August 30, 2018

Sent via e-mail to COPCpublic@resources.ca.gov

Jennifer Phillip
Climate Change Policy Advisor
California Ocean Protection Council
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Re: CASA Comments on the Draft Ocean Acidification Action Plan

Dear Ocean Protection Council:

On behalf of the California Association of Sanitation Agencies (CASA), we appreciate the opportunity to provide comments on the draft California Ocean Acidification Action Plan (Draft Plan) that was released earlier this month. For 60 years, CASA has been the leading voice for public wastewater agencies on regulatory, legislative, and legal issues. CASA is an association of local agencies, engaged in advancing the recycling of wastewater into usable water, the generation of renewable energy, and other valuable resources. Through these efforts, CASA’s members help create a clean and sustainable environment for Californians.

CASA is following the work of the Ocean Protection Council (OPC) and the Ocean Science Trust (OST) as they work to develop responses to the growing concern about ocean acidification (OA). Several of our individual member agencies participate in a number of regional studies across California that include decades of measuring pH levels in the coastal ocean, and more recently, supporting and maintaining moorings that continuously measure pH, CO$_2$ and oxygen (key OA and hypoxia parameters).

CASA commends the OPC for clearly stating at the front of the Draft Plan that OA is a global problem directly due to increasing atmospheric CO$_2$. As the Plan states “The effectiveness of global efforts to reduce CO$_2$ emissions will determine how much the oceans acidify and the environmental and social disruption that results.” Communicating this core message is vital, since the State of California by itself cannot significantly alter the progression of OA. As the Plan recognizes, the proposed actions are to “better understand, mitigate, and adapt to OA.” CASA supports these goals, and believes the actions laid out in the six strategies in the Plan are a good starting point. More detailed comments on each of the strategies are provided below.

**Strategy #1 - Prepare for the Full Range of OA Risks and Impacts**

Alterations to the carbonate chemistry of seawater, which occur as greater amounts of atmospheric CO$_2$ enter the ocean, are complex and challenging to measure accurately. CASA members are actively collecting OA-related data, and support the idea of targeted investments to support a monitoring and observation system. The data resulting from these investments will be invaluable to compare California coastal waters with global conditions, and to compare nearshore environments with those further offshore. In addition, any assessment of future mitigation efforts will require a reliable baseline and ongoing measurements of OA. As such, CASA supports utilization of the California Current Acidification Network (C-CAN), the Ocean Observing System network, and other appropriate entities to assess OA data and provide a repository and distribution mechanism for this information.

However, CASA is concerned (as discussed in detail below) that this first strategy, which focuses on technical assessments, methodologies, and risk assessments, will proceed concurrently with the third strategy, which focuses on development and promulgation of pollution reduction targets, before the level of risk is understood.
While we understand the desire to make progress on both strategies simultaneously, the efficacy of the latter is predicated upon the accuracy of the former.

**Strategy #2 – Activate Responsible Elements of State Government**

CASA appreciates the approach outlined in this Strategy of engaging a broad set of state agencies and programs. In representing California’s wastewater treatment sector, which includes disposal, biosolids management, energy production, and recycled water production, CASA interacts with many entities and sometimes encounters contradictory priorities between agencies. Improving coordination among these agencies and programs is important to ensure consistent objectives and prevent conflicting regulations.

**Strategy #3 - Reduce the Pollution that Causes OA**

Insofar as this third strategy refers to the possibility of modifying ocean discharge permits and requirements, CASA’s primary concerns with the Draft Plan relate to the scope, goals, and actions for this strategy. Since technical assessments regarding relative contributions to OA have not yet been completed, important questions remain open, including where and what proportion of the OA occurring along the California coast is due to local water-borne or atmospheric pollution, how these relative contributions may change in the future, and which locations, if any, could or should be prioritized for reducing local inputs, in order to slow the near-term pace of OA. Over the next few years, models currently under development are expected to start providing some answers to these important questions.

As the Draft Plan acknowledges, “Technical assessments of the magnitude and impacts of local contributions to coastal OA in California have begun, but have not yet been completed” (page 23). Accordingly, the specific impact of inputs of waterborne organic carbon and nutrients from ocean water discharges remain unknown, and the scientific community does not yet have the necessary means to distinguish and differentiate the sources of impacts along California’s coast. Due to this lack of understanding and absence of models and targeted technical tools, we support the Draft Plan’s call for voluntary, incentive-based permitting as the near-term option for dischargers (page 24).

Unfortunately, even though methodologies for these technical assessments have not been established, other recommendations in the Draft Plan seem to presuppose the conclusions and benefits of reducing local treated wastewater contributions. Specifically, the Draft Plan states, “While this information is being developed, action still can be taken through various multi-benefit options... For example, wastewater treatment plants undertaking infrastructure upgrades to improve energy or economic efficiency, or investing in water reuse to achieve water savings, could simultaneously make changes to reduce nutrient discharges” (page 24).

While we generally support individual agencies’ efforts to enhance operations, including investments to reduce nutrient discharges, we have two significant concerns with the way such efforts are referenced in this strategy. First, current agency efforts are not predicated on the assumption that existing permitted discharge limits are improperly set and that those are directly contributing to OA. The strategy implies that ocean discharging agencies might be required to take certain actions to address nutrient discharges, even when those agencies are in compliance with existing, appropriately-adopted limits. Second, absent the risk assessment tools and demonstrated causal links to be developed as part of Strategy #1, efforts to impose new requirements on wastewater dischargers are premature. The OPC should pursue the Draft Plan’s proposed voluntary, incentive-based, permitting proposal as the most appropriate course of action.

