



**Santa Clara Valley  
Urban Runoff  
Pollution Prevention Program**

## ***Transmittal Letter***

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**TO: Management Committee**

**FROM: Kristy McCumby-Hyland, Brett Calhoun, Trash AHTG Co-Chairs**

**DATE: July 21, 2004**

**SUBJECT: *Implementing Existing Trash Assessment Tools* memorandum-Trash Work Plan- Task #4**

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We have attached the final memorandum entitled *Implementing Existing Trash Assessment Tools* which addresses Task #4 of the Program's Trash Work Plan dated February 28, 2003. During the June 21, 2004 Trash AHTG meeting, the AHTG agreed to approve the memorandum with the additional suggested edits. The revised final memorandum includes suggested edits raised by Trash ATHG members at the June 21 meeting and through subsequent electronic mail provided to Program staff.



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**MEMORANDUM**

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**TO: Trash Ad Hoc Task Group (TAHG)**

**FROM: Paul Randall and John Fusco, Program Staff**

**DATE: June 18, 2004 (Draft)  
July 20, 2004 (Final)**

**SUBJECT: Implementing Existing Trash Assessment Tools**

The purpose of this memorandum is to provide a brief summary of existing trash assessment tools used to determine the severity of trash identified in "creek" or "non-creek" trash problem areas. At the May 19, 2004 TAHG meeting, TAHG members agreed that the RWQCB Rapid Trash Assessment protocol (Version 7.0) and the KAB Litter Index were currently the best available tools to establish baseline conditions and assess trash over time. To determine trash conditions prior to the next wet season, the TAHG requested that Program staff provide training on the use of both trash assessment tools by mid-July 2004.

## **Background**

On May 10, 2004, the Program completed a technical memorandum entitled *Trash Problem Area Survey Results* to fulfill Task #2 of the Program's FY 03-04 Trash Work Plan. The survey, which contained data from 14 out of 15 Co-permittees, documents the location, maintenance responsibility, land ownership, source of trash and information resource for 195 trash problem areas within the Program's jurisdiction. Sixty-four sites were located in creeks or in close proximity to a creek (i.e., banks); and 131 sites were located in areas that were not in the creek (e.g., areas near dumpsters, freeway exit ramps, road sides, etc.). All 195 locations were converted into spatial coordinates using a Geographic Information System (GIS) and maps were generated showing the distribution of trash problem areas across major Santa Clara Basin watersheds. This list of trash problem areas is expected to change over time as additional information becomes available through future implementation of trash evaluations and management practices.

Two existing tools, the San Francisco Bay Area Regional Water Quality Control Board's (RWQCB) Rapid Trash Assessment (Version 6.0) and Keep America Beautiful (KAB) Litter Index have been evaluated by the TAHG to assess trash conditions within Santa Clara Basin watersheds. The RWQCB Rapid Trash Assessment protocol was used in Stevens and Permanente Creek watersheds (by the RWQCB) as part of their Surface Water Ambient Monitoring and Assessment Program (SWAMP). The RWQCB approach was designed to qualitatively assess trash conditions in wadeable streams. Since FY 01-02, the RWQCB has conducted rapid trash assessments at over fifty stream locations in various watersheds in the San Francisco Bay Region. During the spring of 2003, the Program tested and evaluated the RWQCB Rapid Trash Assessment protocol (Version 6.0). Conclusions of the pilot study and recommendations for potential revisions were provided by the TAHG to RWQCB staff in technical memorandum entitled *SCVURPPP and STOPPP Pilot Implementation and Testing of RWQCB Rapid Trash Assessment* (dated March 1, 2003). During the summer of 2003, RWQCB staff revised their Rapid Trash Assessment protocol (Version 7.0) to address many of the TAHG's recommendations. Revisions include a new sampling design intended to enable a more detailed site-specific assessment of the timing and sources of

trash deposition. The KAB Litter Index, which is used by the City of San Jose as part of their Anti-Litter Program, is typically applied to urban land areas that are accessible by vehicles (e.g., streets, parks, schools and businesses). Both are rapid methods that can be used to evaluate the condition of trash (over time) at a given location. Descriptions of each assessment protocol, along with a range of potential implementation options are provided below.

