Lake County, Illinois

2004 Solid Waste Management Plan Update

April 5, 2004 – Draft Report
May 12, 2004 – Revised Draft Report with CAC Comments Incorporated
June 21, 2004 – Revised Draft Report with Public Hearing Comments Incorporated
October 27, 2004 – Revised Draft Report with Lake County Public Works and Transportation Committee Comments

Adopted by:

SWALCO Board of Directors – June 24, 2004
Lake County Board – November 9, 2004

Prepared for:

SWALCO
SOLID WASTE AGENCY OF LAKE COUNTY, IL

1311 North Estes Street
Gurnee, Illinois 60031

Prepared by:

CDM

125 South Wacker Drive, Suite 600
Chicago, Illinois 60606

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Executive Summary

The Lake County Solid Waste Management Plan (the "Plan") was first adopted in September 1989. The Plan was prepared by the Lake County Joint Action Solid Waste Planning Agency to whom the planning authority was delegated by a resolution of the Lake County Board pursuant to the Solid Waste Planning and Recycling Act. It was developed to meet the requirements of the Solid Waste Planning and Recycling Act which requires counties to submit to the Illinois Environmental Protection Agency an officially adopted plan for the "management of municipal waste generated within its boundaries". The Plan specifically addressed all portions of Lake County, both incorporated and unincorporated areas, even where a municipality had elected not be become a member of the Lake County Joint Action Solid Waste Planning Agency.

The Plan was adopted in 1989 and then amended in 1994 and 1999. Both the 1994 Update and the 1999 Update specifically indicate that the updates were prepared for the members of the Solid Waste Agency as well as the other communities "which are not currently members of the Agency or other solid waste group." However, these updates specifically excluded communities such as Buffalo Grove that belonged to another planning entity (Solid Waste Agency of Northern Cook County) because they were located within both counties.

The 2004 Plan Update has been developed to evaluate and plan for solid waste management issues within a similar geographical area as the previous updates (the "Agency Planning Area"), as well as consider the siting and operation of pollution control facilities outside of the Agency Planning Area and within Lake County's borders. As such, the 2004 Update requires any proposed pollution control facilities that are to be located within Lake County's borders, incorporated or unincorporated, to be consistent with Lake County's Solid Waste Management Plan.

The recommendations included in the Plan and the 1999 Plan Update provide direction for SWALCO's activities. In order to keep SWALCO's goals current, it is necessary to document the status of each recommendation, and to suggest new recommendations or updates where appropriate. Much has changed in the solid waste industry since the original Plan was set in place to guide development of a solid waste system for the county. National, statewide, and local factors influence the industry, and consequently, the areas and issues to be focused on by SWALCO.

In preparing the 2004 Plan Update, the first step is to revise the information upon which its recommendations were based. This includes using new population and employment estimates, recalculating waste generation and composition estimates, reviewing recently passed State and Federal legislation, and finally, considering solid waste management technologies that have become prevalent in the past five years. The 2004 Plan Update amends the Solid Waste Management Plan with the most current information available at the time of its conception.

The 2004 Plan Update, as did the previous updates, considers all communities within Lake County which are members of SWALCO (37 individual municipalities, the Great Lakes Naval Training Center, and Lake County), and those communities within Lake County which are not members of other solid waste planning groups. This area is referred to as the Agency Planning Area and accounts for approximately 95% of the Lake County population.

Population estimates used in the 2004 Plan Update were obtained from the Northeastern Illinois Planning Commission (NIPC) and updated employment projections were obtained from the Illinois Department of Employment Security (IDES). Current data indicate that employment in Lake County will increase to approximately 383,000 by the year 2010. The waste generation rates presented in the 2004 Plan Update were updated to reflect recent United States Environmental Protection Agency (USEPA) waste generation growth rates. It is predicted that the Agency Planning Area's total solid waste generation rate will remain constant between the year 2004 and the year 2030. Overall waste generation is anticipated to increase from 1.01 million tons annually in 2003 to 1.37 million tons in 2030, corresponding to a 1.2% increase per year.

The composition of Lake County's solid waste is similar to the overall solid waste stream in the United States, based on a comparison of SWALCO data collected between 1992 and 1993 and USEPA data collected in 2001. The three largest components of Lake County's solid waste stream are paper and paperboard (42%), food waste (14%), and plastics (12%).

Since the 1999 Plan Update, the most significant solid waste legislation passed into law was Illinois Public Act 93-32, the "FY2004 Budget Implementation Act," which increased various waste disposal fees, including the State solid waste management tipping fee, truck license fees, non-Title V Clean Air Act permits, and tire disposal fees. Significant federal solid waste legislation passed since the 1999 Plan Update included the adoption of new regulations restricting the siting of landfills near public airports. In addition, a number of solid waste bills have been proposed in Congress related to landfill gas tax credits, interstate and international transport of solid waste, recycling, and waste-to-energy policy.

Current developments in solid waste management include continued reliance on landfills for the ultimate disposal of solid waste, increased use of transfer stations to haul solid waste longer distances, increased use of rail cars to transport solid waste in major metropolitan areas, increased use of single-stream recycling, increased collection and diversion of electronic waste, increased use of Pay-As-You-Throw (PAYT) systems, and increased use of customized computer software and electronic tracking methods to collect data and improve the efficiency of solid waste collection and disposal operations.

The 2004 Plan Update presents 68 system and operational recommendations, which are provided below. The recommendations have been divided into 11 major components of solid waste management.

Public Information and Education

P.1 Identify new and support ongoing activities of SWALCO's public information and education programs to encourage waste reduction, reuse, recycling and recovery (buying recycled products) through SWALCO's websites and other publications, as well as community organizations such as PTA/PTO's, park districts and church groups.

P.2 Continue to provide in-house marketing support to help publicize SWALCO technical programs, such as the household chemical waste collections and recycling programs.

P.3 Continue to encourage SWALCO members to design, evaluate and distribute

information for residents regarding various solid waste management issues, and to inform SWALCO of waste-related activities within their communities.

P.4 Develop partnerships with the business community, waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.

P.5 Continue to support and evaluate school education outreach efforts that meet Illinois Learning Standards, such as the Lake County Earth Flag Program, the Earth Flag Every Day supplemental program, the educational website, subsidized performances by environmental educators, and in-class presentations.

P.6 Identify and utilize applicable public and school education resources to develop customized activities for Lake County.

P.7 Develop a communication plan for SWALCO that encompasses branding, advertising and other promotional efforts, and evaluate it on a yearly basis.

P.8 Continue to embrace and incorporate new information technologies in SWALCO's promotional efforts (e.g., websites, email services, etc.).

P.9 Continue to support the EduCycle Center in Grayslake through grants, staff support and possible expansion efforts.

P.10 Investigate opportunities for public outreach at special events (e.g. Lake County Fair).

P.11 Establish crisis communication procedures so that SWALCO is viewed as a credible point of contact during emergency events and interruptions of service (e.g. garbage strikes, post-tornado debris management).

Recycling

R.1 Maintain and expand collection of data on recycling activity in Lake County. Identify significant recycling data points that reflect changes in recycling activity in Lake County and develop programming that fosters increased diversion of recyclable materials.

R.2 Continue to expand recycling programs to achieve a 50% recycling goal for all subsequent years.

R.3 Continue to support area recyclers in activities that expand their capabilities of diverting marketable materials from landfills when feasible.

R.4 Assist the County with modifications to its Recycling Ordinance requiring all waste haulers operating within Lake County to offer volume based pricing for residential refuse collection services and make recycling available to all residential, multi-family and commercial customers.

R.5 Encourage all SWALCO members to establish volume based pricing and utilize a full cost accounting model in their analysis of waste costs.

R.6 Encourage all SWALCO members to implement cart-based recycling programs within their residential areas.

R.7 Assist SWALCO members in franchising commercial refuse service as a means to reduce costs and increase recycling.

R.8 Continue to encourage all SWALCO members to adopt the model commercial and multi-family refuse and recycling enclosure ordinance.

R.9 Encourage SWALCO members to adopt a model C&D recycling ordinance that would require the implementation of recycling a recycling program at new construction sites within their communities.

R.10 Participate in the EPA Waste Wise Program and encourage commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities to participate in source reduction activities.

R.11 Depending on availability of funds and agency priorities, continue to further the development of source reduction programs, compost bin distributions and residential electronics collections along with commercial and multi-family pilot programs.

R.12 Continue to maintain the MRF contract with Recycle America Alliance to assure that sufficient capacity is available to SWALCO members along with assuring that SWALCO members that direct material to the facility do not incur processing charges.

R.13 Encourage SWALCO members to direct their hauler to deliver their communities recyclable material to the Recycle America Alliance MRF, or to another MRF where SWALCO has secured processing capacity, to avoid cost for processing.

R.14 Acquire capacity in C&D processing facilities in Lake County.

R.15 Pursue implementation of a C&D processing facility to provide processing capacity for SWALCO members.

R.16 Designate the C&D processing facility as an official component of SWALCO's waste disposal system and encourage all members to utilize the C&D processing facility for C&D projects within their municipal boundaries.

R.17 Explore the development of programs to reduce residential and commercial organic waste (such as yardwaste and food waste).

Household Chemical Waste Management

H.1 Continue operating a permanent Household Chemical Waste Collection Program, and raise or eliminate the financial cap from the IEPA.

H.2 Determine the feasibility of permitting the Household Chemical Waste Storage facility for use as a public drop-off location to supplement one-day collection events.

H.3 Support and expand oil collection and Partner for Paint programs (i.e., Lake Zurich oil collection center, Ela Township Highway Dept. paint program).

H.4 Continue the corncob distribution program (for latex paint solidification) and seek new distribution points to be accompanied by in-store advertising and point-of-purchase displays.

H.5 Explore options and expand programs for used tire management (such as the use of tire chips for road bedding or alternative daily cover at a landfill) and consider the possibility of cosponsoring collections through the IEPA tire collection program.

H.6 Obtain a list of Conditionally Exempt Small Quantity Generators (CESQGs), such as automotive care centers, beauty salons, etc. from the Health Department and investigate options on how to assist them with hazardous materials management.

H.7 Compile a listing of Lake County school districts and assist them, to the extent possible, with their chemical waste disposal needs. Identify environmental contractors and disposal programs such as the IEPA laboratory waste collection program.

H.8 Consider the feasibility and implications of conducting one-day collection events in other northern Illinois counties.

H.9 Explore feasibility of adding additional HCW satellite collection points at existing facilities (e.g. fire stations).

Landfilling

L.1 Maintain contracts with the sanitary landfills serving Lake County to provide for privately-owned-and-operated landfill disposal capacity.

L.2 Implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.

L.3 The design, operation, and monitoring of public or private landfills under contract to SWALCO should, at a minimum, comply with the most current RCRA Subtitle D regulations and other regulations adopted by the State of Illinois.

L.4 The siting criteria that appear in Section 7.0 of the 1989 Plan should serve as guidelines for selecting areas most suitable for solid waste management facility siting.

L.5 Encourage landfill owners to design and implement landfill technologies such as leachate recirculation systems to extend life expectancy, reduce long term toxicity and conserve resources when possible and environmentally appropriate.

L.6 Acquire additional landfill capacity for Lake County to meet waste disposal needs for a twenty (20) year period.

Emerging Technologies

E.1 Monitor and evaluate emerging technologies that appear to be effective on a waste stream which is similar in quantity and composition to SWALCO's waste stream.

