What's the Catch? Recreational Fishing Trends in North Carolina (1990-2019)

https://github.com/ardathdixon/Data_FinalProject

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1 Rationale and Research Questions

- Are there trends in the amount of these fish caught over time? How do they compare?
- What could these trends look like in the future?

2 Dataset Information

Data retrieved from NOAA Marine Recreational Information Program download query tool

- Bimonthly recreational fisheries catch totals for NC, 1990-2019
- All species, bluefish (*Pomatomus saltatrix*), and black sea bass (*Centropristis striata*)
- Multiple areas and modes of fishing

Table 1: General Information About the Data Used

Detail	Description
Data Source	NOAA MRIP
Retrieved from	https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries
Variables Used	Year, Wave, Total Catch, Mode, Area
Date Range	January 1990 - December 2019

Table 2: Total Catch Summaries

Summary Statistics	All Fish	Bluefish	Black Sea Bass
Minimum	11869.99	2.654465e+01	1168.843
Mean	12402954.90	1.342064e+06	411196.959
Median	11292146.32	1.064370e+06	313437.853
Maximum	34932698.46	5.254125e+06	1746847.176

3 Exploratory Analysis

##code and table of number of NAs per fish category

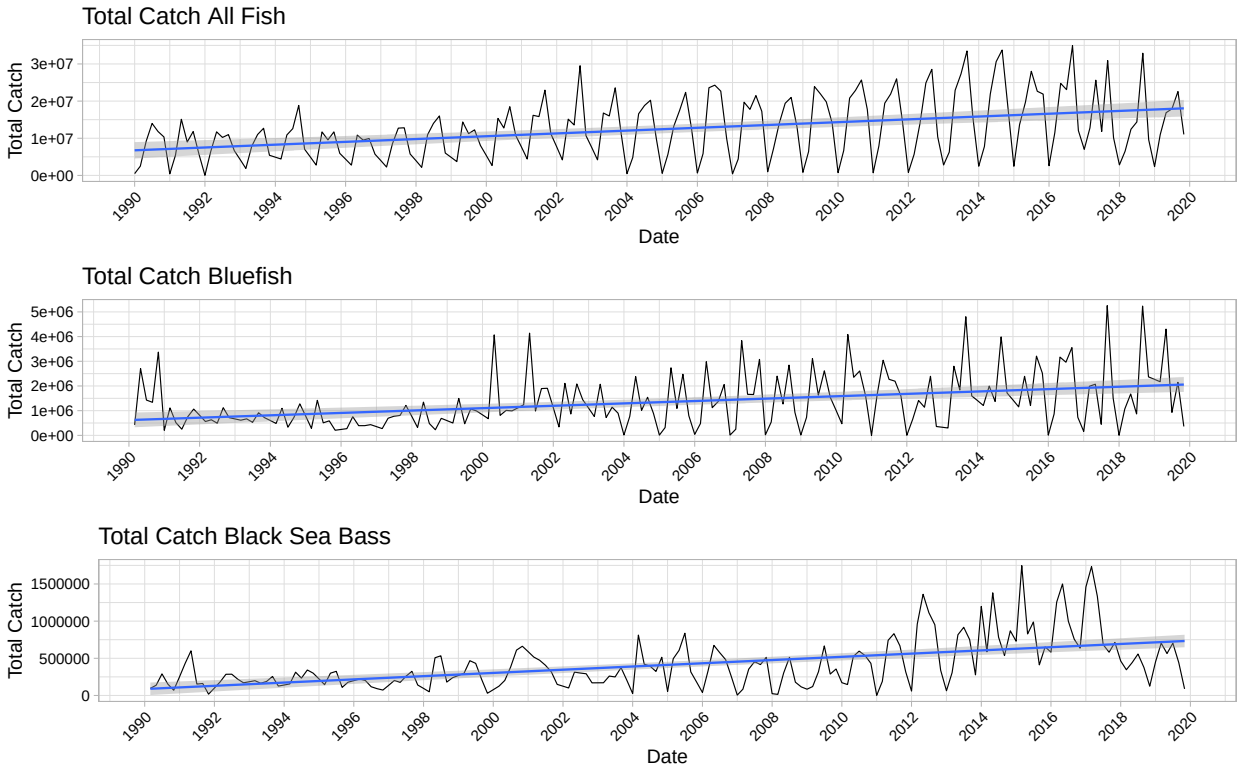
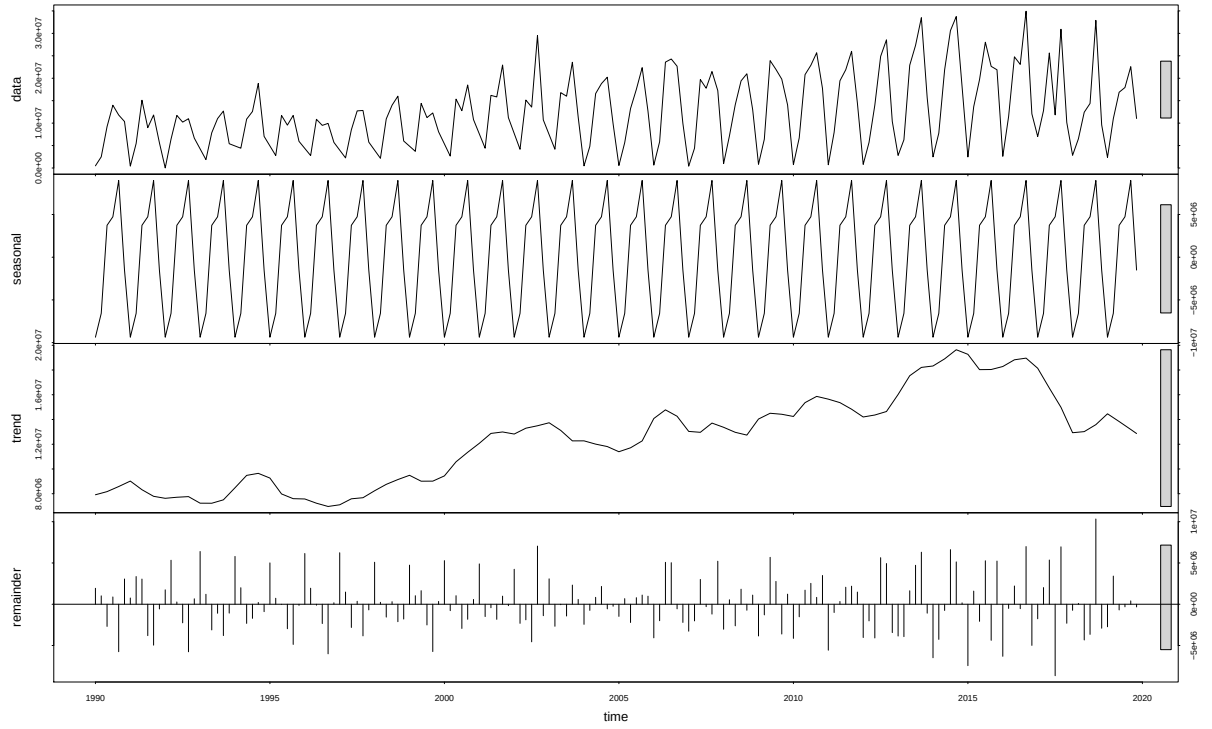


