

## **Town Lake Visual Index of Pollution Quality Assurance Project Plan**

Project #382

### **Introduction**

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Trash and debris in Town Lake have been indicated as a problem (COA 1992). The removal of trash has been a goal for the lake since 1992, and the goal to reduce visual pollution and enhance the recreational activities of the lake remains in the Watershed Protection Master Plan (COA 2001).

The VIP is currently used as part of the Watershed Engineering and Field Operations Division (WEFOD) performance measure for trash and debris abatement.

### **Project Management**

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1. Who is the project manager?  
Mary Gilroy
2. Who is the WMA team representative?  
Chris Herrington
3. What other WPDRD staff are on the committee for this project?  
Martha Turner, Ellen Geismar
4. When will the annual WMA review be completed?  
September
5. When will the project begin/end?  
The VIP began in April 1994. Sampling under the current protocol began in April 1999, and will continue until WEFOD discontinues the VIP as a performance measure.

### **Data Objectives**

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6. What are the study objective(s)?  
Provide a visual assessment of trash on Town Lake that can be quantified for use in prioritizing clean-up efforts.  
  
To assess the attainment of the WPDRD goal of maintaining an annual lake-wide average VIP score  $\leq 2$ .  
  
Provide new information related to the nature and location of trash/debris and some measure of litter that can be used to target public education efforts.
7. In addition to the project committee, who else is interested in the data?  
WEFOD (Jim Grube)

8. What decision(s) will be made from the information obtained? When will the decision(s) be made?

Is Town Lake degrading aesthetically?

Are current litter management practices sufficient to maintain minimum VIP scores?

Decisions will be made annually during data review/reporting.

9. What has been done in the past? Describe project history, list previous related reports or available data.

A photometric index was used from 1994 to 1999. Results from the photometric assessments are available in the Town Lake Report (COA 2004).

Results from current method from 1999 to 2001 are available in the Town Lake Report (COA 2004).

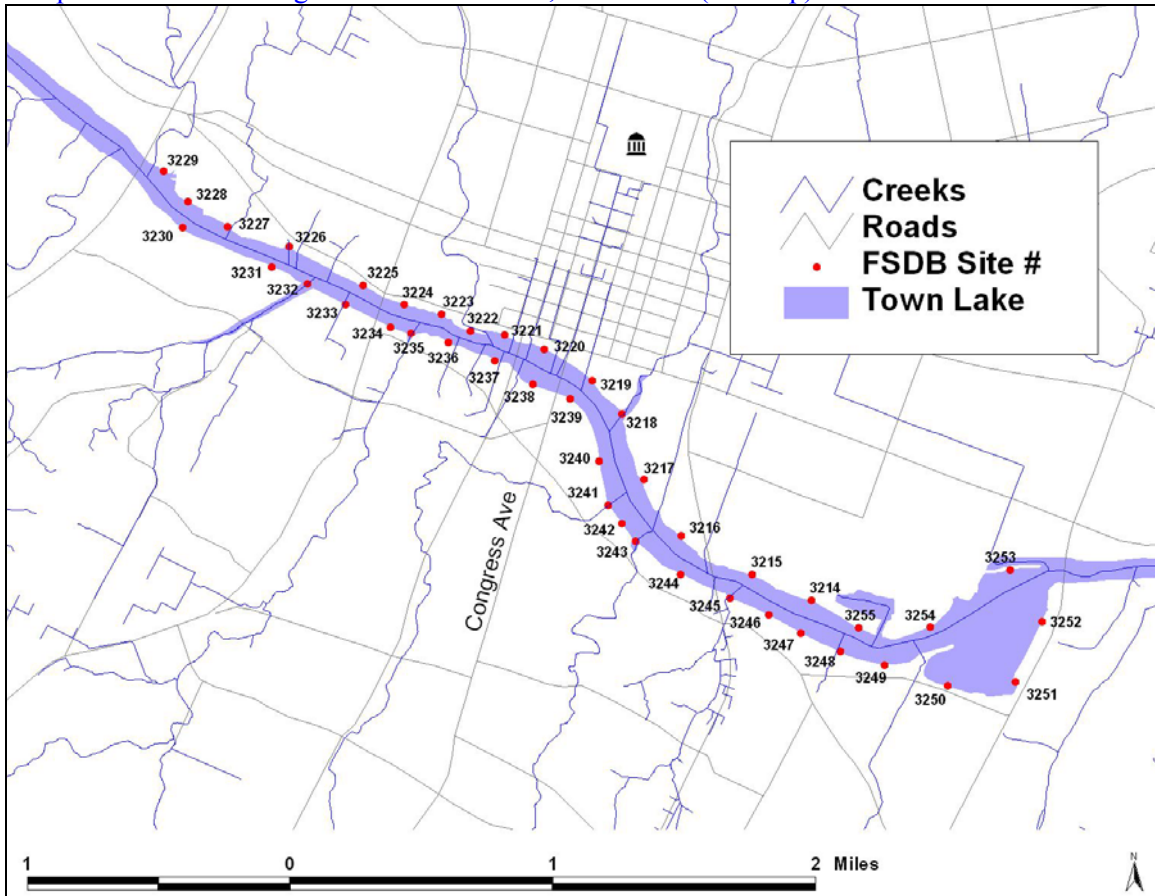
10. What could be done in the future? List and prioritize potential special studies.

