmod	low	low
Blueline tilefish-C	modhigh	low	low			low	lowmod	low
Bluefish-R	lowmod	low	lowmod		low	modhigh	lowmod	high
Bluefish-C	lowmod	low	lowmod	lowmod	low	lowmod	lowmod	low
Spiny dogfish-R	lowmod	low	modhigh			low	lowmod	low
Spiny dogfish-C	lowmod	modhigh	modhigh	lowmod		high	lowmod	low
Chub mackerel-C	low	lowmod	low	lowmod		low	low	low
Unmanaged forage	low	low				low	low	low
Deepsea corals	na	na	na		na	na	na	na

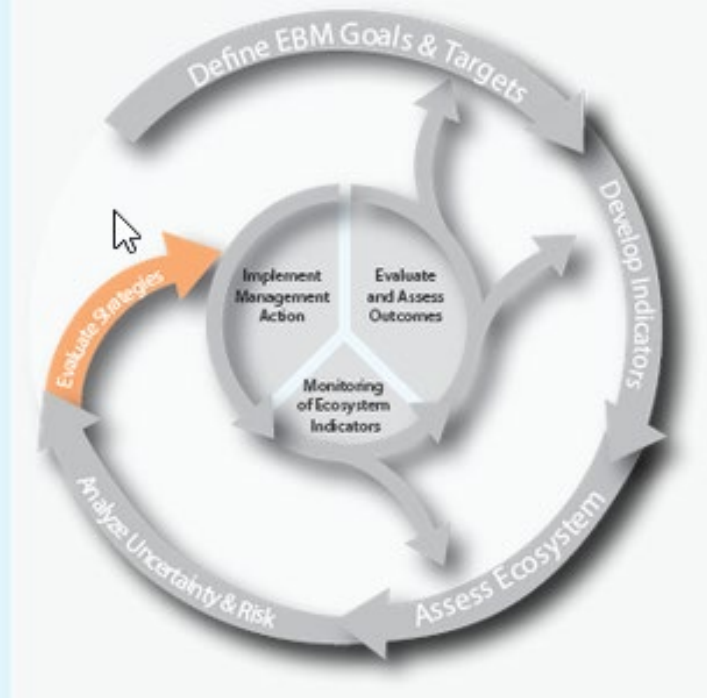
- Includes: risk definitions (why), risk indicators (how), risk ranking criteria (what)
- Evolves and updated – new science, data and priorities
- Presented annually after the SOE report (ecosystem session) – provides a "cheat sheet" of current risks to Council

Risk Assessment Process

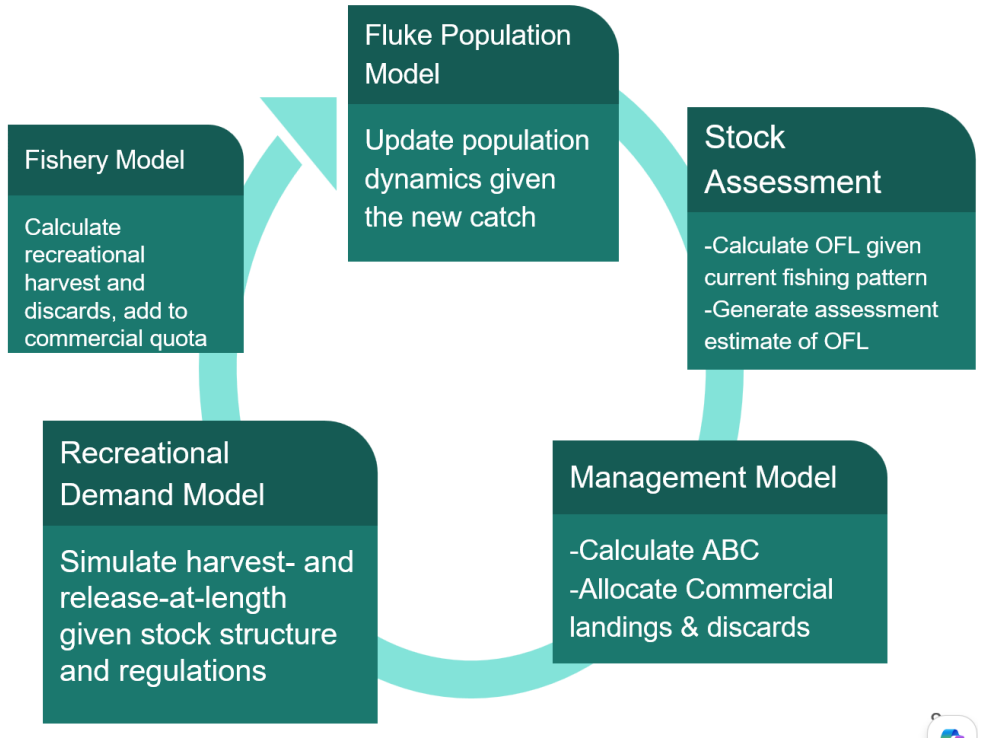
- Followed a similar approach for the development of the initial risk assessment (2016-2017) and comprehensive review (2023)
- A collaborative and iterative process
  - Series of meetings and workshops (in-person and webinars)
    - Scoping of ideas/concepts, risk elements and indicators
    - Feedback and refinement
    - Iterate as needed
- Allowed process to develop relatively quickly
- Managers, scientists, and stakeholders all together
  - Open dialogue and sharing ideas and what might work/not work
  - Ensures management objectives and priorities are focus
- Annual process to update/improve is much less intensive but still work with Committee/AP



