



Research Theme 3:

Emerging Areas
*Movement Ecology
of macrofauna in a
changing seagrass environment*

Meet The Team



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Green turtles in a *Syringodium filiforme* dominated Brewers Bay - 2012

Brewers Bay is undergoing dramatic changes in its seagrass meadows and related communities due to an invasive seagrass *Halophila stipulacea*. The installation of an 68 –receiver FPS acoustic array by VI-EPSCoR allows fine-scale tracking of its macrofauna such as green sea turtles, giant hermit crabs and stingrays as the bay changes.



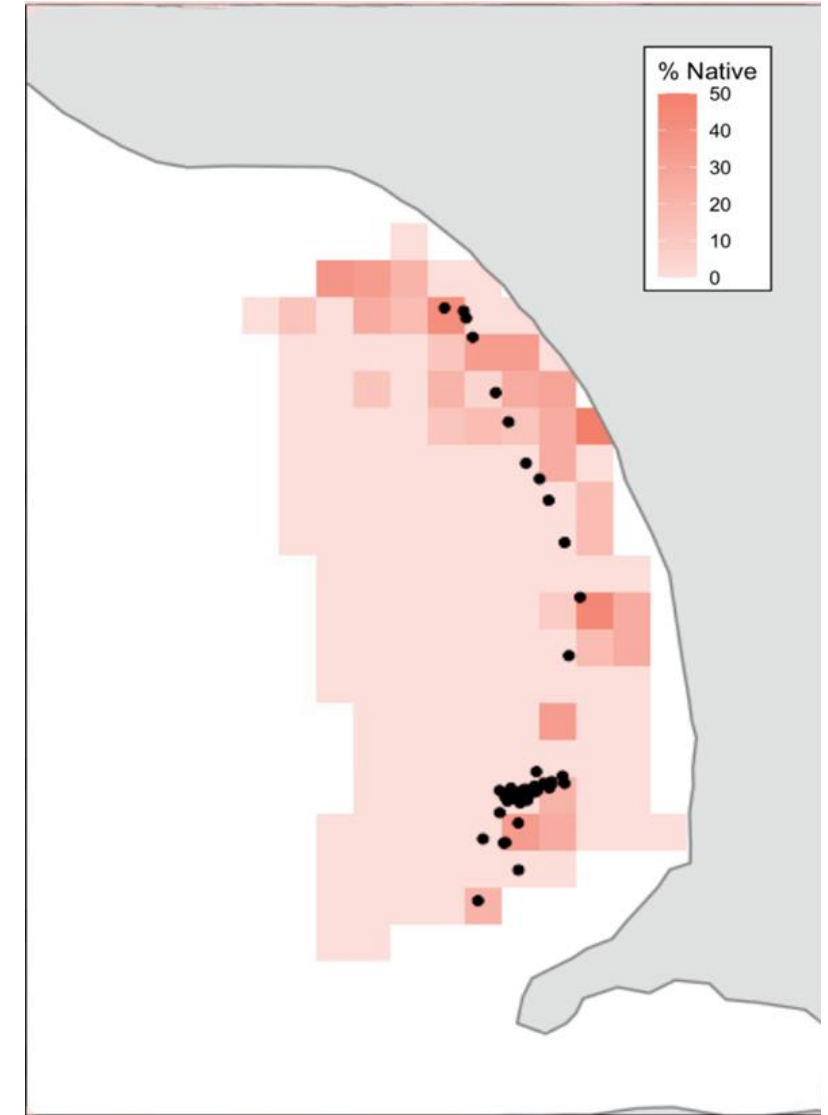
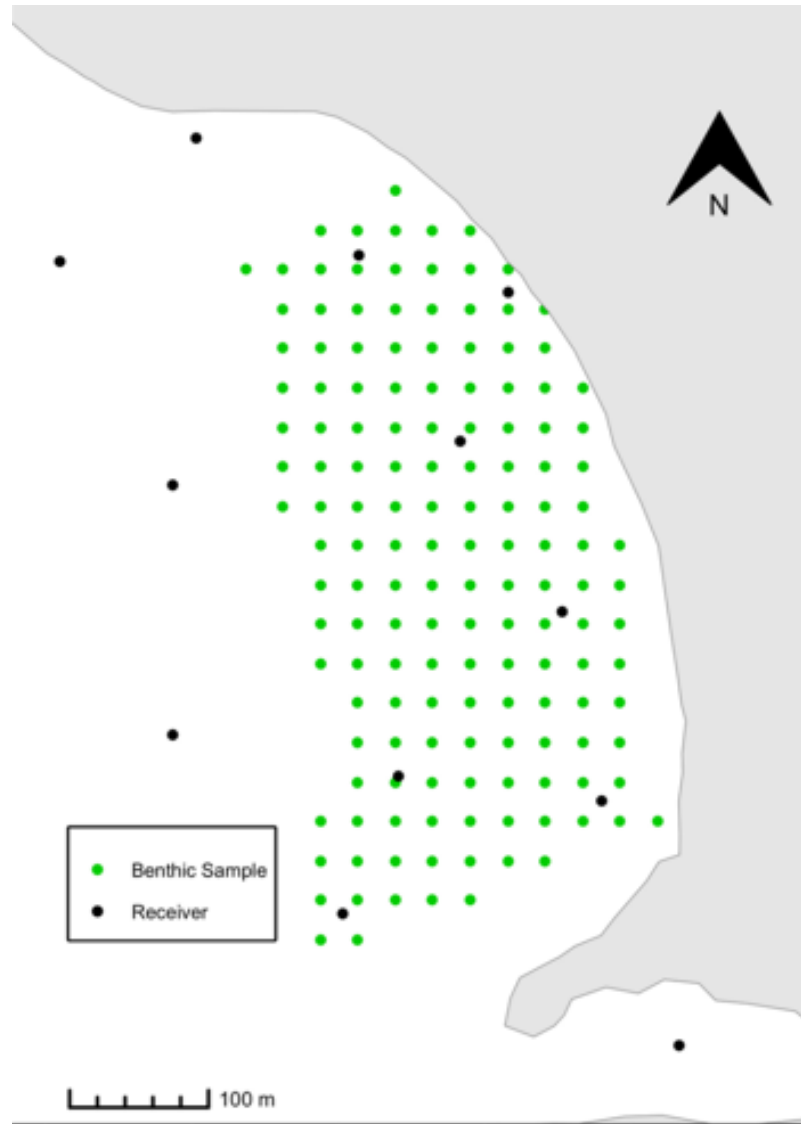
Halophila. stipulacea dominated Brewers Bay - 2019



