

EXTENT OF EELGRASS IN LITTLE NARRAGANSETT BAY, RHODE ISLAND USING SIDE SCAN SONAR

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INTRODUCTION

Eelgrass, *Zostera marina*, is a flowering underwater plant which blooms from the late spring to summer in groups referred to as meadows (Figure 1). The larger bed in Little Narragansett Bay is one of Rhode Island's largest eelgrass beds. Eelgrass is an important and vital habitat for several animals including fish and crustaceans (Massie and Young, 1998). An EdgeTech's 4125i Side Scan Sonar System was used between Napatree Point Conservation Area and Sandy Point in Little Narragansett Bay to map the current extent of eelgrass. The 2016 extent of eelgrass was mapped using aerial imagery of aquatic vegetation (Bradley, 2017). Side-scan sonar imagery, coupled with vertical aerial photographs was used to map the extent of eelgrass beds and scattered eelgrass within the study area.

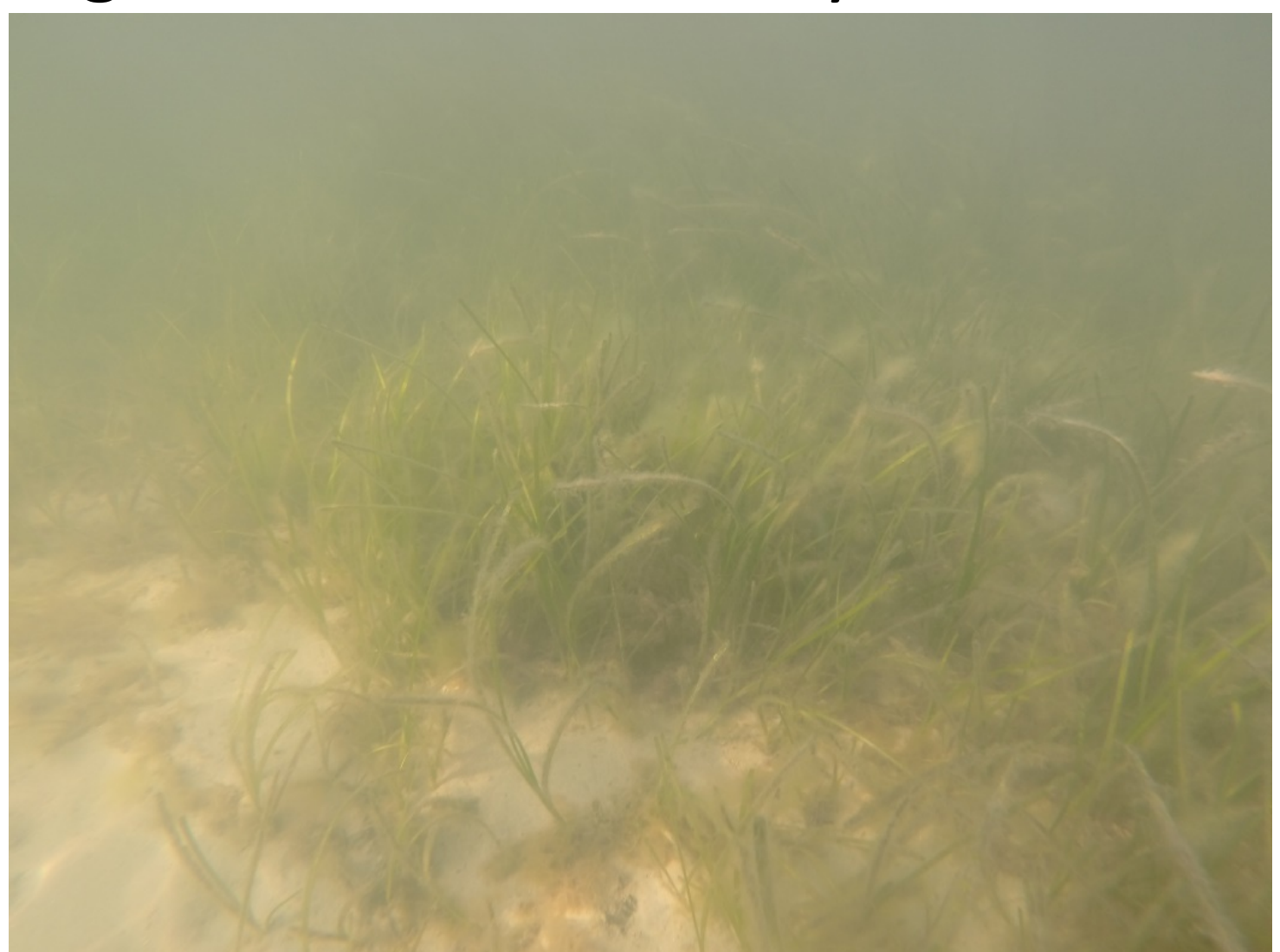


Figure 1. Eelgrass photographed by Dr. Bryan Oakley in Little Narragansett Bay.

