Minutes of the
ASBS Natural Water Quality Committee

December 1, 2006
at Scripps Institute of Oceanography

Members in attendance:

Andrew Dickson - Scripps Institute of Oceanography
Rich Gossett – CRG Marine Laboratories
Dominic Gregorio – State Water Resources Control Board
Burt Jones – University of Southern California
Pete Michael - San Diego Regional Water Quality Control Board
Steve Murray – California State University Fullerton

Bruce Posthumus – San Diego Regional Water Quality Control Board

Kenneth Schiff – Southern California Coastal Water Research Project

Others in attendance:
Connie Anderson - State Water Resources Control Board
Tom Collins - Scripps Institute of Oceanography
Kimberly O'Connell - Scripps Institute of Oceanography
Steve Saiz - State Water Resources Control Board

Members absent:
Jim Allen– Southern California Coastal Water Research Project

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Dominic Gregorio began the meeting with roundtable introductions. Bruce Posthumus was introduced as the new representative from the Regional Water Quality Control Board. This would be Pete Michael's last in-person meeting as a result of his pending retirement. There were eight items on today's agenda: 1) introductions and approval of meeting minutes; 2) update on contract; 3) status of monitoring activities at SIO; 4) review of SIO constituents of concern and committee discussion about water quality results to date; 5) MARINe intertidal monitoring; 6) information on the La Jolla Ecological Reserve ASBS exception; 7) follow up discussion of proposed monitoring provisions; and 8) future meeting dates

The first item on the agenda was review and approval of the previous meeting minutes. The minutes from the April 28, 2006 meeting were approved. The minutes from August

29, 2006 were conditionally approved based on specific edits to clarify reference stream monitoring for comparison to ASBS storm water effluent. The minutes from September 14, 2006 were also approved.

The second item on the agenda was an update on SWRCB contract for this Committee. Dominic had encumbered some funds from the State to help support this Committee. Although not a large amount, it will help provide group support including stipends for Committee members. The contract will be run through SCCWRP. Currently, the draft contract is in Sacramento.

The third agenda item was reviewing the status of monitoring activities at SIO. Kimberly O'Connell described two special studies nearing completion. The first was the bacterial monitoring special study that consisted of sampling at >10 sites plus outfall discharges at different tidal stages over a five-day period. At each site, sediment and water were sampled to achieve a sample size of 280. In general, bacteria levels were low. Discharge monitoring also found low values of enterococcus and fecal coliforms, with moderately low values of total coliform (only one sample exceeded 10,000 MPN/100 mL). A repeat of the study design during wet weather was planned next. The group discussed the value of repeating the study. An ad hoc subcommittee of Andrew, Ken and Kim was created to meet during lunch and bring back a recommendation to the group on the design for such a study.

Kim then gave a brief status report of the bioaccumulation study. Samples of mussels and sand crabs had been collected and laboratory analysis had just been completed. Since data were just becoming available, information management and data analysis were next. A presentation was requested at a future meeting.

The fourth agenda item reviewed SIO's constituents of concern and committee discussion about permit and Ocean Plan limits. Kim handed out a series of spreadsheets containing wet and dry weather discharge monitoring data for outfalls 001, 002, 003, 4a, and 4b. Kim also stated that all copper treatments at the aquarium were now diverted to the municipal sewer. After lengthy discussion, the group reached a general consensus on three items: 1) wet weather was a much larger concern than dry weather in terms of concentrations and effluent permit limit exceedences; 2) dry weather exceedences of Ocean Plan or permit limits during June 2005 appeared anomalous and were coincident with to red tides; and 3) other than the June 2005 dry weather anomaly, dry weather discharges at outfall 004b (filter backwash) were the most severe in terms of permit limit violations.

Before discussing specific constituents of concern (COCs), Steve Saiz gave an informative presentation on dioxins and furans (TCDD). His presentation suggested: 1) TCDDs were powerful carcinogens with bioaccumulative potential; 2) there are 17 congeners of unequal carcinogenicity that necessitates the use of toxicity equivalent quotients (or TEQs); 3) the discharges at SIO were comprised solely of the least toxic dioxin (octa-TCDD); 4) TCDDs were widespread and that the values found in SIO storm water were similar to (or lower than) TEQs measured in wet weather discharges to Santa

Monica Bay and San Francisco Bay; and 5) levels of TEQs in SIO influent were similar to levels in SIO effluent.

