



169 Saxony Road  
Suite 204  
Encinitas, CA 92024

Tel 760-942-8505  
Fax 760-942-8515  
[www.coastlawgroup.com](http://www.coastlawgroup.com)

**April 7, 2009**

Mr. John Robertus  
Executive Officer  
California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123-4340

**Via Electronic Mail**  

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RB9agenda@waterboards.ca.gov

**RE: Carlsbad Desalination Project**  
**April 8, 2009, Agenda Item 13**  
**Environmental Groups' Supplemental Technical Comments**  
**Response to Chris Nordby's and David Mayer's Note on Wetlands Mitigation**  
**Credit for Impingement and Entrainment Impacts Submitted April 2, 2009**

These comment respond to the document submitted by Chris Nordby and David Mayer to the Regional Board staff on April 2, 2009 entitled Wetlands Mitigation Credit for Potential Impingement, as well as for Potential Entrainment (the "document").

On a very general level, the document spends much time describing the relative benefits of a healthy southern California estuarine ecosystem, inferring that the wetlands to be created or restored by the MLMP will provide similar, if not identical, ecological benefits. (See, e.g. page 12, reflecting studies of fish productivity in coastal southern California wetlands.) Missing though, is any description of the inherent difficulties in achieving the level of ecosystem function upon which many of their themes rely. (See Supplemental Comment Letter Appendix submitted by the Environmental Groups to the Regional Board April 7, 2009; specifically, Exhibit F discussion of failed Salt Marsh restoration efforts in San Diego County). Further, without identification of site-specific baselines from which post-mitigation achievement of performance criteria will be gauged, it is impossible to ascribe any particular benefit to be derived from the as of yet speculative mitigation plans.

**Document, p.2**

The presence of juvenile and adult stages of other fish should not be credited toward impingement because entrainment calculations in AHPF have to take into account the impacts of entrainment with respect to ecosystem function, not simply biomass (ie. the fact that the entrained organisms don't just grow into adult fish, they also serve as prey for larger stages of other fish). By impacting the earliest developmental stages, entrainment results in a cascade of effects. Creating new wetlands is an attempt to mitigate for all such impacts on an ecosystem level, not just the entrained individuals themselves. Also, just because entrainment calculations are based on the three most entrained organisms doesn't mean other organisms aren't being entrained. Poseidon can't assume all species except those three are left unharmed. The assumptions inherent at all levels of the sampling and analysis stages are considered when AHPF is calculated.

Regarding impingement credit in the 6.4 acres, the authors seek to justify impingement credit for "blennies, gobies and garibaldi since these 6.4 acres are not earmarked to provide entrainment mitigation for them," yet elsewhere in the document it clearly indicates "Fortuitously, these three taxa rarely are impinged." (See p.1)

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Regarding adequacy of impingement mitigation, the 1715.5kg/year biomass production calculated by Nordby, based on Allen's figures is still flawed for the same reason stated by Raimondi (Raimondi at 2) – the estimate of productivity is based on species that are entrained and completely excludes species that have no larval phase. "Hence there is no basis to estimate increased productivity (if any) of the created or restored wetland areas for species not entrained." (Raimondi at 2).

Further, the calculations, to the extent they are based upon the 49 acre figure of Phase I & II combined improperly assume that Phase II construction is a certainty. The figures should reflect a maximum of 37 acres unless Poseidon is committing to construct both Phases at this time.

**Document, p.3**

Regarding the assertion that no compensatory mortality is assumed, even assuming the proportional loss calculations were accurate and able to account for loss across all life stages, this would only be true for the three species upon which those calculations were based. In other words, it would not be true for all entrained species.

**Document, p.4**

The document states that not all species detected have commercial or recreational value but mitigation compensates for all species anyway. First of all, this isn't true if they're mitigating for entrainment impacts to only 3 species and for impingement for other species. Second, 13142.5 doesn't say anything about minimizing intake and mortality to commercial or recreational value fish only. (See also, Boesh and Turner quote, p. 8)

**Document, p.10**

The document's discussion of in-kind mitigation is misleading. While a mitigation effort may very well replace the same biomass of the species lost from the project, it does not follow that production of that biomass in a far-away, hydrologically distinct watershed replaces the ecosystem function impacts of the entrained individuals. This is in part why high levels of statistical confidence (typically 95%) are required when determining mitigation obligations. Studies confirm that restored and created wetlands often do not succeed as contemplated at the permitting stage, and therefore the developer must over-compensate to truly achieve a "no net loss" of wetland function.

**Document, p.12**

Footnote 31 reflects that certain "specific biological attributes (e.g. species densities, vegetation cover, etc.)" will result from the MLMP compliance with stated general performance standards. The MLMP is insufficiently specific with respect to proposed mitigation sites to conclude any assemblage of taxa will result, and as such, the entire discussion of likely impingement mitigation success is undermined.

**Document, pp. 13-16**

Continued reliance upon Allen's 30 year old report reflects the need for updated baseline data

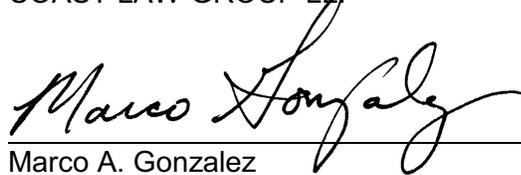
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specific to the sites where mitigation will occur, as well as conditions of approval that will ensure achievement of successful wetlands function. Poseidon's mitigation obligation is a "blank check," and the approval should reflect as much. The document totally fails to explain how Allen's assessment of the littoral zone of Upper Newport Bay provides a reasonable proxy for speculative portions of mitigation wetlands that may or may not achieve similar functionality. See, for example, the statement "It is reasonable to assume that the proposed wetlands will include intertidal mudflats and subtidal habitats capable of productivity values and species diversity comparable to Upper Newport Bay," at p.16. Simply put, no it isn't. Without significantly more specificity regarding the location of mitigation sites, meaning the location of specific mitigation site boundaries, within the greater estuarine landscape options in the MLMP, such assertions are scientifically unsupported.

Submitted to the Regional Water Quality Control Board April 7, 2009.

COAST LAW GROUP LLP



Marco A. Gonzalez  
Livia Borak  
Attorneys for Surfrider Foundation and  
San Diego Coastkeeper