

# **Managing End-of-Life Vehicles to Minimize Environmental Harm**

## ***White Paper on Sustainable Conservation's Auto Recycling Project***

Nathan Arbitman  
Mike Gerel

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**Sustainable Conservation**

121 Second Street, 6th Floor  
San Francisco, California 94105  
ph 415.977.0380  
fax 415.977.0381  
[www.suscon.org](http://www.suscon.org)

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## Executive Summary

Up to 2.5 million vehicles reach the end of their useful life in California each year.<sup>1,2</sup> With the sheer volume of these end-of-life vehicles, or ELVs, comes the potential for significant environmental damage. ELVs contain harmful materials such as waste fuels, waste oil, lead-acid batteries, airbag canisters, ethylene glycol, mercury, nickel, lead, and cadmium. If vehicle fluids and parts are not handled and disposed with appropriate care, a range of environmental problems can result. Specifically, businesses that process these ELV materials represent a significant yet unquantified and uncharacterized source of non-point source water pollution.<sup>3,4</sup> Polluted stormwater runoff from ELVs may contribute to exceedance of water quality standards and result in impaired downstream water bodies requiring Total Maximum Daily Load (TMDL) development, fish consumption advisories, and other environmental degradation which is a concern throughout California, particularly in the sensitive San Francisco, Santa Monica, and San Pedro Bays.<sup>5</sup> With this in mind, Sustainable Conservation took on the Auto Recycling project to reduce polluted runoff from auto dismantling facilities.<sup>6</sup>

We worked with a wide range of stakeholders to identify stormwater best management practices that should be implemented at auto dismantling facilities, developed technical assistance fact sheets and videos to describe these practices, and attempted to establish incentives to encourage auto dismantlers to adopt the practices. We also came to understand the issue in terms of addressing polluted runoff from all ELVs, not just those that are handled by auto dismantlers.

There is a difference among those who handle ELVs: licensed auto dismantlers, unlicensed auto dismantlers, licensed and unlicensed auto remanufacturers, and other illegal operators. Because

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<sup>1</sup> *Integrated Strategy Framework – Auto Recycling Sector*, DRAFT, FY2004. U.S. EPA Region 9. 2003.

<sup>2</sup> Swammikanu, Xavier. “Auto Recycler and Dismantler Facilities: Environmental Analysis of the Industry with a Focus on Storm Water Pollution,” 1994, p. 21

<sup>3</sup>Ibid.

<sup>4</sup> “Non-point” sources of pollution are defined as those which are diffuse (i.e. without a single point of origin or not introduced into a receiving stream from a specific outlet). In addition to industrial sources such as auto dismantling, common non-point sources include agriculture, forestry, mining, construction, and city streets.

<sup>5</sup> *Mercury Waste Classification and Management Final Regulations - Final Statement of Reasons*. Department of Toxic Substance Control (DTSC). January 2003.

<sup>6</sup> This industry is also referred to as the “auto dismantling,” “auto salvage,” or “auto recycling” industry. The term “auto dismantler” is used throughout this report for consistency. It should also be noted that the licensed auto dismantling industry is trying to distance itself from the “junkyard” image, and discourages use of this term.

licensed operators are subject to increasing scrutiny from regulators and environmental groups, they are best prepared to manage ELVs to minimize environmental impacts. However, due to market conditions and compliance pressures, many licensed operators are going out of business, resulting in more ELVs being handled by unlicensed, unpermitted, or otherwise unqualified rogue entities that are less likely to take adequate measures to address their potential detrimental impacts. Through our work with this industry sector, stormwater regulators, and environmental groups over the past two and a half years, we identified barriers, implemented several solutions, and developed the following recommendations for future ELV stakeholder consideration:

- (1) *Emphasis on More Balanced & Coordinated Enforcement* - Regulators and environmental groups should pursue coordinated enforcement and legal action against members of this industry sector that are not obtaining and/or complying with state requirements. Enforcement resources should not be directed solely at licensed auto dismantlers, but should include all parties that handle ELVs, to ensure a level economic playing field.
- (2) *Support Voluntary Industry Certification Programs* - Auto dismantlers should demonstrate their commitment to environmental stewardship by participating in industry-led certification programs, such as the State of California Auto Dismantlers Association's Partners in the Solution program. Further, regulators and environmental groups should support rigorous voluntary industry certification programs by recognizing the strong commitment member auto dismantlers have made to environmental stewardship.
- (3) *Back New Legislation* - All stakeholders should support AB1255, introduced in 2003 by Californians Against Waste, which would create "front-end" economic incentives, such as advanced disposal fees and take back programs, on new vehicle sales to generate revenue to provide incentives for the proper handling of ELVs and the necessary resources to increase regulatory oversight.

- (4) *Focus on Best Management Practices* - All stakeholders should focus limited resources on improved stormwater best management practices (BMP) implementation, rather than focusing on the flawed site-specific and group monitoring regimes that are currently available for stormwater runoff.

We believe that implementation of these recommendations will lead to enhanced compliance by the auto dismantling industry and tangible long-term improvements in California's water quality.

## Background

### **How Sustainable Conservation Came to Work on End of Life Vehicles**

Early in 1999, Sustainable Conservation (SusCon) was seeking a project that would improve water quality in urban watersheds. We interviewed a number of regulators and environmental groups in California, who indicated that metals from non-point sources were a significant, unaddressed problem. In January 2000, we completed a report that evaluated the opportunity for SusCon to work with four industries believed to be significant contributors to heavy metal pollution in water bodies via their runoff: auto dismantling, scrap metal, marine paint, and tires.<sup>7</sup> Based on this analysis we decided to go forward with the Auto Recycling project, with the objective to reduce polluted runoff by encouraging auto dismantling facilities to adopt improved best management practices (BMPs). SusCon began to develop relationships with key stakeholders, including the State of California Auto Dismantlers Association (SCADA), Santa Monica BayKeeper, and the Los Angeles Regional Water Resources Control Board. After securing funding, Nathan Arbitman was hired as the full-time Auto Recycling Project Manager in February 2001, and Mike Gerel was brought on in February 2002 to provide additional assistance.

