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February 18, 2011

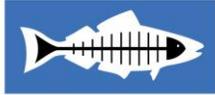
Karen Waln
Management Analyst II
Environmental and Water Resources Division
City of Ventura
via email: kwaln@ci.ventura.ca.us

Dear Ms. Waln:

On behalf of Heal the Bay, I submit the following comments on the City of Ventura's Draft Estuary Subwatershed Study ("Study") dated February 2011. Due to the fact that stakeholders were given only six business days to review and comment on the lengthy technical document, we will likely have additional comments after the report is submitted to the Los Angeles Regional Water Quality Control Board. Also as the appendices were not included in the document provided on Ventura's website, I was unable to provide review of these sections.

Study Components

- As Heal the Bay has stated since the Workplan development phase, the Estuary Hydrology and Morphology Survey should also consider upstream hydrology (i.e. diversions). The Study states that "[r]eduction in the amount of flow to the SCRE has been caused by the installation of water-supply dams, agricultural practices within the Santa Clara River floodplain, and urbanization throughout the watershed. Flow regulation by tributary water supply dams has reduced flow to the Santa Clara River by approximately 25%. This reduction can be most prominent during the dry months when water-supply dams impound flow that would otherwise be a significant component of total surface flow to the SCRE. On the mainstem Santa Clara River, the installation of Freeman Diversion Dam has resulted in the diversion up to 375 cfs of flow bound for the SCRE and an estimated 12% reduction of the freshwater volume to the SCRE during storm events (U.S. Bureau of Reclamation EIR, as cited in Swanson et al. 1990)." However the discussion ends here. It very important to include additional information on upstream issues to get a complete picture of the Estuary impacts and as alternatives are developed.
- An important factor that is needed in the analysis is a month by month assessment of SCR flows versus diversion volumes over the last decade.
- The NPDES Permit requires that the Study include a continuation of the "Fish Survey" and "Macroinvertebrate Monitoring Plan" to assess population and number trends (An Index of Biological Integrity score or other widely accepted ecological health index



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should be calculated from annual macroinvertebrate surveys). This information is absent from the Study and should be included.

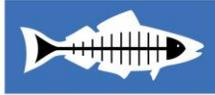
- The Study states that “[d]aily observations of the SCRE mouth berm made by the City of Ventura from 1984 to 2010 indicate that Santa Clara River mouth has been open approximately 61% of days in the recent past, with 2009 having the lowest open-mouth frequency (16% of days in the year) and 1993 and 1995 having the highest open-mouth frequency (96% of days in each year).” How does this compare to estimated historical (pre –POTW) conditions for the Lagoon?
- The Study provides a definition of “enhancement.” Where does this definition come from? The Regional Board should be the ones defining what constitutes enhancement, not the consultants or dischargers.

Water Balance

- The Study appropriately points out that the 2009-2010 water balance study year is considered a wet year that produced river discharge volumes well over the median. Was any water balance analysis performed on an average year? If so, what were the results? If not, that analysis needs to be completed.
- These two statements appear to be in conflict. Please provide clarification.
 - “Overall, Santa Clara River flow comprised approximately 80% of the total inflow volume, VWRf effluent discharge comprised approximately 8%, tidal flow into the SCRE through an open mouth comprised approximately 7%, unmeasured groundwater flow comprised approximately 4%, and all other inflow volume components each comprised \leq 1% of the total inflow volume. Combined, these data fit into an overall understanding that storm events drive the dominant sources of both water inflow (from increased river discharge) and water outflow (from sustained open-mouth periods), and that VWRf effluent discharge dominates water inflow to the SCRE only during low-flow conditions.”
 - “As expected during the wetter months of the year, the volume of water coming into the SCRE was predominantly from the Santa Clara River (approximately 45% of the total inflow volume), although VWRf effluent discharge combined with groundwater flow from the VWRf Wildlife Ponds was not that much less, accounting for approximately 35% of the total inflow volume.”

Water Quality Monitoring

- Water quality data from the VWRf discharge itself should be included in the Study. If the point is to evaluate whether water quality of the estuary might be influenced by the discharge, then it is essential to have the water quality data for the discharge for comparison. For



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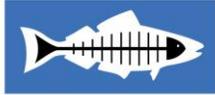
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example, if we want to know if the discharge is changing the nitrate concentration in the estuary, nitrate values for the estuary itself cannot address this question. As it is, none of the preliminary results can really be evaluated for the goals of the study since that essential information is missing.