Organization and Administration

O.1 Continue the coordinated county wide approach to the management and disposal of all nonhazardous waste generated within the membership of SWALCO, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including industrial waste and construction and demolition debris.

O.2 SWALCO should continue providing centralized management of the plan implementation process and other municipalities should continue to be permitted to join SWALCO.

O.3 SWALCO members should assume responsibility for: (i) adopting recycling ordinances, (ii) adopting the model refuse collection franchise agreement, (iii) providing administrative and operational funding for SWALCO as determined by SWALCO Board of Directors and (iv) using the waste management and disposal system established by SWALCO.

O.4 The Board of Directors shall provide for professional staff necessary to undertake all programs to implement the Solid Waste Plan. As programs are altered, it may be necessary to adjust staffing levels to implement program changes.

O.5 Utilize "economic flow control" through the use of market competitive disposal rates to gain indirect control of the waste stream and monitor federal authority to enact legislative flow control.

O.6 Maintain the use of designated Materials Recovery Facilities (MRFs) as an official component of SWALCO's waste management system and encourage all members to utilize MRFs for recoverables collected within their municipal boundaries; continue to establish and designate other components of the waste management system.

O.7 Obtain input from the public in the development of solid waste policies, such as from a citizens advisory group.

Finance and Ownership

F.1 Monitor operations of the three sanitary landfills currently under agreement with SWALCO for the provision of a given amount of privately-owned-and-operated landfill disposal capacity, secured by public contract to deliver waste. Retain, as a long term option, the public ownership of landfill facilities to meet the disposal needs of Agency members.

F.2 Examine and where determined appropriate, pursue all reasonably available sources of interim and long-term funding for implementing programs and facilities recommended in the Plan Update.

F.3 Apply to the Illinois Department of Commerce and Economic Opportunity Affairs for grants and loans to be used for capital assistance.

F.4 SWALCO members should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.

Legislative Initiatives

I.1 Utilize the SWALCO Legislative Committee to develop the annual Legislative Policy for approval by the Board of Directors. SWALCO's legislative efforts should be coordinated with Lake County and other entities.

Host Community Benefit Agreements

A.1 Any pollution control facility must enter into a Host Community Benefit Agreement with the appropriate units of local government.

Section 1
Introduction

1.1 Background

The Lake County Solid Waste Management Plan (the "Plan") was first adopted in September 1989. The Plan was prepared by the Lake County Joint Action Solid Waste Planning Agency to whom the planning authority was delegated by a resolution of the Lake County Board pursuant to the Solid Waste Planning and Recycling Act. It was developed to meet the requirements of the Solid Waste Planning and Recycling Act which requires counties to submit to the Illinois Environmental Protection Agency an officially adopted plan for the "management of municipal waste generated within its boundaries". The Plan specifically addressed all portions of Lake County, both incorporated and unincorporated areas, even where a municipality had elected not be become a member of the Lake County Joint Action Solid Waste Planning Agency.

The Plan was adopted in 1989 and then amended in 1994 and 1999. Both the 1994 Update and the 1999 Update specifically indicate that the updates were prepared for the members of the Solid Waste Agency as well as the other communities "which are not currently members of the Agency or other solid waste group." However, these updates specifically excluded communities such as Buffalo Grove that belonged to another planning entity (Solid Waste Agency of Northern Cook County) because they were located within both counties. The 2004 Plan Update has been developed to evaluate and plan for solid waste management issues within a similar geographical area as the previous updates (the "Agency Planning Area"), as well as consider the siting and operation of pollution control facilities outside of the Agency Planning Area and within Lake County's borders.

Pollution control facilities have enormous potential impact upon the surrounding area. Therefore the siting of any new pollution control facilities located within the political boundaries of Lake County should be consistent with the Plan, as adopted by the Lake County Board, even though such a facility may be located within a community that belongs to another planning jurisdiction. The process of siting a pollution control facility requires (415 ILCS 39.2(a)(*viii*)) that such a facility meet (among others) the following criteria:

> *(viii) if the facility is to be located within a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan;*

As such, the 2004 Update requires any proposed pollution control facilities that are to be located within Lake County's borders, incorporated or unincorporated, to be consistent with Lake County's Solid Waste Management Plan.

The Solid Waste Agency of Lake County (SWALCO) was chartered to provide for an efficient and environmentally sound waste disposal system for the use and mutual benefit of its members. At this time, SWALCO's membership includes 37 individual municipalities, the

Great Lakes Naval Training Center and Lake County. The Village of Fox Lake became a SWALCO member in November 2001. The recommendations included in the Plan and the 1999 Plan Update provide direction for SWALCO's activities. In order to keep SWALCO's goals current, it is necessary to document the status of each recommendation and to suggest new recommendations or updates where appropriate.

The sections of the 2004 Plan Update have been organized based on completing the following tasks:

1. Identifying changes in County population and employment, County waste generation and composition, related State and Federal legislation, and solid waste technology that may require that certain components of the previous plan be reexamined. (Section 2)

2. Amending the solid waste system configuration, based upon the results of the previous item. (Section 3)

3. Summarizing the status and update, as required, the system configuration recommendations in the Plan. (Section 3)

4. Developing additional recommendations, as needed, concerning implementation of the amended solid waste system configuration. (Section 3)

5. Updating the administrative, financial, and legislative recommendations of the Plan. (Section 4)

One significant changes in the 2004 Plan Update (compared to the 1999 Plan Update) js the addition of Section 4.4 "Host Community Benefit Agreement", which provides recommendations for the development of agreements between government agencies and host communities in which pollution control facilities are sited, so that such communities are appropriately compensated.

Section 2
Changes and Developments: 2000 - 2004

The Lake County Solid Waste Management Plan (the Plan) was first developed in 1989 and was based upon data collected between late 1987 and early 1989. Since the original plan was developed, there have been two updates. The 1994 Plan Update was based on information collected between late 1993 and early 1994. The 1999 Plan Update was based upon information collected between late 1998 and early 1999.

In order to maintain a current Plan Update, the first step is to revise the information upon which its recommendations were based. This includes using new population and employment estimates, recalculating waste generation and composition estimates, reviewing recently passed State and Federal legislation, and finally, considering solid waste management technologies that have become prevalent in the past five years. This update will amend the Solid Waste Management Plan with the most current information available at the time of its conception. This section will summarize these changes.

2.1 Population and Employment

2.1.1 Population

Population data provided in the 1999 Plan Update were obtained from the Northeastern Illinois Planning Commission (NIPC), "Population, Household, and Employment Forecasts for Northeastern Illinois 1990 to 2010" Chicago, Illinois, as endorsed November 6, 1997. In 1996, it was estimated that Lake County's population was 582,983 according to the 1999 Plan Update. It was assumed that Lake County's population would increase, from 618,036 in 2000, at a constant annual growth rate of 1.49% per year, to 827,564 in 2020.

New population estimates were obtained from NIPC for the 2004 Plan Update. According to NIPC population estimates, the population of Lake County in 2000 was 644,356, approximately 4.26% greater than projected in the 1999 Plan Update. This corresponds to an actual average annual growth rate of 2.53% per year between 1996 and 2000. Population projections, also obtained from NIPC, indicate that the population of Lake County will be 844,315 by 2030 (NIPC, 2003). This corresponds to an average annual growth rate of 0.91% per year between 2000 and 2030.

Not all communities located within Lake County are members of SWALCO. Two communities whose borders overlap with Cook County (Barrington and Buffalo Grove) are members of the Solid Waste Agency of Northern Cook County, rather than SWALCO. Most other Lake County communities which are not members of SWALCO have small populations (less than 500 people) or have borders which overlap into other counties. The 2004 Plan Update, as did the previous updates, considers all communities within Lake County which are members of the SWALCO, as well as those communities within Lake County which are not members of other solid waste planning groups. The area comprised of these communities being considered will be referred to as the Agency Planning Area.

In 1996, the Agency Planning Area population was estimated to be 95% of the Lake County population. Using population estimates provided by NIPC, the population within the Agency

Planning Area, as shown in Table 2-2, was estimated to be 611,231 in 2000. The population of Lake County in 2000, as shown in Table 2-1, was 644,356. Therefore, in 2000, the Agency Planning Area population remains approximately 95% of the Lake County population.

Table 2-1 presents five year population projections for the Agency Planning Area. It is estimated that the population of the Agency Planning Area will be 808,849 in 2030. This corresponds to an average annual growth rate of approximately 0.94% from 2000 to 2030. Assuming this growth rate, the 2003 estimated population of the Agency Planning Area is 628,596 people.

Table 2-1 Agency Planning Area Population Projections: 2000-2030

Population Base	2000	2005	2010	2015	2020	2025	2030
Lake County	644,356	674,046	705,103	737,592	771,578	807,126	844,315
Agency Planning Area	611,231	640,446	671,057	703,131	736,739	771,952	808,849

Notes Table 2-1

- 2000 and 2030 population data obtained from Northern Illinois Planning Commission reports.
- 2005 to 2025 population data interpolated assuming constant annual growth rate.

Notes Table 2-2

- The abbreviation "pt." designates that only a portion of these municipalities are within Lake County. The populations cited represent the residents which reside within Lake County.
- Population data obtained from Northeastern Illinois Planning Commission, "2030 Forecasts of Population, Households, and Employment for Northeastern Illinois" Chicago, Illinois, As Endorsed September 30, 2003. 2002 population data obtained from U.S. Census Bureau Illinois Incorporated Place Population Estimates.
- 2030 Population estimates for municipalities considered as "pt." were not available from NIPC and were calculated by determining the annual growth rate for the entire municipality from 2000 to 2003 and applying this rate to the 2000 "pt." population.
- 2030 household estimates for municipalities considered as "pt." were calculated by determining the annual growth rate for the entire municipality from 2000 to 2030 and applying this rate to the 2000 "pt." number of households.
- 2030 population estimates for Lake County (unincorporated) were calculated by subtracting the 2030 population estimates for each municipality from the 2030 Lake County projected population as well as subtracting the estimated 2030 population for the portions of Barrington, Buffalo Grove, and Fox River Grove in Lake County. The 2030 "pt." estimates for Barrington, Buffalo Grove, and Fox River Grove were calculated as mentioned in Note 3.
- Since the 1999 Update, Fox River Valley Gardens has changed its name to Port Barrington.

