

RMP ANNUAL MEETING REMARKS
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SEDIMENT HAPPENS—BUT NOT SO MUCH

I wanted to start with a few slides that show habitat that was created by mostly sandy sediment. The first slide show the base of the Bay Bridge during construction, and you can see that there isn't a marsh there. You can also see Middle Harbor to the right, and you can readily see how dredged material was disposed at the time, just thrown over the levees and dikes to create land. During construction of the Bay Bridge, sediment excavated for the foundation of the bridge was simply side cast. This sediment was pushed toward the East Bay shoreline by waves, and sorted by tidal action to form the inadvertently restored marsh that we can see in the second photo; accidental habitat for the clapper rail.

The next photo is a close up of Middle Harbor before the construction of the Navy base during World War 11, and the next photo shows construction of the base, before the basin was dredged. Next you can see Middle Harbor while it was a Navy base, and you can see the tidal marsh at the base of the Bay Bridge. Finally, you can see the much more carefully engineered, subtidal habitat that was created with dredged material from the Oakland 50 foot project.

As a member of the Regional Board and BCDC, I am working to shape at least of some of California's response to sea level rise, a process we call adaptation. California recently released its "2009 California Climate Adaptation Strategy Discussion Draft" and BCDC has been working on a change to the Bay Plan for over a year. The Climate Strategy doesn't even mention sediment, yet we know from today's discussion that we will need sediment to keep with sea level rise. New storage and stream restoration projects will both emerge as part of adaptation. Failure of levees could create a pool that settles sediment well upstream of the Bay, and researchers at last weeks State of the Estuary Conference seemed nearly certain that several of the islands would fail. It is also very likely that climate change will move the mixing zone upstream, further diminishing sediment transport.

Downstream of the Delta, rising sea level and increasing flood hazard for low lying areas like Corte Madera and San Rafael threaten the local supply of sediment. With all other factors unchanged, a higher Bay level will move sedimentation upstream, perhaps away from wetlands needing nourishing.

INFORMATION NEEDS

1. I can press for policies that identify loss of sediment as an issue for protecting the Bay, and recommending that sediment impact analysis be a part of all CEQA review for adaptation projects, and that consideration be given to mitigating any impacts.

2. I expect some type of revised legislative framework that will change the paradigm for the delta; new storage is needed to replace the shrinking snow pack, and environmental studies and endangered species consultation will be necessary. We will need any legislative fix to include a strong science-based adaptive management program that assures that habitat restoration is not an illusion. As Denise Reed said last week, we will need mitigation measures, for example restored stream spawning miles, that can be quantified, monitored, and assessed for success.

3. We need to continue monitoring sea level change, and try to account more accurately for relative sea level rise changes and in particular for any acceleration of rise. We will also need to monitor changes in sediment transport and deposition patterns, including monitoring of grain size, since grain size ultimately determines where that sediment will be deposited.