New 68 receiver FPS acoustic array

Green sea turtles select native seagrasses

Dr. Paul Jobsis – Emerging Areas / Movement Ecology



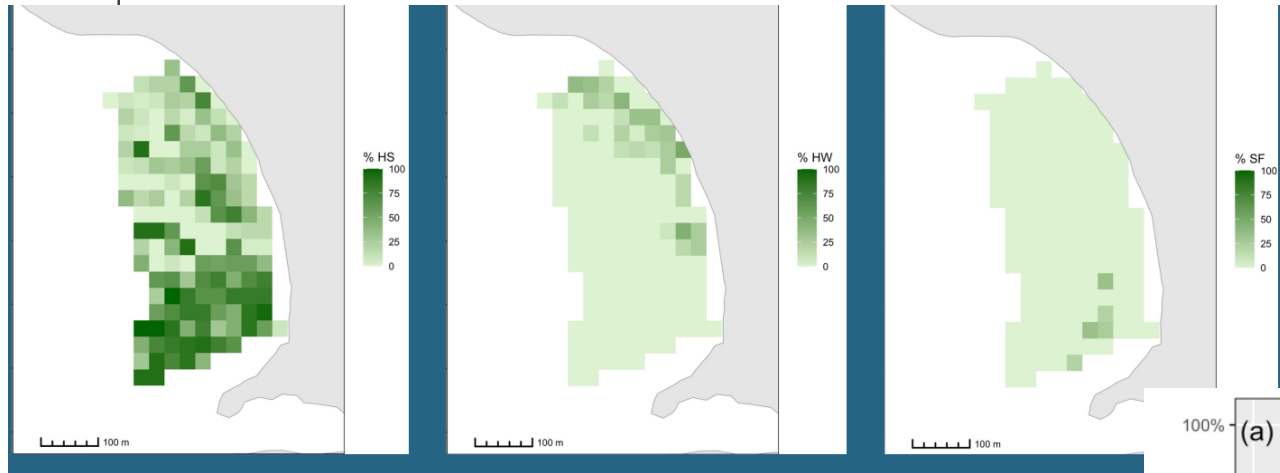
Green sea turtles select native seagrasses

