Saltmarsh sparrows are ground nesting species in coastal marshes. They have adapted to withstand periodic nest flooding from extreme high tides that result from spring tides and storms. Due to recent sea level rise, it is harder for adults to fledge chicks because nests are flooding more frequently and at higher magnitudes (Bayard and Elphick 2011, Correll et al. 2017, Field et al. 2017). The females take full parental responsibility over the young (Greenlaw et al. 2018). This study looks at their behavior during nest flooding events, which are characterized by water entering the nest. It is already known that they incubate very little while the nest is flooded (Apgar et al. unpublished), but this study focuses on their behaviors after flooding.

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INTRODUCTION
Saltmarsh sparrows are ground nesting species in coastal marshes. They have adapted to withstand periodic nest flooding from extreme high tides that result from spring tides and storms. Due to recent sea level rise, it is harder for adults to fledge chicks because nests are flooding more frequently and at higher magnitudes (Bayard and Elphick 2011, Correll et al. 2017, Field et al. 2017). The females take full parental responsibility over the young (Greenlaw et al. 2018). This study looks at their behavior during nest flooding events, which are characterized by water entering the nest. It is already known that they incubate very little while the nest is flooded (Apgar et al. unpublished), but this study focuses on their behaviors after flooding.

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DATA COLLECTION
Saltmarsh sparrow nests were found using systematic searches at Hammonasset Beach State Park and East River, Connecticut from May-August of 2017-2019. On the days leading up to a new or full moon (when tides are highest), video cameras were placed in front of a subset of nests 0.5-3 hours before a high tide and retrieved 0.5-3 hours after a high tide. Videos were taken with full spectrum POV cameras augmented with infrared radiation lights and an external battery pack purchased from Ghostop.com.

CONCLUSION
There appears to be a trend between the female visiting the nest during a flooding event and incubating shortly afterwards. The female behavior does not seem to impact nest survivability. In 7/9 nests all the offspring died, 6/9 nests failed due to flooding, 1/9 failed due to depredation, 1/9 fledged at least one chick and 1/9 had an unknown fate. The nest that fledged was visited and incubated by the female, however cause and effect is not clear.

To better understand the relationship between flooding and female incubation, more research is warranted. This limited study suggests that there may be some relationship between whether a female checks on the nest during a flooding event and when she comes back to incubate after the flood has receded.

RESULTS / DISCUSSION
9/43 videos experienced flooding events
In 4/9 videos that experienced flooding events the female returned to the nest within 30 minutes after the tide receded. In the other 5/9, the female did not return within 30 minutes of the tide receding.

The goal was to see what caused the variation in the habits of the mother regarding returning to the nest after a flooding event. Also considered was the time spent incubating before a flooding event and the status of the offspring; egg or chick. Neither the status of the offspring or time spent incubating before a flooding event appeared to impact the return rate of the female.

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REFERENCES