RESULTS

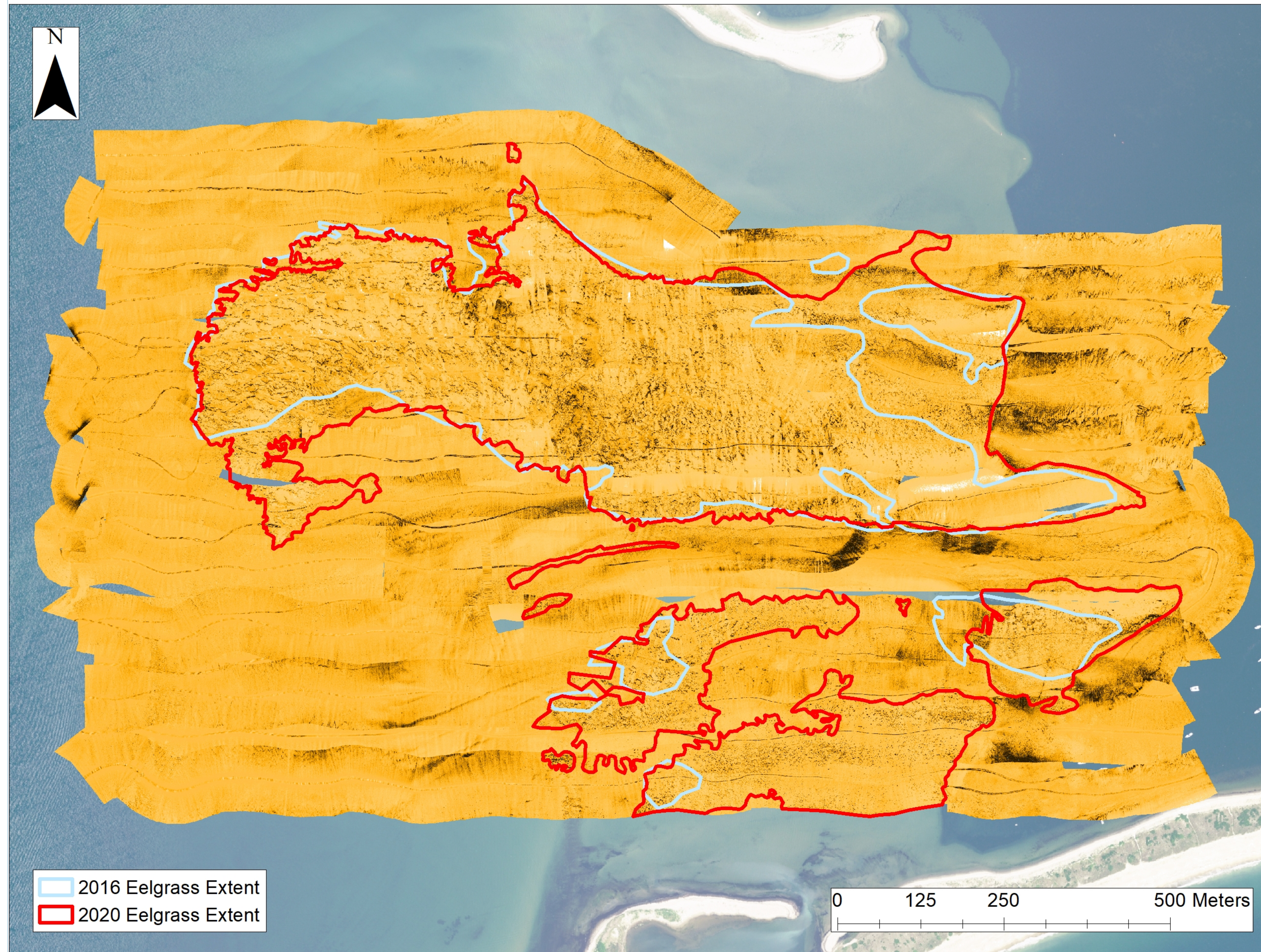


Figure 2. Extent of eelgrass in Little Narragansett Bay in 2020, shown in red, compared to the 2016 extent, shown in blue, on top of side scan sonar data collected by Dr. Peter August and Dr. Bryan Oakley.

CONCLUSION

Napatree Points eelgrass meadows have extended from 96 total acres in 2016 to 142 acres in 2020 (Figure 2). The areas where extent increased on the upper meadow include the northeast and southwest corners. On the lower meadow, growth is seen but it's rather sparse compared to the eelgrass found in the northern beds. This study allowed researchers to use a combination of sonar and satellite data to more accurately locate locations of eelgrass which is essential for the area's ecosystem. The sparse beds mapped using sonar may not be visible in aerial imagery OR may represent further expansion of the eelgrass beds.

REFERENCES AND ACKNOWLEDGEMENTS

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