### **Environmental Impacts of End of Life Vehicles**

In conducting the preliminary project assessment we researched the environmental impacts of ELVs. The U.S. Environmental Protection Agency (EPA), the State and Regional Water Resources Control Boards, and BayKeeper organizations all believe that auto dismantling facilities are a significant source of non-point source pollution. Polluted stormwater is the leading cause of poor water quality in California. The State Water Resources Control Board has listed San Pedro and San Francisco Bays as impaired for mercury and nickel. Santa Monica Bay is impaired for cadmium, lead, poly-aromatic hydrocarbons (PAHs), and zinc, as well as mercury and nickel. ELVs are a known source of all of these hazardous pollutants; the improper handling of ELV fluids and components during the dismantling process results in polluted stormwater runoff and subsequent environmental damage. ELV fluids, such as engine oil, transmission

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<sup>7</sup> O'Brien, Liz. *Working in Urban Watersheds: Analyses of Auto Recycling, Scrap Metal Processing, Tires, and Marine Paint Industries*. Sustainable Conservation. 2000. Available at [www.suscon.org/reports.htm](http://www.suscon.org/reports.htm).

fluid, and antifreeze, are of particular concern because they contain a large amount of these metals. ELVs are typically handled outside where they can be exposed to stormwater. When it rains, untreated stormwater can flush harmful contaminants into creeks, rivers, lakes, and coastal waters. Auto dismantlers are the last line of defense against harmful contaminants in ELVs entering the environment.

For example, mercury, which is highly toxic in very small amounts, is routinely contained in ELVs. Mercury is used in vehicles in several ways, including: hood and trunk convenience light switches, anti-lock braking systems, high intensity discharge lamps, and entertainment and navigational systems. If auto dismantlers don't remove this intentionally added mercury, this mercury may be released to the environment when the vehicle is ultimately scrapped and the remaining portion of the vehicles (hulk) are crushed, shredded, and melted to make new steel. Further, the California Department of Toxic Substances Control (DTSC) estimates that the 700,000 ELVs shredded for scrap metal annually in California contain between 0.75 and 1.5 tons of mercury – much of which is released to the environment during processing or later when non-metallic waste “fluff” is disposed at non-hazardous waste landfills.<sup>8</sup>

### **Industry Structure**

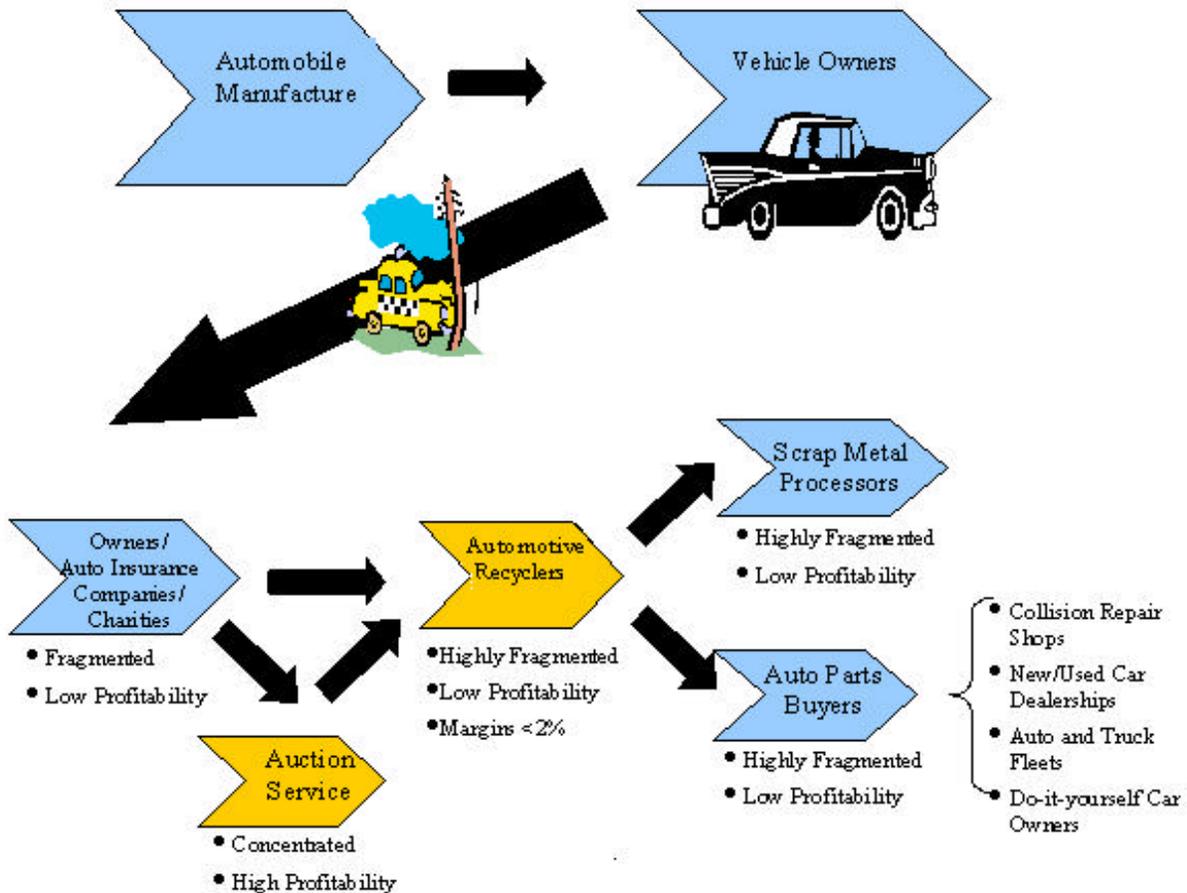
We analyzed the market dynamics of the auto dismantling industry in order to understand the parties that handle ELVs and how we might develop economic incentives to compel those parties to adopt stormwater best management practices (BMPs).<sup>9</sup> Figure 1 on the following page illustrates the flow of ELVs to auto dismantlers. In short, auto dismantlers make money by selling “recycled” parts from wrecked vehicles, primarily to auto body shops and individuals. Once useable parts are removed and sold, the hulk is sent to a scrap metal processor or otherwise disposed or abandoned.

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<sup>8</sup> DTSC, 2003.

<sup>9</sup> See also *Incenting Auto Recyclers Toward Environmental Excellence*, a presentation by the Stanford Graduate School of Business' Alumni Consulting Team. Available at [www.suscon.org/autorecycling/index.asp](http://www.suscon.org/autorecycling/index.asp).

**Figure 1 - The Flow of End-of-Life Vehicles to Auto Dismantlers**  
 (Approximately 50% of all ELVs go to Auto Dismantlers)



Typically, auto dismantlers are small “mom-and-pop” businesses (fewer than ten employees) with operating margins under two percent.<sup>10</sup> There are two distinct types of auto dismantling facilities: (1) service-counter facilities where customers request a specific part from a salesperson, and (2) self-service or “do-it-yourself” facilities that allow customers to walk through the yard and select parts to purchase.

