



March 20, 2012

Mr. John Muller, Chair  
Attn: Mr. Dale Bowyer  
San Francisco Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94590

Via electronic mail to [dbowyer@waterboards.ca.gov](mailto:dbowyer@waterboards.ca.gov)

**RE: Bay Area MS4 Trash Load Reduction Plans (2012)**

Dear Mr. Muller:

Please accept these comments to trash load reduction documents, prepared on behalf of the Bay Area Stormwater Management Agencies Association (BASMAA). These comments are also informed by the City of Oakland's Baseline Trash Load and Short-Term Trash Load Reduction Plan<sup>1</sup>, serving as a case study regarding compliance with Provision C.10.a.ii. of the San Francisco Bay Municipal Regional Stormwater NPDES Permit for Phase I communities (Order R2-2009-0074), also known as the Municipal Regional Stormwater Permit (MRP). In support of the goal to minimize ecological, visual and recreational impacts associated with trash discharges to San Francisco Bay, Baykeeper respectfully submits these comments on behalf of our 2,300 members that live, work, and recreate in and around San Francisco Bay. Baykeeper is a 501(c)(3) non-profit organization with the mission of protecting and enhancing water quality of San Francisco Bay for the benefit of its ecosystems and surrounding communities.

Baykeeper maintains concerns over BASMAA's Trash Load Reduction Tracking Method, which has likely resulted in flawed trash generation rates, and may contribute to the failure of Permittees to comply with C.10 Provisions of the MRP.<sup>2,3</sup> In the absence of enhanced mitigation and monitoring of trash discharges, trash load reduction goals established in the MRP are reduced to aspirational benchmarks. Load generation methods proposed by BASMAA rely on flawed assumptions, conceptual models and arbitrary credits, which do little to identify and mitigate trash hot spots or propose practical on the ground efforts to clean up trash-laden shorelines and urban creeks currently clogged with trash.

Consistent with other mitigation and reporting strategies proposed by BASMAA, compliance with Provision C.10 of the MRP shall be measured not in terms of benefits to habitats and communities surrounding San Francisco Bay, but by the volume of paperwork submitted to the Regional Board.

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<sup>1</sup> City of Oakland, Public Works Agency - Watershed & Stormwater Program. 2012. *Baseline Trash Load and Short-Term Trash Load Reduction Plan*.

<sup>2</sup> EOA, Inc. 2012. *Preliminary Baseline Trash Generation Rates for San Francisco Bay Area MS4s; Technical Memorandum*. Prepared on behalf of the Bay Area Stormwater Management Agencies Association (BASMAA).

<sup>3</sup> EOA, Inc. 2012. *Trash Load Reduction Tracking Method; Assessing the Progress of San Francisco Bay Area MS4s Towards Stormwater Trash Load Reduction Goals - Technical Report (Version 1.0)*. Prepared on behalf of the Bay Area Stormwater Management Agencies Association (BASMAA).

Baykeeper recognizes the difficulties of managing trash reductions in urban areas, yet it is an issue that must go beyond the development of models and policy statements, to include engineered solutions and public stewardship efforts organized and implemented by Permittees.

#### **TRASH LOAD REDUCTION CREDITS SELECTED BASED ON ARBITRARY ASSUMPTIONS AND CLOSED DOOR DISCUSSIONS**

Under the Guiding Principles and Assumptions section of the Tracking Method document, BASMAA describes that stakeholder preference drove the decision to quantify trash load reductions based on implementation of control measures, rather than on-the ground monitoring and data collection.<sup>4</sup> This resulted in the development of seven (7) control measure categories, with corresponding trash load reduction credits.

Load reduction credits were developed internally by BASMAAA and its members, generally in the absence of scientifically defensible data. For example, if a Permittee instituted a plastic bag ban at all retail establishments, excluding restaurants, a 10% load reduction credit would be assigned. There is, however, no sound basis for this reduction credit and anecdotal evidence from shorelines along the Bay fail to support this finding. This particular reduction credit is in fact undermined by BASMAA's baseline trash study, which contends that plastic bags comprise approximately 7-8% of all trash collected prior to entering the MS4.<sup>5</sup> It therefore seems impossible that a plastic bag ban confined to non-restaurant retailers in a particular city, which is surrounded by other cities that may or may not have similar bans, could result in a 10% trash load reduction.