Table 2-2 Agency Planning Area Population

	Municipality	2000 Census Population	2002 Population	2030 Est. Population	2030 Est. Households
SWALCO Member Communities	Antioch	8,788	9,867	30,594	9,921
	Beach Park	10,072	10,310	16,729	5,674
	Deerfield (pt.)	18,109	18,764	20,047	7,487
	Deer Park (pt.)	3,093	3,145	3,835	1,307
	Fox Lake (pt.)	8,969	9,350	12,302	5,335
	Grayslake	18,506	20,865	24,094	9,116
	Green Oaks	3,572	3,796	4,786	1,615
	Gurnee	28,834	30,115	35,791	13,713
	Hainesville	2,129	2,834	4,118	1,456
	Hawthorn Woods	6,002	6,658	15,951	4,674
	Highland Park	31,365	30,558	34,603	11,760
	Kildeer	3,460	3,776	5,069	1,730
	Lake Barrington	4,757	4,998	5,695	2,220
	Lake Bluff	6,056	6,162	10,424	3,153
	Lake Forest	20,059	20,723	21,933	7,473
	Lake Villa	5,864	7,701	16,546	6,248
	Lake Zurich	18,104	18,742	20,571	6,929
	Libertyville	20,742	21,094	21,115	7,497
	Lincolnshire	6,108	6,360	8,284	3,123
	Lindenhurst	12,539	14,037	19,843	6,568
	Long Grove	6,735	7,363	10,846	3,817
	Mundelein	30,935	31,972	34,126	12,206
	North Barrington	2,918	3,140	3,542	1,291
	North Chicago	35,918	36,097	43,747	9,269
	Park City	6,637	6,818	6,956	2,744
	Riverwoods	3,843	4,029	3,981	1,261
	Round Lake	5,842	7,563	27,338	8,895
	Round Lake Beach	25,859	27,966	29,900	10,169
	Round Lake Park	6,038	6,178	9,954	3,735
	Third Lake	1,355	1,383	1,395	441
	Tower Lakes	1,310	1,329	1,442	494
	Vernon Hills	20,120	21,839	23,848	9,094
	Wadsworth	3,083	3,345	11,848	4,179
	Wauconda	9,448	9,891	25,653	8,883
	Waukegan	87,901	91,323	92,714	31,516
	Winthrop Harbor	6,670	6,827	13,306	4,661
	Zion	22,866	23,601	32,242	11,260
	Lake County(unincorporated)	83,917	85,464	60,726	20,242
	SUBTOTAL	598,523	625,983	765,894	261,156
Non-Members	Bannockburn	1,429	1,456	1,479	270
	Barrington Hills (pt.)	503	525	650	228
	Port Barrington (pt.)	177	188	585	203
	Highwood	4,143	5,498	3,769	1,830
	Indian Creek	194	205	211	72
	Island Lake (pt.)	3,131	3,256	5,206	1,908
	Lakemoor (pt.)	986	1,188	8,154	2,609
	Mettawa	367	429	1,426	493
	Old Mill Creek	251	254	5,237	1,399
	Round Lake Heights	1,347	1,902	2,552	825
	Volo	180	195	13,686	4,591
	SUBTOTAL	12,708	15,096	42,955	14,428
	TOTAL FOR AGENCY PLANNING AREA	**611,231**	**641,079**	**808,849**	**275,584**

2.1.2 Employment

The 1999 Plan Update utilized employment projections provided by the Economic Information and Analysis Division of the Illinois Department of Employment Security (IDES). Based on IDES's Occupational Employment Statistics report, it was estimated that 278,832 people were employed in Lake County in 1996. Employment was projected to increase at a rate of 1.51% per year to 324,048 by the year 2006.

Based on the updated data provided, it is evident that employment in Lake County is increasing significantly faster than originally projected in the Plan and subsequent plan updates. As shown in Table 2-3, the average annual growth rate between 1996 and 2000 was 4.84%, more than 3 times than estimated in the 1999 Plan Update. According to IDES's Occupational Employment Statistics report, there were 336,893 people employed in Lake County in 2000 (IDES, 2004). Approximately 17% of these were in manufacturing positions and 83% in non-manufacturing positions.

Current IDES employment projections estimate that employment in Lake County will increase to 383,057 by the year 2010. This corresponds to a 1.29% annual growth rate in employment between 2000 and 2010. This annual growth rate was used to extrapolate employment through 2030 as required for waste generation data discussed later in this section.

The 1994 and 1999 Plan Updates assumed that the Agency Planning Area employment base is directly proportionate to the ratio of the Agency Planning Area population to the County population (i.e., approximately 95%). The 2004 Plan Update also assumes this relationship; the Agency Planning Area employment is approximately 95% of County employment. Agency Planning Area employment is necessary to estimate the quantity of non-residential waste generated in the Planning Area.

Table 2-3 Agency Planning Area Employment Projections: 2010

Employment Base	1992 Estimate	Annual Growth Rate 1992-1996	1996 Estimate	Annual Growth Rate 1996-2000	2000 Estimate	Annual Growth Rate 2000-2010	2010 Projection
Lake County							
Manufacturing	50,462	2.37%	55,411	1.04%	57,749	0.02%	57,876
Non-manufacturing	191,485	3.93%	223,421	5.73%	279,144	1.54%	325,181
Total employment	241,947	3.61%	278,832	4.84%	336,893	1.29%	383,057
Agency Planning Area							
Manufacturing	47,939	2.37%	52,640	1.04%	54,862	0.02%	54,982
Non-manufacturing	181,911	3.93%	212,250	5.73%	265,187	1.54%	308,922
Total employment	229,850	3.61%	264,890	4.84%	320,048	1.29%	363,904

Notes Table 2-3

- All existing and projected employment projections provided by the Economic Information and Analysis Division of the Illinois Department of Employment Security (IDES).
- Assumes that the Agency Planning Area's employment share is equal to the Agency Planning Area's population share (95%) of total County figures.

Assuming the growth rates provided in Table 2-3, the estimated 2003 Agency Planning Area employment is 332,512 people, including 54,898 people employed in manufacturing positions and 277,614 people employed in non-manufacturing positions.

2.2 Waste Generation and Composition

2.2.1 Waste Generation

The 1999 Plan Update estimated that 873,285 tons of solid waste were generated within the Agency Planning Area in 1998. This figure includes all waste streams including: residential waste, commercial waste, industrial waste, construction and demolition debris, and non-liquid/nonhazardous special waste. The waste generation rates used to estimate this quantity, as shown on Table 2-4, were based on generation rates provided in the Plan, and revised in the 1994 Plan Update. These revisions accounted for backyard composting of landscape waste and annual growth of the waste generation rates per the Plan.

Table 2-4 Lake County/Agency Planning Area Waste Generation

Waste Type	1998 (per 1999 Plan Update)	
	Generation Rate	Tons per year
Residential	2.54 pcd	264,206
Commercial	7.67 ped[1]	307,715
Industrial	7.67 ped[2]	74,286
Construction & Demo.	1.63 pcd	169,638
Non-liquid/nonhazardous Special Waste	1.15 ped[3]	57,440
Total Waste	8.40 pcd[4]	873,285

Notes Table 2-4
pcd - pounds/capita-day
ped - pounds/employee-day

[1]This generation rate was applied to non-manufacturing employment in Lake County to determine waste generation quantity.

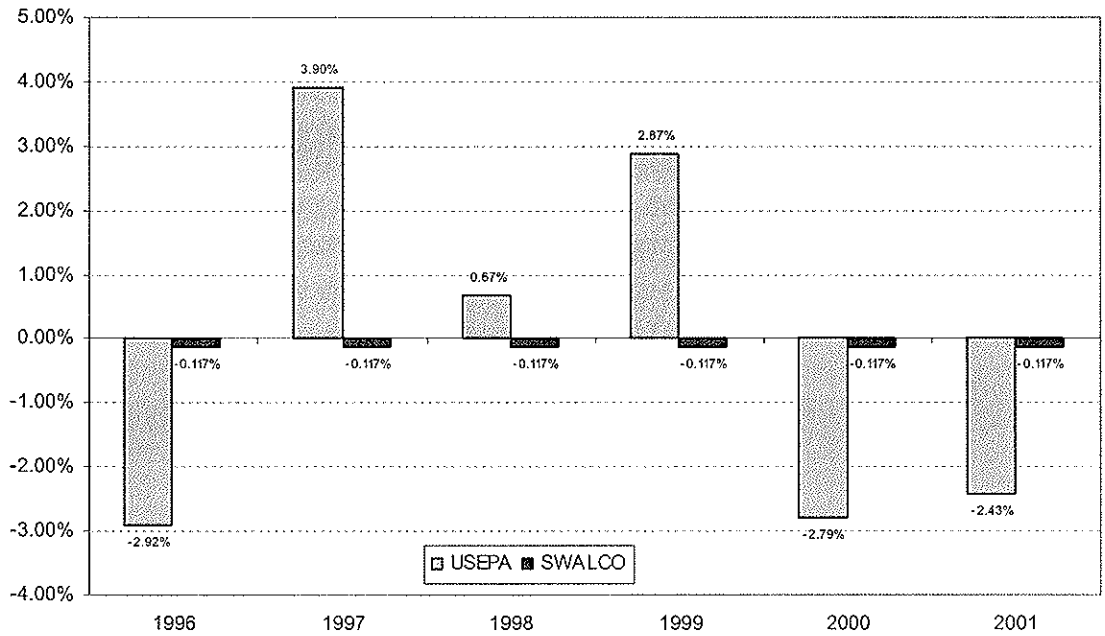
[2]This generation rate was applied to manufacturing employment in Lake County to determine waste generation quantity.

[3]This generation rate was applied to total employment in Lake County to determine waste generation quantity.

[4]This generation rate was determined by dividing the estimated waste generation by the estimated population for that year and converting units.

Data was obtained from a United States Environmental Protection Agency (USEPA) report, in order to verify annual adjustments of waste generation rates. As shown on Figure 2-1, waste generation rates have been decreasing since 1997 (indicated by the negative growth rates) (USEPA, 2003a). This contradicts the assumption made in the Plan which estimated that waste generation rates would increase by 0.426% per year until the year 2000, and then remain constant. The waste generation rates presented in this 2004 Plan Update have been updated to reflect recent USEPA waste generation growth rates. Based on USEPA data, unit waste generation rates were assumed to have decreased 0.117% per year from 1996 to 2003. This update assumes that unit waste generation rates will remain constant between 2004 and 2030.

Figure 2-1
Annual Rate of Change of Waste Generation Rates



Notes Figure 2-1

- USEPA data determined based on information presented in the USEPA report "Municipal Solid Waste in The United States: 2001 Facts and Figures"
- SWALCO data based on an average of the EPA data.

It is necessary to estimate "municipal waste" generation, as defined by the Illinois Environmental Protection Agency (IEPA), in addition to total solid waste generation within the Agency Planning Area. This is because Illinois' 25% recycling goal applies to "municipal waste" rather than total solid waste. The IEPA defines municipal waste as "garbage, general household and commercial waste, industrial lunchroom or office waste, landscape waste, and construction or demolition waste" (415 ILCS 5/3.21). Municipal waste does not include industrial process and manufacturing waste or special waste. The only industrial waste included is that which is generated in the offices and lunchrooms of manufacturing facilities, typically a very small percent of all industrial waste.

Table 2-5 provides waste generation estimates for the Agency Planning Area in 2003. The municipal waste generation rate is estimated to be 7.51 pounds per capita per day (pcd). Although this rate is greater than the statewide average of 6.8 pcd, it is comparable to that of other northeastern Illinois counties (e.g., Northern Cook County = 8.0 pcd, DuPage County = 5.7 pcd Kane County = 8.8 pcd).

Table 2-5 Agency Planning Area Municipal Waste Generation 2003

Waste Type	Generation Base	Generation Rate[1]	Tons per Year	Tons per Calendar Day
Municipal Solid Waste				
Residential	628,596 pop.[2]	2.525 pcd	289,665	794
Commercial[3]	277,614 emp.[4]	7.625 ped	386,316	1,058
Construction & Demo.	628,596 pop.[2]	1.62 pcd	185,844	509
Municipal Waste Subtotal[5]	628,596 pop.[2]	7.51 pcd	861,825	2,361
Non-Municipal Solid Waste				
Industrial - Process	54,898 emp.[6]	7.625 ped	76,391	209
Non-liquid/nonhazardous Special Waste	332,619 emp.[7]	1.143 ped	69,350	190
Non-Municipal Waste Subtotal[5]	628,596 pop.[2]	1.262 pcd	145,741	399.29
Total Solid Waste	628,596 pop.[2]	8.78 pcd	1,007,566	2,760

Notes Table 2-5
pcd - pounds/capita-day
ped - pounds/employee-day

[1] Waste generation rates from 1999 Plan Update are assumed to decrease at an annual rate of 0.117% from 1996 through 2030 (based on USEPA data) as discussed in Section 2.2.1.