CASA attended the webinar on August 23, 2018 entitled “Supporting Development of Ocean Acidification Water Quality Thresholds in California”, which provide some additional context for these efforts. Most notably, State Water Resources Control Board (Water Board) staff identified three overarching questions that should guide
whether action or regulation is appropriate as it relates to POTWs. In principle, we agree that these are the appropriate baseline questions that must be answered before proceeding to specific actions. First, the Water Board must determine whether ocean wastewater dischargers are creating or significantly contributing to impacts at a level sufficient to warrant the Water Board’s involvement. Coastal discharges already are heavily regulated through waste discharge requirements (WDR) and individual NPDES permits. These permits typically regulate nutrient levels and pH at or beyond levels necessary to protect beneficial uses. In addition, wastewater utilities in the California Bight have engaged in voluntary kelp bed monitoring since 1982 representing 81% of the mainland coast in Southern California. The synoptic annual aerial surveys and local monitoring of kelp beds have shown that macro level effects can drive kelp bed fluctuations and not necessarily wastewater discharges directly. Thus, the immediate need for action on the part of ocean dischargers is questionable given existing protections and the unlikelihood of demonstrating the requisite level of impact from ocean dischargers.

Second, the Water Board must determine whether there is a causal link between OA and non-point and point source discharges along the coast. Any effort to impose new requirements or actions on municipal wastewater discharges to the ocean must include a detailed discussion of where and what proportion of the OA occurring along the California coast is due to local water-borne or atmospheric pollution. Given the overwhelming impact of upwelling and CO$_2$ emissions on OA, it seems unlikely OA is the direct byproduct of ocean wastewater discharges. As such, the Draft Plan’s strategy related to refining technical assessments must certify the scientific reliability of OA metrics and show conclusively how prospective additional discharge requirements would yield an effect to counteract the adverse impacts caused by OA before other actions are taken.

Third, there needs to be some consensus on what the Water Board should be regulating and what the appropriate level of action might be (e.g. what specific parameter should the Water Board be assessing, and what is the endpoint in the environment where an adverse impact is observed due to the causal link). Given the nature of OA, general prescriptive parameters for all ocean dischargers are not appropriate. The OPC’s emphasis should be on forging networks of similarly situated agencies for local regional agreements that are specific to the environment where an adverse impact is observed. For example, in 2002 the Central Kelp Survey Consortium combined efforts with the Region 9 Kelp Survey Consortium to form the Southern California Regional Aerial Kelp Survey, which provided a larger regional context for findings to determine if there were parameters that required monitoring based on regional patterns in kelp beds. The OPC could extrapolate this model to inform potential monitoring requirements based on macro level effects observed in extensive historical monitoring.

Finally, Strategy #3 currently lacks, but should include, a thorough assessment of the financial, societal, and environmental costs associated with the incorporation of technologies expected to reduce pollutant loadings, as well as an evaluation of the significance of the anticipated benefits (i.e., how much an intervention might reduce or delay the effects of OA, and over what area). This technical information will be critical to assist decision makers and the public in deciding if, where, and when such efforts should be applied. Absent a demonstrated causal link pinpointing wastewater treatment plants’ discharges, as opposed to upwelling or CO$_2$ contributions from the atmosphere, the expense of developing, administering, and complying with new actions and/or a new regulatory scheme likely could not be justified.

**Strategy #4 – Deploy Living Systems to Slow OA and Store Carbon**

The maintenance and restoration of coastal ecosystems (seagrass beds, salt meadows, and kelp forests) is a worthy goal and can provide diverse benefits. The contributions of these efforts to reduce OA and store carbon should be considered with a full life-cycle benefit analysis. At full grow out, these coastal ecosystems may, much like old growth forest, reach a steady state that limits their ability to store further carbon. Furthermore, the amelioration of OA which is associated with seagrass bed, salt marsh, and kelp forest remediation is likely to be restricted to the immediate
vicinity of these habitats, which are very geographically limited.

We are encouraged that the Plan supports investigation of potential innovative options involving living systems. However, we recommend a full life-cycle assessment that can quantify and allow objective comparison between the many possible actions, including terrestrial activities such as forest expansion. This assessment should include expected spatial (e.g. number of acres mitigated) as well as temporal extent (delay in months or years of hitting a critical OA threshold) that can be expected for different actions.

**Strategy #5 – Build Resilience of Affected Communities, Industries, & Interests**

As more stakeholders are brought into the discussion, a robust life-cycle assessment tool will be needed to assure the Plan’s objective that “solutions implemented by the state are equitable and socially acceptable as well as technically and financially feasible.” Such a tool also will ensure that the approaches determined to be “best” by all relevant metrics, including cost-effectiveness, are prioritized.

**Strategy #6 – Engage Beyond State Boundaries**

The population of California is less than 1% of the world population and the state accounts for only 1% of global carbon emissions. As the Plan acknowledges, OA is driven by global GHG emissions. California, the West Coast Cooperative, and National level entities such as NOAA should continue to be leaders in managing OA but must also recognize the limitations of any specific actions that would be imposed on local wastewater dischargers when the causes of OA are global in nature. To that end, we support and appreciate the Council’s efforts to develop California’s Action Plan by requesting public comments from stakeholders. We look forward to discussing these issues with you further.

Sincerely,

Adam Link
Director of Operations

c: Jennifer.Phills@resources.ca.gov