To help determine the need for data-driven load reductions, just last week conditions were observed during a storm event at East Creek Slough, in Oakland's Martin Luther King Jr. Regional Shoreline. It was evident that trash associated with stormwater discharged through the slough resulted in increased accumulation of litter along the shoreline, as shown in Figures 1 and 2. Simple visual observation does not support the finding that 10% of all trash at this location could possibly be associated with plastic bags from non-restaurant retail establishments. However, we are willing to revisit this conclusion in the presence of data collected in the field.

Similarly, Permittees which implement a public education and outreach program to inform residents about stormwater issues related to pollutants of concern, watershed awareness and pollution prevention would be eligible to receive an 8% load reduction credit. Under the assumption that Bay Area citizens are generally aware of the fact that littering is a bad idea and that after decades of anti-littering campaigns and threats of steep fines, increased public outreach is unlikely to result in significant benefits; such a credit appears overly generous and not based on likely outcomes.

While credit systems may be appropriate when supported by actual data or sound scientific practices, this credit system fails this minimum standard. Permittees developed this tracking method in the absence of regulatory guidance or public input and it should be rejected on the basis that outputs and

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<sup>4</sup> EOA, Inc. 2012. *Trash Load Reduction Tracking Method; Assessing the Progress of San Francisco Bay Area MS4s Towards Stormwater Trash Load Reduction Goals - Technical Report (Version 1.0)*. Prepared on behalf of the Bay Area Stormwater Management Agencies Association (BASMAA).

<sup>5</sup> EOA, Inc. 2012. *Preliminary Baseline Trash Generation Rates for San Francisco Bay Area MS4s; Technical Memorandum*. Prepared on behalf of the Bay Area Stormwater Management Agencies Association (BASMAA).

outcomes of control measures have not been quantified and BASMAA has failed to demonstrate that beneficial uses shall be preserved or enhanced as a result of their implementation.



Figure 1. West-facing view near the terminus of East Creek Slough in the Martin Luther King Jr. Regional Shoreline, Oakland. Photo taken by Ian Wren on March 14, 2012



Figure 2. Northwest-facing view of a storm drain near East Creek Slough in the Martin Luther King Jr. Regional Shoreline, Oakland. Photo taken by Ian Wren on March 14, 2012

## **METHOD FOR CALCULATING EFFECTIVE LOADING AREAS INAPPROPRIATELY EXCLUDES AREAS DISCHARGING TO MS4S**

Under BASMAA's method for developing baseline trash loads, land use-based loading rates are multiplied by the total corresponding land use area within an MS4. However, a number of areas are excluded from consideration, despite the fact that Permittees fail to demonstrate such areas do not discharge to the MS4. For example, the City of Oakland excludes from consideration the following areas:

- Federal and State of California Facilities and Roads (e.g., Interstates, State Highways, Military Bases, Prisons);
- Roads Owned and Maintained by Alameda County;
- Colleges and Universities (Private or Public);
- Non-urban Land Uses (e.g., agriculture, forest, rangeland, open space, wetlands, water);
- Communication or Power Facilities (e.g., PG & E Substations);
- Water and Wastewater Treatment Facilities; and
- Other Transportation Facilities (e.g., airports, railroads, and maritime shipping ports).

Permittees, as operators of the MS4, are liable for all discharges through its conveyance system, pursuant to the Clean Water Act.<sup>6</sup> Accordingly, Permittees cannot assume that significant areas within their jurisdiction are excluded from consideration, when in fact in many instances these areas discharge directly or indirectly to the MS4. If Permittees wish to exempt areas within their jurisdiction from trash loading calculations it must also be demonstrated that these areas fully capture and contain stormwater on-site or that permitted conveyance systems, independent of the MS4, exist that are dedicated to serve that area.

## **BASELINE TRASH GENERATION RATES ARE OVERLY RELIANT ON DATA FROM TRASH CAPTURE DEVICE SURVEYS**

As documented in BASMAA's baseline loading report, trash generation rates are based largely on analyzing the contents of trash capture devices recently installed throughout the Bay Area. This data is useful to help inform establishment of a baseline. Yet, the fact that types of devices were not consistent across all sites, that the devices are not designed to fully capture all trash, and that the devices were subject to various maintenance and clean-out schedules, undermines the quality of this data and suggests that additional data is needed to accurately establish loading rates.

