



NOAA
FISHERIES

XII. Discussion on Updating the 2017 Ecosystem Status Report for the Gulf of Mexico

Mandy Karnauskas

Ecosystem Technical Committee Meeting

April 19-20, 2023

What is an Ecosystem Status Report?

Challenges, Opportunities and Future Directions to Advance NOAA Fisheries Ecosystem Status Reports (ESRs):

Report of the National ESR Workshop

Wencheng L. Slater, Geret DePiper, Jamison M. Gove, Chris J. Harvey, Elliott L. Hazen, Sean M. Lucey, Mandy Kamauskas, Seann D. Regan, Elizabeth C. Siddon, Ellen M. Yasumiishi, Stephani G. Zador, Margaret M. Brady, Michael D. Ford, Roger B. Griffis, Rebecca L. Shuford, Howard M. Townsend, Todd D. O'Brien, Jay O. Peterson, Kenric E. Osgood, and Jason S. Link



U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

NOAA Technical Memorandum NMFS-F/SPO-174
September 2017

“Ecosystem Status Reports (ESRs) are synthesized scientific products that provide information on the past and possible future conditions of marine ecosystems based on suites of indicators.

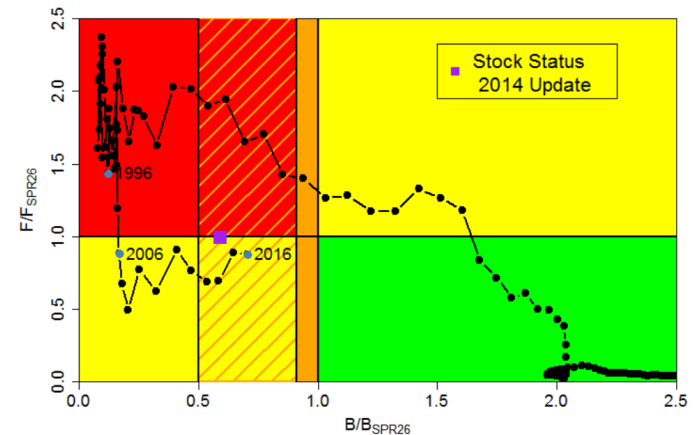
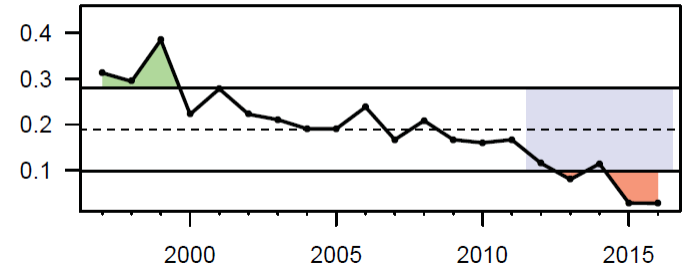
This information provides vital context for a range of decisions affecting marine ecosystems and supports an ecosystem approach to marine resource management” (Slater et al. 2017).

Ecosystem indicators

Indicators can be used:

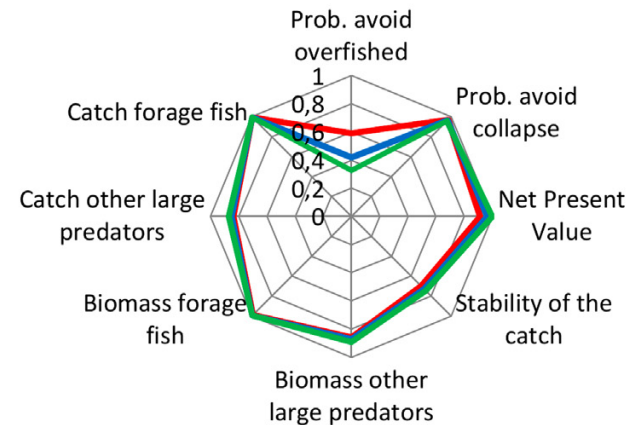
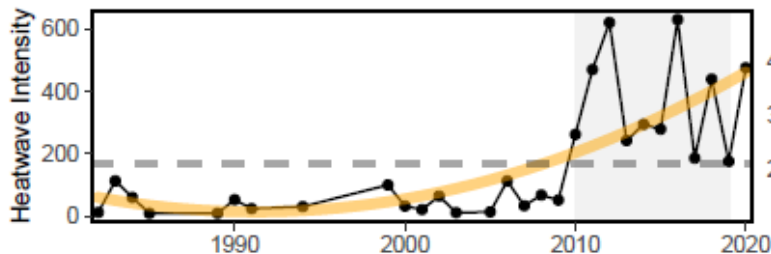
- to track progress towards a goal
- to measure status relevant to a reference point
- to evaluate potential performance of management strategies
- to evaluate risks to meeting objectives