[2] Estimated Agency Planning Area population as determined in Section 2.1.1.

[3] Commercial waste quantity includes municipal portion of industrial waste (industrial lunchroom and office waste).

[4] Estimated Agency Planning Area non-manufacturing employment as determined in Section 2.1.2.

[5] Per the Illinois Environmental Protection Act, municipal waste does not include industrial process waste, manufacturing waste, special waste, agricultural waste, and other waste streams which are not similar in character to general household and commercial waste.

[6] Estimated Agency Planning Area manufacturing employment as determined in Section 2.1.2.

[7] Estimated Agency Planning Area total employment as determined in Section 2.1.2.

Table 2-6 provides a projection of municipal waste and total waste generation quantities for the period 2003 through 2030. These projections are based on population and employment projections as discussed in Section 2.1. A constant per-capita waste generation rate was assumed after 2003.

Table 2-6 Agency Planning Area Waste Generation Projections							
Waste Type	**2003**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Population[1]	628,596	640,446	671,057	703,131	736,739	771,952	808,849
Non-Manufacturing Employment[2]	277,614	286,220	308,922	333,424	359,870	388,413	419,220
Manufacturing Employment[3]	54,895	54,917	54,982	55,043	55,104	55,165	55,225
Residential Waste[4]	289,688	295,126	309,231	324,012	339,499	355,725	372,728
Commercial Waste[4]	386,316	398,293	429,884	463,980	500,782	540,501	583,371
Construction & Demolition[4]	185,860	189,348	198,398	207,881	217,817	228,228	239,136
Municipal Waste[5] (TPY)	861,864	882,766	937,514	995,873	1,058,097	1,124,454	1,195,235
Municipal Waste (TPD)	2,361	2,419	2,569	2,728	2,899	3,081	3,275
Industrial Waste - Process[4]	76,391	76,420	76,511	76,596	76,681	76,766	76,849
Special Waste[4]	69,350	71,188	75,909	80,944	86,311	92,035	98,139
Total Waste (TPY)	1,007,605	1,030,375	1,089,934	1,153,412	1,221,089	1,293,254	1,370,223
Total Waste (TPD)	2,761	2,823	2,986	3,160	3,345	3,543	3,754

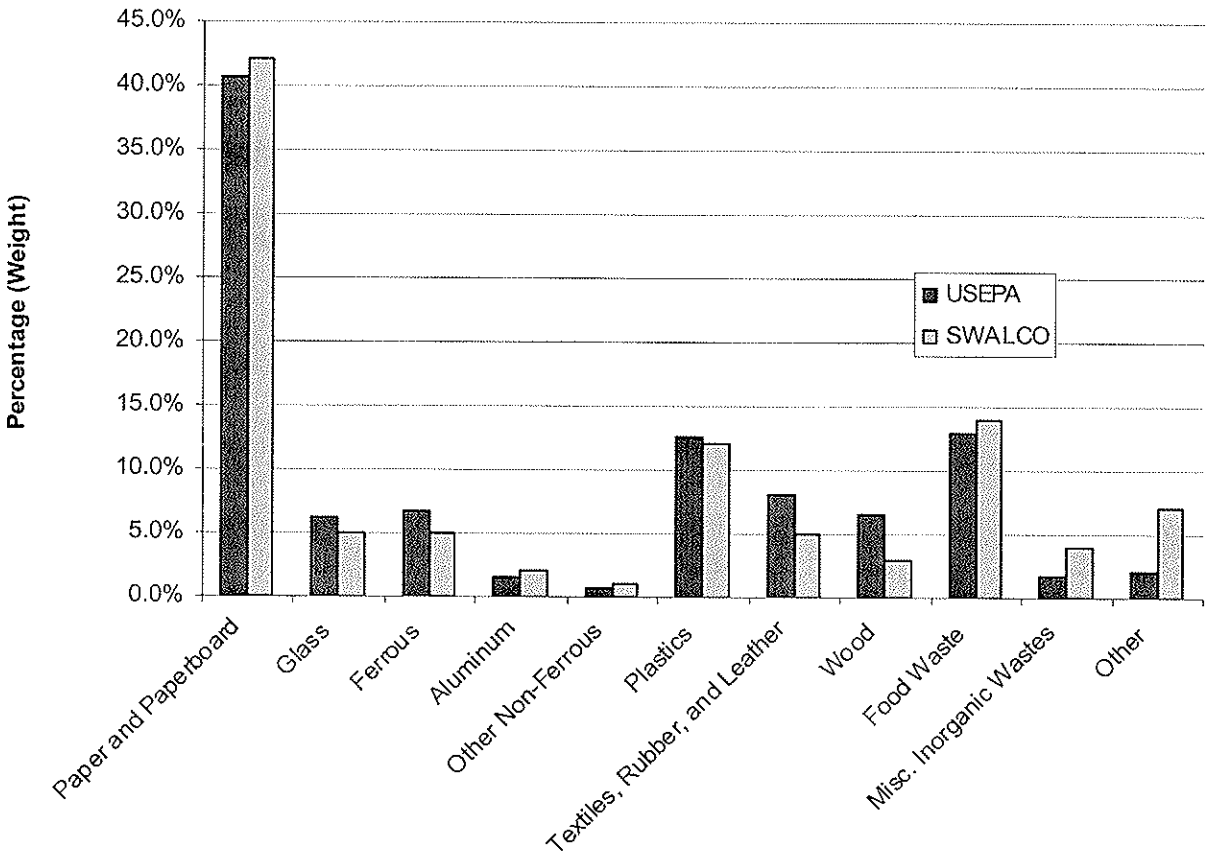
Notes Table 2-6
See notes in Table 2-5

2.2.2 Waste Composition

Waste composition studies are conducted in order to better understand what types and quantities of materials comprise the waste stream. The data obtained from this type of study can be used for planning purposes, such as the design of a recycling program (or adjusting an existing program) or the sizing and designing of solid waste disposal facilities.

At the time the Plan was compiled, no waste sorts or waste composition studies had been conducted. Rather, USEPA waste composition estimates were used to predict Lake County's waste composition in the Plan. Prior to the 1994 Plan Update, a three-season (fall 1992 and winter and spring 1993) municipal solid waste characterization study was conducted by CDM for SWALCO. The objective of the study was to characterize the residential, commercial/industrial, construction/demolition, and landscape waste generated in Lake County and disposed of at six identified disposal facilities. This data was used by SWALCO in the development and design of programs, such as the design of recycling programs and material recycling facilities. The results from this characterization study are used in Figure 2-2, as there have been no further characterization studies performed by SWALCO.

Figure 2-2 Comparison of SWALCO Waste Stream Composition to
USEPA Estimated Waste Stream Composition



Notes Figure 2-2

- Data determined based on information presented in USEPA Report # EPA530-R-03-11 "Municipal Solid Waste in The United States: 2001 Facts and Figures," October 2003.
- Material categories have been adjusted to correspond between data sources.
- Composition percentages for USEPA data have been adjusted based on the exclusion of landscape waste.

Figure 2-2 provides a comparison of Lake County's waste composition data to USEPA 2001 waste composition data. Since the 1999 Update, there has been a slight increase in the generation of plastics and textiles, rubber, and leather, and a slight decrease in the generation of glass, and paper and paperboard.

2.3 Changes in State and Federal Legislation

2.3.1 State Legislation

No significant legislation was enacted regarding the management of solid waste at the local level since the adoption of the 1999 Plan Update. Applicable State solid waste management legislation passed in the last five years is summarized below:

- On June 20, 2003, Illinois Public Act 93-32, the "FY2004 Budget Implementation (State Finance-Revenues) Act", was signed into law. Public Act 93-32 increased solid waste management fees, Subtitle D management fees, air operating permit fees, and tire disposal and sales fees. Most fee changes went into effect on July 1, 2003. The following is a summary of the most significant provisions of Public Act 93-32 related to municipal solid waste (MSW) management:
    - The State solid waste management tipping fee was increased from $1.07 per ton to $2.22 per ton.
    - Truck license fees were increased 36 percent from $2,800 per vehicle to $3,808 per vehicle.
    - The tax exemption on heavy equipment for landfills and transfer stations was eliminated, resulting in taxes ranging from 5 percent to 8.75 percent on capital expenditures.
    - Non-Title V Clean Air Act permits (for entities who emit 100 tons or less annually) were increased. For sources permitted to emit less than 25 tons per year, the fee was increased from $100 to $200. For sources permitted to emit at least 25 tons, but less than 100 tons per year, the fee was increased from $1,000 to $1,800. For non-major sources permitted to emit at least 100 tons per year, the fees were increased from $13.50 per ton to $18 per ton, with a $2,500 to $3,500 cap.
    - The current used tire disposal fee was increased from $1 to $2 per tire. A $2 fee was established for the retail sale of all new tires. Additionally, a $.50-per-tire fee assessment was established for the sale of both new and used tires until December 31, 2007.
- On January 1, 2004, Illinois Public Act 03-165, the "Mercury Fever Thermometer Prohibition Act", went into effect. Public Act 03-165 states that no person shall sell, distribute, give out, or manufacture thermometers containing liquid mercury. This Act is intended to reduce the amount of mercury disposed of in MSW landfills in Illinois.

2.3.2 Federal Legislation

Over the past five years, federal solid waste bills have been proposed that relate to a variety of solid waste issues, including landfill siting issues, landfill gas tax credits, interstate and international transport of solid waste, recycling, and waste-to-energy policy.

Currently, no significant federal regulations are anticipated to be signed into law in the near future. However, the progress of pending legislation should be monitored to keep knowledgeable about upcoming regulations.

2.4 Current Developments in Solid Waste Management

The past five years have seen changes in solid waste technology and management. Such changes are occurring throughout the United States. The following are some examples of these changes:

- Reliance on landfills for the ultimate disposal of solid waste continues. Innovative process methods and technologies such as waste-to-energy (WTE) facilities have seen few new projects implemented due to their relatively higher cost compared to landfills. New technologies being implemented are, for the most part, related to landfilling such as bioreactor landfills, leachate recirculation and new materials of construction.

- The use of transfer stations is increasing, particularly near major metropolitan areas. In 2002, the Chicago region had 59 active transfer stations moving 5.7 million tons of garbage (IEPA, 2003a).

- As landfill capacities in major metropolitan areas are exhausted, the use of rail cars to transport MSW is becoming more common, although rail transport remains fairly non-competitive economically due to the relatively high infrastructure and labor costs associated with the specialized equipment and crews that are required (Fickes, 2004).

- Recycling trends include single-stream collection of recyclables with a trend toward eliminating glass from this collection, increased collection and diversion of electronic waste, and increased diversion of construction and demolition debris from disposal (Franklin and Associates, 2003).

- The use of Pay-As-You-Throw (PAYT) systems, in which customers pay on the basis of the quantity of waste disposed, are becoming more common. PAYT systems have proven to be effective in increasing diversion rates; however, one possible drawback is an increase in illegal dumping by people attempting to avoid paying higher fees (Skumatz, 2001).

- Waste-to-Energy (WTE) remains economically non-competitive with landfilling or transfer and landfill systems in most areas. WTE is becoming more competitive in densely populated areas with limited land, and higher energy prices (O'Connell, 2003).

