ATLANTIC STATES MARINE FISHERIES COMMISSION

2024 TRAFFIC LIGHT ANALYSIS REPORT FOR SPOT (*Leiostomus xanthurus)*

2023 Fishing Year

Prepared by the Technical Committee
and Approved by the Sciaenids Management Board
August 2024

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

EXECUTIVE SUMMARY

Background

The purpose of this report is to evaluate the current status of spot using the annual Traffic Light Analysis (TLA). Annually, the Technical Committee (TC) conducts a TLA to evaluate a Mid-Atlantic and a South Atlantic harvest metric, combining commercial and recreational landings in the region. The TC also evaluates a Mid-Atlantic (NJ-VA) and South Atlantic (NC-FL) abundance metric, combining indices of abundance from surveys in the region. Each metric is evaluated using a color proportion of green, yellow, or red calculated for each year based on comparing the respective year to a 2002-2012 reference period. Addendum III defined two thresholds, 30% (proportion=0.30) red as a threshold for moderate concern and 60% (proportion=0.60) red as a threshold for significant concern to the fishery. Management action is triggered according to the 30% red and 60% red thresholds if both the adult abundance and harvest thresholds are exceeded in any two of the three terminal years in either region.

2023 Harvest Metrics

The Mid-Atlantic harvest metric did exceed the red threshold at 30% in two of the three terminal years. The South Atlantic harvest metric exceeded the red threshold at 30% in all three terminal years. The harvest metrics in 2023 cannot be used as a trigger mechanism since they represent years with catch restrictions in place.

2023 Abundance Metrics

The abundance metric did not trigger in two of the three terminal years for both the Mid- and South Atlantic.

Conclusions

Harvest exceeded the 30% threshold in the South Atlantic in all three years and two out of the three terminal years in the Mid-Atlantic. Harvest restrictions put in place in 2021 were still in effect and so the harvest metric cannot be used as a trigger mechanism in 2023. The abundance composite metrics did not trigger in either the Mid-Atlantic or South Atlantic. The TC recommends maintaining current management measures.

1 INTRODUCTION

Spot is managed under the Omnibus Amendment for Spot, Spotted Seatrout, and Spanish Mackerel (2011), Addendum II (2014), and Addendum III (2020). Addendum III describes the Traffic Light Analysis (TLA) using a regional approach and establishes management actions to be taken if the TLA triggers were tripped. Regions are the South Atlantic (FL-NC) and the Mid-Atlantic (VA-NJ).

The TLA is a way to incorporate multiple data sources (both fishery-independent and -dependent) into a single, easily understood metric for management advice. It is often used for data-limited species, or species that are not assessed on a frequent basis. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of indicators on the condition of the fish population (abundance metric) or fishery (harvest metric).

The TLA uses the following data sources in spot management:

- Harvest Metric: recreational and commercial landings by region
- Abundance Metric: Age 1+ abundance indices by region
    - Mid-Atlantic: Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) and the Northeast Fishery Science Center (NEFSC) Multispecies Bottom Trawl Survey
    - South Atlantic: Southeast Area Monitoring and Assessment Program (SEAMAP) and the North Carolina Division of Marine Fisheries (NCDMF) Pamlico Sound Survey (Program 195)

Management action will be triggered according to the current 30% red (moderate concern) and 60% red (significant concern) thresholds if both the abundance and harvest thresholds are exceeded in either region in any two of the three terminal years. The thresholds are defined as the long-term mean of the reference period (2002-2012).

In 2020, the TLA for spot had red proportions that exceeded the 30% threshold for the period of 2017-2019 in harvest composite characteristics for both regions. Exceeding the 30% threshold represents moderate concern to the fishery and initiated a moderate management response. All non-*de minimis* states were required to institute more restrictive measures in their recreational and commercial fisheries. Management measures were initiated in 2021 and are required to remain in place for two years, through 2022. However, the TLA for fishing years 2021 and 2022 resulted in an unknown status due to data issues (e.g., missing years of data due to COVID, vessel changes in ChesMMAP) and uncertainty in how to interpret harvest metrics when management restrictions have been put in place.

Additionally, the TLA was not run at all in 2023 due to data being unavailable and to allow the Atlantic Croaker and Spot Technical Committees to focus on assisting with the Atlantic croaker benchmark stock assessment. A benchmark stock assessment was expected in 2024 for Atlantic croaker, with a benchmark stock assessment for spot to follow once Atlantic croaker's is complete. However, as of July 2024, the Atlantic croaker benchmark is still in development and is unlikely to be completed on time. Therefore, the Sciaenid Board requested the TLA be run for

the August 2024 meeting. The Board requested the TLA focus only on the time series used in management, not the supplemental information provided in previous TLA reports.

