

2021 recap

- EPA: satellite imagery for seagrass applications
 - Northern New England study for mapping, above ground biomass, productivity
 - ➔ carbon sequestration and emissions
 - ~25% of Maine's coastal carbon sequestered in seagrass
 - Measured Leaf Area Indices (LAI), density ➔ regress with satellite-derived biomass
 - Collected water grabs for chl *a*, CDOM, suspended matter
 - ➔ regress with reflectance
 - Prelim. data: remote prediction of biomass least accurate at East End

Site	Shoot density (m ²)	LAI (cm ² /shoot)	Biomass (g/shoot)	Biomass (g m ⁻²)
Gloucester Harbor (MA)	186	113	0.66	122
Nahant (MA)	189	127	0.74	139
East End Beach (ME)	67	135	0.78	53
Clapboard Island (ME)	176	81	0.48	84



- Bates: stable isotopic enrichment (~repeat study)
 - Portland area sites and tidal tribs (Capisic Brook, Presumpscot and Royal Rivers)
 - eelgrass tissue, water, sediment ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$, nitrate+nitrite, ammonium, chlorophyll *a*)
 - Suggestion of decreased $\delta^{15}\text{N}$ enrichment at East End relative to adjacent Mackworth Island (2009)
- Team Zostera: volunteer eelgrass monitoring in Portland area
 - site and methods orientation, new reference site reconnaissance
 - data collection planned for 2022
 - documentary filming?



Photo credits: Alexander Lewis & Kaitlyn Schwalje



2022 plan

- Casco Bay eelgrass survey (1992, 2001, 2013, 2018)
- for standards attainment, green crab impacts, mitigation & restoration planning, aquaculture & commercial fishing interactions
- Low tide color, near infrared bands (6" pixel size)