Evaluate Management Strategies



- Conduct Management Strategy Evaluation
- Qualitative or quantitative approaches depending stakeholder input, objectives, data availability



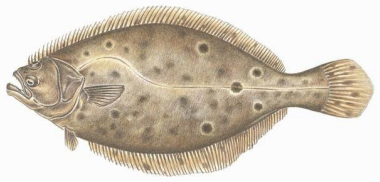
- Step 3 – Analyze through Management Strategy Evaluation
  - Use outcomes of Step 1 (risk assessment) and Step 2 (conceptual model) to inform priority issue to be evaluated
  - Chose not to specifically connect to a management action (at least initially)

Implementing the Decision Framework

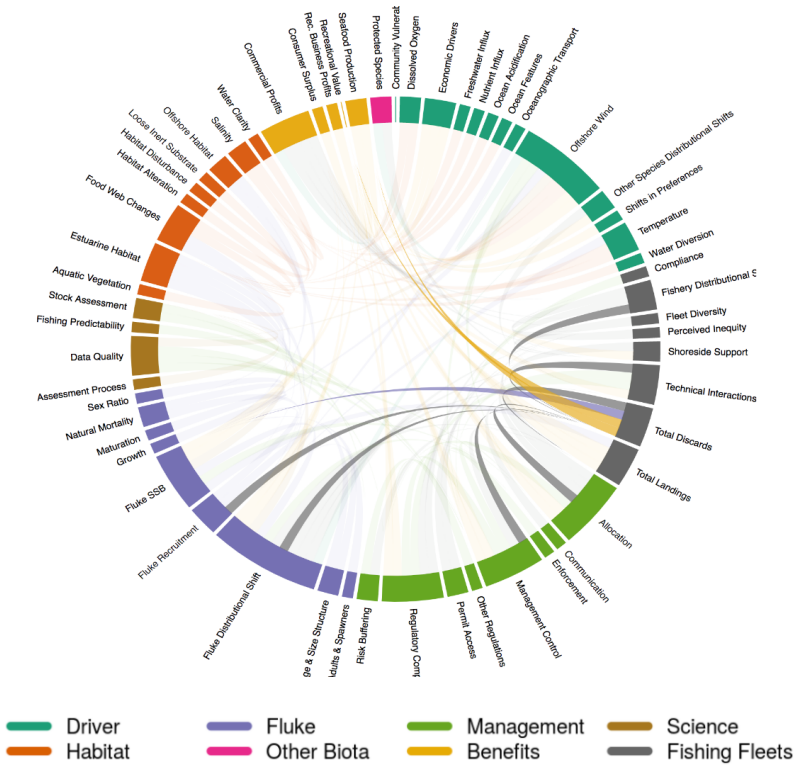
Step 1 – Prioritize with risk assessment (2017)

Species	Assess	Fstatus	Bstatus	FW1Pred	FW1Prey	FW2Prey	Climate	DistShift	EstHabitat
Ocean Quahog							h	mh	
Surfclam							mh	mh	
Summer flounder			lm				lm	mh	h
Scup							lm	mh	h
Black sea bass							mh	mh	h
Atl. mackerel		h	h				lm	mh	
Butterfish								h	
Longfin squid	lm	lm	lm			lm		mh	
Shortfin squid	lm	lm	lm			lm		h	
Golden tilefish			lm				mh		
Blueline tilefish	h	h	mh				mh		
Bluefish			lm					mh	h
Spiny dogfish	lm		lm					h	
Monkfish	h	lm	lm					mh	
Unmanaged forage	na	na	na		lm	lm	na	na	na
Deepsea corals	na	na	na				na	na	na