- The use of customized computer software and electronic tracking methods to collect data and improve the efficiency of solid waste operations is increasing, particularly for such specialized applications as fleet maintenance and scale-house/weighing operations (Bader, 2003).

2.5 Conclusions

Based on the updated information presented, it is evident that between 1996 and 2000, Lake County, and the Agency Planning Area, grew at a faster rate than projected by the 1999 Plan Update. It is estimated that approximately 26,000 more people were living in Lake County in 2000 than predicted in the 1999 Plan Update, and approximately 41,000 more people were employed in Lake County in 2000 than predicted in the 1999 Plan Update.

The 2004 Plan Update predicts that Lake County's population will increase at an average rate of approximately 0.9% per year until the year 2030 and that Lake County's employment will increase at an average rate of approximately 1.3% per year until the year 2010. Therefore, population and employment in Lake County are expected to continue to increase through 2030, but at lower average growth rates than predicted in the 1999 Plan Update. It is predicted that the Agency Planning Area's total solid waste generation rate will remain constant between the year 2004 and the year 2030. Overall waste generation is anticipated to increase from 1.01 million tons annually in 2003 to 1.37 million tons in 2030, corresponding to a 1.2% increase per year.

The composition of Lake County's solid waste is similar to the overall solid waste stream in the United States, based on a comparison of SWALCO data collected between 1992 and 1993 and USEPA data collected in 2001. The three largest components of Lake County's solid waste stream are paper and paperboard (42%), food waste (14%), and plastics (12%).

Since the 1999 Plan Update, the most significant solid waste legislation passed into law was Illinois Public Act 93-32, the "FY2004 Budget Implementation Act," which increased various waste disposal fees, including the State solid waste management tipping fee, truck license fees, non-Title V Clean Air Act permits, and tire disposal fees. Significant federal solid waste legislation passed since the 1999 Plan Update included the adoption of regulations restricting the siting and expansion of landfills near public airports. In addition, a number of solid waste bills have been proposed in Congress related to landfill gas tax credits, interstate and international transport of solid waste, recycling, and waste-to-energy policy.

Current developments in solid waste management include continued reliance on landfills for the ultimate disposal of solid waste, increased use of transfer stations to haul solid waste longer distances, increased use of rail cars to transport MSW in major metropolitan areas, increased use of single-stream recycling, increased collection and diversion of electronic waste, increased use of Pay-As-You-Throw (PAYT) systems, and increased use of customized computer software and electronic tracking methods to collect data and improve the efficiency of solid waste collection and disposal operations.

Section 3
Solid Waste System

As part of the Plan Update, it is appropriate to update the solid waste system information and the recommendations associated with that system. As laws are passed or revoked, as technology advances, and as waste handling and disposal facilities open and close, the recommendations and plans that relate to these matters need updating. Information gathered during surveys and through project experience is used to reevaluate SWALCO's position and future plans for each portion of the Solid Waste System.

This section describes the solid waste system, as approved by the SWALCO Board of Directors, and updates the system configuration recommendations. New recommendations are added, as needed, to support the revised system. Section 4 updates the administrative, financial and legislative recommendations.

The solid waste plan must adapt to future needs. This will be accomplished by monitoring solid waste trades, markets and advancing technologies. Five years from now, in accordance with the Illinois Solid Waste Planning and Recycling Act, there will again be the need to refine or amend certain components of the system, based upon changes that will occur during the period 2004 to 2009.

The 2004 Plan Update organizes recommendations according to the following set of codes:

P	Public Information and Education
S	Source Reduction
R	Recycling
H	Household Chemical Waste
L	Landfilling
E	Emerging Technologies
O	Organization and Administration
F	Financing and Ownership
I	Legislative Initiatives
A	Host Community Benefit Agreement

3.1 Solid Waste System Components

The solid waste system recommendations made in this Plan Update consist of the following major components:

Public Information and Education:

- Develop public information and education programs that promote SWALCO services and address community needs.

Source Reduction:

- Volume reduction at the source should be stressed.
- Encourage implementation of volume-based fees.

Recycling:

- Promote curbside recycling in all SWALCO communities.
- Encourage commercial, institutional, and industrial recycling construction and demolition debris recycling.

Landscape Waste Management:

- Emphasize home management of landscape waste.
- Promote separate landscape waste collection in all SWALCO communities.
- Landscape waste composting should take place in regional compost sites.

Household Chemical Waste (HCW):

- HCW collections will be operated with IEPA support.
- Educate residents concerning reduced use and improved management of HCW products.

Landfilling:

- Landfill all waste which is not reduced at the source.
- Recycling and composting services should take place in privately owned and operated facilities.
- Utilize guaranteed disposal capacity agreements.
- Acquire landfill capacity for future solid waste disposal needs.

3.2 Public Information and Education

Public information and education efforts play an important role in many of the activities pursued while carrying out SWALCO programs, policies and projects. The 1999 Plan Update was the first to designate a section for Public Information and Education. Before that update, related recommendations were incorporated in other sections.

Public information and education encompasses a wide variety of activities and target audiences. Activities may be focused on a particular population sector, such as municipalities, businesses, or schools, as well as on particular segments within those sectors, such as purchasing departments, home builders or elementary school students.

The phrases *public education* and *public information* may seem to be very similar, but there is a definable difference between the terms. Public information refers to activities and programs that are more general in nature and aimed at increasing awareness of an issue or program, such as the distribution of the Lake County Disposal Guide. The term public education refers to more complex activities and programs that are designed to change attitudes or behaviors, such as school education programs that teach students how to recycle at home.

While this document concentrates on the educational activities and public information campaigns that promote Agency programs, it is important to note that certain sustainability principles guide the decision-making process. Actions are sustainable when their economic, environmental, and social consequences do not compromise the ability of future generations to meet their needs. Successful public information/education programs can change behaviors and attitudes -- both of which are necessary when creating a sustainable future.

Besides teaching children how to sort their recyclables at home and providing residents with options for household chemical waste disposal, staff are also committed to (1) explaining why it is important to take these actions and (2) promoting proactive waste reduction ideas. SWALCO's programs address the issue of limiting the amounts and types of materials that enter our waste stream. People have the ability to choose products that conserve energy and other natural resources, and SWALCO has a responsibility to educate people on how to make choices that minimize impacts on the environment. The agency also has a responsibility to influence manufacturers, legislators and other decision makers about this issue.

3.2.1 1999 Plan Update Recommendations

In the 1999 Plan Update, recommendations regarding the development and implementation of public information and education activities are summarized in Table 3-1 on the following page.

Table 3-1 Status of 1999 Plan Update Public Information & Education Recommendations

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.2.3)
P.1	Support the ongoing activities of the public information and education programs.	Several activities have been initiated, evaluated and improved based on SWALCO's needs on an ongoing basis.
P.2	Encourage members to work with staff to design and distribute resident information flyers on various refuse and recycling issues.	Member Services Bulletins are written and distributed to announce program opportunities and disposal options for a variety of solid waste.
P.3	Continue to provide support to other SWALCO technical programs, such as the Household Chemical Waste Management Program and Recycling programs, on information and education portions of projects and programs implemented in these areas.	As needs are identified and programs occur, the appropriate actions have been taken to promote SWALCO's services through advertising, press releases, website updates, and other efforts.
P.4	Continue to identify and develop general public information efforts to encourage waste reduction, reuse, recycling and recovery (buying recycled).	Information is continuously disseminated through SWALCO publications and the website.
P.5	Work to develop partnerships with the business community, waste haulers, institutional and governmental entities to expand the outreach potential for focused education efforts on waste management alternatives.	Waste haulers receive advice on their marketing materials, especially when a municipality launches a new or changed service, and new publications (such as the realtor's brochure) are developed for specific target audiences as they are identified.
P.6	Utilize applicable state recycling education and information campaigns to develop customized activities for Lake County.	Resources from Illinois Department of Commerce and Economic Opportunity (DCEO) (formerly DCCA), the IEPA, and professional development associations are used on an ongoing basis whenever appropriate.
P.7	Continue to focus on school education outreach and offer the Lake County Earth Flag Program and Earth Flag Every Day supplemental program.	Besides continuing the Earth Flag and Earth Flag Every Day programs, educational outreach has been expanded to include teacher workshops, art contests, one-time classroom presentations, and a new educational website. Activities have been evaluated and improved to meet state learning standards.
P.8	Encourage SWALCO Members to inform SWALCO of waste reduction, reuse, recycling and buying recycled activities, both within the municipal facilities and the community, and assist in publicizing such efforts.	Ongoing communication efforts between SWALCO and its Members have helped raise awareness for a variety of solid waste issues, most noticeably during the 2003 waste hauler strike.
P.9	Continue to produce the SWALCO newsletter, *Trash Talk*, and encourage members and other recipients to use the information in their own publications.	These newsletters were discontinued due to associated costs and low interest, and were replaced by the Member Services Bulletins, which serve the same purpose and are less expensive to produce.
P.10	Continue to utilize SWALCO website as a public information outreach tool and explore opportunities to increase the effectiveness and efficiency of this outlet.	The SWALCO website was redesigned in 2002 in partnership with Lake County, and new content is added on an ongoing basis.

3.2.2 Status of Current System

Public information and education are ongoing efforts across all program areas. This section will deal only with programs and projects that are primarily related to the information or education needs of SWALCO. Several programs initiated prior to 1999 have expanded, or been substantially modified, to reflect changing target audiences. School education efforts were greatly expanded, public information programs embraced new technologies and new audiences, and public education programs kept pace as SWALCO's programs continued to develop.

School education activities were evaluated with the help of a panel of local teachers, and revised to reflect Illinois Learning Standards. New programs, such as *Bubba the Art Bus* and the *Trash Talk* newsletter (a different newsletter from the one previously produced by SWALCO), were incorporated to supplement the Earth Flag program. To help expand awareness of the "4R's" (Reduce, Reuse, Recycle and Recover), a new educational website was created and launched in 2003.

The *Green Pages Guide,* which originally was sent out after the 1999 Plan Update, was re-evaluated and a new design was created based on feedback from a series of focus group meetings. The focus groups also indicated that SWALCO needs to increase awareness about the services it provides. The streamlined *Lake County Disposal Guide* was eventually mailed out to nearly 235,000 residential postal points in June 2003. Current copies of the *Disposal Guide* are available at city/village halls, township offices, Lake County offices, and on SWALCO's website.

SWALCO's communication skills were put to the test during the 9-day waste hauler strike in October 2003. Even though it was never officially deemed a health crisis, many residents and businesses considered the interruption of services to be an extreme inconvenience. Due to the lack of communication coming from the waste haulers and the unions, many turned to SWALCO as the only consistent source of information. The strike reinforced the need for SWALCO to strengthen its communication planning efforts, an idea first emphasized by the results of the focus group meetings.

3.2.3 Solid Waste Agency Activities

A significant amount of activity has occurred in the past five years, and programs have evolved and expanded to meet SWALCO needs. Specific activities are described below, and grouped by category.

Public Information and Education

- SWALCO's advertising efforts have been strengthened as programs such as Household Chemical Waste collections expand.
- SWALCO's website was enhanced during a re-design phase that started in 2002 and incorporated several new functions provided by Lake County's Information & Technology department.
- A series of focus group meetings was conducted in 2003 to help SWALCO understand how residents gather information and view SWALCO.
- SWALCO's logo was redesigned in 2002 and a style guide for print and web-based communications was developed.
- A special brochure describing the Household Chemical Waste collection program was produced and distributed to Lake County realtors. This was in response to the growing number of phone calls SWALCO received from residents who were moving and did not know what to do with their chemical wastes.