Auto dismantlers obtain the vast majority (approximately 90%) of their vehicles from auto salvage auctions.<sup>11</sup> The largest auctions are run by publicly-owned corporations, which sell vehicles they obtain primarily from auto insurance companies. Most of these vehicles have incurred significant damage in accidents, and the insurance companies have taken ownership of

<sup>10</sup> O'Brien, 2000.

<sup>11</sup> Sustainable Conservation informal surveys

them. The insurance companies contract with the auctioneers to transport wrecked vehicles to a central location and to conduct the vehicle auctions. The insurance companies pay the auction companies either a flat fee or a percentage of the sale of each vehicle. The top three companies (Insurance Auto Auctions, Copart, and Allete) process approximately 50% of all total loss vehicles in the U.S. (or over \$700 million in cars each year).<sup>12</sup>

These auto salvage auctions are a relatively new addition to the industry structure. They have gained prominence since the mid-1990s when insurance companies began to realize that using auctions to sell their wrecked vehicles was more profitable than contracting directly with auto dismantlers. These vehicle auctions are subject to very little regulatory oversight as to who can participate. Generally, auto salvage auctions allow anyone who fills out basic paperwork to bid on wrecked vehicles. It is in the financial interest of the insurance companies and the auto salvage auctions to have few restrictions on who can bid, since a greater number of bidders typically translate into a higher vehicle sale price.

As auto auctions have become more prominent, auto dismantlers have found it increasingly expensive to purchase salvaged vehicles. This is one of several reasons why many auto dismantlers are finding it increasingly difficult to profitably operate their businesses. It is estimated that less than a third (about 700,000) of all ELVs in California are recycled by licensed auto dismantlers each year.<sup>13</sup> A growing number of unlicensed dismantlers or private individuals who rebuild and resell the vehicles, often illegally, handle the remainder. These unlicensed parties presumably do not adhere to environmental regulations for proper handling of ELVs, putting licensed auto dismantlers at a competitive disadvantage when bidding for salvaged vehicles as more of their available funds are directed to complying with environmental, health, and safety laws.

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<sup>12</sup> *Incenting Auto Recyclers Towards Environmental Excellence*

<sup>13</sup> Estimates from State of California Auto Dismantler Association, based on member surveys.

## **Regulatory Landscape**

Auto salvage auctions are subject to little direct regulatory oversight, in terms of who can participate in the auctions and what consumer safety and environment protection laws must be applied to vehicles stored on site. On the other hand, auto dismantlers are required to comply with a wide variety of regulatory controls, including those related to hazardous waste handling and disposal, occupational health and safety requirements, and local sewer and zoning laws, among others. Some of the most elaborate environmental regulations with which they must comply pertain to stormwater management. Auto dismantlers must have a federal National Pollutant Discharge Elimination System (NPDES) stormwater permit. Because the State Water Quality Control Board issues this permit, it is considered to be a state permit.<sup>14</sup> State stormwater permits require a detailed stormwater pollution prevention plan (SWPPP) that describes BMPs that the facility will implement to address its runoff, and requires the facility to properly implement and maintain those BMPs. Stormwater monitoring is required: both analytical (total suspended solids, aluminum, iron, and lead) and visual. Annual self-evaluation and reporting is also meant to help assess compliance.

Many municipal stormwater programs also have their own stormwater regulations that apply to auto dismantlers, which may be more stringent than the state program. For example, the Los Angeles County Stormwater ordinance applies to the discharge, deposit, or disposal of any stormwater or runoff that is covered by the NPDES municipal stormwater permit, which includes runoff from auto dismantling yards.<sup>15</sup>

Auto dismantlers have been subject to enforcement actions and citizens' suits for stormwater permit violations. In recent years, the Santa Monica, San Diego, and San Francisco BayKeepers have sued or threatened to sue a number of facilities throughout California for allegedly failing to comply with the law.<sup>16</sup> These lawsuits primarily focused on inadequacies in the facilities' SWPPP, improper SWPPP implementation, and whether the facilities' sampling and analysis data comply with EPA Multi-sector Benchmarks or the California Toxics Rule (CTR).

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<sup>14</sup> 40 C.F.R. § 122.26(b)(14)(vi).

<sup>15</sup> Los Angeles County Code Chapter 12.80 et seq. *See also* San Diego County Stormwater Ordinance No. 8394.

<sup>16</sup> For two examples, see "Santa Monica BayKeeper v. Sunlite Salvage," Case No. CV.99-04578 WDK or "San Diego BayKeeper v Ecology Auto Wrecking, Inc.," Case No. 97cv0886H.

Benchmarks are intended as general assessment tools to indicate SWPPP implementation effectiveness and potential receiving water quality impairment, and in turn, whether pollutant load, SWPPP, or monitoring regime alterations are warranted at a given facility. The CTR describes pollutant-specific discharge limits from industrial facilities to impaired water bodies in California.<sup>17</sup>

Whether or not benchmarks and CTR are enforceable and appropriate standards as quantifiable “end-of-pipe” indicators of compliance is a question of heated debate. In two recent legal cases in California, it was held that if an industrial facility’s stormwater samples do not meet benchmarks, then that facility is violating its stormwater permit.<sup>18</sup> This is despite the fact that EPA’s own final stormwater permit regulation states that, “The Agency does not believe that it is appropriate to establish numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from automobile salvage yard operations to meet the BAT/BCT standards of the Clean Water Act.”<sup>19</sup> In other words, EPA itself does not intend for benchmarks to be numeric effluent limitations. CTR, on the other hand, is intended to prescribe numerical limitations, but only applies to facilities whose runoff ends up in a water body that the State Water Board has listed as “impaired.”<sup>20</sup> However, many water bodies in California are listed as impaired, so this condition is not a significant limiting factor on CTR applicability. Defining the applicability of numeric limits to discharges from auto dismantling facilities remains an extremely contentious issue, which will likely continue to be played out in the courts.

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<sup>17</sup> 60 CFR 189, pp 51184 – 51189.

<sup>18</sup> “Santa Monica BayKeeper v. Sunlite Salvage” (cited above) and “Ecological Rights Foundation v. Sierra Pacific Industries,” Case No. C01-0520 MEJ.

<sup>19</sup> 60 FR 189, pp. 50947.

<sup>20</sup> See [www.epa.gov/region09/water/ctr/](http://www.epa.gov/region09/water/ctr/) for further discussion of CTR.

### **Level of Compliance**

Stormwater compliance among many licensed auto dismantlers remains low. According to U.S. EPA inspections conducted in 2001 of over 300 of the 1,492 licensed dismantlers in California, less than half are in compliance with their stormwater permits.<sup>21</sup> Many facilities were either lacking a SWPPP altogether or were not utilizing the BMPs described in their SWPPP. Further, it is reasonable to conclude that compliance is even worse for the growing number of unlicensed operators.