## **Implementing Existing Trash Assessment Tools**

### *RWQCB Rapid Trash Assessment Protocol (Version 7.0)*

The RWQCB Rapid Trash Assessment protocol (Version 7.0) is designed to be applied to a defined 100-foot section of stream or shoreline. There are two main components to the methodology: 1) qualitative scoring of six trash assessment parameters; and 2) enumeration of trash items that occur above and below high water line. In addition, trash items are collected during the initial assessment to establish a baseline of zero trash. As a result, the presence of new trash items may be easily documented during future assessments.

According to RWQCB Rapid Trash Assessment protocol (Version 7.0), trash assessments are estimated to take approximately twenty to thirty minutes per site. However, assessments may take longer depending on the assessor's experience and the amount of trash collected. To understand potential sources of trash in creeks and measure changes of trash condition over time, trash assessments at selected stream locations are conducted during four seasonal time periods. The assessment locations are selected based on different watershed characteristics (e.g., land use, tributary confluences). The RWQCB Rapid Trash Assessment protocol (Version 7.0) and associated field forms are provided as Attachment A.

The Program and TAHG have identified several potential objectives for implementing the RWQCB Rapid Trash Assessment protocol (Version 7.0). They include the following:

- Establishing baseline levels of trash during selected index periods;
- Identifying and prioritizing trash problem areas;
- Identifying potential sources of trash and appropriate management activities; and
- Evaluating the effectiveness of existing trash management practices.

The RWQCB Rapid Trash Assessment protocol (Version 7.0) provides a standardized approach for assessing trash in creeks. The use of this protocol should provide enough data to identify relationships between trash conditions and land use types within the Program's jurisdiction. The TAHG agreed that conducting rapid trash assessments only at trash problem areas may result in low scores since they are presumed to be the worst sites. However, many of the trash problem areas identified by the City of San Jose may not score low since they have been adopted by volunteers under the Anti-Litter Program. It is important to note that assessment results would: 1) assist in prioritizing sites by identifying the relative severity of trash problem; 2) identify potential sources of trash and relevant management practices; and 3) evaluate effectiveness of targeted management practices over time.

The TAHG also suggested that certain revisions to the RWQCB Rapid Trash Assessment protocol (Version 7.0) may be necessary. For example, the collection of trash following an assessment may not be reasonable for certain sites having significant volumes of trash and limited access. Enumerating trash items may also not be feasible at sites that have significant levels of trash. In addition, individual Co-permittees may decide not to conduct trash assessments (at each site) during four seasonal time periods. Revisions to the RWQCB Rapid Trash Assessment (Version 7.0) by individual Co-permittees will occur on a case-by-case basis.

### *Keep America Beautiful Litter Index*

To improve methods for controlling litter in the nation's urban areas, Keep America Beautiful, Inc. (KAB) and the United States Conference of Mayors formed a strategic alliance called the Urban Litter Partnership. One goal of the Urban Litter Partnership is to develop and implement litter measurement tools that allow municipalities to identify trash problems, establish baselines and track trends over time.

These tools are designed to measure and assess litter, evaluate prevention programs and address a city's interest in cost-effective, easy-to-implement litter control methods. KAB has developed three trash assessment methods that are being used nationwide. These include: 1) the KAB Litter Index (recently developed); 2) the "Windshield Survey" method, which also utilizes the "Neighborhood Spotter Checklist"; and 3) the Photometric Index. To evaluate the effectiveness of volunteer clean-up efforts that are being implemented as part of the Anti-Litter Program, the City of San Jose has adopted the KAB Litter Index. A brief description of each method (with associated survey forms) is provided in Attachment B.

There are several relevant issues that should be considered when implementing the KAB Litter Index. They include:

- The KAB Litter Index provides a method for scoring but does not provide sufficient information useful in identifying litter sources or potential management actions.
- The Windshield Survey and Neighborhood Spotter Checklist provide information on the location and type of trash problem. However, they do not provide a scoring method to evaluate changes over time.
- The Photometric Index provides a less subjective method for assessing litter condition. It may also require more time than the KAB Litter Index. The TAHG has decided not to use this assessment tool.

Individual Co-permittees may want to consider using a combination of the KAB Litter Index and the Windshield Survey when evaluating litter conditions at "non-creek" and inaccessible creek trash problem areas. Each tool used in combination may meet the same objectives listed for the RWQCB Rapid Trash Assessment protocol (Version 7.0). At a minimum, the KAB Litter Index should be used to evaluate the effectiveness of management practices. It will also ensure consistency with the assessment efforts conducted by the City of San Jose Anti-Litter Program.