Proportion of stocks undergoing overfishing



Gulf of Maine

Cumulative Intensity (degree C x days)



How do different Councils use indicators?

NEFMC: Indicators linked to specific management objectives

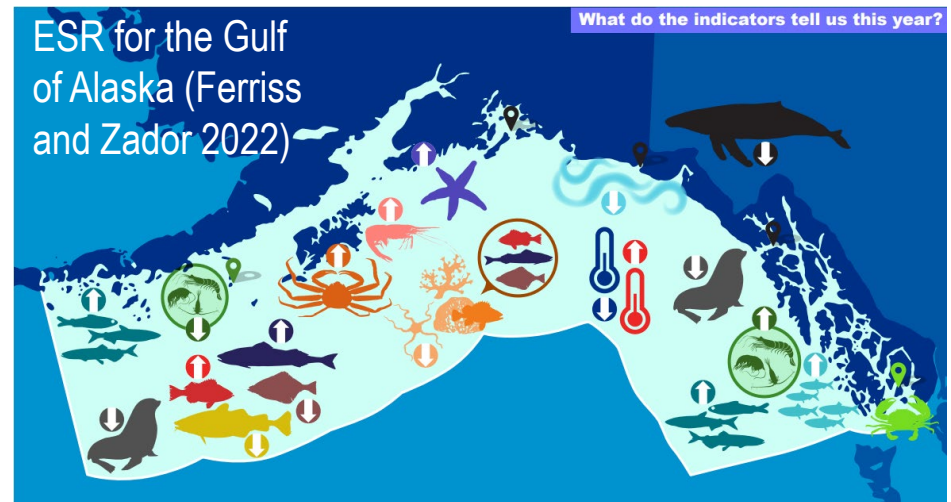
PFMC: FEP requires an ESR describing status and trends as context for decision-making

NPFMC: single-species quotas set in context of ecosystem information

MAFMC: Indicators measure elements used in risk assessment

New England State of the Ecosystem 2021

| OBJECTIVE (INDICATOR) | Seafood production (total and NEFMC managed landings) | Commercial profits (NEFMC managed revenue) | Stability (fishery and ecosystem diversity maintained over time) | |
|-----------------------|----------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------|---------------|
| 30 YEAR TREND | ↘ | ↔ | ↘ (Fishery) | ↻ (Ecosystem) |
| CURRENT STATUS | - | + | - (Fishery Comm Rec) | + (Ecosystem) |



