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Subject: [External] Public Comment to the Commission on CSMA Striped Bass for the Feb-2019 Meeting

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Dear Commissioners,

Below is the public comment that I submitted to the Commission on February 19, 2016. Yes, three years ago.

[Feb. 18th, 2016 MFC Meeting Public Comment](#)

Good Morning- I'm Rick Sasser from Goldsboro.

Today, I'd like to discuss Central Southern Management Area striped bass. Management of striped bass within the CSMA is the joint responsibility of the MFC and the WRC.

Striped Bass in the CSMA are considered a stock of concern by the North Carolina Division of Marine Fisheries. Due to heightened concern in the Cape Fear River and its tributaries, a no commercial harvest regulation was established starting on July 1, 2008, setting precedence.

Today there is compelling data that shows you should close the Neuse and Pamlico Rivers along with their tributaries to commercial fishing.

The CSMA is a hatchery origin put-grow-take fishery. Parentage Based Tagging shows that 95% of the Neuse River stock is of hatchery origin. Tag-return data indicates that the Pamlico and Neuse Rivers are essentially closed systems.

Federal money through excise tax on sport fishing gear under the Dingell-Johnson Act is paying for the stocking of CSMA striped bass. It appears that the WRC is using those dollars as intended and the MFC is converting at least 2/3 of the public benefit from striped bass restoration to commercial fishing interests in violation of federal law.

It is prohibited to use Dingell-Johnson funds for the primary purpose of producing income. Data shows that over the last ten years commercial fishermen landed 70% of the CSMA striped bass with recreational anglers landing 30%.

Since 1994 the Neuse and Tar River systems have experienced an annual mortality of 40% to 70%. The reported harvest and discard from the recreational creel survey, combined with the commercial trip ticket data do not approach the level that is required to explain that level of mortality. Data suggest that gill net mortality is being significantly under reported on trip tickets. When cryptic mortality is included, the commercial sector could easily be responsible for 85% or more of all CSMA striped bass mortality.

Present management of this important fishery is preventing re-establishing a sustainable spawning stock biomass, which is making recovery impossible. Managing the fishery for predominately commercial harvest is placing the whole stocking program in jeopardy.

I ask that you take action, it is within your authority to immediately close this fishery to commercial fishing in its entirety or in parts that you deem fit.

Please do so, sooner rather than later. Later may be too late and forever.

Ending the stocking program would allow those fingerlings to find a permanent home somewhere else and NC risks not being able to re-establish an adequate or economical stocking source in the future.

The major change that has occurred during the three years since writing the letter above is two-year classes of juvenile abundance that suggests the occurrence of a sweet-spot for successful natural spawning and recruitment. Today, I am cautiously optimistic that this Commission will address the immediate need to protect these two-year classes of fish that truly are a natural gift that may come once in ten to twenty years.

Where I continue to be disillusioned is with the failure to adequately address the major recruitment bottleneck- Gill Nets.

Kyle Rachels and Benjamin Ricks (NCWRC) in their 2017 federally funded study Exploring Causal Factors of Spawning Stock Mortality in a Riverine Striped Bass Population found that-

(Note: My highlighting in red for emphasis)

From 1994–2015, Striped Bass instantaneous fishing mortality in the Neuse River ranged 0.12–0.84 and exceeded the overfishing threshold in 12 of 22 years. A global linear model using environmental and exploitation factors accounted for 55% of the variability in spawning stock discrete annual mortality. An information theoretic approach was used to elucidate the best linear model predicting discrete annual mortality. The best model included previous-year gill net effort and same-year commercial harvest ($\omega_i = 0.64$, $R^2 = 0.50$). Model-averaged coefficients for gill net effort and commercial harvest suggest total exploitation impacts that are congruent

with other studies of Neuse River Striped Bass. **Results indicate that reducing exploitation to target levels will require substantial reductions in gill net effort in areas of the Neuse River where Striped Bass occur.** Reducing exploitation may increase spawning stock biomass and advance the age structure of spawning females, conferring an increased likelihood of successful recruitment and production of dominant year-classes during periods of favorable environmental conditions.