#### *Trash Problem Area Activity Data Collection Form*

To assist Co-permittees in gathering data during field assessments, Program staff has developed the form entitled *Trash Problem Area Activity Data Collection Form* (Attachment C). The form includes all pertinent information that should be gathered during the assessment of creek and non-creek trash problem areas. In addition, the form captures additional information currently not gathered with other existing forms (KAB Litter Index, Windshield Survey, etc.). The form is intended to be used for internal purposes. A separate reporting form with specific categories is currently being developed for the Annual Report.



Date: \_\_\_\_\_

**I. Site Information**

Site ID# \_\_\_\_\_ Watershed: \_\_\_\_\_ Location: \_\_\_\_\_

**II. Assessment Information**

1. Which assessment tool was used? (Check one)
 

<input type="checkbox"/> Creek-RWQCB Version 7.0	<input type="checkbox"/> Non-Creek-Windshield Survey
<input type="checkbox"/> Non-Creek-KAB Litter Index	<input type="checkbox"/> Other _____
2. Total Score (RWQCB Version 7.0 or KAB Litter Index)
3. Windshield Survey Results-Trash Priority: NA High Medium Low
4. What percentage or length of the area is impacted with trash (e.g. 5%, five feet, etc.)? \_\_\_\_\_
5. This assessment is Initial Follow-up (Check one)
6. If applicable, how many follow-up assessments have been conducted at this site? \_\_\_\_\_

**III. Trash Information**

1. Describe trash type (Check five most prevalent types):
 

<input type="checkbox"/> Rubber products	<input type="checkbox"/> Metal products	<input type="checkbox"/> Construction debris
<input type="checkbox"/> Plastic bags	<input type="checkbox"/> Cigarette butts	<input type="checkbox"/> Fabric and cloth
<input type="checkbox"/> Styrofoam products	<input type="checkbox"/> Plastic/Synthetic items	<input type="checkbox"/> Toxic substances
<input type="checkbox"/> Aluminum cans	<input type="checkbox"/> Tires	<input type="checkbox"/> Appliances
<input type="checkbox"/> Bottles (plastic and glass)	<input type="checkbox"/> Woody debris	<input type="checkbox"/> Furniture
<input type="checkbox"/> Convenience/Fast Food wrappers	<input type="checkbox"/> Yard waste	<input type="checkbox"/> Biohazards
<input type="checkbox"/> Man-made wood products	<input type="checkbox"/> Batteries	<input type="checkbox"/> Other _____
2. Potential trash source (Check all that apply):
 

<input type="checkbox"/> Trash accumulation (water-borne)	<input type="checkbox"/> Homeless encampments	<input type="checkbox"/> Outfall _____
<input type="checkbox"/> Trash accumulation (wind-borne)	<input type="checkbox"/> Illegal dumping	<input type="checkbox"/> Other _____
<input type="checkbox"/> Litter-Vehicular	<input type="checkbox"/> Litter-Dumpster/Receptacle (describe) _____	
<input type="checkbox"/> Litter-Commercial business (name) _____		
<input type="checkbox"/> Litter-School/Institution (name) _____		
<input type="checkbox"/> Litter-Other (describe) _____		
3. Was trash observed near (Check one): Storm drain inlets Storm drain outfalls Creek
4. Identify adjacent land uses to the trash areas assessed (if possible): \_\_\_\_\_

**IV. Trash Management Actions**

- 1a. Are trash management actions planned for the site? **Yes**  **No**
- 1b. If trash was removed, provide total weight or volume (if known): \_\_\_\_\_
- 1c. Photographic documentation: **Yes**  **No**
- 2a. Other Trash Management Actions Taken (describe): \_\_\_\_\_
- 3a. Follow-up action needed: **Yes**  **No**
- 3b. Future trash management actions needed (Please describe): \_\_\_\_\_
- 3c. Is trash routinely removed from this site? **Yes**  **No**  If yes, at what frequency \_\_\_\_\_
- 3d. Is a future assessment needed? **Yes**  **No**
- 3e. If Yes, which tool? Creek-RWQCB Version 7.0 Non-Creek-Windshield Survey  
Non-Creek-KAB Litter Index Other \_\_\_\_\_

**Notes:** \_\_\_\_\_  
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