

CHAPTER FOUR
SOURCE REDUCTION AND RECYCLING ELEMENT

4.1 INTRODUCTION TO THE SOURCE REDUCTION AND RECYCLING ELEMENT

The Source Reduction and Recycling Element (SRRE) for Sonoma County was developed in response to the California Integrated Waste Management Act of 1989 (AB 939). This element is incorporated into the Countywide Integrated Waste Management Plan (CoIWMP).

AB 939 mandates that all cities and counties in California prepare SRREs and that waste diversion goals of 25 percent and 50 percent be met at the local level by 1995 and 2000, respectively. Emergency regulations were drafted and adopted in February 1990 to guide plan preparations. Further legislation, AB 1820 (Sher) Chapter 145/90, makes several important changes to AB 939 that must be addressed by the cities and counties in their planning processes. Jurisdictions may file Time Extension Applications for up to three years additional time to meet the 50% diversion requirement. Although the Sonoma County Waste Management Agency (SCWMA) and its member jurisdictions have diligently implemented the various diversion programs detailed in the CoIWMP, it was unable to meet the 50% diversion goal. The SCWMA, the joint powers authority representing the jurisdictions of Sonoma County, has filed a Time Extension Application with the CIWMB to postpone the 50% diversion requirement until December 31, 2003, which was approved on June 18, 2002.

The SRRE includes four main components: source reduction, recycling, composting, and special waste. Each identifies existing diversion programs and examines, evaluates, and selects future diversion programs. In addition to the four key components, the SRRE also includes sections on goals and objectives, education and public information, disposal facility capacity, funding, and integration.

Achieving the diversion goals will require the cooperation of the private sector, public agencies, and residents of Sonoma County, through their awareness and participation in source reduction, recycling, and composting programs. The SCWMA will need to closely watch programs to gauge their effectiveness and to provide feedback to City and County officials, the Local Task Force, and the CIWMB.

4.1.1 REGIONAL PLANNING CONTEXT

Diversion goals will be met through a combination of local and countywide source reduction, recycling, and composting programs. In adopting this approach, the jurisdictions have joined the SCWMA and have agreed in concept to sponsor or develop jointly these programs and facilities.

The SCWMA is a Joint Powers Authority as defined in California's Government Code §6500. Each of the County's ten jurisdictions has one representative, and each representative has one vote. Under the original Joint Powers Agreement, the SCWMA is responsible for wood waste and yard debris diversion efforts, household hazardous waste management, and countywide waste reduction education. Refuse and recyclables collection are not within the SCWMA's scope. In 1994 the SCWMA expanded its scope of responsibilities to include the Recycling Market Development Zone (RMDZ) and solid waste management planning. It further expanded its role in 1996 by becoming a Regional Agency as defined by AB 939, assuming countywide responsibility for achieving the 25% and 50% diversion goals and to reduce the reporting responsibilities of each jurisdiction by submitting all required reports to the CIWMB. In 2000, the SCWMA again expanded its role by adding beverage container recycling to its scope of responsibilities.

As a Regional Agency, the SCWMA is responsible for maintaining all of the solid waste planning documents required by AB 939, and as such, the regional SRRE is a multi-jurisdictional document. The SRRE addresses regional programs in addition to those programs that each jurisdiction has implemented independently of the other SCWMA members.

4.1.2 LOCAL PLANNING CONTEXT

Sonoma County is located north of San Francisco and adjoins Napa, Marin, Lake and Mendocino Counties and borders the Pacific Ocean. The County is approximately 1,600 square miles in area and has a population, as of the 2000 census, of 458,614. Sonoma County is a diverse and growing county containing coastal areas, farmlands, and hilly regions. Dairies, orchards, vineyards, wineries, electronics manufacturing, and tourism are just a few of the industries to be found here. The fastest growing industry in Sonoma County is the communications industry, commonly referred to as Telecom Valley located in Petaluma.

Refuse collection in Sonoma County is handled by eight franchised private collection companies. The materials collected by these haulers may be routed through one of five transfer stations in Annapolis, Healdsburg, Occidental, Sonoma, or Guerneville. All of the waste collected by these haulers is disposed at the Central Landfill located near the City of Petaluma.

4.1.3 SUMMARY OF THE SOLID WASTE GENERATION STUDY

The Solid Waste Generation Study (SWGS) provides basic information about the amounts and types of waste disposed of and diverted by the jurisdictions. The SWGS estimated quantities of waste disposed; quantities of waste diverted through existing diversion and future diversion programs, including source reduction, recycling, and composting; and quantities of current and future waste generated. The waste stream was broken down by four waste generator types: residential, commercial, industrial, and other. The characteristics of the waste stream were determined by eight waste categories and by additional subsets of waste types. In total, 42 waste types were targeted.

The 1995/96 Waste Characterization Study provided updated information about Sonoma County's waste stream. Other organics (41.7%) and paper (27.1%) were the two largest categories of waste in the Sonoma County waste stream during the study period. Food (13.4%) and wood (10.2%) dominated the other organics category, although leaves and grass (4.3%) also contributed a noteworthy amount of waste. Sonoma County residents and businesses also disposed of considerable amounts of other mixed paper (7.4%), remainder/composite paper (6.4%) and uncoated corrugated paper (4.9%)

4.1.4 GOALS AND OBJECTIVES

Chapter 2 details the goals, objectives, and policies of this CoIWMP. The SCWMA met the mandated 25% diversion goal in 1994 and reached a 40% diversion goal in 2000. The 50% diversion goal has been extended by the CIWMB's approval of the SCWMA's Time Extension Application on June 18, 2002. The 70% diversion goal for 2015 was identified in the *Solid Waste Management Alternatives Analysis* approved by the Sonoma County Board of Supervisors on February 6, 2001 and by the SCWMA on February 21, 2001.