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<sup>21</sup> Tetra Tech EMI 2001 auto dismantling facility inspection data prepared for USEPA and State Water Board.

## Project Scoping

To address this poor compliance, SusCon sought to identify which BMPs should be implemented to address polluted stormwater runoff from auto dismantling facilities, and to understand why these practices are not being implemented. To answer these questions, we interviewed regulators, environmental groups, and technical consultants, and visited over fifty auto dismantling facilities across the state. We identified three main barriers to BMP implementation:

- (1) *Lack of credible and consistent information about which best management practices should be implemented frustrates auto dismantlers.*

The auto dismantlers we interviewed expressed a great deal of frustration about conflicting information regarding BMP implementation. Recommendations from stormwater consultants, EPA, state and local inspectors, and fellow auto dismantlers are often inconsistent. This lack of consistency translates to a sense of helplessness among many auto dismantlers who feel they do not have a clear sense of what they need to do in order to comply. Adding to this frustration is the “general” nature of the California stormwater permit. Because the state’s industrial stormwater permit is a “general” permit by definition, it does not address the specific characteristics of any particular industry, and does not prescribe specific BMPs on an industry-wide basis. Due to the nature of the permit and the fact that many auto dismantling facilities have unique business operations and physical site characteristics, the state has not prescribed a list of BMPs that must be implemented by all auto dismantling operators. As a result, determining what activities constitute compliance is often difficult for both auto dismantlers and regulators to ascertain.

- (2) *Strained relationships between industry, regulators, and environmental groups hinder cooperation.*

There is little cooperation between auto dismantlers and those who oversee their activities. Contentious site inspections and courtrooms have become the only forums for dialogue. In addition, many in the industry feel that they are unappreciated and that regulators and environmentalists do not recognize the importance of the work they do. This frustrates the auto dismantling industry, which sees itself as providing an important environmental benefit by

handling items (wrecked cars) that no one else wants. Without their industry, they contend, hundreds upon hundreds of vehicles would end up abandoned on roadsides and riverbeds.

- (3) *An uneven playing field puts unlicensed auto dismantlers at a competitive advantage, while providing a disincentive for licensed dismantlers to improve their current performance.*

The problem of underground and illegal operators that operate without necessary business licenses and environmental permits and under the radar of enforcement authorities, affects many industries. This problem is rampant in the auto dismantling industry, and the ease of operating without proper licensing provides a significant disincentive to many who handle ELVs to comply with pertinent environmental regulations. One study has estimated that nearly half of the 10,000+ facilities in California that are subject to the general stormwater permit have failed to file their notice of intent (NOI) with the State Water Board to obtain coverage under the statewide General Permit for Discharge of Stormwater Associated with Industrial Activities.<sup>22</sup> Our experience with the auto dismantling industry suggests that this statistic holds true for that industry as well.

In California, auto dismantlers must obtain a license or temporary permit from the Department of Motor Vehicles (DMV).<sup>23</sup> In the application, an auto dismantler must state that it has filed an application for a stormwater permit or that one is not required.<sup>24</sup> Because permits are required from all auto dismantlers, their license application will be rejected if they check “not required.” Therefore, whether they have a stormwater permit or not, most applicants will state that they do. DMV does not verify whether these facilities do in fact possess a stormwater permit. SusCon obtained a list of all licensed auto dismantlers from the California DMV. We also obtained a list of all auto dismantling facilities that had filed their NOI from the State Water Board. In our comparison, of the 1,473 auto dismantling facilities contained on the DMV list, 685 facilities (47%) could not be found on the Board’s list of auto dismantling facilities that have filed their NOI. This suggests that hundreds of auto dismantling facilities have not filed their NOI, and are

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<sup>22</sup> Chang, 2001.

<sup>23</sup> CA. Vehicle Code § 11500 et seq.

<sup>24</sup> CA. Vehicle Code § 11504(a)(4).

operating in clear violation of the stormwater regulations.<sup>25</sup> When this paper is published, we plan to provide this data to the DMV and State and Regional Water Boards, who should immediately check to see whether they have records of these facilities having filed their NOI, and take further action if necessary. Going forward, DMV and the Water Boards should better coordinate their efforts to track and cross check that facilities have properly filed an NOI. Unless DMV is certain that an applicant for an auto dismantling license has filed its NOI, the agency should not grant that facility's request for the license.

Due at least in part to historically very low prices for scrap metal and growing regulatory burdens, many individuals and businesses are choosing to operate illicitly, without obtaining business permits from the DMV and stormwater permits from the State Water Board. As already noted, a coordinated effort is not in place to identify and seek enforcement action against these facilities. As a result, such illegal operators have a distinct competitive advantage over their licensed counterparts.

Such illegal dismantling activity is readily observable in our travels to visit licensed facilities throughout California. There is a perception within the licensed auto dismantling industry that enforcement actions are rarely pursued against the unlicensed facilities, instead opting to go after licensed auto dismantling facilities that have filed the applicable permits and are known to regulators and environmental groups. In any case, it can be argued that by concentrating on the worst actors, many of whom are ostensibly illegal operators, those pursuing enforcement actions and resultant environment improvement would capture a larger portion of polluted discharge.

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<sup>25</sup> Data from internal Sustainable Conservation analysis of DMV and State Water Board lists. Note that facilities on the DMV Dismantler License list and not on the Board's NOI list are not necessarily out of compliance, because data on both of these lists may be inconsistent or incomplete. Our analysis underscores the need for DMV and the State and Regional Water Boards to coordinate their efforts and ensure consistency of their documentation to support future enforcement action.

## **Project Solutions & Accomplishments**

After assessing the auto dismantling industry and identifying the barriers to implementation of stormwater BMPs by this industry, we focused on developing and implementing several solutions to overcome these barriers. Based on our research and analysis, we sought solutions that aimed to:

- ✓ Alert DMV and State and Regional Water Board regarding stormwater program administrative deficiencies
- ✓ Identify the specific BMPs that should be implemented, as well as improve relationships and communication between the industry, regulators, and environmental community by convening a stakeholder group
- ✓ Create plain-language technical assistance materials (video and fact sheets) based on the outcomes of the stakeholder group, and disseminate the materials to auto dismantling facilities in California and nationally
- ✓ Develop economic incentives to encourage auto dismantlers to adopt the BMPs and improve overall environmental performance
- ✓ Implement pollutant-specific control efforts for mercury

### **Document and Address Stormwater Program Administrative Deficiencies**

As noted in Item 3 in the Project Scoping section of this paper (See Page 14), our research indicated that 685 of the 1,473 auto dismantling facilities (47%) contained on the DMV list were not included on the State Water Board's list of auto dismantling facilities that have filed their NOI. Concurrent with publication of this paper, we forwarded this data to the DMV and Water Boards to facilitate reconciliation of the lists and needed actions to improve administrative procedures and coordination between agencies and compliance by the regulated community.