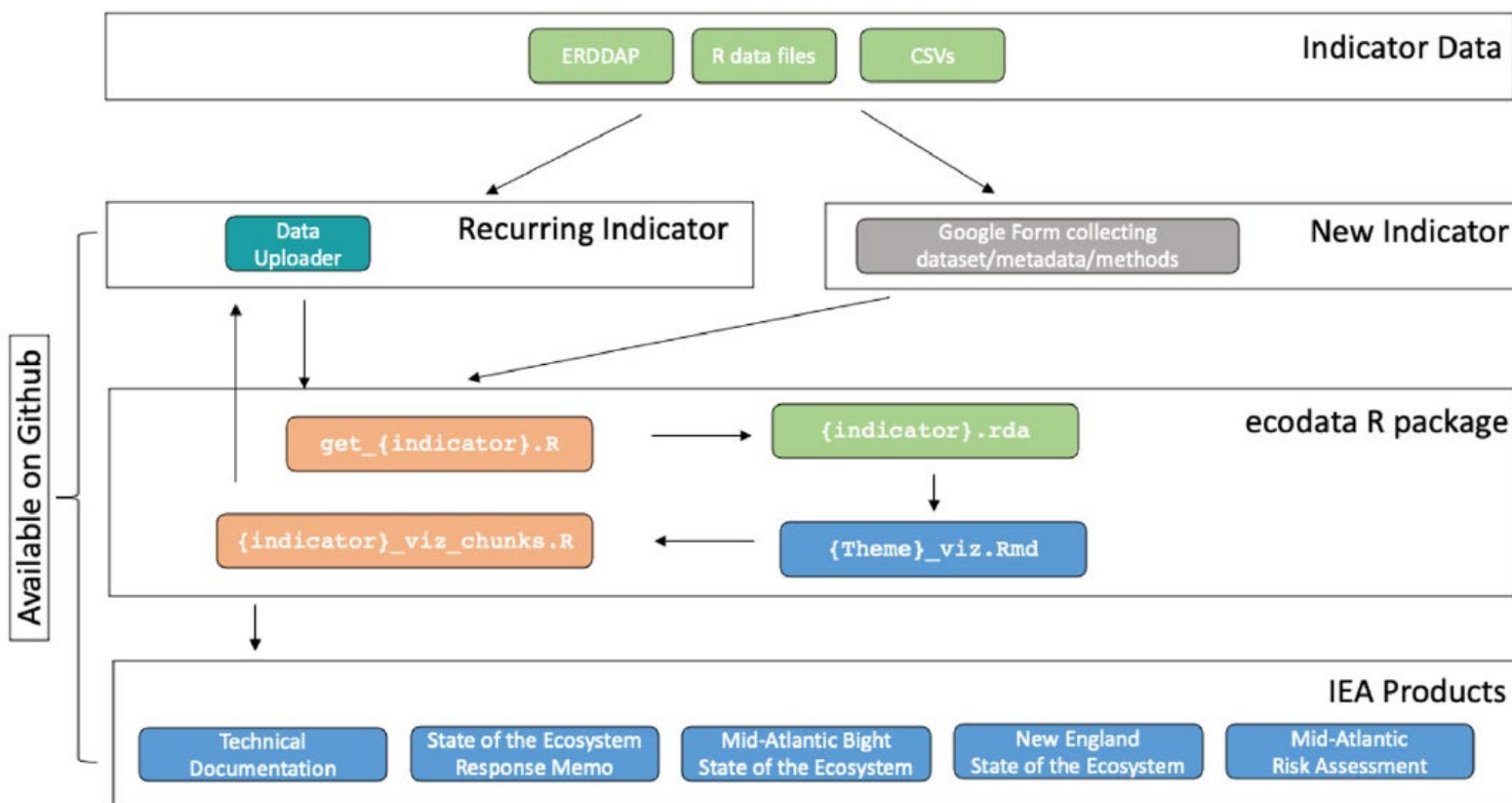
Mid-Atlantic Ecosystem-level risk assessment (Gaichas et al. 2018)

| System | EcoProd | CommProf | RecVal | FishRes1 | FishRes4 | FleetDiv | Social | ComFood | RecFood |
|--------------|---------|----------|--------|----------|----------|----------|--------|---------|---------|
| Mid-Atlantic | lm | mb | h | h | mb | mb | lm | h | mb |

Improving the IEA Approach Using Principles of Open Data Science

Kimberly Bastille^{a,b}, Sean Hardison^c, Lynn deWitt^d, Jennifer Brown^{e,f},
Jameal Samhoury^g, Sarah Gaichas^b, Sean Lucey^b, Kelly Kearney^h, Ben Bestⁱ,
Scott Cross^j, Scott Larqe^b, and Ellen Spooner^{k,l}

Figure 3. Northeast IEA indicator workflow from ingesting raw data to generating final reports.



Future workflow for Gulf