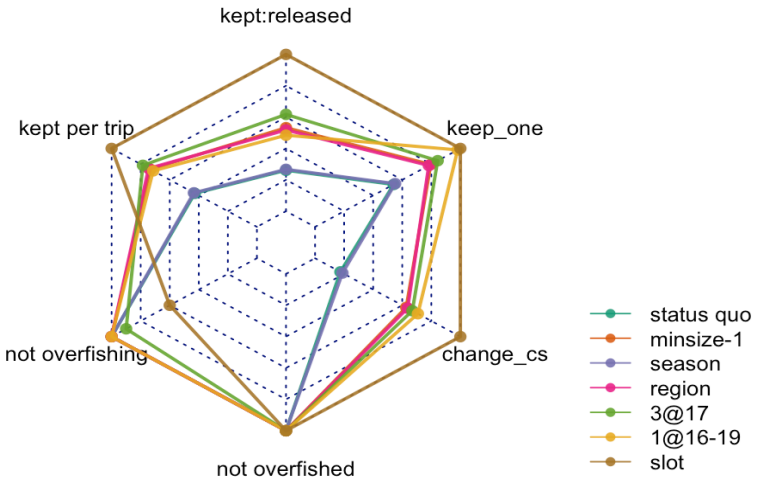
Summer flounder Identified as most high-risk fishery



Step 2 – Refine with conceptual model development (2019)

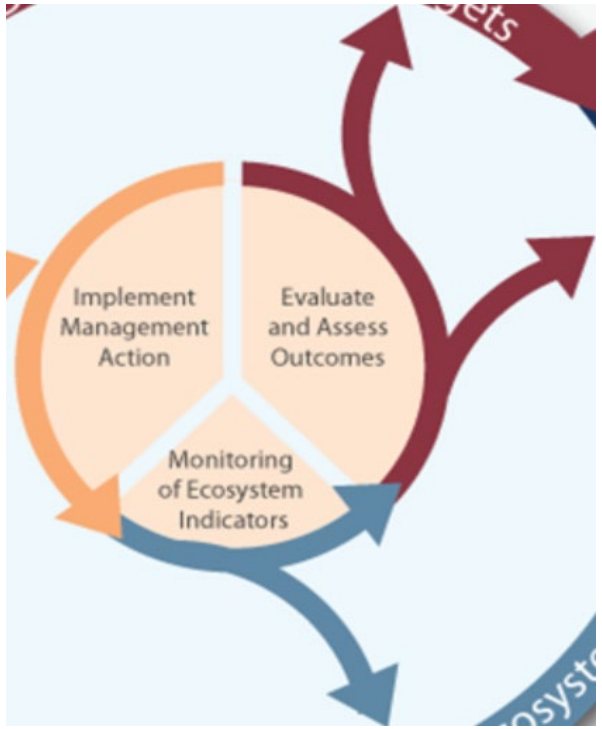


Step 3 – Analyze with MSE (2022)

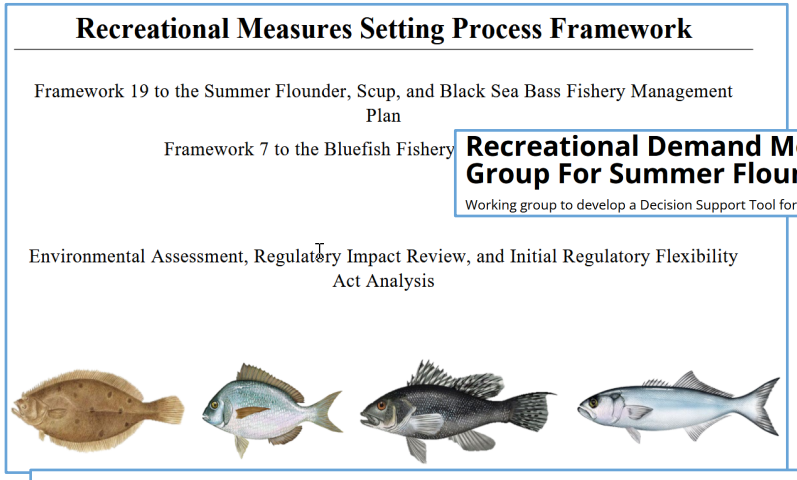


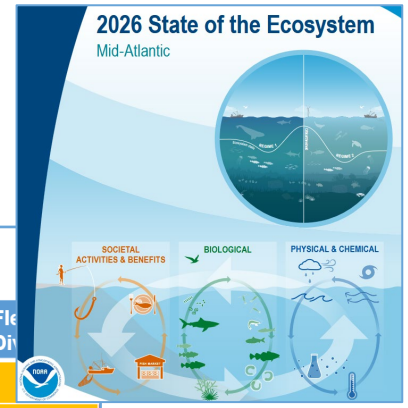
Identify and evaluate management Procedures to reduce recreational discards and convert to landings

Implement, Evaluate, and Monitor



- Implement based on MSE results
- Monitor with indicators
- Evaluate if objectives, goals, and targets need to be refined





Recreational Demand Model Decision Support Tool Working Group For Summer Flounder, Black Sea Bass, and Scup

Working group to develop a Decision Support Tool for the Recreational Demand Model.

