

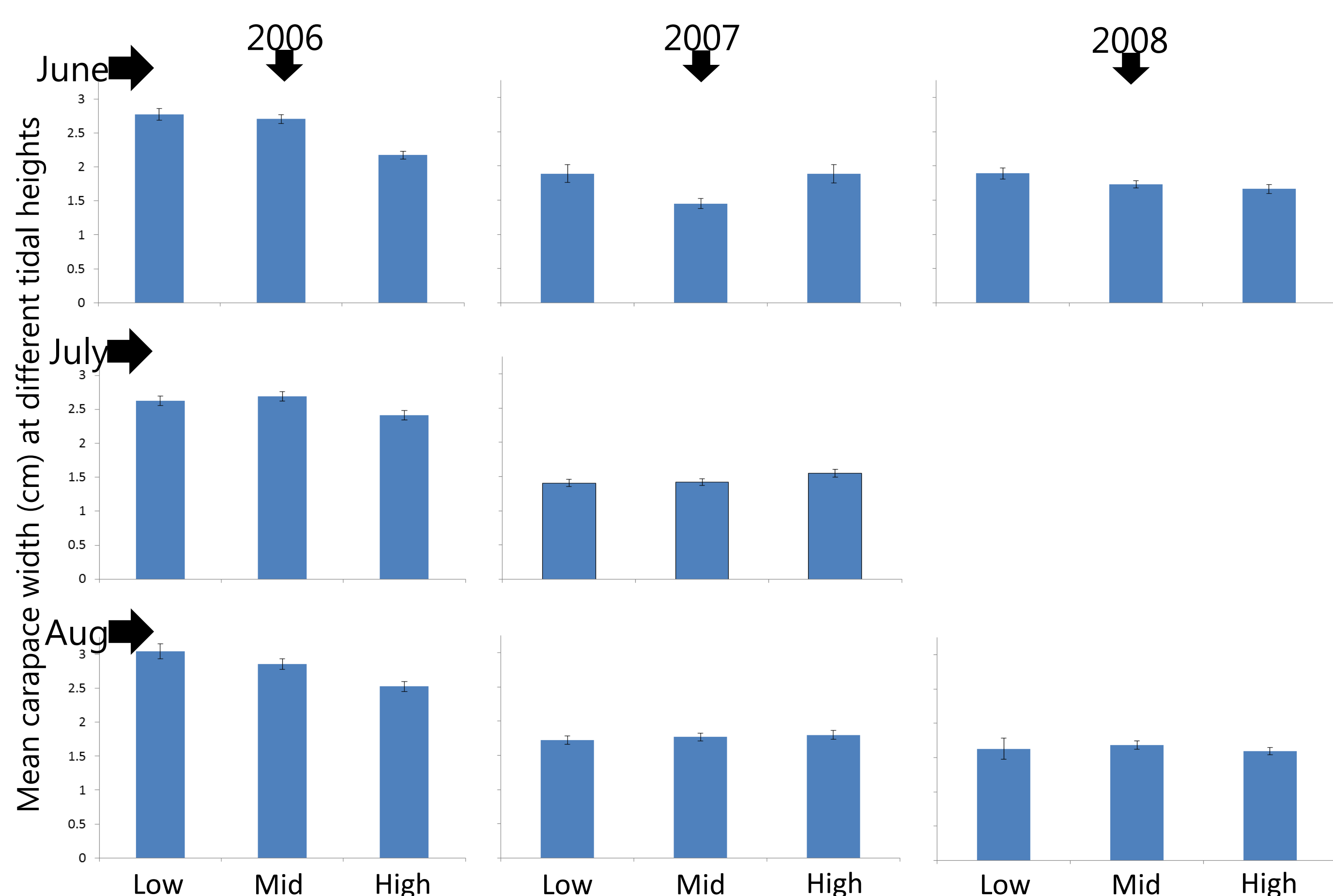
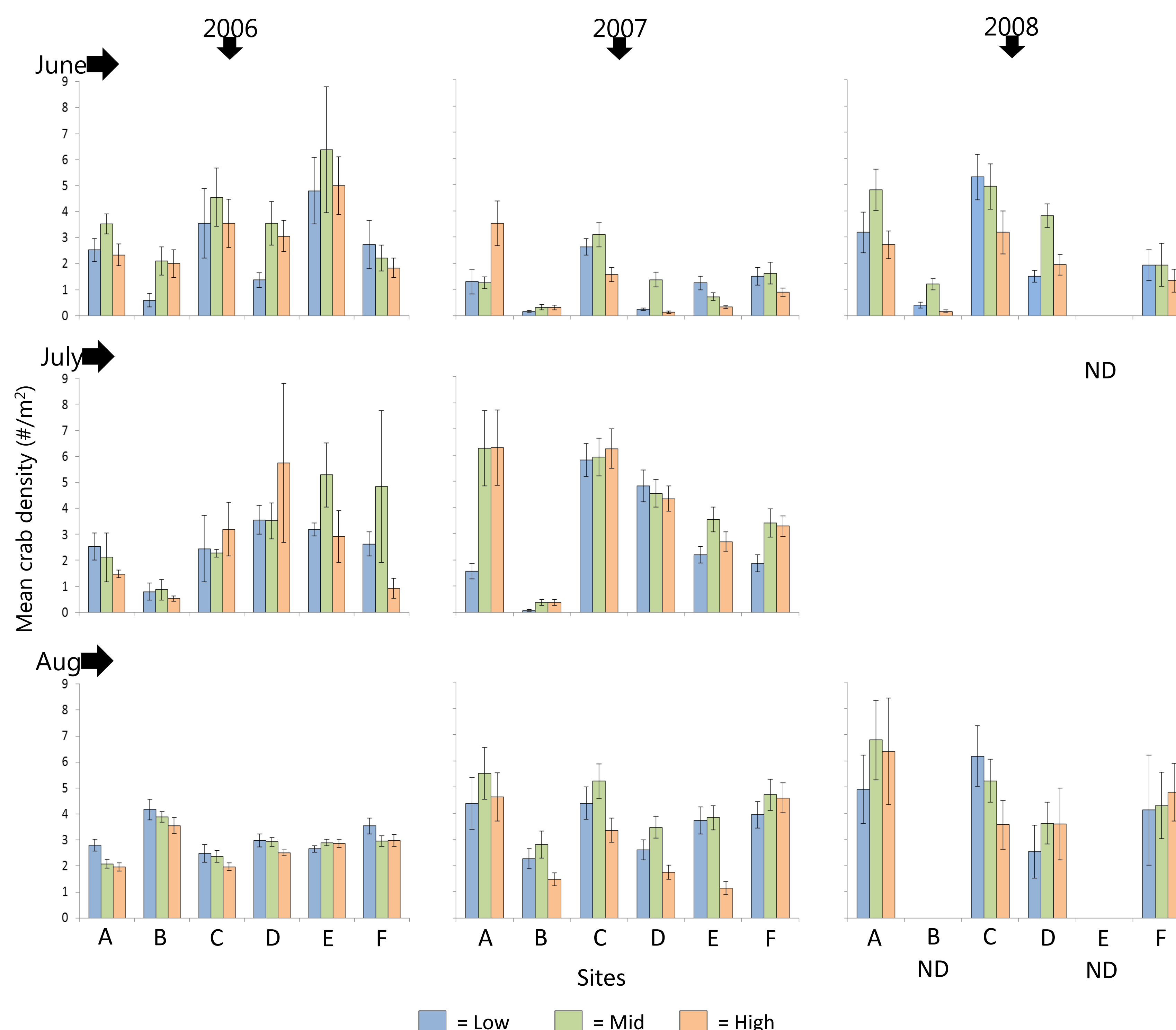
Density, distribution, and demographics of the European green crab (*Carcinus maenas*) on the Schoodic Peninsula, 2006-08