Identification of specific problem sites over time by GIS to look for and mediate specific terrestrial litter sources.

## Data generation

11. Describe the sampling. What sites will be sampled? In addition to the core parameter list in the SOP manual, what other parameters will be collected? When will sampling occur?  
Staff will conduct on-site surveys quarterly, assessing 42 contiguous sites along the shoreline.

Sample site numbers range from 3214 to 3255, continuous (see map).



Parameter is Visual Index of Pollution. Scoring categories range from 1 to 4, with 1= 0-25% litter cover and 4 = 75-100% litter cover. Data collected in the field will be entered into an Excel spreadsheet and provided to Chris Herrington or Rob Clayton to enter into the FSDB at least once per year.

12. Describe special sample conditions. List only deviations from routine non-storm conditions as described in the SOP manual.

N/A

13. Describe special collection methods. List only deviations from routine sample collection methods as listed in the SOP manual.

Three visual observations of the VIP will be made at each site from the WRE boat. The scoring categories are based on the Keep America Beautiful Litter Index descriptors as well as percent cover modified from the Daubenmire cover classes (BLM 1996).

14. List special laboratory analytical methods. Include details on CRP requirements, non-EPA approved methods and in-house analyses (Ohmicron).

N/A

15. Where will the samples be analyzed?

N/A

16. How much will samples cost?

No analytical costs.

17. What possible problems may arise in sample collection and what actions can be taken to mitigate their impact?

In case of boat mechanical problems or inability to sample due to weather conditions, postpone sampling to next suitable period.

### **Validation**

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18. What type, how often and where will QA/QC samples will be collected? Include QA/QC samples names in the FSDB if applicable.

At least two surveys will be conducted at each site to yield better mean estimates.

19. In addition to the automated data flagging process, how will QA/QC results be used to validate data quality?

N/A

20. In case of QA/QC failure, what corrective action will be taken?

N/A

### **Assessment**

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21. By what specific methods will the data be analyzed?

Average % litter cover scores are calculated for each sub-area, as well as an overall average for each sampling date and an average annual score for the entire lake.

22. What hypotheses will be tested?

Are lake-wide averages  $\leq 2$ .

23. When and/or how often will the data be analyzed?

Annually, at time of data reporting for business performance measures.

24. How will it be determined that the study objectives have been met?

Successful collection of 4 complete sampling events temporally distributed throughout the year.

## **Reporting**

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25. When and what type of reports will be generated? Who will generate the report?  
No report will be generated, but VIP data may be included in any Town Lake biannual reporting.
26. Who will review the reports prior to publication?  
Town Lake committee.

## **References**

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(BLM). 1996.

City of Austin (COA). 1992. Diagnostic Study of Water Quality Conditions in Town Lake, Austin, Texas, Volume 1. Water Quality Report Series. COA-ERM/WRE 1992-01. City of Austin Environmental Conservation Services Department, Environmental Resource Management Division.

City of Austin (COA). 2001. Watershed Protection Master Plan Phase I Watersheds Report, Volume 1. Watershed Protection Report Series COA-WPD-2001-02. City of Austin Watershed Protection Department, Environmental Resource Management Division.

City of Austin (COA). 2004. The Town Lake Report. Volume 1. City of Austin Watershed Protection and Development Review Department, Environmental Resource Management Division.