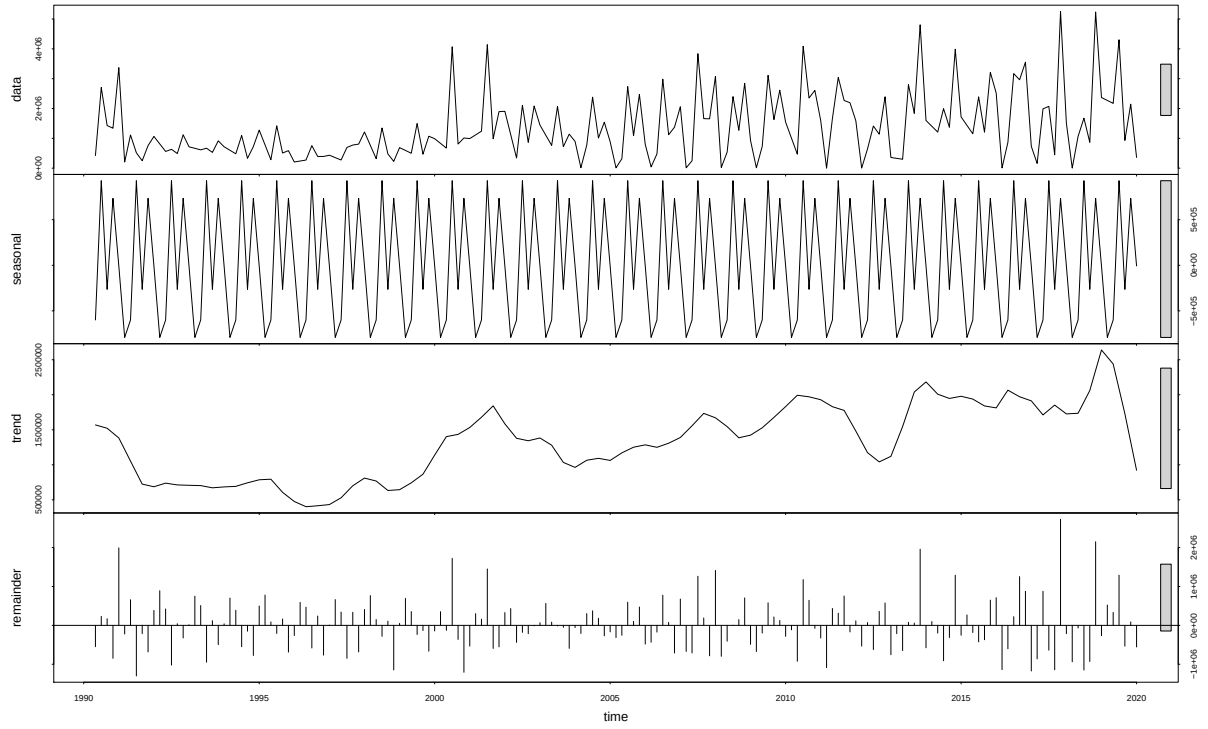
Figure 1: Catch Patterns over Time

4 Analysis

4.1 Question 1: Are there trends in the amount of these fish caught over time? How do they compare?




```
## tau = 0.49, 2-sided pvalue =< 2.22e-16
```