### **Partnerships to Identify Appropriate Best Management Practices**

We assembled a group of eleven stakeholders from industry and the regulatory and environmental community. This stakeholder group met each month from November 2001 to April 2002 to identify primarily non-structural BMPs that should be implemented at auto

dismantling facilities.<sup>26</sup> The term “non-structural” refers to policies and procedures, such as employee training, fluid handling, spill clean up, and other good housekeeping policies. “Structural” practices are actual physical structures, such as vegetative strips and sediment traps, which stabilize soil and treat runoff. The stakeholder group process also managed to improve relations somewhat by promoting dialogue and providing the first safe forum for individuals from different constituencies to speak freely. Unfortunately, lack of participation by BayKeeper and the Los Angeles Regional Water Board, key participants in the discussion, toward the end of the process gave the impression that they were not interested in working cooperatively with the industry.

### **Create and Distribute Technical Assistance Materials**

After the stakeholder process concluded, we developed plain-language fact sheets, posters, and a video to help auto dismantlers understand the non-structural practices they should implement to address polluted runoff.<sup>27</sup> The practices included in the materials represent basic good housekeeping procedures that can be easily implemented with little cost or training at any auto dismantling facility. Despite their relative simplicity, these practices can greatly reduce runoff contamination. The following technical assistance materials were completed:

- ❖ Auto Recycling Outreach Poster – “Only Rain in the Drain” (poster)
- ❖ Stormwater Management: An Overview for Auto Recyclers (fact sheet)
- ❖ Stormwater Management: A Guide For Auto Recycler Owners and Operators (fact sheet)
- ❖ Only Rain in the Drain – Stormwater Management for Auto Recyclers (video)

To date, we have distributed these materials to over 1,500 auto dismantling facilities in twenty-five states and Canada. The fact sheet and video were also made available in English and Spanish. These materials have received wide praise as a valuable source of accessible, pragmatic guidance. Future plans include translation of these materials into Russian, Vietnamese, and Armenian.

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<sup>26</sup> See Appendix A for a list of Stakeholder Group Participants.

<sup>27</sup> Fact sheets and posters are available for download at [www.suscon.org/autorecycling/index.asp](http://www.suscon.org/autorecycling/index.asp). A limited number of hardcopy fact sheet and posters and videos are available upon request.

## **Develop Incentives**

We also attempted to develop incentives for auto dismantlers to implement the BMPs. Initially, we believed that a certification program, which would credential facilities that adopt a set of BMPs and confer benefits to such facilities, was a potentially compelling solution. However, we encountered insurmountable barriers for developing persuasive enough incentives to drive an industry-wide certification program or to better motivate auto dismantlers to adopt stormwater BMPs. It became clear that such market-based voluntary solutions would not be viable until the playing field for auto dismantlers is leveled through legislation – legislation that supports a more balanced enforcement effort toward all who handle ELVs and provides a sustainable source of funding for industry and regulatory decision makers to assist improved compliance. Table 1 below describes economic, regulatory, and legal incentives that we evaluated.

## **Support New Legislation**

After assessing available incentives and encountering the barriers to non-regulatory programs described above, it became clear that such market-based voluntary solutions would not be viable until the playing field for auto dismantlers is leveled through legislation. To address this problem, we recruited Californians Against Waste (CAW) to help develop and shepherd legislation that would provide funds for proper management of ELVs. CAW has over 25 years of experience lobbying and creating recycling policy, and sponsored or helped craft all of the major recycling legislation that has passed in California. AB1255, introduced in January, proposes to create a “front-end,” point-of-sale fee on new vehicles. The fee would generate revenue that would compensate properly credentialed auto dismantlers and increase State Water Board funding for enforcement activity. While CAW felt AB1255 had an excellent chance of passing this year, they decided to delay it until 2004 to focus efforts on the California E-waste bill (SB20), which requires “producer responsibility” for the safe manufacturing, collection, and recycling of lead-containing electronic devices, such as computer monitors and televisions. The thought was that the E-waste bill was further along in development and would pave the way for approval of the similar producer responsibility approach in AB1255. The E-waste bill was signed by the Governor in September 2003. Legislation that provides a dedicated revenue stream would be a major step in helping to ensure that licensed auto dismantlers and regulators alike have the resources they need to ensure that ELVs are handled in a more environmentally

responsible manner. We plan to continue our strong support for this bill when it is reintroduced in 2004.

**Table 1 - Auto Dismantlers Incentives and Barriers for BMP Implementation**

<b>Incentive</b>	<b>Barriers to Incentive</b>
<b>Financial</b>	
Direct ELVs that are donated to charities, to certified dismantlers at a discounted cost	The vast majority of donated ELVs are of very low value and are not desired by most auto dismantlers – except some self-service facilities who accept these vehicles. Also, marketing participation in the program is unlikely to attract more customers because the vast majority of people who donate vehicles just want to get rid of their junk and are unlikely to be swayed by environmental concerns.
Provide some benefit or preferential treatment to auction participants who are certified dismantlers	Very difficult to implement due to strong resistance from insurers and auctioneers, because it may reduce their revenue. This idea would also require implementation and enforcement by auctioneers.
Use consumers and insurance carriers to fund coupon program	Extremely difficult to implement due to heavy resistance from insurance companies and regulatory barriers. Insurance companies are very sensitive to the cost of their policies; further, regulations prevent them from levying new fees without government approval.
Direct more business to certified dismantlers via body shops	Very difficult to change buying relationships, and to encourage body shops to use more recycled parts. Certification can't replace personal relationships, and reimbursement policies from insurance companies discourage use of recycled parts.
Direct more business to certified facilities via government fleets. Government fleets could buy vehicle parts from certified dismantlers	May hold promise, however, without legislative mandate, program would be based on case-by-case voluntary agreements between individual dismantlers/trade groups and individual government fleet operations. We are considering working with SCADA to pursue this effort.
Subsidize certified dismantlers through tax credits or low-interest loans	Unable to identify appropriate funding source. Low-interest loans from the State Revolving Loan Fund may be available to auto dismantlers; however, loan availability is dependent on Federal funding, Regional Water Board priorities, and the willingness of a government entity (e.g., County) or a non-profit to re-distribute funds to dismantlers.
<b>Regulatory</b>	
Offer regulatory flexibility to certified dismantlers	Regulators (State and Regional Water Boards) are bound by the law and cannot provide regulatory flexibility. There may be an opportunity for permit fee relief via the new stormwater permit. Further, even if they could offer relief, the current requirements with regard to stormwater are not particularly burdensome, especially for facilities that participate in group monitoring programs.
<b>Legal</b>	
Amnesty from BayKeeper lawsuits for a period of time for certified dismantlers	BayKeeper would offer such amnesty only to facilities that committed to maintain their polluted runoff below numerical water quality standards. The industry was unwilling to accept this condition.