Linear modeling indicates gill net effort is the most important factor influencing spawning stock mortality among the exploitation and environmental factors examined. Gill net effort accounted for substantially greater variability in spawning stock mortality than commercial harvest, and the model-averaged coefficient identifies gill net effort discrete annual fishing mortality $u = 0.29$. This suggests that **the commercial multispecies gill net fishery imparts substantial mortality even when the Striped Bass harvest season is closed.** The reason for this mortality is obscure, but may be attributable to dead discard mortality; over-quota and high-grading mortality; avoidance, predation, and drop-out mortality; or unreported, miss-reported and illegal harvest (ICES 1995; Gilman et al. 2013; Uhlmann and Broadhurst 2015; Batsleer et al. 2015). In particular, discard mortality should be carefully considered as Clark and Kahn (2009) found that **Striped Bass are acutely susceptible to discard mortality in multispecies gill net fisheries.** Furthermore, **Striped Bass discards in the large mesh gill net fishery were identified as the primary source of mortality within the CSMA (NCDENR 2013).** **The effect of gill net effort on discrete annual mortality as estimated by linear modeling is within 3% of the estimated effect of cryptic mortality in a cohort-based model** ($u = 0.26$; Table B.3 in Rachels and Ricks 2015), while the effect of commercial harvest was identical to the estimated commercial harvest discrete annual fishing mortality rate in that study.

Current high exploitation rates combined with low stock abundance and a high contribution of hatchery fish to the spawning stock (Rachels and Ricks 2015; Bradley 2016) suggest the expected recovery time of Neuse River Striped Bass continues to be “both uncertain and long” (Hilborn et al. 2014). Our research **suggests fisheries managers should reduce exploitation by focusing on reductions in gill net effort in areas of the Neuse River utilized by Striped Bass.** Reducing spawning stock exploitation may confer an increased likelihood of recruitment during periods of favorable environmental conditions, thereby leading to improvements in population abundance and increased numbers of wild fish in the spawning stock.

When I think about the gift of two-year classes of naturally spawned fish, I am reminded of the tremendous waste of red drum that occurred in 2013 when commercial gillnetters exceeded the fall quota by 11,000 pounds. Illegal targeting of red drum in that bycatch only fishery was well documented. We saw a tremendously successful red drum spawn that eventually resulted in busted quotas and excessive discard numbers. Without properly addressing gill nets and gill net discard mortality, CSMA striped bass are headed for the same destiny. Inadequate regulations and enforcement will yield the same results for striped bass just as it did for red drum. In long-lived fish like red drum and striped bass, nature intends for these gifts that come once every 10 to 20 years to carry us through the poor recruitment years. With our estuarine gill net fisheries at severe over-capacity, nature's way of rebuilding stocks just never happens once a fish "recruits" to large mesh gill net size.

Gill net mortality, both directed and non-directed, must be adequately addressed to eliminate a major recruitment bottleneck for CSMA striped bass.

Directed and non-directed recruitment over-fishing by the commercial fishing sector has led to a truncated age structure preventing the establishment of a spawning stock biomass that can produce dominant year-classes. Mature dominant year classes are needed to increase egg deposition on the spawning grounds. Increasing the spawning stock biomass and advancing the female age-structure to older fecund individuals will lead to improved wild recruitment, which is the goal of Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan as stated on page 1.

The goals of Amendment 1 to the North Carolina Estuarine Striped Bass FMP are to achieve sustainable harvest through science based decision-making processes that conserve adequate spawning stock, provide and maintain a broad age structure, and protect the integrity of critical habitats.

You are aware that the Estuarine Striped Bass Fishery Management Plan contains proclamation authority.

North Carolina's existing fisheries management system is powerful and flexible, with rulemaking authority vested in the North Carolina Marine Fisheries Commission (NCMFC) and the North Carolina Wildlife Resources Commission (NCWRC) within their respective jurisdictions. The NCDMF implements NCMFC rules and policies. The NCMFC and NCWRC have authorized the NCDMF Director and the NCWRC Executive Director proclamation authority. Depending on the agency, proclamations may be utilized to establish seasons, authorize or restrict fishing methods and gear, limit quantities taken or possessed, and restrict fishing areas. Thus, all necessary authority needed for management of the striped bass fisheries is available through the existing state fishery management process.

