

Environmental Indicator Profile Sheet

	<p style="text-align: center;">Indicator Profile No. 18</p> <p style="text-align: center;">Industrial/Commercial Pollution Prevention</p> <p style="text-align: center;">Category: Social</p>	<p>Tools Used to Measure Indicator:</p> <ul style="list-style-type: none"> • Direct mail out to industry • Workshops with industry representative groups • Interviews with individual industry personnel
<p>Description:</p> <p>Surveys of pollution prevention efforts for industrial sites are conducted to assemble data regarding the costs and benefits associated with NPDES stormwater permit compliance. Site managers are surveyed to obtain information regarding permit implementation costs (e.g., BMP construction costs, spill prevention training costs), technical issues regarding implementation of structural and nonstructural BMPs, and potential benefits gained.</p>		<p>Indicator Useful for Assessing:</p> <ul style="list-style-type: none"> * Aquatic Integrity of: <ul style="list-style-type: none"> Lakes <input type="radio"/> Streams <input type="radio"/> Estuaries <input type="radio"/> * Land Use Impacts <input type="radio"/> * Stormwater Mgmt Programs <input checked="" type="radio"/> * Whole Watershed Quality <input type="radio"/> * Industrial Sites <input checked="" type="radio"/> * Municipal Programs <input type="radio"/>
<p>Utility of Indicator to Assess Stormwater Impacts:</p> <ul style="list-style-type: none"> • Can be used to assess industry's perception of effectiveness of stormwater BMPs and methods for improvement. • Can be used to assemble cost information and compare implementation costs between different industries and different geographic locations. • Can be a component of an industry stormwater educational program which incorporates results into future pollution prevention programs. • Can foster partnerships with industry and help managers identify site conditions that they may be unaware of (e.g., illicit connections from floor drains). 		<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><i>Key:</i></p> <p><i>Very Useful</i> <input checked="" type="radio"/></p> <p><i>Mod. Useful</i> <input type="radio"/></p> <p><i>Not Useful</i> <input type="radio"/></p> </div>
<p>Advantages of Method:</p> <ul style="list-style-type: none"> • Effective way to obtain information regarding industry attitudes and perception of the importance of stormwater programs. • Results of survey are based on industry input and therefore will likely be more directed at specific concerns/problems which affect industry operations which may lead to more cost effective ways of doing things. • Generally is relatively easy to interpret results and therefore can be a useful tool for non-technical policy decisions. 		<p>Indicator Advantages</p> <ul style="list-style-type: none"> * Geographic Range <input checked="" type="radio"/> * Baseline Control <input type="radio"/> * Reliable <input type="radio"/> * Accuracy <input type="radio"/> * Low cost <input type="radio"/> * Repeatable <input checked="" type="radio"/> * All Watershed Scale <input checked="" type="radio"/> * Familiar to Practitioners <input type="radio"/> * Easy to use & Low training <input type="radio"/>
<p>Disadvantages of Method:</p> <ul style="list-style-type: none"> • Results of survey are dependent on the information provided by industry personnel and may be skewed to industry's advantage • Surveys are not usually based on highly technical information and may not adequately address complex water quality issues. • Industry may be suspicious that participation in the surveys may lead to costly regulation. 		<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><i>Key</i></p> <p><i>Very Advantageous</i> <input checked="" type="radio"/></p> <p><i>Mod. Advantageous</i> <input type="radio"/></p> <p><i>Not Advantageous</i> <input type="radio"/></p> </div> <p style="text-align: center;">Cost</p> <p style="text-align: center;">See Table 3.3D</p>

Case Study: Beck, P.C.**Stormwater Permit Program An Industrial Experience**

Stormwater NPDES- Related Monitoring Needs. Conference Proceedings, American Society of Civil Engineers. MT. Crested Butte, CO August 7-12, 1994

The Coors Brewing Company, located in the foothills of the Rocky Mountains west of Denver, is the third largest brewer in America and subject to the NPDES stormwater discharge permit. Coors' will be operating under four general stormwater permits. Coors has completed stormwater outfall sampling at more than twenty stormwater discharge locations. The results of the sampling showed that average concentrations fell within requirements for bottled water and RCRA Health Based Standards. Maximum values were in some cases substantially above the average values. Additional work is probably necessary to fully assess the normal distribution of data at any given outfall. Nutrients and suspended solids showed a wide range of variation among different samples and different results.

Coors has taken some corrective actions for areas with unusually high pollutant concentration values. For example, an outfall with a 3190 mg/l BOD₅ concentration was near a yeast drying facility and spilled yeast was responsible for the high value. Corrective actions were taken to reroute storm drains from the existing outfall to the process treatment plant. Other problems were also addressed: Roof drains on fermenting buildings were rerouted from a discharge into the adjacent creek to the process treatment plant. Storm drains in high traffic areas were modified to collect the five year storm and divert it to the sanitary system. Lean-to roof structures were installed over waste material collection bins and over above ground fuel storage facilities.

Method References:

- Workshop with industry group: Brosseau, G. 1992. *1992 Summary Report - Vehicle Service Facility Waste Minimization Program.*, Palto Alto Regional Water Quality Control Plant, Uribe & Associates