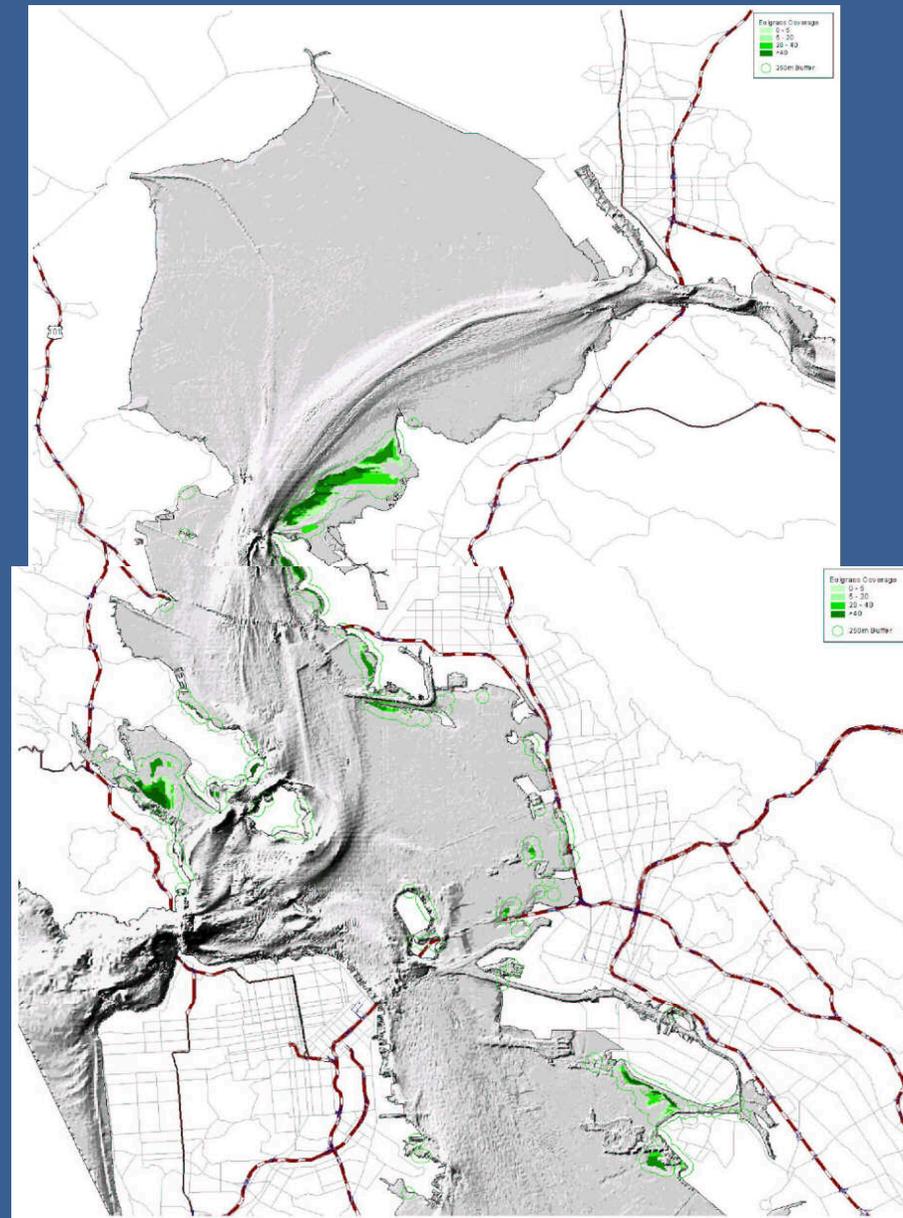


# Distribution of eelgrass in the Bay



(Merkel and Associates 2004)



Photos by Kathy Boyer



## Seven Site Survey for CA Coastal Conservancy by K. Boyer

Data on eelgrass densities, lengths, flowering rates, growth rates and epifaunal invertebrate use

Most data collected for 5 years, 2006-2010 and at two seasonal time points, late Apr-early May and late July-early Aug each year



Gwen Santos thesis, finishing in fall 2011

At 4 of the 7 eelgrass beds in the Seven Site Survey:

Epiphyte abundance on eelgrass ~quarterly from 8/2008 to 4/2010

Macroalgal biomass, by species, sampled over same period

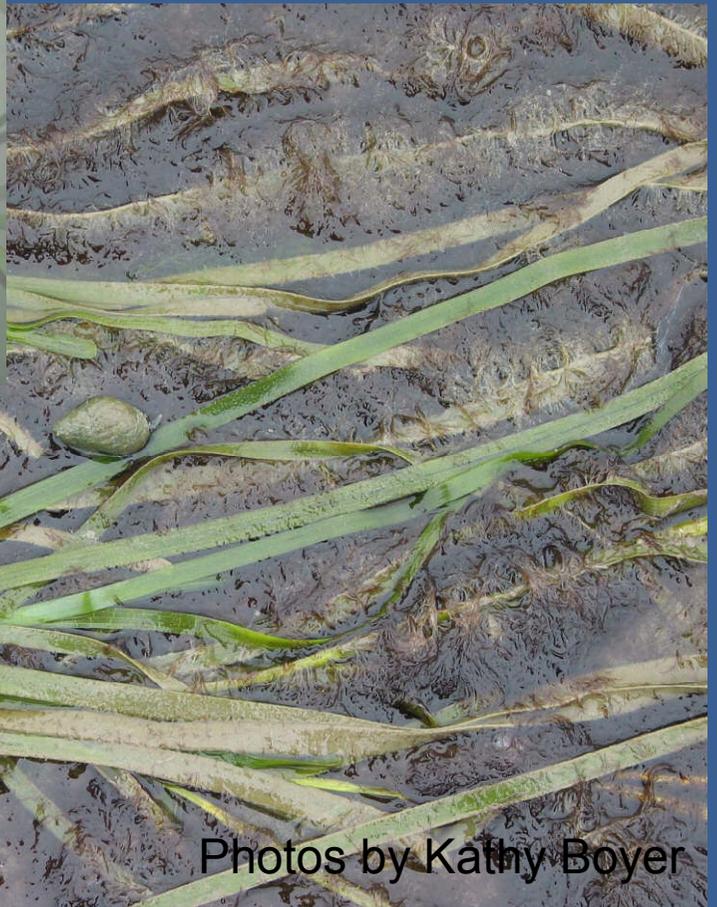
Gwen Santos thesis, finishing in fall 2011

Still analyzing epiphyte data, but generally low compared to other regions where epiphytes found to negatively impact eelgrass

Macroalgal biomass also generally low, but at times can reach high densities for extended periods: e.g., 1500 g wet weight per m<sup>2</sup> on average (max > 2000 g per m<sup>2</sup>) at Keller Beach eelgrass bed in summer 2008.

*1700 g per m<sup>2</sup> Gracilariopsis sp. reduced eelgrass density and growth rate in Tomales Bay (Huntington and Boyer 2008)*

*2000 g of Ulva sp. had no effect on eelgrass in Bodega Bay, but 4000 g reduced eelgrass density and growth (Olyarnik 2008)*



Photos by Kathy Boyer



Photo by Kathy Boyer

# What do we need to know?

What conditions lead to large blooms? e.g., what is the role of nutrients in producing these blooms in SF Bay?

Can we expect increasing light conditions in the shallows of SF Bay, considering we are still going to have mostly fine-grained sediments and winds to re-suspend them?

If so, will increasing light permit the ample nutrients to induce more frequent or larger algal blooms?

What are the thresholds for macroalgal impacts to eelgrass locally?

(same question for epiphytes)