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H. stipulacea

H. wrightii

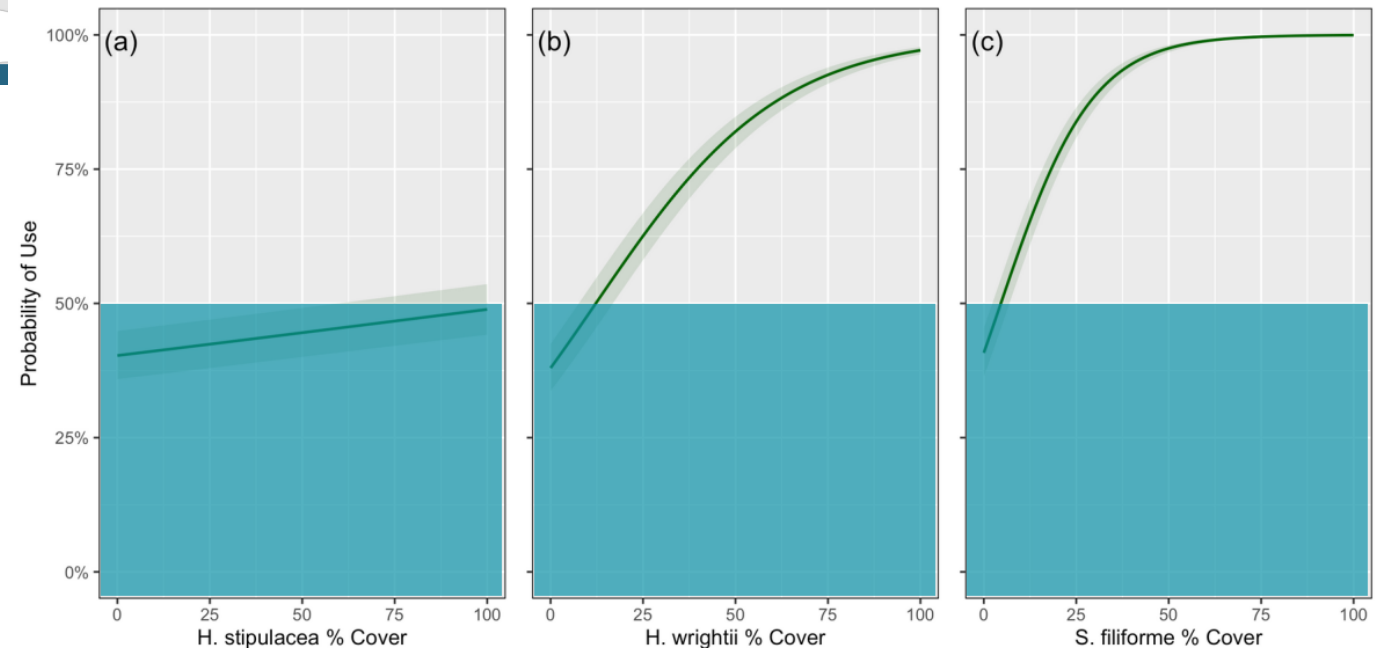
S. filiforme



H. stipulacea

H. wrightii

S. filiforme



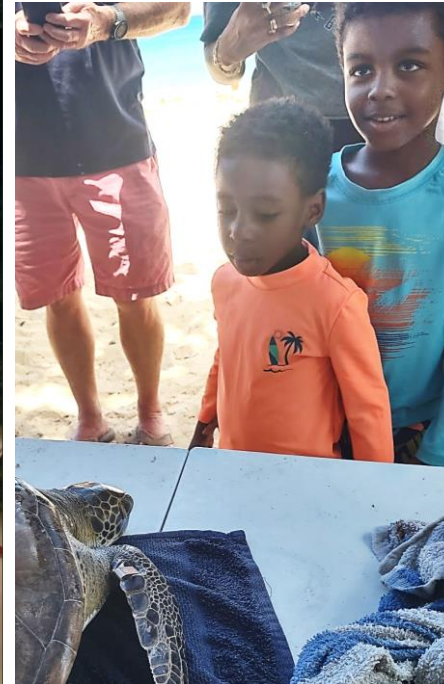
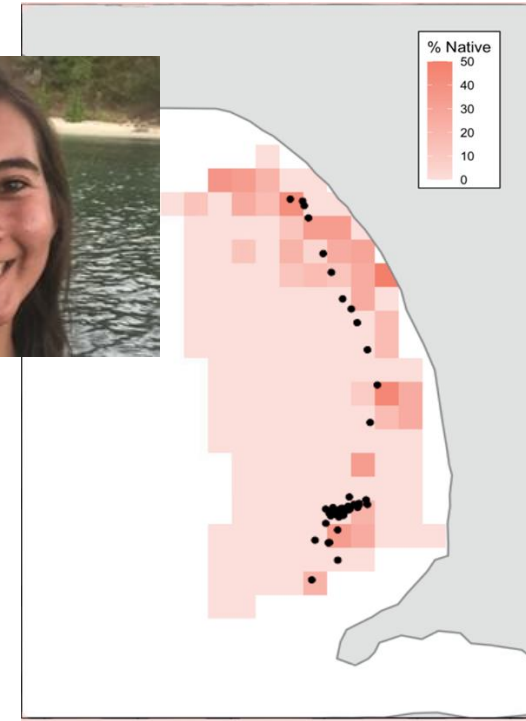
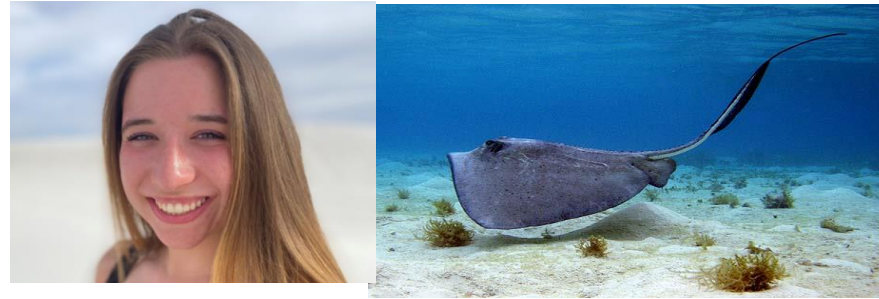
Movement Ecology Activities

1. Measured the impacts of invasive seagrass, *H. stipulacea*, on animals adapted to the native seagrass meadows.
2. Include undergraduate and graduate students in active research projects.
3. Conducted a turtle tagging outreach event.
4. Presented research results in national and international conferences and journals.



Future activities

- Maintain array and collect stingray movement and benthic habitat data
- Continue public sea turtle tagging with VIMAS and VI-ISERP participation
- Have two master's students complete their FPS-related theses
- Submit two manuscripts on FPS movement ecology studies
- Continue animal tagging and maintain FPS array to leverage additional grant and donated funds.



Brunson et al non-FPS submitted

Cassell et al. (non-FPS) accepted

Research Broader Impacts, Interdependencies, and Collaborations

- **Broader Impacts:** This data has been used in NMFS' effort to identify marine areas for critical habitat of the green sea turtle as part of an ESA review (2023). USVI DFW will receive data as part of their management of ESA-listed species.
- **Interdependencies:** Other Emerging Research Areas (Cruz-Rivera and G. Guannel VIMAS, Reef Bay research (R. Nemeth and K. Blincow), Formal Education (M. Guannel Sci100), formal and informal education within VI-EPSCoR.
- **Collaborations:** Kelly Stewart (Ocean Foundation), Kristen Hart (USGS), Larry Wood (Florida Hawksbill Project), Karen Bjorndal (Archie Carr Center, UF), Dr. Stephen Ratchford (UVI), and the VINP St John Sea Turtle project, USVI Division Fish & Wildlife, and US Fish and Wildlife Service (Claudia Lumbard, Sandy Point St Croix).
- **Partners:** Lana Vento Charitable Trust, Baird Family Trust, Community Foundation of the Virgin Islands, National Park Service, Ocean Foundation, the Hawksbill Project, and the National Save the Sea Turtle Foundation.



Thank you!

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