- A streamlined "Lake County Disposal Guide" was reincarnated from the Green Pages Guide and mailed to all residents in 2003.
- Information services to SWALCO members have been strengthened through the Member Services Bulletins and through staff support as municipalities and waste haulers disseminate information regarding residential services. Members have responded by including SWALCO information in their newsletters and on their websites.

School Education

- A Teacher Panel was convened to evaluate SWALCO educational opportunities. Feedback was very positive, which led to the continued refinement of comprehensive school recycling education outreach program aimed at school children, their parents and school staff.
- SWALCO developed and launched a new educational website (www.trash4kids.org) targeted at elementary and middle school students.
- Between 1999 and 2003, 45 Earth Flags were distributed to Lake County schools that completed the program criteria.
- Between 1999 and 2003, 39 Earth Flag Every Day plaques have been awarded to 18 schools that previously earned Earth Flags.
- During the 2002/2003 school year, SWALCO started subsidizing the cost of *Trash Talk* newsletters for schools that had completed the Earth Flag program. This is a different newsletter from the one SWALCO had previously produced, and is published by another company.
- SWALCO also offered a subsidy for Earth Flag schools to schedule performances by environmental educators.
- The partnership with the Lake County Regional Office of Education was strengthened. This entity passes on information regarding solid waste management educational opportunities to local schools.
- The Public Information Coordinator provided resources (e.g., curriculum guides, posters, videos, etc.) and in-class presentations about solid waste management issues and the 4R's, as well as disseminating information on relevant state financial and technical assistance programs for schools to develop or expand recycling programs.
- As a state approved provider for Continuing Professional Development Units, SWALCO has sponsored several teacher workshops, usually in conjunction with America Recycles Day and Earth Day.

3.2.4 2004 Plan Update Recommendations

P.1 Identify new and support ongoing activities of SWALCO's public information and education programs to encourage waste reduction, reuse, recycling and recovery (buying recycled products) through SWALCO's websites and other publications, as well as community organizations such as PTA/PTO's, park districts and church groups.

P.2 Continue to provide in-house marketing support to help publicize SWALCO technical programs, such as the household chemical waste collections and recycling programs.

P.3 Continue to encourage SWALCO members to design, evaluate and distribute information for residents regarding various solid waste management issues, and to inform SWALCO of waste-related activities within their communities.

P.4 Develop partnerships with the business community, waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.

P.5 Continue to support and evaluate school education outreach efforts that meet Illinois Learning Standards, such as the Lake County Earth Flag Program, the Earth Flag Every Day supplemental program, the educational website, subsidized performances by environmental educators, and in-class presentations.

P.6 Identify and utilize applicable public and school education resources to develop customized activities for Lake County.

P.7 Develop a communication plan for SWALCO that encompasses branding, advertising and other promotional efforts, and evaluate it on a yearly basis.

P.8 Continue to embrace and incorporate new information technologies in SWALCO's promotional efforts (e.g., websites, email services, etc.).

P.9 Continue to support the EduCycle Center in Grayslake through grants, staff support and possible expansion efforts.

P.10 Investigate opportunities for public outreach at special events (e.g. Lake County Fair).

P.11 Establish crisis communication procedures so that SWALCO is viewed as a credible point of contact during emergency events and interruptions of service (e.g. garbage strikes, post-tornado debris management).

3.3 Source Reduction

Source reduction is the preferred method of waste management presented in the Illinois Solid Waste Management Act, because it prevents the initial generation of waste by reducing the volume and toxicity at the source. The primary aim of source reduction is to reduce the amount of waste that is introduced to the waste stream. This can include the reuse of materials that would otherwise enter the waste stream. Source reduction also encourages the purchase of products with the least amount of packaging and the use of non-disposable products in lieu of disposable ones (i.e., using a sponge rather than paper towels).

Source reduction encompasses a variety of activities and can be seen as the umbrella principle for the entire recycling, reuse and reduction arena. Looking at the concept of waste reduction, it can be broken into two main areas; front-end source reduction and back-end source reduction. Front-end source reduction addresses assessing operating behaviors and looking for opportunities to reduce amount of waste generated (e.g., hand dryers instead of paper towels, buying in bulk, less packaging). Back-end source reduction addresses assessing one's

wastestream and choosing to reuse or recycle materials instead of disposing of them in the landfill stream.

These basic definitions are applicable to a huge variety of market segments, along with the general public. Businesses, both large and small, with a vast array of service/product fields, can utilize either strategy to identify opportunities for source reduction. The same holds true for units of local government, other organizations, schools, etc. In looking at possible programming to create awareness and education about the need for, benefits of, and how-to's of source reduction it is apparent that each of these audiences will be affected by different types of source reduction and by different messages.

One method of raising broad general public awareness of the cost of solid waste handling, and the benefits of source reduction, is to bill customers directly for all such services and charge the service fees based on the amount of waste to be handled. Referred to as Pay-as-You-Throw, or Volume-Based Fee systems, these are promoted as fair, garbage-reducing methods that squarely place the decision about garbage generation and the fiscal responsibility for the amount created, on the citizens' shoulders. Some municipalities still hide the cost of refuse and recycling services on tax bills, as part of bundled utilities assessed by a municipality, etc. Removing these services as a hidden cost to residents allows them the opportunity to see the cost and choose to practice source reduction, or request a Volume-Based Fee system.

A commonly practiced source reduction technique is backyard composting of food and landscape materials. Since landscape waste was banned from Illinois landfills in July 1990, Lake County communities have offered programs that collect landscape materials. However, residents can handle landscape waste on their own by a number of methods, the most popular being grasscycling and composting. Grasscycling involves the frequent cutting of lawn grass and leaving clippings on the lawn to degrade as fertilizer. Composting also recovers the nutrient value from waste materials. In a compost pile, the landscape wastes are broken down into a uniform and dry product that can then be used as lawn fertilizer.

Although waste reduction is widely considered the best way to manage waste, existing methods of quantifying source reduction are not reliable, and in many cases, methods of any sort simply do not exist. A large business may be able to fairly accurately track and quantify cost savings from implementing a source reduction strategy, but generating statistically relevant data on the source reduction activities and impacts of the general public is virtually impossible.

As such, efforts to design, implement and evaluate source reduction education strategies and programming are difficult and cost/benefit questions need to be closely considered.

3.3.1 1999 Plan Update Recommendations

The 1999 Plan Update focuses on education and providing assistance to communities and businesses in order to achieve increased levels of participation. Overall, the recommendations provided the following methods:

- Focus on waste reduction as the first step and encourage it within SWALCO programs
- Urge communities to institute volume based residential waste collection fee structures
- Offer commercial waste audits
- Establish grant programs for funding pilot waste reduction programs

Programs should provide the public information on the different methods to reduce their household wastes and the importance of doing so. This message is incorporated in many SWALCO information activities. The volume-based collection fees would provide financial motivation for minimizing the waste volumes and make the public increasingly aware of what they are discarding. Encouraging non-residential entities to audit their waste stream would clarify possible waste reduction measures for implementation. The grant programs for pilot waste reduction programs were intended for both the public and private sectors.

Table 3-2 provides the status of the 1999 Plan Update source reduction recommendations.

Table 3-2 Status of 1999 Plan Update Source Reduction Recommendations

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.3.3)
S.1	SWALCO should continue to encourage programs that concentrate on waste reduction as the first step in solid waste management efforts.	SWALCO programs such as the Household Chemical Waste Collection, Earth Flag, Green Zone, C&D recycling programs Compost Bin Sale and Deck Rebate programs all contain a source reduction component.
S.2	Encourage all SWALCO members to establish volume-based pricing as the basis for residential waste collection fee structures.	Ongoing; the Villages of Green Oaks and Park City along with the City of Highland Park and the Village of Libertyville have adopted an optional volume based waste collection system; other communities have considered but not yet implemented.
S.3	Encourage commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities to conduct waste audits and implement source reduction measures.	Many public information documents include source reduction suggestions. Due to time constraints and low interest, no waste audits have been completed.
S.4	Consider the establishment of pilot programs which assist companies and organizations within SWALCO's jurisdiction in the development and promotion of source reduction programs. Direct funding toward pilot programs that can be replicated by other businesses, organizations, and the public.	Implemented pilot grant programs such as the Green Zone, the Multi-family Recycling Program, the Construction and Demolition Waste programs and deck rebate program which support back-end source reduction. Front-end source reduction projects have been successfully implemented through compost bin sales, the Earth Flag program and Household Chemical Waste Collection programs.
S.5	Urge members to adopt full cost accounting for solid waste services and reduce reliance on general fund subsidy for such.	Recommended to SWALCO members; few communities remain that utilize general fund subsidies.

3.3.2 Status of Current System

Although source reduction is difficult to quantify, the United States Environmental Protection Agency (USEPA) estimates:

- That more than 55 million tons of MSW were source reduced in the United States in 2000

- Containers and packaging represented approximately 28 percent of the materials source reduced in 2000
- Nondurable goods (e.g., newspapers, clothing) represented 17 percent
- Durable goods (e.g., appliances, furniture, tires) represented 10 percent
- Other MSW (e.g., yard trimmings, food scraps) represented 45 percent

There are more than 6,000 reuse centers around the country, ranging from specialized programs for building materials or unneeded materials in schools to local programs such as Goodwill and the Salvation Army, according to the Reuse Development Organization (USEPA, 1999).

A significant source reduction technique employed in Lake County is the onsite management of landscape waste, which was motivated in part by the 1990 ban on landfilling landscape waste. Many homeowners manage landscape waste on site using compost piles in their backyards or burn barrels. In addition, increasing amounts of landscape waste in Illinois are being handled by permit-exempt composting facilities on farms in rural areas, although such facilities must meet specific requirements in order to be permit-exempt (IEPA, 2003a).

3.3.3 Solid Waste Agency Activities

SWALCO has implemented many of the recommendations for source reduction included in the 1999 Plan Update. SWALCO's household chemical waste management programs and school education programs both place emphasis on source reduction and are discussed further in Household Chemical Waste Management and the Public Information and Education sections.

Source reduction is emphasized within the commercial and business community through our Green Zone pilot commercial recycling programs. Participants of these programs are provided examples of source reduction activities that may effectively reduce the volume of their waste stream. Program participants may also benefit from lower waste disposal fees due to smaller waste volumes being created after removing recylables from their waste stream

Volume-based collection continues to be promoted by SWALCO. Volume-based waste collection fees can be influential in and are an important step toward encouraging residents to reduce the volume of their trash. These pricing systems, also known as unit-based pricing or pay-as-you-throw pricing, charge a fee that increases with the amount of trash for disposal. This provides the incentive for homeowners to reduce their disposal volumes while lowering their garbage bill. Many variations of volume-based fees exist. With the standard flat fee system, the residents who recycle or otherwise reduce their waste output essentially subsidize their neighbors who do not make such efforts. Volume-based pricing can be combined with flat fee pricing to better suit a community interests.

Communities in Lake County have generally resisted the volume-based pricing method due to the perceived inconvenience. Several communities have considered implementing a volume-based system. The Villages of Green Oaks, Park City and Libertyville and the City of Highland

Park have adopted volume-based pricing systems. However, all of these communities offer this service on a voluntary basis along with traditional disposal service options.