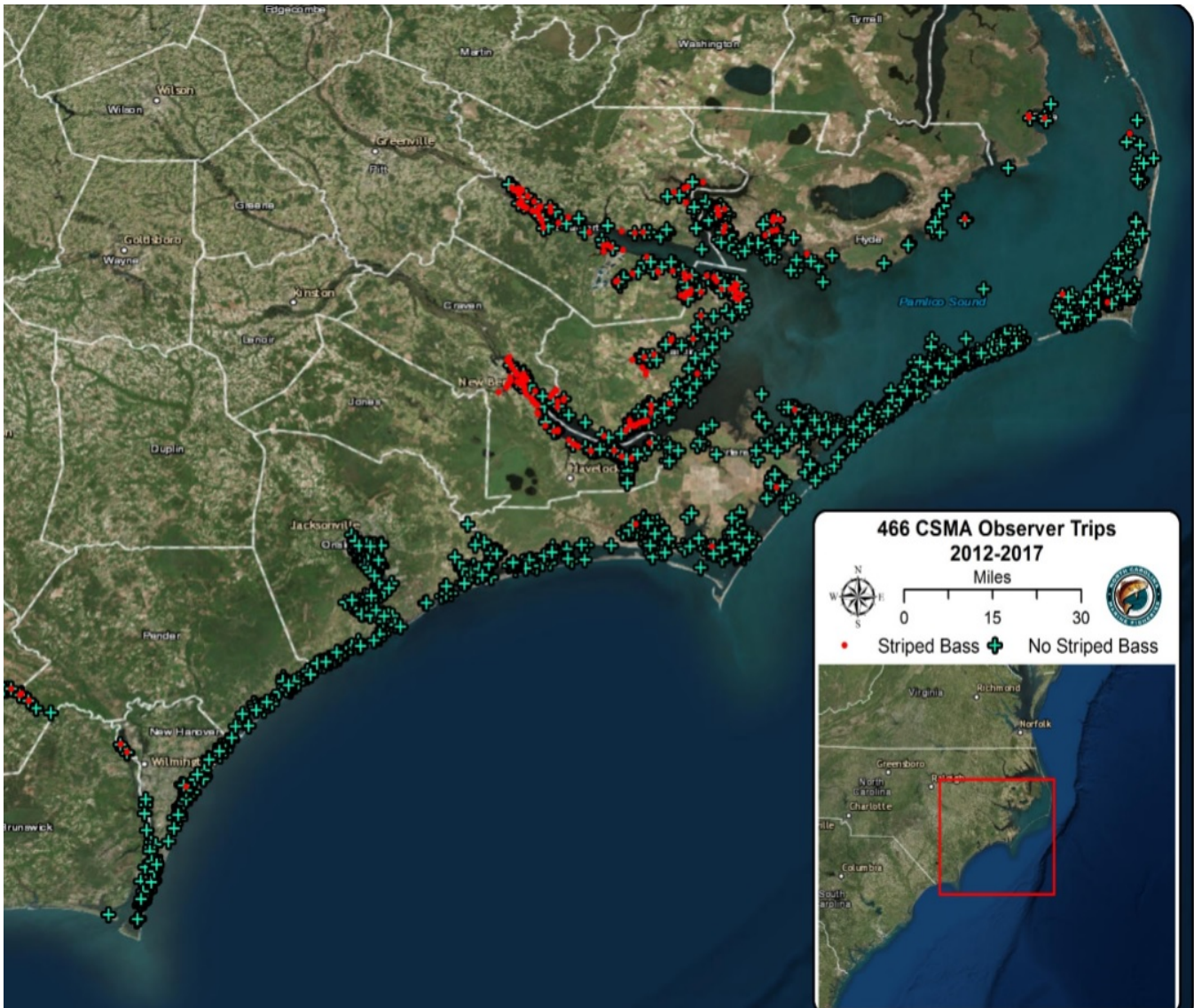
State Rule provides-

15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

- (a) It is unlawful to violate the provisions of a proclamation issued pursuant to a rule of the Marine Fisheries Commission, as provided in G.S. 113-221.1.
- (b) If specific variable conditions are not set forth in a rule of the Marine Fisheries Commission that grants proclamation authority to the Fisheries Director, the Fisheries Director shall consider the following variable conditions in exercising proclamation authority:
 - (1) compliance with changes mandated by the Fisheries Reform Act and its amendments;
 - (2) biological impacts;
 - (3) environmental conditions;
 - (4) compliance with Fishery Management Plans;
 - (5) user conflicts;
 - (6) bycatch issues;
 - (7) variable spatial distributions; and
 - (8) protection of public health related to the public health programs that fall under the authority of the Marine Fisheries Commission.

The CSMA needs a gill net moratorium to address non-directed bycatch mortality- the significant driver of Cryptic Mortality.