### **Undertake Pollutant-Specific Efforts: Mercury Switches**

If mercury switches are not removed from ELVs, the mercury can enter the environment and cause human health problems. Vehicle components such as convenience light switches, anti-lock braking systems, headlights, and entertainment and navigational systems often contain mercury. The California state legislature recently passed legislation banning the sale of new vehicles manufactured on or after January 1, 2005 that have hood and/or trunk convenience lights that contain mercury switches. To address the existing inventory of cars with mercury convenience light switches, DTSC mandated the removal of mercury switches from ELVs after January 1, 2005.<sup>28</sup> Based on the lack of adequate incentives and the industry's poor level of compliance with other environmental regulations, compliance with the ELV removal requirement is expected to be low.

We are currently working with DTSC to implement this new legislation by developing user-friendly technical guidance materials for auto dismantlers and repair shops to help encourage proper removal and disposal of mercury switches recovered from ELVs. We are also working with USEPA, Region 9 and Pick Your Part on a pilot project that hopes to recover over 75,000 mercury switches from convenience lights in ELVs, as well as study the best means to achieve safe and cost-effective recovery of switches in an operating auto dismantling facility. Further, we teamed with the California State Automobile Association (CSAA) on a one week in service vehicle "switch-out" event where the public was able to visit participating auto repair shops and have any mercury switches in convenience lights replaced with a mercury-free switch free of charge. All of these efforts will greatly inform auto dismantlers, regulators, and the public about how to best to address switches from ELVs and in service vehicles.

It should be noted that California does not plan to make funding directly available to auto dismantlers or repair shops to remove the switches. The State of Maine is the first state to pass a law requiring that automakers accept responsibility for preventing mercury pollution from ELVs, by paying auto dismantlers one dollar for every switch they remove, and paying for the

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<sup>28</sup> Senate Bill 633, Statutes 2001, Chapter 656; and the Mercury Waste Classification and Management Regulation, California Code Section 66273

establishment of the infrastructure necessary to collect and dispose of the switches statewide.<sup>29</sup> In July 2003, in response to a lawsuit filed by the by the Alliance of Automobile Manufacturers challenging the new law, a Magistrate in the U.S. District Court in Bangor, ME issued an opinion that recommended upholding Maine's statute in its entirety.<sup>30</sup> Other mandatory switch removal efforts are underway in Oregon, with other states currently considering a shift from voluntary to mandatory programs.<sup>31</sup> Developing a “producer responsibility” approach in California is supported by many regulators and environmental organizations to fund capture of mercury switches by those that handle ELVs.

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<sup>29</sup> An Act to Prevent Mercury Emissions when Recycling and Disposing of Motor Vehicles. Public Laws of Maine, Second Regular Session of the 120<sup>th</sup>, Chapter 656, Section 661. [www.state.me.us/dep/mercury](http://www.state.me.us/dep/mercury).

<sup>30</sup> Recycling Today. August 5, 2003.

<sup>31</sup> Mercury Reduction Act of 2001. [www.deq.state.or.us/wmc/hw/factsheets/mercuryswitchfactsheet.pdf](http://www.deq.state.or.us/wmc/hw/factsheets/mercuryswitchfactsheet.pdf).

## Recommendations for Future Action

### (1) **Emphasis on Balanced & Coordinated Enforcement**

Licensed auto dismantlers handle about fifty percent of all ELVs in California.<sup>32</sup> Auto dismantlers, auto remanufacturers and illegal operators who dismantle and rebuild vehicles without necessary business licenses and environmental permits handle the remainder. Enforcement and legal action should continue to be aggressively pursued against members of this industry sector that are out of compliance. These actions, however, should not be directed solely at licensed auto dismantling facilities that are known to regulators, but should be expanded to include all parties who handle ELVs. The State Water Board and/or DMV must expand enforcement efforts against rogue operations in order to bring these high-risk facilities into greater compliance. Directing enforcement against all who handle ELVs will remove the competitive advantage gained by bad actors through non-compliance.

However, lack of sufficient resources has been recognized as the primary reason for the limited compliance assurance and enforcement activities by the Regional Water Board.<sup>33</sup> We are currently supporting a legislative initiative that would help to level the playing field for licensed auto dismantlers. This initiative seeks resources to (1) support implementation of a more organized and balanced statewide enforcement against all who handle ELVs and (2) provide financial incentives for credentialed auto dismantlers to better manage stormwater and hazardous materials at their facilities.

Another option that should be explored is limiting access to salvage auctions to properly credentialed auto dismantlers, or otherwise preferentially directing ELVs to facilities that are taking proper steps to address on site environmental stewardship.

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<sup>32</sup> Estimates from SCADA, based on member surveys.

<sup>33</sup> Chang, 2000.

(2) **Support Rigorous Industry Certification Programs**

Properly executed and supported voluntary industry certification programs can effectively minimize water quality degradation through widespread on site implementation and maintenance of appropriate BMPs. We recommend that such a program rely on private, state-approved experts to certify and oversee the day-to-day compliance of facilities that voluntarily participate in and help to fund the program. Such a rigorous certification program would provide credentialed facilities with a higher degree of clarity of their regulatory responsibilities and a level of comfort that the Regional Board is aware of and supportive of their stewardship efforts. A certification program could reduce the resources required of the State Water Board, by shifting some of the compliance-monitoring burden to industry. Further, in concert with Recommendation #1, certification programs will allow regulators more time to address unlicensed operators or high-risk sectors.

For example, Partners in the Solution, an innovative certification program developed by SCADA, is an example of an industry-led certification program in California. Partners is a mandatory program that requires all member facilities (over 200) to meet specified business and licensing, environmental, and safety standards. The program relies on standardized best management practices, training, and self-evaluation to facilitate improved environmental performance. All members must certify to SCADA in writing that they meet all environmental and safety requirements, including the Industrial General Permit. This program incorporates nearly all the non-structural BMPs identified by our multi-stakeholder group.<sup>34</sup> While we believe third party oversight should eventually be implemented when funds are available, proper on site implementation of Partners in its current form represents a pragmatic and cost-effective step to significantly enhance understanding of stormwater management and improve compliance by this industry sector.