For example, one of the three devices subject to monitoring is known as a Connector Pipe Screen, manufactured by West Coast Storm, Inc.<sup>7</sup> This device is designed to overflow during large flows, coinciding with times of peak trash discharges. If the device routinely overflows, or has a maximum containment capacity that is routinely surpassed, BASMAA's trash surveys likely resulted in underestimation of total loads. The photo provided as Figure 3 was taken from the manufacturer's specifications, clearly showing trash and debris that has escaped the device. The large overflow area likely permits the passage of most debris and trash during large storms, although the manufacturer provides no data regarding trash containment performance.

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<sup>6</sup> NRDC, Inc. v. County of Los Angeles, 2011 U.S. App. LEXIS 14443 (9th Cir. Cal., July 13, 2011). Available at: <http://www.ca9.uscourts.gov/datastore/opinions/2011/07/13/10-56017.pdf>

<sup>7</sup> West Coast Storm Inc. *West Coast Storm Screen Connector Pipe Screen (CPS) Equipment Design and Specification Report*. Available at [www.wcstorm.net](http://www.wcstorm.net)



Figure 3. Manufacturer photo of the Connector Pipe Screen Full Capture Trash Systems showing uncontained trash and debris

There is little doubt that trash containment devices could play a vital role in assisting Permittees attain the trash load reduction goals established in the MRP. However, they are not designed to contain all refuse conveyed through an MS4. BASMAA relies heavily on analysis of the contents of these capture devices, failing to recognize that full capture is impossible and that alternative means of quantification are necessary to determine loading rates.

Baykeeper does not wish to require an abundance of monitoring data to establish compliance with the C.10 Provisions of the MRP. However, BASMAA has not provided a means for on-going verification of load reduction strategies or proposals for periodic quantification of trash loads from a Permittee's MS4. As a result, it is important to accurately define the baseline at this time, so to accurately determine compliance and regional performance, in terms of trash load reduction. To facilitate this, trash capture data should be supplemented with data from shoreline monitoring and clean-up events along San Francisco Bay, as well as creeks within Region 2. The Regional Board may also wish to require booming along larger sloughs and outfalls during storm events, which could prove to be an easy to replicate method for quantifying floating trash and debris discharged from an MS4.

#### **PERMITTEES SHOULD DEVELOP TRASH CONTROL MEASURES SPECIFIC TO THEIR NEEDS AND CHARACTERISTICS**

Loading rates and trash control measures were developed by BASMAA under the broad assumption that Permittees are generally characterized by spatially uniform land uses and loading patterns. For example, although Oakland has unique trash generation, socio-economic, and financial characteristics, compared

to disparate Permittees in the region, all of Oakland's trash control measures listed in Table 1.1 of their Trash Load Reduction Plan were developed by BASMA, in collaboration with other Permittees with unique opportunities and constraints.<sup>8</sup> Baykeeper is supportive of a collaborative approach to reducing trash loads throughout the Bay Area, but believes that each Permittee must implement strategies specific to particular land uses, geography and socio-economic makeup of each city, in order to develop trash load reduction plans that could conceivably result in compliance with the MRP.

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Thank you for considering Baykeeper's comments. We urge you at this time not to accept BASMAA's strategies for developing baseline loading rates and assigning arbitrary pollutant load reduction credits, in order to comply with C.10 Provisions of the MRP. Baseline loading rates should be established based on data collected in the field, including, but not limited to, trash capture device data, shoreline monitoring results, and in-stream trash collection and categorization efforts. Compliance with the C.10 Provisions should not be based on assumptions surrounding product bans or educational programs, but on actual trash load reductions observed in the field. Cities should be encouraged to prioritize mitigation strategies at trash hot spots and at stormwater conveyances known to drain retail areas or high-density residential, which BASMAA has demonstrated generate the greatest trash loads. In addition, funding mechanisms should be proposed, aimed at facilities known to generate high trash loads, in order to fund installation of trash capture devices and shoreline cleanup efforts. Where infeasible, stormwater fees should be encouraged to assist in the funding of cost-effective mitigation strategies.

Sincerely,



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San Francisco Baykeeper



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Associate Attorney  
San Francisco Baykeeper

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<sup>8</sup> City of Oakland, Public Works Agency - Watershed & Stormwater Program. 2012. *Baseline Trash Load and Short-Term Trash Load Reduction Plan*.