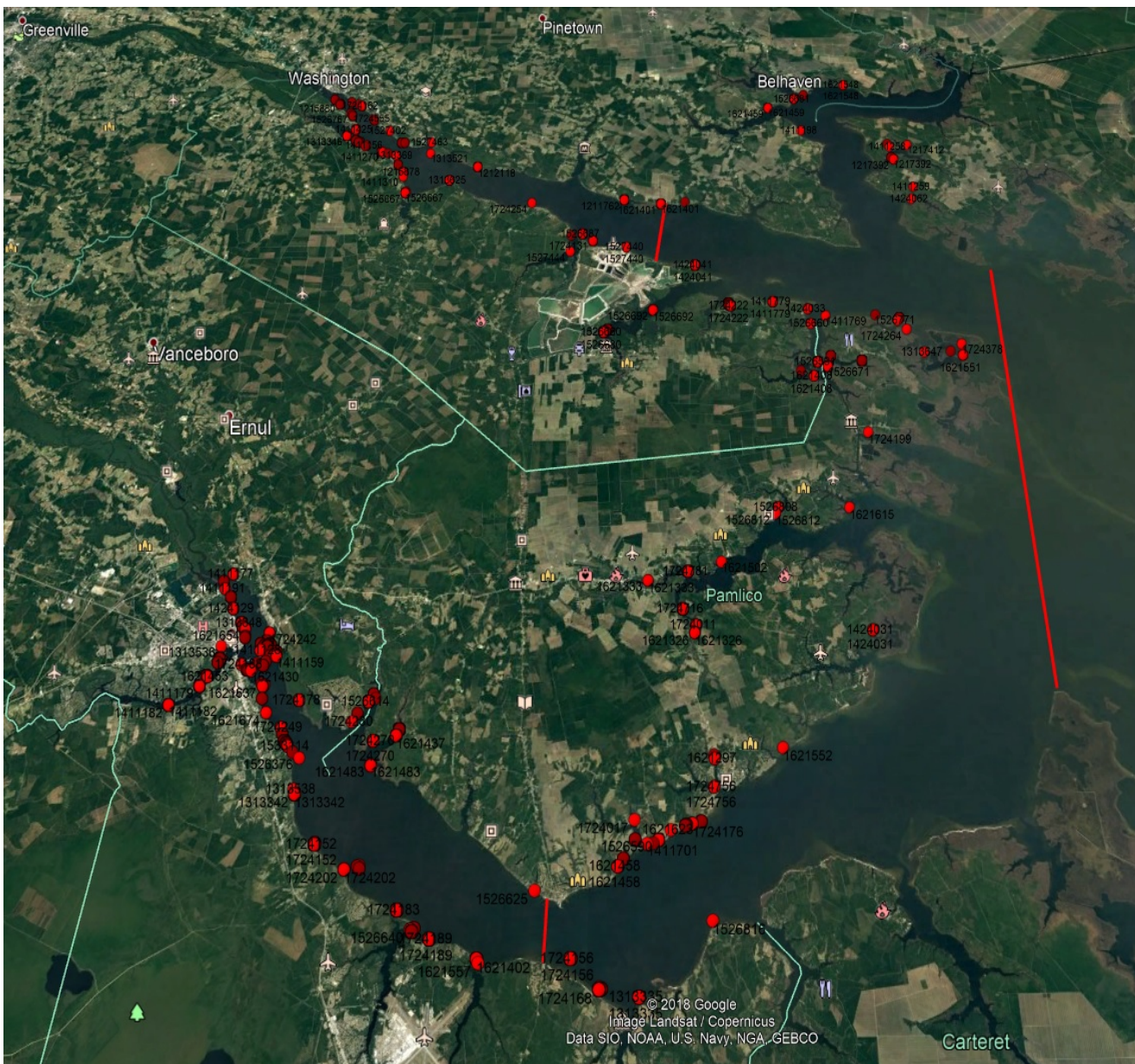
The DMF observes both large and small mesh gill net trips under the terms of the Sturgeon and Turtle ITPs. The image below shows those areas in the CSMA where striped bass interactions occurred during DMF observed trips from 2012 to 2017.



Using the online program EarthPoint and DMF data, I plotted the striped bass occurrences showing the geospatial relationship to the Neuse and Tar river ferry routes, which are shown as a solid red line.



Using the same data, I plotted the striped bass data against the well-established NCDMF Gill Net Tie-Down Line established under Proclamation M-3-2015.



I request that this Commission honestly review the facts. In doing so, you will see that gill net discard mortality is driving cryptic mortality, which is the primary source of total mortality in the CSMA.

I asked that you adequately address the primary source of mortality through a motion and vote that requests that the Director issue a proclamation closing the Neuse and Tar rivers to all anchored gill nets at either the ferry routes or the Tie-Down Line. The WRC supports closing the rivers at the ferry lines. The data plots above suggest that a more conservative approach would be a closure at the Tie-Down Line.

Failure to adequately address gill nets will result in a complete failure of the FMP- a failure that needs to be prevented now, not in ten, twenty or thirty years if or when nature gives us our

next gift. These two-year classes of naturally spawned fish with natal imprinting are the future of a sustainable fishery. If these fish are lost and stocking stops, striped bass will become almost fully extirpated in the Neuse and Tar rivers within five years.

Sincerely and Best Regards,
Rick Sasser
Goldsboro