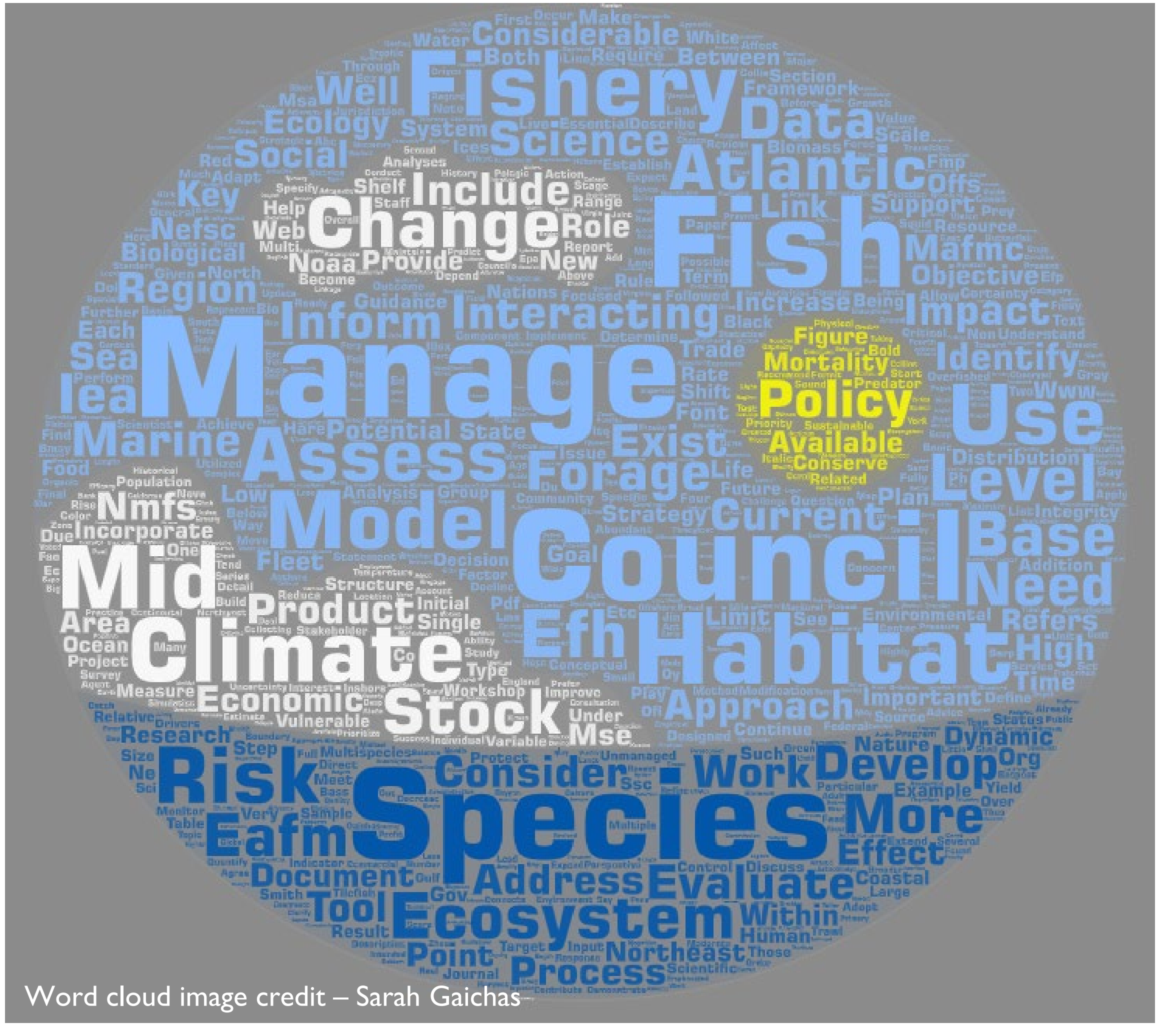
Ecosystem Level Risks

	EcoProd	Comm Rev	RecVal	Fish Res1 (Rev)	Fish Res2 (Shore)	Fl… Di…
2022	lm	mh	lm	l	mh	
2026	mh	h	lm	l	lm	mh

- Step 4 – Implement and/or Monitor
  - Council action(s) – Recreational Measures Setting
  - Annual updates and review of ecosystem information through SOE and risk assessment
  - Identify new management priorities and research needs

Lessons Learned

- We are still in transitional state – data and science are incomplete and management is complex – and takes time
- Need to move forward both strategically and systematically, not radically
- Entire process took a deliberative, stepwise, iterative approach to ensure better outcomes – this takes time too
- Significant investment with Council, scientists and stakeholders – this also takes time
  - Get people with different perspectives in the same room and listen
  - Crucial for support, trust and buy-in
- Reluctance/challenges remain to fully support outcomes of process



Word cloud image credit – Sarah Gaichas

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Questions??

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