

**From:** Michael S. Brown [<mailto:mike@bw-environmental.com>]  
**Sent:** Friday, November 15, 2013 10:00 AM  
**To:** 'Kuhlman, Catherine@CNRA'  
**Subject:** June 21st OPC meeting

Dear Chairperson Laird, members of the Council, and Council staff,

I apologize for not being able to make the Ocean Protection Council meeting on November 21<sup>st</sup>. I do want to share with you my thoughts on some of the meeting agenda items.

Item 2 – I had a very productive discussion with Executive Director Kuhlman along with Dr. McAfee and Dr. Whiteman from the Ocean Science Trust regarding ocean health indicators. I am very supportive of the concept of a small set of indicators that would provide the Council, State policy makers, and the public with clear signals as to the direction and magnitude of changes in ocean health. In the business world, sustainability indicators are aggregated into dashboards that can be easily monitored for quarterly, annual, or long-term trends (excerpt from 2012 Cisco CSR Report):

Table 7: Renewable Energy						
KPI	FY07	FY08	FY09	FY10	FY11	FY12
Electricity from renewable sources, GWh	110	342	469	351	358	552
Percent of electricity from renewable sources	11%	29%	37%	28%	27%	38%
GHG emissions reduction from renewable energy, metric tonne CO <sub>2</sub> e	66,000	243,000	355,000	258,000	243,000	442,000

Typhoon Haiyan and its aftermath prompts me to observe in regards to Executive Director Kuhlman's comments on Climate Adaptation Strategy (Strategic Plan Issue Area 2: Climate Change) as well as Item 6 (funding for services regarding sea level rise, coastal storms, and shoreline change), that the recent release of the physical science section of the IPCC Fifth Assessment Report indicates continued ocean warming, which may lead at some point to altered dynamics of eastern Pacific hurricanes (especially in El Nino years). Warming ocean temperatures off the coast of California may begin to support hurricane tracks that come closer to California with increasing frequency and intensity. Perhaps the Climate Adaptation Strategy will need to include the potential for hurricane force winds and resulting storm surges.

Item 3 – I am pleased to see such well qualified candidates for two of the OPC Science Advisory Team vacancies and that there were a large number of highly qualified nominees. I hope that additional highly qualified nominees can be identified for the third vacancy.

Item 4 – Very impressive work regarding marine debris and I am very supportive of the recommendations. One issue that doesn't appear to be touched on by the recommendations is the growth in research and development along with production and use of bio-based polymers (examples are polylactic acid/PLA and castor oil-based nylon-11). Many industries, along with the federal government (USDA) are looking at bio-based polymers as replacements for fossil fuel-based resins (such as PET and LDPE) in products ranging from packaging to apparel to car parts in part because of the

potential for bio-degradability (as well as for potential greenhouse gas emission benefits). However, I am not aware of research on the fate of different bio-based polymers in marine environments or whether typical R&D efforts take into account potential marine deposition as well as terrestrial. Perhaps some investment in research on bio-based polymers and the marine environment will be useful as these polymers are already beginning to displace conventional fossil fuel-based polymers.

Item 5b – Interesting study. The memo mentions that the research is ongoing; does it include impacts associated with different trawling gear and in different habitats such that fisheries management, alternative trawling gear, and seafloor characteristics could be fully integrated along the California coast?

Item 5f – I am intrigued by the rapid assessment approach and its potential applicability to other uses where data must be evaluated to determine whether or not it is sufficient for decision-making. Is the rapid assessment approach more efficient (in terms of staff time and fiscal impacts) than other approaches?

Also related to Item 5f, I have a general concern about the potential impact on any program that is developed in response to the CSSI in situations where the demand for certified sustainable seafood exceeds supply.

Item 6 – I support both the funding for services and the proposed sea level project grants. I would note that I hope that more projects in the southern half of the state might be appropriate for funding at a future time.

I look forward to being at future meetings.

*Mike*

**Michael S. Brown, PhD**