Full cost accounting models are integrated into most every community that SWALCO serves. However, a few municipalities still bundle the costs of refuse and recycling services into their trash bills.

On-site construction and demolition (C&D) waste programs have been started as a result of SWALCO intergovernmental efforts. Information derived from the C&D pilot programs have been shared with other interested groups. These source reduction/recycling programs are discussed further in the recycling section of the report.

Although many communities offer separate landscape waste collection, residents are typically required to purchase specialty bags or stickers. This additional cost spurs many residents to manage landscape waste at home, using backyard compost piles and leaving cut grass on the lawn.

To encourage backyard composting, SWALCO has subsidized the sale of backyard compost bins by sponsoring several countywide compost bin sales. Home composting is favored as a reduction technique because it removes a portion of organics from the waste stream.

3.3.4 2004 Plan Update Recommendations

As source reduction is an umbrella principal that affects multiple topics in the solid waste management plan, in future plan updates it will be included within the other sections (e.g. Public Information and Education, Recycling, and wherever else appropriate). Therefore, 2004 Plan Update recommendations for source reduction have been incorporated into these sections.

3.4 Recycling

Recycling is the process of recovering a waste material for processing into another usable product. This behavior helps conserve landfill space by diverting materials that may not be reusable in their current form and converting them into useful products. Illinois has set a statewide recycling goal of 25%. To achieve this goal, and for recycling to be effective, the three following activities must take place:

- Recyclable materials must be segregated from the municipal solid waste stream and then be collected
- Materials must be then be processed and made into a product
- Products must be purchased in order to complete the cycle and "close the loop".

SWALCO promotes all three aspects of recycling through its recycling and educational programs. Currently, SWALCO uses estimated per capita generation to determine the denominator used for the recycling rate calculation. Accuracy of this information will always be limited due to the regional nature of waste handling and the difficulty associated with determining volumes generated within Lake County's borders.

The Plan Update directs SWALCO staff to continue to collect data on recycling activities in Lake County and determine what data is useful for programming decisions at the community level. Staff was also asked to consider requiring private haulers to provide recycling to commercial establishments.

3.4.1 1999 Plan Update Recommendations

The 1999 Plan Update divided recommendations into two areas: data collection and recycling programs.

To best continue monitoring and evaluating the effectiveness of the various recycling programs, the 1999 Plan Update recommended the continued use of the standardized data collection system for quantifying waste generation and recycled quantities, while working to expand the scope of the Lake County Recycling Ordinance.

Table 3-3 provides the status of the 1999 Plan Update recycling recommendations involving data collection.

Table 3-3 Status of 1999 Plan Update Recycling Recommendations for Data Collection

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.4.3)
R.1	Continue collection of data on recycling activity in Lake County. Identify significant recycling data points that reflect changes in recycling activity in Lake County and develop programming that addresses those changes.	Successfully completed and ongoing; commercial and residential source information is obtained voluntarily from businesses and recycling firms. SWALCO provides reports to the IEPA annually and tracks municipal volumes on a quarterly basis
R.2	Work on developing an ordinance, for consideration by Lake County, which would require the recycling of at least one material by commercial establishments. Consideration should be given to: expanding the Lake County Recycling Ordinance to require private haulers to offer recycling and require commercial establishments to participate, at their expense; and exempting certain commercial establishments based upon other factors.	Partially implemented; in 1999 Lake County implemented a licensing ordinance that requires residential haulers to offer recycling service to their residential customers. The current draft of the Lake County Framework Plan calls for this to expand.

The 1999 Plan Update recommends SWALCO further assist SWALCO members, and their businesses and industries in technical matters relating to recycling. Develop programs that support the "Buy Recycled" message along with demonstrating that C&D recycling and Multi-Family recycling are both logistically and economically feasible.

Table 3-4 provides the status of the 1999 Plan Update recycling recommendations involving the recycling program.

Table 3-4 Status of 1999 Plan Update Recycling Plan Recommendations for Recycling Program

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.4.3)
R.3	Provide assistance to member communities in the development of ordinances that promote recycling and waste reduction activity by the general population.	Initiated and ongoing; SWALCO has developed and provides to its members model ordinances that address the inclusion of recycling in commercial and multi-family uses.
R.4	Develop, and promote, purchasing ordinances which require/encourage the purchase of recycled content products for use by municipal and County agencies. Developed ordinances should be accompanied by sample listings of types and sources for recycled content materials.	Partially implemented and ongoing; SWALCO maintains a listing of recycled materials on its web site. SWALCO supports the use of recycled HDPE decking material trough a rebate program. SWALCO prepared and distributed a listing of recycled materials that were used in the construction of the Office/HCW facility. SWALCO specified the use of recycled products in our construction project.
R.5	Assist area processors in activities that result in increased diversion of waste materials from landfills.	Initiated; Extended our Agreement with the RAA Grayslake MRF, supporting their expansion and reconfiguration to single stream processing. Supports the adoption of an IEPA rule, which requires processors to recycle in a responsible manner. SWALCO also suggests that processors desiring to expand or provide additional service to inquire about DECO recycling grants.
R.6	Work to encourage refuse haulers to develop service pricing strategies, which reflect, integrated waste management practices.	Incorporated; by providing municipal members assistance with service contracts that set standards for refuse haulers.
R.7	Develop programs that encourage diversion of organic materials from the solid waste management system.	Initiated; full cost accounting and volume based service for residential landscape waste along with an annual sale of backyard compost bins.
R.8	Develop programs, and provide subsidy where necessary, which result in the establishment of programs that divert materials of marginal economic value from the landfill. Programs should be pursued when landfill rates approach levels that indicate recovery of targeted materials will become economically viable within five years.	Initiated; conducted pilot C&D recycling projects in four communities to demonstrate the availability and cost effectiveness of recycling at new construction sites. Implemented a residential electronics collection program to divert computers and other consumer electronics from the landfill.
R.9	Develop information and programs to encourage recycling in multi-family housing.	Incorporated; Pilot Multi-Family Recycling Programs.

3.4.2 Status of Current System

Recycling programs in Illinois include residential recycling from single and multi-family units, commercial recycling, and recycling of construction and demolition (C&D) debris. In Illinois, there are approximately 400 curbside recycling programs in 32 counties, serving 2.5 million households, and there are more than 400 places to drop-off recyclables. According to the "Illinois Recycling Economic Information Study" completed by R.W. Beck, Inc. (Beck, 2001), Illinois contains 28 materials recovery facilities, 204 government-staffed recycling collection establishments, and 270 privately-staffed recycling collection establishments.

3.4.3 Solid Waste Agency Activities

In response to the recommendations provided in the 1999 Plan Update, SWALCO has initiated several new recycling programs while also maintaining ones that were previously implemented. SWALCO's activities since the 1999 Plan Update include:

- Developing improved methods for the quantification of recycled materials
- Administering the County's Recycling Ordinance
- Extending our Agreement with the Recycle America Alliance (RAA) Grayslake Materials Recovery Facility (MRF)
- Continuing the Green-Zone Program and the Multi-Family Recycling Programs
- Piloting four C&D recycling programs at new construction sites
- Sales of backyard compost bins to Lake County residents
- Implementing a Pilot Landscape Waste Shredding program to discourage residents from burning their landscape waste
- Providing rebates to Lake County home owners and institutions that utilize recycled HDPE plastic decking material in the construction of new or existing decks
- Encouraging communities to implement cart-based recycling collection programs
- Implementing a Residential Electronics Collection Program

Recycling recording methods in Lake County have continued to improve since the 1999 Plan Update. SWALCO members and waste haulers are now required to report recycled quantities more often. SWALCO members' report recycling data quarterly to SWALCO's recycling coordinator. These reports contain information concerning residential, commercial, as well as the construction and demolition recycling programs in each community.

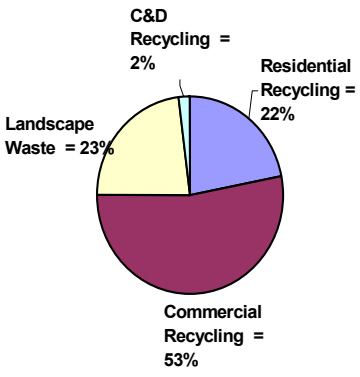
The Lake County Residential Recycling Ordinance requires waste hauling firms to submit annual reports to SWALCO. This ordinance was drafted in order to comply with the Illinois Solid Waste Planning and Recycling Act (415 ILCS 15/1 *et seq*). The act also requires that the County residential and commercial recycling data be submitted annually to the IEPA. A summary of recycling data provided to the IEPA since the 1999 Plan Update is provided in Table 3-5.

Table 3-5 Lake County Annual Municipal Waste Recycling Data 1999-2003			
Year	**Quantity of MSW generated (tons)**	**Quantity of MSW recycled (tons)**	**Recycling Rate**
1999	848,365	356,310	42%
2000	838,452	358,362	43%
2001	860,254	346,258	40%
2002	874,437	376,452	43%
2003	891,364	384,793	43%

The Lake County Recycling Ordinance, which was implemented in 1999, requires that all waste haulers operating within Lake County make curbside recycling available to all one to four unit residences. Municipalities are required to regulate collection in their area and ensure that all haulers are licensed for waste collection in Lake County. In order to maintain a hauling license, the hauling company must submit an annual report which details the quantities of waste collected, residential and commercial recyclables collected, and landscape materials collected. The waste is classified by source and type and reported in tonnage. These reporting requirements were previously voluntary.

The data provided in Table 3-5 indicates that Lake County consistently exceeds the State mandated 25% recycling goal by a considerable margin. By expanding the scope of the Lake County Recycling Ordinance along with increased implementation of C&D recycling, the County should be able to reach and maintain a 50% diversion rate within the next five years. Figure 3-1 illustrates the origins of the recyclable material collected by percentage, which make up the 43% recycling rate.

Figure 3-1
2003 Lake County Recycling



SWALCO maintains a Capacity Agreement with RAA (formerly Waste Management, Inc.), concerning the operation of the MRF in Grayslake. RAA began operation of the MRF in July of 1997. The MRF was originally designed to process approximately 15 tons per hour of recyclable material. A two stream processing was designed to process fiber (paper, cardboard, etc.) and commingled recycled materials (glass, aluminum, plastics, etc.). Over the past four years single stream collection and processing technologies have been developed that provide more efficient means to collect and process recyclables. Recognizing that single stream collection and processing advancements could benefit the member residents, SWALCO has encouraged both its members and RAA to modify their programs to facilitate the single stream recycling process.

In 2001, RAA decided to modify its MRF to allow for increased processing capacity through the use of single stream processing equipment. This means that fiber and commingled materials can

be mixed together at the curb for collection allowing residents to place all of their recyclables into one container. Now that the MRF modifications are complete, the facility is capable of accepting and processing 25 tons per hour of recyclables.

The Green Zone Pilot Commercial Recycling Program provides recyclable material collection to groups of businesses within a community. Haulers are contracted to supply collection service to the participants. Funding for program costs are covered by SWALCO for the first year and the local community for the second year of the program. It is the programs intent, that after the first two years, the businesses involved in the program would better understand the advantages to recycling and continue the program in year three and beyond at their own cost. Results of post program surveys have indicated that nearly 50% of program participants continue to recycle after the initial two-year pilot was concluded.