The Committee came to the following four conclusions regarding COCs. First, total residual chlorine in seawater was no longer a COC because a switch in methodology eliminated false positives; all subsequent measurements have been below limits and according to Kim SIO does not add chlorine. Second, Kim explained that the dry weather toxicity issues since June 2005 were considered an artifact of the calculation using the Ocean Plan equation (when treatment survival is better than control) and this was confirmed by Steve Saiz. However, wet weather toxicity remains a COC. Third, TCDD remains an important COC statewide, but was not considered a SIO specific issue. Therefore, the SWRCB should consider a statewide TCDD study to assess its potential impact at all ASBS. Fourth, a potentially large number of constituents could be eliminated from consideration at outfalls 001, 002, and 003 during dry weather, but the data need to be organized in a fashion to facilitate this evaluation. Kim was advised to plot concentration vs. sampling date as one approach and Dominic agreed to provide Kim guidance on this request. A plot of rainfall vs. date was also requested.

The fifth agenda item addressed MARINe intertidal monitoring. Steve Murray described the Multi-Agency Rocky Intertidal network (MARINe) that integrates several agencies and researchers, and has been conducting intertidal monitoring at many sites in a consistent fashion for up to 17 years. Currently, MARINe is evaluating their ability to provide assessment of environmental impact in an effort to create a report card of intertidal condition. While some issues were raised regarding the ability to detect environmental impacts from stressors such as discharges to ASBS, the MARINe protocols provide a good starting point for a monitoring program including tools such as standardized protocols, information management, quality assurance standards and training. Most importantly, MARINe has all of the most knowledgeable scientists to assist with designing a well-founded program for assessing waste discharge impacts in the rocky intertidal zone of ASBS. Potential add-ons to the MARINe program might include biodiversity surveys or meiofauna sampling.

The sixth agenda item addressed new information on the La Jolla Ecological Reserve ASBS exception and potential reference streams. Dominic and Connie provided chemical data on wet weather discharges, mixing zone, and offshore receiving water samples from the La Jolla Ecological Reserve. Similar types of data were examined from two watersheds on Catalina. Trace metals from oceanic samples collected at depth midway in the San Pedro Channel were also provided. This brought about discussion regarding background levels of constituents in wet weather discharges and ambient levels of constituents in the open ocean. The group decided that this information alone was inadequate for evaluating background levels of constituents. Dominic and Bruce were given the responsibility for exploring potential trade-offs in SIO monitoring requirements for quantifying background levels in wet weather discharges and oceanic conditions. This could be done either through special studies or the Bight Regional Monitoring Program. Regardless, the Committee thought that these types of studies were not the sole burden of SIO, but should be conducted in collaboration with all ASBS permittees.

The seventh agenda item was the follow up discussion of proposed monitoring provisions from a previous meeting. There was insufficient time to address the written modifications provided by Dominic and this should be placed on the agenda for the next meeting. However, the ad hoc subcommittee on wet weather bacteria was asked to provide feedback from their lunchtime discussion. Ken described two basic steps that should be addressed at the next meeting. The first step is to determine if bacteria information is necessary for ASBS in terms of ecological health (i.e., is it a relevant measurement and/or is it within the scope of this Committee?). If bacteria information is needed, the second step is to determine what questions are yet to be resolved (i.e., wet vs. dry levels, sediment as a source, impingement of nearby sources such as Penasquitos, etc.?). The Committee felt that the decisions needed to be based on existing data, so a request was made of SIO to compile existing information on the dry weather sediment study, wet weather outfall sampling, and routine weekly monitoring conducted by the County Dept of Health.

The eighth agenda item addressed future meeting dates. Two options for a conference call were suggested; December 15 or 20. Dominic would confirm the exact date and get back top the Committee.