2 TRAFFIC LIGHT ANALYSIS RESULTS

2.1 Harvest Composite Characteristic Index (Figure 1 and Figure 2)

- Harvest restrictions were put in place in 2021 in response to the 2020 TLA triggering at the 30% threshold. These restrictions are still in place and thus the harvest metrics cannot be interpreted for the purpose of a TLA, since lower landings get a red designation but measures have been put in place to lower landings.
- Landings in both regions remain low relative to the reference period (2002-2012). It is unknown if this is due to the harvest restrictions or a continued concern for this fishery.
- The Mid-Atlantic harvest exceeds 30% red in two of the three terminal years. The South Atlantic harvest exceeds 30% red in all three terminal years.

2.2 Abundance Composite Characteristic Index (Figure 3 and Figure 4)

- In 2023, the Mid-Atlantic abundance index triggered at the 30% level, but it did not trigger in two of the three terminal years, so overall the abundance index did not trigger for this region.
- The South Atlantic abundance index did not trigger at 30% or 60% in any of the three terminal years.

3 SUMMARY

- Table 1 provides results of the past three years of TLA metrics for each region, as well as the current TLA status.
- Both harvest metrics triggered at the 30% threshold (moderate concern) but cannot be used for management because harvest restrictions have been in place since 2021.
- Neither abundance index triggered at any level.
- The TC recommends maintaining current management measures.

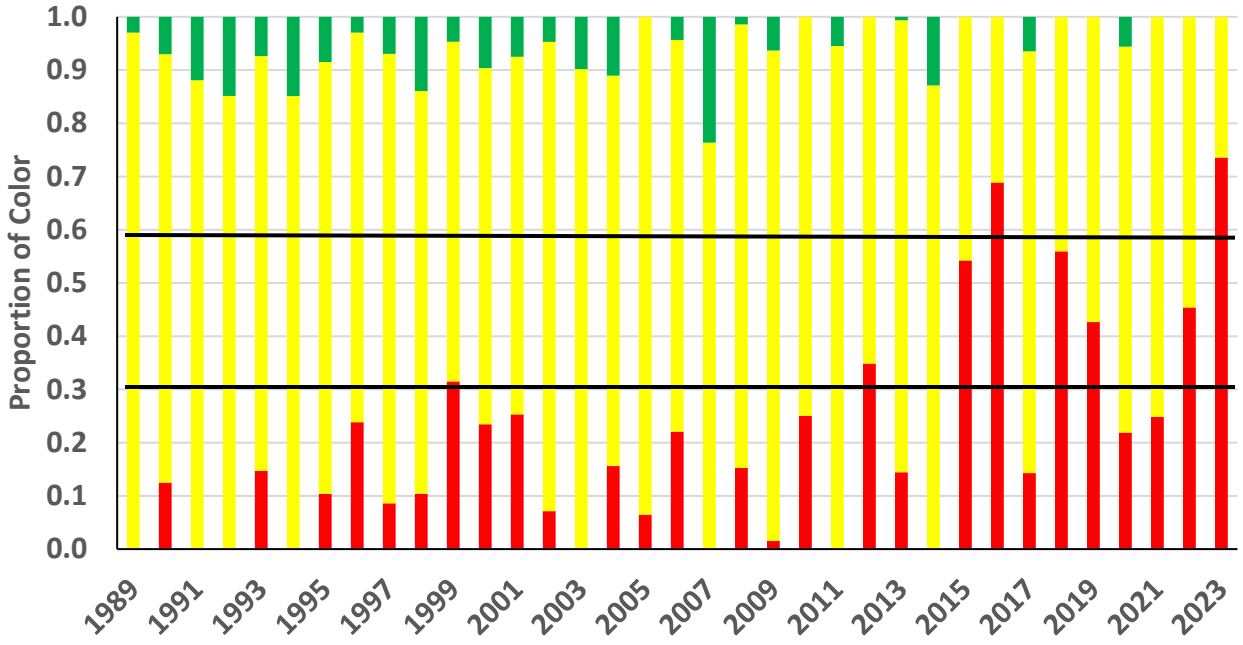

Figure 1. Annual TLA for spot harvest composite (commercial and recreational landings) in the Mid-Atlantic (NJ-VA) from 1989-2023 using a 2002-2012 reference period.