- How does the existing estuary water quality compare to previous years?
- The Study states that “the degree to which the VWRP facility has contributed to changes in historical water quality cannot be readily determined.” However, no attempt was made to compare actual effluent water quality and the SCRE water quality.
- What was the frequency of the nutrient sampling in 2009-2010? At a minimum monthly nutrient data should be assessed, as nutrients have been described as a pollutant of concern in the SCRE and discharge.
- The Study should provide a 24-hour time series to pick-up any low DO conditions pre-dawn (peak respiration) when we have algal bloom or potential algal bloom conditions. Summer months are likely to contain these critical conditions. This low oxygen stressful situation may be a key stressor for larval fish and invertebrates.
- The Study states that “[e]xcess nitrogen may result in excessive aquatic growth (biostimulatory substance) and pose a human health risk.” Although the nitrogen limit of 10 mg/l is based on a drinking water standard for human health, it is critical to note that excessive nitrogen is also a major threat to aquatic life. Aquatic life is much more sensitive to increases in total nitrogen concentrations and the potential impacts resulting from nutrient increases in waterbodies such as algal growth. Of note, the Machado Lake Nutrient TMDL includes a total nitrogen numeric target of 1.0 mg/L as a monthly average concentration. In addition the current Nutrient TMDL for Malibu Creek, adopted by USEPA in 2003, provides summer season water quality objectives of 1.0 mg/l total nitrogen and 0.1 mg/l of total phosphorus.
- The Study lacks a sufficient discussion of over summering / rearing estuary lagoon habitat needed by steelhead smolt, of sufficient water quality needed for steelhead smolt and adults, and of healthy macroinvertebrate populations needed for steelhead smolt rearing.
- Emerging contaminants should be discussed in the Study, as their discharge may negatively impact the SCRE.

Alternatives Analysis

- While the “critical period” for the SCRE may be the summer, it is inappropriate to only look at alternatives during this period. [“... it is anticipated that management actions involving effluent flow reductions and water quality improvements would **only** be necessary during summer months”]. The State Water Board’s Enclosed Bays and Estuaries Policy, which calls for discharge elimination unless enhancement is demonstrated, does not only apply to the summer period or critical conditions. Further



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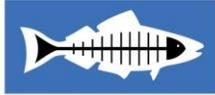
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there are periods of low rainfall and closed mouth conditions in the winter. Using the Study's own assumption here, the discharge should be completely eliminated during the winter as there is obviously no benefit to the SCRE.

- Why was a discharge of 5 mgd used for alternatives 1-3 (Table 11-1), when the Study states that the average summer discharge was 9 mgd?
- Habitat quality must be considered when discussing habitat area. The fact that current water quality conditions may limit steelhead habit must be used to qualify statements indicating that steelhead habitat will decrease with less discharge to the SCRE. Also is habitat area currently a limiting factor for steelhead? What data are provided to support the consultants' assumption that steelhead habitat in the lagoon is limited?
- Table 9-1 suggests that low DO levels (sometimes reaching below 1 mg/l) are a moderate impact. We believe that this should be changed to "high" impact. This change would be consistent with conclusions in the report that states: "At both locations, DO is below suitable levels for aquatic organisms (< 7mg/L) for some portions of the day in both cooler and warmer times of year (Figures 5-2 and 5-3; Table 5-6), although this effect is more pronounced at the North sonde (SCR1)."
- Evaluating Alternative 1 (status quo) does not make sense, as the NPDES permit/TSO require the upgrade to be completed by early this year.
- The only partial flow reduction that was evaluated in the Study (Alternatives 4&5) was a 30% reduction. The basis for this selection was that "the VWRF effluent flow rate was reduced to values that would decrease the threshold SCRE stage associated with the onset of ground saturation at McGrath State Beach during dry season, closed-mouth conditions, but at the same time would not have a negative impact on the habitat available to focal species." This is not a logical approach. Greater reduction values should be explored.
- The following statement is not substantiated: "It is not anticipated that the improved water quality conditions under Alternative 5 associated with treatment upgrades would greatly improve habitat conditions for other focal species due to their relative insensitivity to water quality conditions." Please provide greater detail.
- Blanket statements such as the following are inappropriate: "...decreases in SCRE stage have been shown to limit potential rearing habitat for steelhead, suggesting that the VWRF flows provide some degree of enhancement relative to the expected lower SCRE stage under a complete flow removal alternative." Again, rearing habitat for steelhead cannot be looked at in a silo. Also, where is the analysis that demonstrates that rearing habitat is even limited? Water quality impacts and other factors associated with greater discharge can decrease habitat quality and need to be assessed.
- While we understand that Table 11-1 is an attempt to simplify the study results, it is misleading and should be removed. The table is subjective and overly simplistic. To



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simply note that steelhead habitat area goes down significantly with alternatives 4, 5 and 6 does not provide the complete picture. For example as stated multiple times in the Study DO and nutrients reduce the habitat quality in the SCRE. Also, no adequate explanation is provided for the relative significance or what data merit one, two or three arrows.

Thank you for the opportunity to comment. If you have any questions, please contact me at 310-451-1500.

Sincerely,

Kirsten James
Water Quality Director