To support successful continuation and enhancement of Partners and similar programs, the Regional Water Board should consider incentives that tangibly recognize the value of this

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<sup>34</sup> The only practice identified by the stakeholder group that is not incorporated in *Partners in the Solution* is that facilities should dismantle fluid-containing parts and drain fluids under overhead cover. Addition of overhead cover may be prohibitively expensive for many operators. *Partners in the Solution* allows facilities to perform such activities “on an unbermed impervious surface during dry weather only where absorbent material is provided to capture fluids during processing.”

industry-led stewardship program. As an example, we supported SCADA's comments on the proposed Industrial General Permit requesting permit fee relief, which would motivate their current membership to stay with the program and additional facilities to join. To operate the Partners program, SCADA imposes an annual membership charge of \$365. As membership in SCADA requires mandatory implementation of the Partners program, many fully engaged members did approve of this requirement or could not afford the additional charge and opted to leave SCADA. In 2002, SCADA lost almost 50% of its membership primarily because of the charges needed to manage the Partners program. The proposed permit fee of \$700 will likely make it even more difficult for auto dismantlers to participate in Partners, given the industry's low profit margins. Providing an incentive in the form of permit fee relief to SCADA members in good standing will encourage program improvement and expansion to include additional facilities across the state.

With adequate programmatic and financial support, industry-led certification programs can serve as a valuable voluntary complement to existing regulatory programs. Such programs should be recognized by the regulatory and environmental community as a viable step to improve compliance by this industry sector and water quality. Such programs should:

- ❖ Require facilities to meet specified business and licensing, environmental and safety standards, and implement appropriate BMPs on site in a timely manner
- ❖ Require regular self- and third party- training, evaluation, and reporting
- ❖ Provide auto dismantlers with certainty regarding what activities constitute compliance
- ❖ Enable the Regional Water Boards to direct enforcement resources against bad actors

### **(3) Legislation to Support End of Life Vehicle Management**

We strongly support new legislation being considered in California that will provide funds for proper management of ELVs. The bill, which is currently on hold until 2004, proposes to create a point-of-sale fee on new vehicles sold in California to generate revenue to compensate licensed and certified auto dismantlers and increase Regional Water Board funding for enforcement activity.

That auto dismantlers must expend already limited resources to cover the costs of hazardous waste removal from ELVs is a significant disincentive to proper management of these materials. A legislated advanced disposal fee or other subsidy may be an effective means to further incent auto dismantlers to properly remove hazards from ELVs. For example, as noted earlier in this paper, the State of Maine has mandated that auto makers pay a one dollar “bounty” to partially cover auto dismantler costs for removal and management of mercury switches. Available data indicates that it costs an auto dismantler approximately \$3.25 to properly remove and dispose of a single mercury switch.<sup>35</sup> Auto dismantling facilities operate under a very low profit margin, so this partial cost coverage is a step toward improved capture of mercury from ELVs.

In concert with Recommendation #1, legislation that provides adequate resources to enforcement authorities to pursue broad-based enforcement efforts against all who handle ELVs is sorely needed. At present, the lack of funds has limited the number of inspections and enforcement actions the State Water Board can pursue against this industry sector, and has resulted in enforcement against only a small subset of operators known to regulators via licensing or complaints.

Legislation that provides a dedicated revenue stream would be a major step in helping to ensure that auto dismantlers and regulators alike have the resources they need to ensure that ELVs are handled in a more environmentally responsible manner.

#### **(4) Focus on BMP Implementation**

The question of whether quantitative stormwater sampling and analysis is an effective and appropriate tool for developing appropriate BMPs and evaluating facility compliance is the subject of substantial debate. The current state-mandated stormwater sampling and analysis program consists of three main requirements:

- 1) Quarterly Visual Inspection - Facilities must visually inspect all stormwater outfalls quarterly to observe for the presence of non-stormwater discharges, and revise their Stormwater Pollution Prevention Plan to reflect these observations.

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<sup>35</sup> California Department of Toxic Substance Control, 2003.

- 2) Monthly Visual Inspection in Wet Season - Facilities must conduct visual observations monthly during the wet season (October through May) to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, odor, and source of any pollutants.
- 3) Quantitative Sampling & Analysis - Facilities must collect and analyze samples of stormwater discharge from the first storm event of the wet season and at least one other wet season storm event, unless they belong to a State Water Board-approved “Group Monitoring Program.” Stormwater is analyzed for pH, TSS, specific conductance, and total organic carbon or oil and grease.

Most auto dismantling facilities participate in a Group Monitoring Program and are required to sample only two times every five years, the reasoning being that since the group members conduct similar operations, the testing results from the facilities where testing is conducted is generally representative of all facilities in the group. Many advocate eliminating group monitoring, contending primarily that 1) the data obtained under the program lacks integrity due to improper sample collection procedures, 2) with such disparate sampling dates, it is very difficult to obtain meaningful data at any one facility over a long period of time, 3) those that participate in the program spin the sampling results by taking the stance that low pollutant levels should be applied to all facilities in the group, while high pollutant levels indicate poor pollutant management practices at the specific facility and should not be applied to the other group members, and 4) the fact that analytical data from an individual discharge is not representative of a discharge from a completely different location.

Environmental groups support eliminating group monitoring and contend that requiring more frequent sampling and analysis at individual sites would more accurately illustrate the day-to-day pollutant levels and long-term trends that better enable development of efficient measures to determine pollutant loading, concentration, and contribution to water quality violations.<sup>36</sup> These

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<sup>36</sup> Legislative efforts such as Senate Bill 72, sponsored by Senator Kuehl (D-Santa Monica) and supported by Heal the Bay, Center for Marine Conservation, BayKeepers, and Sierra Club, would have eliminated group monitoring and required all facilities subject to the industrial stormwater permit to sample their stormwater runoff five times annually. This bill was not successful in the face of significant industry opposition.

data could then be used to assess BMP performance and compliance with benchmark levels, CTR, water quality standards, and other pollutant- and site-specific limits.