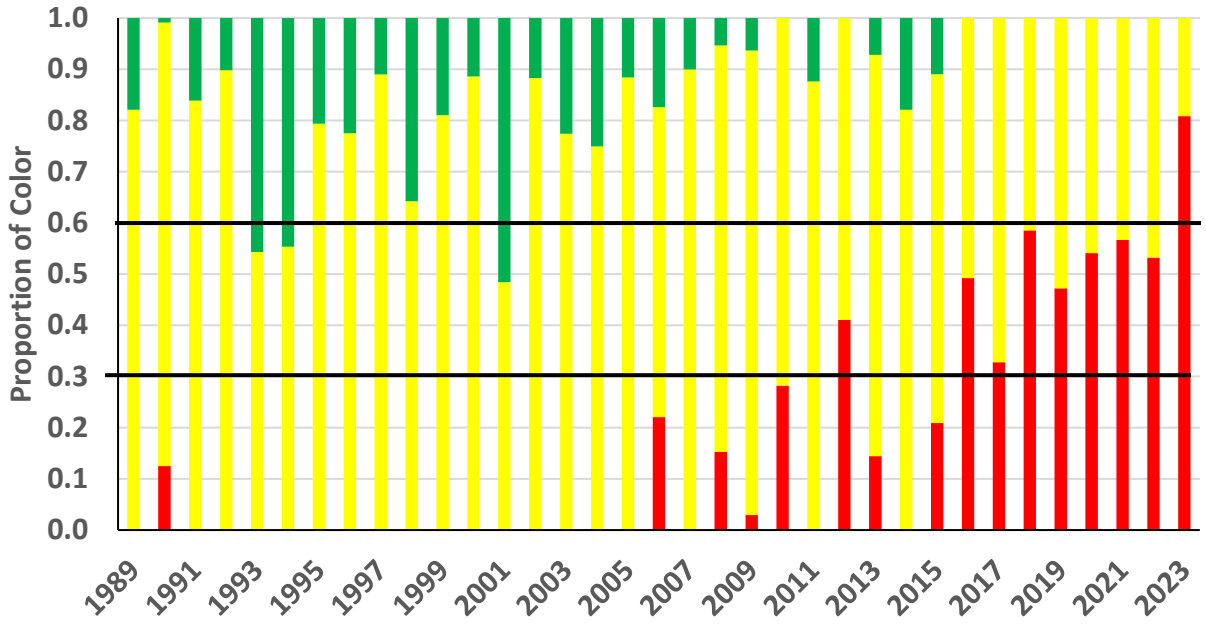

Figure 2. Annual TLA for spot harvest composite (commercial and recreational landings) in the South Atlantic (NC-FL) from 1989-2023 using a 2002-2012 reference period.