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As part of a research project conducted on the Schoodic Peninsula (Winter Harbor, ME), data on the density of *C. maenas* were collected from interrupted belt transects that ran from the low tide mark (at MLLW) to the high tide mark (MHHW). At each of six sites three transects were run at each sampling period. Rocks were hand-turned and all crabs found within alternating 1m² area along the transect were measured and sexed. Data from the bottom one third of each transect were pooled and considered “low” intertidal. The middle one third was considered “mid” intertidal, and the upper one third was considered “upper” intertidal.



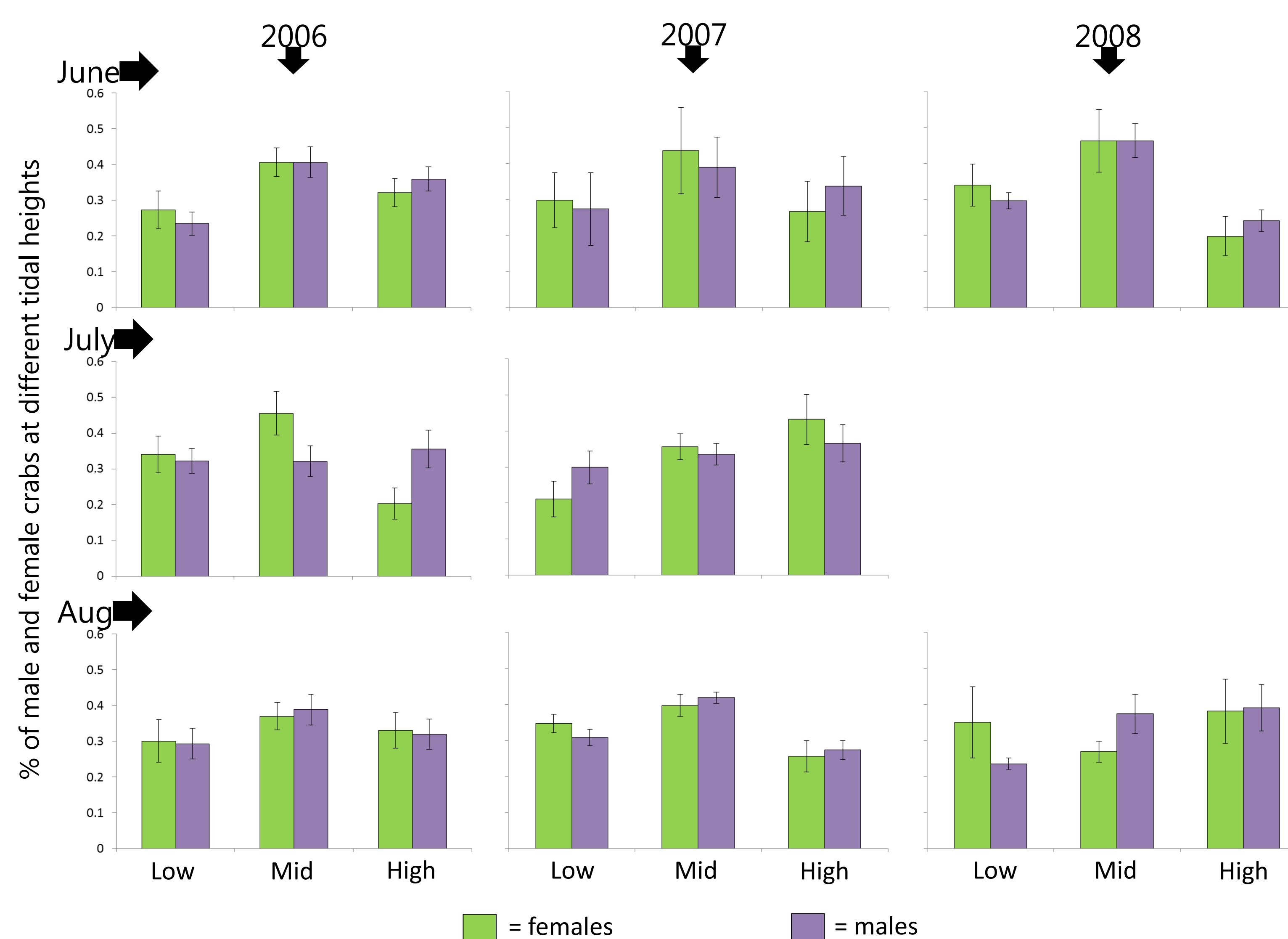
Sites:
 A (Wonsqueak Harbor) – steeply sloping from medium boulders to mud/shell bottom
 B (Blueberry Hill) – north slope steep with medium/large boulders; south flat, sandy/shell with eelgrass
 C (Little Moose Island) – shallow slope, medium boulders, freshwater input
 D (Pond Island) – moderate slope, medium/large boulders, high algal diversity
 E – steep slope with large boulders
 F (Mosquito Cove) – shallow slope, small/medium boulders, fast tidal flow with mussel bed



Typical densities of *C. maenas* along the Schoodic Peninsula were 3-6 crabs/m² depending on date and site. These densities are low compared to those historically found along southern New England shores that have been 20-40/m² (Berrill 1982, Mansour 1983, Ropes 1987). However, in recent years the numbers of *C. maenas* have declined along these southern shores due to an increase in the invasive Japanese shore crab, *Hemigrapsus sanguineus*, which has reached densities similar to those historic densities of green crabs (Lohrer & Whitlatch 2002).

The distribution of crabs along the intertidal does not follow a clear pattern with respect to overall density; however, in most months females tended to be found more in the lower intertidal than males. Juveniles less than 1cm wide were more prevalent in the upper intertidal. This is most evident in the data from 2006 where a decrease in carapace width in the upper intertidal is obvious. Other studies have also documented the trend of juveniles remaining higher in the intertidal while larger adults migrate down with the tide (Crothers 1968, Hunter & Naylor 1993, Warman et al. 1993)

Ovigerous females were more common in June than other months in all years, but were especially prevalent in 2006. This likely led to a large recruitment year for 2007, resulting in a decrease in average carapace width due to large numbers of young. *Carcinus maenas* typically becomes sexually mature after its first year, around 3cm in width (Klein-Breteler 1976), and, as is the case of other populations (Warman et al. 1993), the intertidal population on Schoodic consists of many young juveniles likely sourced from a larger subtidal adult population.



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