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## tau = 0.324, 2-sided pvalue =8.7489e-10
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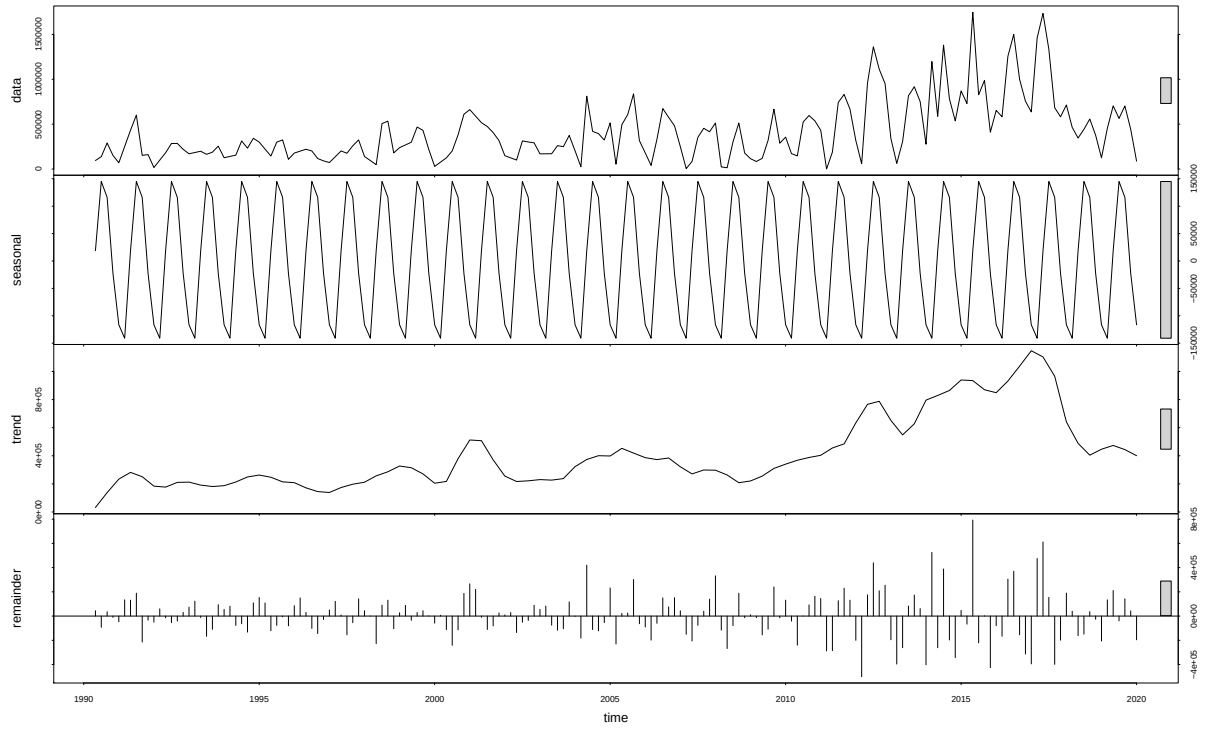
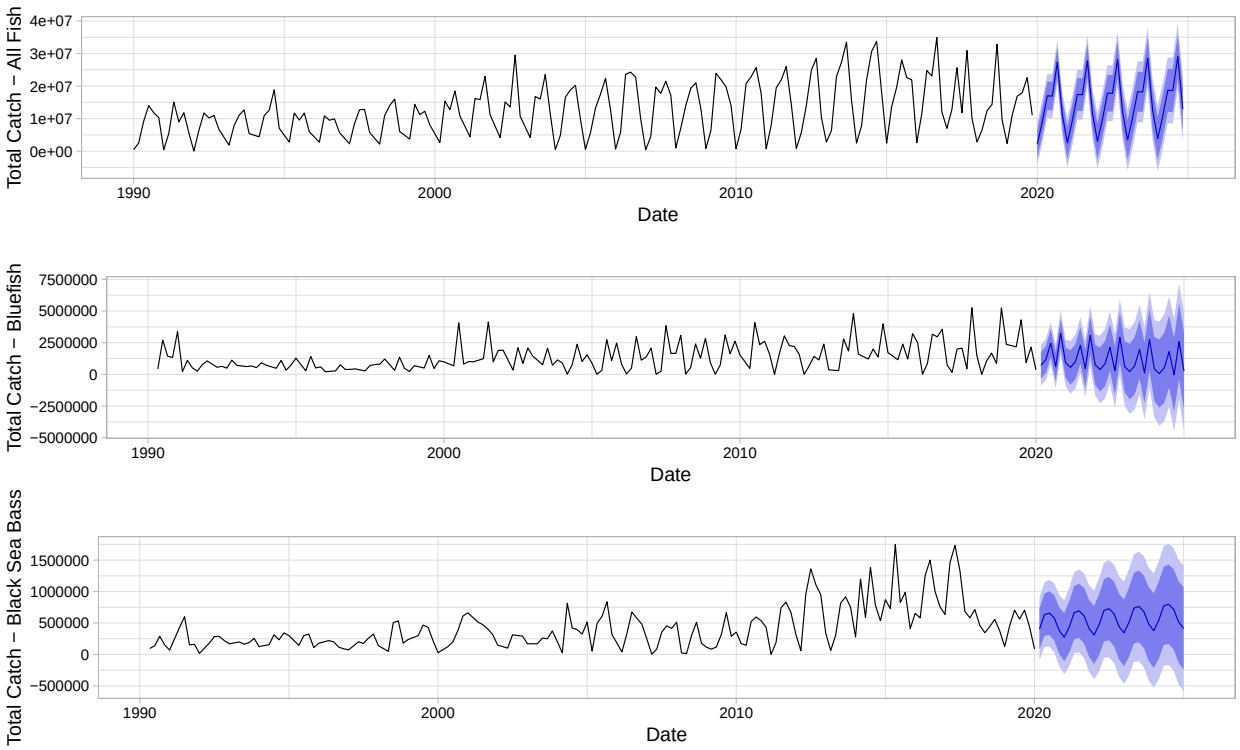



```
## tau = 0.41, 2-sided pvalue =8.4377e-15
```

For both individual species and all species combined, **reject the null hypothesis** that there is no trend.

4.2 Question 2: What could these trends look like in the future?



5 Summary and Conclusions

5.1 Strong seasonal trends

- Bimodal peaks for bluefish
- Possibly due to effort, fish abundance

5.2 Overall positive trend

- Increase in recreational fishing
- Variation from changing regulations, behavior

5.3 Limitations

- Data collection: Estimates based on surveys of fishers
- Interpolation
- Uncertainty in forecasting

5.4 Future recommendations

- Comparisons of other species or other states
- Catch per unit effort
- Include earlier data

6 References

<add references here if relevant, otherwise delete this section>