

## Good Crab, Bad Crab

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Are crabs friends or foes of marsh grass, benefit or detriment to the salt marsh system? We examined *Uca pugnator* (sand fiddler) and *Sesarma reticulatum* (purple marsh crab) with *Spartina patens* (salt marsh hay) at two elevations (10 cm below MHW and 10 cm above MHW) in mesocosms with a marsh soil matrix, and a semidiurnal tidal cycle with Narragansett Bay water. While the purple marsh crab had significant negative effects on the salt marsh hay productivity at both elevations, the sand fiddler had positive effects on the plants at the high elevation, and apparently kept macroalgae blooms in check at the low elevations. Our results support published reports of the purple marsh crab as one potential cause of marsh dieback at sites where there are large populations of this crab species. The response of the marsh system to sand fiddlers was positive, which may bode well for some northern New England marsh systems where there are recent reports of fiddler crab movement into marsh areas previously devoid of these crabs. Future work will examine the nitrogen cycling in the plant/crab mesocosms, and the effect of the crabs on greenhouse gas emissions. With impacts of climate change (e.g., accelerated sea level rise; warming water temperatures) reported in many New England salt marshes, it is important to better understand plant-animal interactions and effects crabs have on the marsh system.