The Time Extension Application describes the new and expanded programs that the SCWMA will implement to reach the 50% diversion goal. Table 4.1 lists the new and expanded programs as described in the Time Extension Application. These programs are described in more detail in the recycling (section 4.4), composting (section 4.5), and special waste (section 4.6) components. Table 4.2 details the recycling and composting quantities for programs funded or operated by the SCWMA or its member jurisdictions for the year 2000.

Table 4.1: Additional Programs Identified to Meet the 50% Diversion Goal by 2003.			
Program	Description	Estimated Diversion Tonnage	Estimated Diversion Percent
Residential curbside recycling	Evolution of source-separated residential curbside program from three 12-gallon stacking bins to single-stream automated collection in large wheeled totes.	30 tpd	2.1%
Multi-family recycling collection	Collection of recyclable materials (paper, cardboard, glass, PETE and HDPE plastic food containers) in multi-family complexes. There are approximately 23,000 multi-family units in Sonoma County.	10 tpd	0.7%
Beverage container recycling	Provide collection containers for beverage container recycling at local parks, recreation centers, downtown areas, transit locations, and other public areas. Develop and implement recycling and public education at special events.	1 tpd	0.1%
Construction and demolition recycling facility	Facility would accept debris boxes from construction and demolition sites, providing an economic incentive to encourage delivery. Material would be sorted by facility staff for recycling.	65 tpd	4.5%
Yard debris collection and organics composting	Residential curbside collection of yard debris to be increased to weekly collection. Disposal site segregation of organic materials included. Organic material currently composted at the Central Disposal Site.	25 tpd	1.7%
Floor sorting/drop-off recycling at the Central Disposal Site	The new operational improvements under construction at the Central Disposal Site include a 12-bin "Z" wall of recycling bins with a cardboard baler; separate recycling area for tires, metals, and appliances; Recycletown reuse area; household hazardous waste facility; and floor sorting of yard debris, wood debris, and other recyclable materials in the new tipping building.	30 tpd	2.1%
Public education	Planning, implementing and follow-up analysis of a social marketing effort, including reviewing available data, designing and placing radio and print advertising, direct mail pieces and other techniques to increase residential recycling behavior, and completing an written evaluation of the campaign. Educational pieces developed by this campaign will be placed on the SCWMA website.	n/a	n/a

4.2 EVALUATION PROCESS

Within the source reduction, recycling, composting, and special waste components of the Source Reduction and Recycling Element (SRRE), successful programs are continued and the most feasible future waste diversion alternatives were selected. This section describes the process used to select these alternatives.

The selection of alternatives was based on the requirements of the AB 939 regulations. The criteria were used to qualitatively evaluate the alternatives. Final selection of alternatives was made based on, conformance with local issues and practical program design.

4.2.1 SELECTION CRITERIA

Fourteen independent criteria were developed to evaluate waste diversion alternatives. The criteria covered a broad range of issues reflecting local needs and policies and the requirements of AB 939, including technical, economic, institutional, and policy facets of solid waste reduction and recovery. The criteria fulfill the requirements outlined in Section 18733.3 (a) and (b) of the AB 939 reflections. The 14 criteria are defined as follows.

1. **Waste Diversion Potential.** Evaluates the extent to which the alternative reduces the amount of waste requiring disposal, considering allowable AB 939 waste diversion credits.
2. **Ease of Tracking Diversion.** Considers the ease and efficiency of tracking the nature and quantity of solid waste diverted towards AB 939 objectives.
3. **Environmental Impacts.** Considers the extent to which the alternative minimizes environmental impacts, including hazards to workers or adjacent communities, noise, vectors, air emissions, leachate, odors, and visual aesthetics. Also considers broader environmental impacts (e.g., impact on energy or natural resources consumption).
4. **Operating Experience of the Alternative.** Appraises the extent to which the alternative has been successfully used in other communities and has demonstrated reliability.
5. **Conformity with Local Market Conditions.** Assesses the extent to which the alternative is compatible with existing area markets and demonstrates market/economic stability.
6. **Facility/Program Requirements.** Evaluates the extent to which the alternative can be built on existing facilities or programs already operating in the community. Also considers requirements for significant changes in local waste collection, processing, and disposal practices.
7. **Capital Cost.** Analyzes the extent to which the alternative minimizes capital or first-year expenditures.
8. **Cost Effectiveness over Lifetime.** Measures the extent to which the alternative minimizes costs per diverted ton over its operating lifetime. Considers total annual cost of operation, capitalization and revenues over the lifetime of the project.
9. **Operating Costs.** Considers the extent to which the alternative minimizes waste management operating costs (e.g., collection, transfer, disposal) for the community.
10. **Conformity with AB 939 Waste Management Hierarchy.** Identifies the extent to which the alternative complies with the hierarchy.
11. **Ease of Implementation.** Considers the extent to which the alternative minimizes the time and effort required for implementation.
12. **Private Sector Participation.** Judges the extent to which the private sector could typically participate in the development, ownership, and operation of the program or facility.

13. **Changes in Waste Type Generation or Use.** Measures the extent to which the alternatives shift solid waste generation from one type of waste to another.
14. **Adaptability to Changing Social Conditions.** Weighs the extent to which the alternative contributes to increased public awareness of solid waste management issues and waste-reducing consumer behavior.

4.2.2 EVALUATION OF ALTERNATIVES

The ability of each alternative to meet the terms of the selection criteria was examined. The final selection of alternatives was not based solely on the regulations. Selection also depended on the alternative's conformity with local issues and practical issues of program design. For example, curbside recycling may not rank well compared with some other recycling programs; however, the value of a curbside program in improving an individual's source reduction, recycling, and consumer habits may justify the implementation of the alternative over a higher-ranked alternative.

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