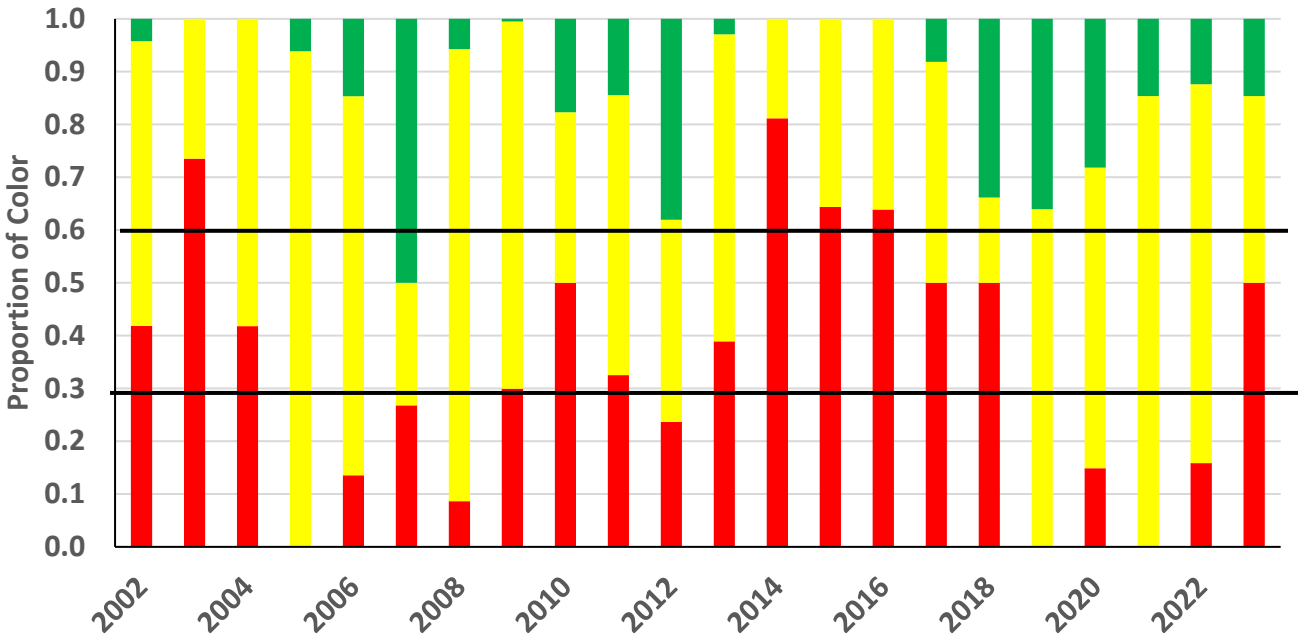

Figure 3. Annual TLA for adult (age 1+) spot composite abundance index in the Mid-Atlantic (NJ-VA; NEFSC and ChesMMAP) from 2002-2023 using a 2002-2012 reference period.

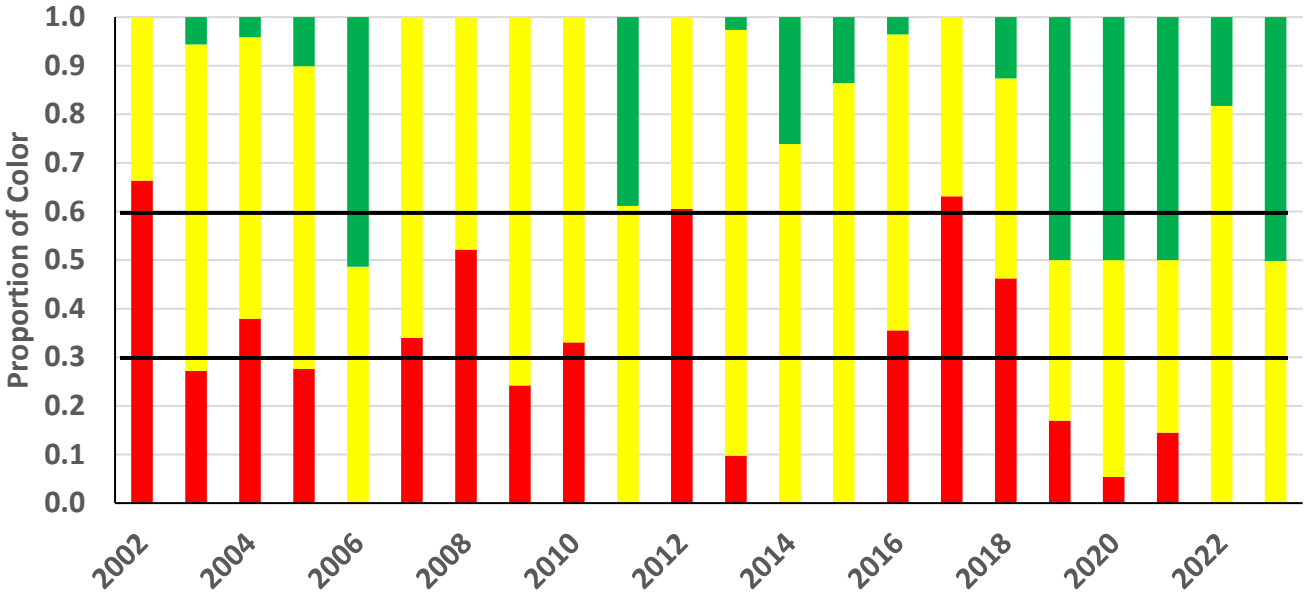

Figure 4. Annual TLA for adult (age 1+) spot composite abundance index in the South Atlantic (NC-FL; SEAMAP and NCDMF Program 195) from 2002-2023 using a 2002-2012 reference period.

Table 1. Traffic light analysis results for the Mid- and South Atlantic regions for 2021-2023. Management action is triggered according to the current 30% and 60% red thresholds if both the adult abundance and harvest metrics exceed these thresholds in any two of the three terminal years within either region.*

TLA Metric	Spot			2023 TLA Status
	2021	2022	2023	
Mid-Atlantic Harvest*	25% red	45% red	74% red (triggered at 30%)	Unknown*
South Atlantic Harvest*	57% red	53% red	81% red (triggered at 30%)	
Mid-Atlantic Adult Index	0% red	16% red	50% red (not triggered)	Not Triggered
South Atlantic Adult Index	15% red	0% red	0% red (not triggered)	

* Harvest metrics cannot be interpreted as a trigger mechanism in the TLA since catch restrictions to lower harvest have been in place since 2021. As long as catch restrictions are in place, trigger status relies solely on the abundance indices.