On the other hand, both regulators and industry representatives have called into question the meaningfulness of sampling and analysis data gathered by this industry. Namely, some question the utility of continuing to collect data because it has already been widely identified in historical sampling data collected by U.S.EPA that water pollution from auto dismantling facilities is a wide-spread problem.<sup>37</sup> Further, our research has shown that group monitoring or site-specific stormwater sampling data does not necessarily indicate level of performance with regard to implementation of stormwater BMPs. Water quality regulators also note that without established stormwater effluent numeric effluent limits, which are particularly difficult to develop based on the stochastic variation in discharge duration, intensity, and content, the complexity and cost associated with expanding the existing sampling and analysis program outweighs the limited scientific value provided by additional site-specific data. The lack of a well-defined stormwater conveyance from which to collect representative samples further complicates collection of accurate and enforceable data. To achieve representative and defensible data, such quantitative monitoring would likely require use of costly automated samplers, flow meters, and trained staff, that is just not feasible for this industry at this time.<sup>38</sup> As one expert has suggested, “the limited financial resources may be better spent on the implementation of best management practices to reduce stormwater contamination as opposed to sampling,” particularly at small facilities.<sup>39</sup>

At this time, current stormwater sampling and analysis regimes are not producing data that can be relied upon as a definitive indicator of individual facility stormwater management performance for compliance purposes. Given scientific concerns about the validity of quantitative stormwater monitoring data and the high costs associated with generation of such data at this time, we believe that this industry sector should focus limited resources on proper implementation and maintenance of stormwater BMPs to control pollutants at the source. Our stormwater management technical assistance materials aim to serve as first step in educating all

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<sup>37</sup> See Chang, 2000, p. 39 for a discussion of how stormwater sampling data indicates that pollutant levels from auto dismantling facilities often exceed the benchmark levels set by the US EPA.

<sup>38</sup> See Fact Sheet. State Water Resources Control Board Waste Discharge Requirements For Discharges to Stormwater Associated with Industrial Activities Excluding construction Activities. May 9, 2003. (Proposed)

<sup>39</sup> Swammikanu. 1994. p. 39

who handle ELVs. Until such time as technologically and cost-effective stormwater monitoring mechanisms are available for use by this industry sector, concentrating further efforts on BMP education and implementation for those who process ELVs is presently the best course of action. Application of creative thought and financial resources is needed to pursue research into innovative BMPs, and means to more definitively determine their effectiveness in meeting regulatory mandates and protecting water quality.

## **Conclusion**

It is widely-known that those that handle end of life vehicles are vastly out of compliance with stormwater regulations in California. However, some auto dismantlers, particularly those in SCADA, are setting themselves apart by committing to a voluntary certification program that requires commitment to a range of best management practices and stewardship actions. These proactive efforts should be tangibly recognized to facilitate expansion of their reach to more of the thousands of facilities that handle ELVs in California. Legislation that provides incentives for certified auto dismantlers and resources to support a more coordinated and balanced ELV enforcement program, is necessary to more equitably and effectively address pollution from this sector. Focusing on BMP implementation and education is currently the best course of action, while a more technically sound and cost effective solution is developed to assess stormwater quality from this sector. With a pragmatic and thoughtful approach, these efforts can help ensure that the nearly 2.5 million vehicles that annually reach the end of their useful life in California are handled in an environmentally responsible manner.

**Appendix A: Auto Dismantling Stakeholder Group Contact List**

<b>Name</b>	<b>Company/ Organization</b>	<b>EMAIL</b>	<b>Phone/Fax</b>	<b>Mailing Address</b>
Nathan Arbitman*	Sustainable Conservation	<a href="mailto:narbitman@suscon.org">narbitman@suscon.org</a>	(415) 977-0380 x.308 (415) 977-0381 (f)	121 Second Street 6 <sup>th</sup> Floor San Francisco, CA 94105
Leo Cosentini	State Water Resources Control Board	<a href="mailto:cosel@dwq.swrcb.ca.gov">cosel@dwq.swrcb.ca.gov</a>	(916) 341-5524	1001 I Street Sacramento, CA 95814
Ron Dumas	SCADA / Auto Gator	<a href="mailto:ron@autogator.com">ron@autogator.com</a>	(916) 991-4191 (916) 783-5216	5325 Dry Creek Road Sacramento, CA 95838
Steve Fleischli	Santa Monica BayKeeper	<a href="mailto:sfleischli@smbaykeeper.org">sfleischli@smbaykeeper.org</a>	(310) 305-9645 , x.1 (310) 305-7985 (f)	P.O. Box 10096 Marina Del Rey, CA 90295
Andrew Sallach	USEPA Region IX	<a href="mailto:Sallach.Andrew@epa.gov">Sallach.Andrew@epa.gov</a>	(415) 972-3503	75 Hawthorne Street San Francisco, CA 94105
Dennis Gutierrez*	Sustainable Conservation	<a href="mailto:dgutierrez@suscon.org">dgutierrez@suscon.org</a>	(415) 977-0380 x.313 (415) 977-0381 (f)	121 Second Street 6 <sup>th</sup> Floor San Francisco, CA 94105
David Kendziorski	Stormtech, Inc.	<a href="mailto:dave@stormtech1.com">dave@stormtech1.com</a>	(888) 549-5374 (262) 796-8102 (f)	16800 W. Greenfield Avenue Brookefield, WI 53005
Laurie Mattison	NEST Environmental Services	<a href="mailto:dcreh@wizwire.com">dcreh@wizwire.com</a>	(650) 938-3012 (650) 968-6633 (f)	1040 Grant Road Suite 155 Mountain View, CA 94040
Carl Sjoberg	LA County Environmental Programs Division	<a href="mailto:csjoberg@dpw.co.la.ca.us">csjoberg@dpw.co.la.ca.us</a>	(626) 458-3539 (626) 458-3569 (f)	P.O. Box 1460 Alhambra, CA 91802-1460
Tim Simpson	Geomatrix Consultants Inc. / Pick Your Part	<a href="mailto:TSimpson@geomatrix.com">TSimpson@geomatrix.com</a>	(949) 642-0245 (949) 642-4474 (f)	330 West Bay Street, Suite 140 Costa Mesa, CA 92627
Dave Street	SCADA / West Auto Wreckers	<a href="mailto:sales@westautowreckers.com">sales@westautowreckers.com</a>	(619) 423-1100 (619) 423-7651 (f)	2365 Main Street Chula Vista, CA 91911
Xavier Swamikannu	CRWQCB, Los Angeles Region	<a href="mailto:xswami@rb4.swrcb.ca.gov">xswami@rb4.swrcb.ca.gov</a>	(213) 620-2094 (213) 576-6660 (f)	320 W. 4th Street, Suite 200 Los Angeles, CA 90013
Michael Wilson	Automotive Recyclers Association	<a href="mailto:wilson@autorecyc.org">wilson@autorecyc.org</a>	-703) 385-1001 x 17 (703) 385-1494 (f)	3975 Fair Ridge Drive, Suite 20 - North Terrace Level Fairfax, VA 22033-2944

\* Facilitator