The Green Zone project was introduced in 1996. It has successfully served more than 1,450 businesses in twelve different communities. Due to a lack of requests in 2003 for this program, funding has been redirected to other SWALCO priorities. A list of communities and number of businesses that have participated in the Green Zone Program is provided in Table 3-6.

Table 3-6 Communities Participating in Green Zone Program

CITY	START DATE	# OF BUSINESSES
Highland Park - CBD	March 1996	525
Grayslake - CDB	May 1996	50
Libertyville	June 1996	150
Gurnee	November 1996	80
Antioch	March 1997	89
Lake Zurich	July 1997	100
Highland Park - Ravinia	August 1998	80
Green Oaks	August 1999	50
Waukegan	November 1999	22
Lake Forest/Lake Bluff	October 2000	185
Deerfield	December 2001	50
Grayslake – Center Street	July 2002	70
Lake Bluff	October 2002	30

Throughout Lake County, most apartment buildings, condominiums and townhomes that have more than 4 units per building do not receive the same trash and recycling services that most single family homes receive. In most cases, municipalities consider these properties to be commercial business and therefore allow the property owners or its building association to contract with a disposal service of their choice. It is for this reason that some residents of a community may not have recycling available to them. Through studies, it has been determined

that slightly more than half of the municipal waste stream is generated from commercial business. That means that the 30% of Lake County's housing, which is made up of apartments, condominiums, and townhomes, may be part of that trash segment.

Obviously, participation in recycling by multi-family dwellings helps increase the diversion of recyclables from the landfill. Identifying the factors to consider when developing a multi-family recycling program is important. It is critical to know how to modify these factors to make for a successful program at different facilities. By offering a pilot program to several different housing communities, SWALCO has been gathering information so that other multi-family communities can use the data to guide them if they choose to implement a recycling program for their residents.

SWALCO has implemented four multi-family recycling pilot projects, beginning in 1997 with the Country Faire Village Apartments in Grayslake. This program diverted a considerable quantity of material that was once simply thrown away. Additional pilot programs have been implemented in the Villages of Antioch, Round Lake Park and Lake Zurich. Education of residents is a continuing focus of these programs. Through these programs residents are able to recycle paper and paper products, as well as glass, plastic and metal containers. The average home has been diverting approximately 500 pounds of material per year that previously went directly to landfills.

Table 3-7 provides a description of the four Multi-Family pilot projects.

Table 3-7 Multifamily Recycling Program Participants

PROPERTY NAME	LOCATION	START DATE	TOTAL NUMBER OF UNITS	VOLUME RECYCLED PER WEEK
County Faire Apartments	Grayslake	1997	396 Apartments	3,000 Pounds
Antioch Manor	Antioch	1999	166 Apartments	1,850 Pounds
Rosewood Apartments	Round Lake Park	2000	144 Apartments	2,700 Pounds
Rivers Edge Apartments	Lake Zurich	2003	66 Apartments	380 Pounds

Because of the high waste volume and the small area upon which it is produced, a good deal of C&D waste can be recycled on site. Handling methods for C&D materials generated within Lake County were originally evaluated in an October 1996 study prepared by CDM. The study identified regional handlers, described nationwide technologies, identified waste reduction techniques, and finally prepared an implementation plan. This implementation plan was later adopted by SWALCO in December 1996 as a guide for planning SWALCO activities.

Since the adoption of the implementation plan, SWALCO has expanded the C&D recycling program. This was done in order to increase awareness of developers, contractors, and haulers of C&D debris recycling possibilities; and to assist in the funding of pilot projects. Two "C&D Handling Alternatives Seminars" were conducted to help developers manage more environmentally conscious operations.

By contracting directly with private sector recycling companies, SWALCO implemented four new development pilot programs which encouraged the onsite reuse and recycling of common C&D materials including wood, gypsum, conduit, sheet metal, cardboard, carpet padding, and other metals. Combined these four projects have achieved nearly a 43% recycling rate and have diverted from the landfill approximately 47 cubic yards of material per building.

Table 3-8 provides a description of the four C&D recycling pilot projects.

Table 3-8 C&D Debris Recycling Pilot Projects

Project Name and Location	Work Site	Volume Recycled
Cedar Crossing Lake Villa	Standard design new home construction with custom work available (28 homes)	**Debris Generated** - 2,040 Cubic Yards **Debris Recycled** - 812 Cubic Yards **Recycling Rate** - 40%
Insignia Green Long Grove	Custom/semi-custom new home construction (27 homes)	**Debris Generated** - 3,020 Cubic Yards **Debris Recycled** - 1,169 Cubic Yards **Recycling Rate** - 40%
Cherry Creek Grayslake	Multi-family town homes, 11 new buildings consisting of 4-6 units per building.	**Debris Generated** – 2,156 Cubic Yards **Debris Recycled** - 907 Cubic Yards **Recycling Rate** - 42%
Gregg's Landing Vernon Hills	Semi-custom new homes 2,540 to 3,296 sq. ft. (26 homes)	**Debris Generated** – 3,008 Cubic Yards **Debris Recycled** – 1,460 Cubic Yards **Recycling Rate** - 49%

In addition to these pilot C&D programs, SWALCO has developed and recommended to its members a model ordinance directed at requiring a new construction developer to cooperate with the municipality in implementing a construction waste recycling program. The developer may opt out of the requirement if they demonstrate that the recycling service costs exceed the costs that the developer customarily incurs for material disposal at the construction site.

Table 2-6 indicates that C&D waste makes up nearly 23% of the total municipal solid waste (MSW) stream for the SWALCO planning area. To achieve or exceed a 50% municipal solid waste diversion rate within the next five years will require increasing recycling and processing of C&D wastes. SWALCO intends to focus efforts on developing local processing capacity in order to better divert a portion of the C&D waste stream back into the economic mainstream.

Landfilling C&D waste poses little environmental concern. The material is inert and degrades very little once in place. Landfilling C&D waste does however consume considerably more space in a landfill due to its bulky nature and its inability to compact as efficiently as other forms of MSW. Economically there is value to C&D materials if they can be extracted from non-recoverable C&D materials utilizing processing facilities.

Some obstacles associated with C&D processing pertain most specifically to the demolition material types. Demolition materials often contain hazardous materials such as asbestos, lead and other heavy metals. These materials must be segregated at the source or prior to processing so as not to contaminate the sorting process. Construction and demolition processing operations are not unlike manufacturing processes and must be operated in way to preserve and protect public health.

SWALCO published model demolition waste management specifications for establishing waste management programs during demolition projects conducted by municipalities in Lake County. These specifications will enable members to bid their demolition projects with waste diversion and minimization as their objective.

SWALCO has determined that in order to support C&D processing in Lake County, there will be a need to acquire capacity. Acquiring capacity will ensure that a facility will be available to Lake County users. Such a facility must be able to quantify materials processed and marketed and must be operated in accordance with the highest industry standards so as to minimize threats to environmental health. The availability of C&D processing capacity in Lake County also will minimize transportation costs.

To facilitate and maintain capacity for SWALCO and its members, Host Community Benefit Agreements should be negotiated with the processors. The Host Agreement is one way SWALCO can achieve C&D processing for its members while also indemnifying SWALCO and its members from long-term liability. A Host Agreement will also provide SWALCO and its members the opportunity to divert materials to the processor while being assured that the processor is following the model C&D specifications.

The Host Agreement can also be useful for the Host Community, providing them financial support for infrastructure improvements and its impact upon the community. The location and development of C&D processing facilities should follow the recommendations specified for transfer stations in Section 3.8 of this report. The C&D processing facility characteristics should be compatible with adjacent land uses. Incoming material, awaiting processing, should be stored in an enclosed area. Processed material, awaiting return to the economic mainstream, should not be stored outside where it may serve as a detraction to the environment or may degrade in value. Processed debris, awaiting disposal, should be removed in accordance with the Illinois Environmental Protection Act for waste storage or transfer stations. As noted earlier, C&D waste processing is best performed in an enclosed area, so that the operator can process waste throughout the year without being impacted by inclement weather. Open C&D processing facilities are susceptible to interruption due to inclement weather and also require sufficient buffering to ensure the minimization of air and noise pollution.

Surface water pollution is also a concern with any processing operations. The C&D processing facility must operate in accordance with all storm water and waste discharge regulations. Exposure to water can rapidly degrade many separated C&D materials.

In 1999 SWALCO implemented the sale of back yard compost bins on a countywide basis after successfully implementing a pilot residential compost bin sale with the Village of North Barrington the previous year. Table 3-9 provides a description of the compost bin sale program.

Table 3-9 Compost Bin Distribution Summary		
Year	Number of Sale Locations	Number of Compost Bin Sold
1999	4	5,000
2000	4	4,000
2001	10	3,100
2002	7	1,652
2003	7	1,335

In 2004 the compost bin sale program changed considerably. Due to declining sales and high overhead costs to coordinate, staff and promote the sales events, the Agency decided to continue purchasing approximately 500 compost bins but outsource the compost bin sales component to other organizations. The compost bin sales now will be managed, staffed and promoted through Lake County not-for-profit organizations that successfully meet the requirements of a Request for Proposal (RFP) that SWALCO developed.

In 2002 the Agency entered into an agreement with Village of Round Lake Park to implement a pilot landscape waste management project that demonstrated a suitable method for managing residential landscape waste without having to rely on burning. Staff recommended the use of a mulching device. Two village residents participated in the project, and they seemed pleased with the performance of the device. One of the participants indicated that in previous years they had burned their leaves but with the help of the device there was no need to burn. Another benefit was that the mulched leaves made an excellent top dressing for their garden and planting beds.

The US Plastic Lumber Company (USPL) manufactures a plastic decking product that contains at least 85% recycled plastic. In 2001 SWALCO established a Memorandum of Understanding with USPL to provide up to twenty, $500 rebates to residents that construct a deck with a minimum area of 100 square feet utilizing the USPL product. To qualify for the rebate, the resident had to provide a copy of their building permit with the final inspection approved by the respective code enforcement authority. Over the past three years, a total of eleven rebates have been redeemed. In 2003 the rebate amount was increased to maximum of $1,000 with a cap of ten rebates being offered each year. The increase in the rebate amount drew in a few additional applicants. USPL believes that some of the reasons why so few rebates were claimed may be that homeowners were required to obtain a building permit, and the cost of conventional treated wood decking remains considerably lower than HDPE plastic decking.

With the advent of single stream processing for recyclables, waste haulers began to offer Lake County residents the opportunity to combine all their recycling in a larger cart. The Agency has supported this change in collection systems and has actively assisted in securing cart- based recycling programs for many Lake County municipalities. There are now 14 municipalities in Lake County that utilize cart-based collection programs. Some of the benefits that cart-based recycling programs provide are:

- additional capacity for the storage of recyclable material;

- increased ease of mobility since the cart has wheels;
- eliminating the need for separation of materials;
- increased amounts of materials that are recycled;
- protected materials from wind and other inclement weather conditions;
- decreased wind-blown litter; and
- improved appearance of a communities streetscape.

The Agency has monitored recycling rates in the communities that have implemented cart-based recycling programs, and it has determined that these communities experience on average a 15% increase in recycling. These increases appear to be directly related to the use of the recycling carts. The Agency intends to continue monitoring the data and encourage other Lake County communities to implement cart-based recycling programs.

SWALCO has recognized a need exists to divert broken and unwanted computer equipment televisions and other electronic items (E-scrap) from landfills because these products contain potentially hazardous materials such as lead, mercury and cadmium. Since 2000 SWALCO has sponsored six Residential Electronics Collection events at various sites throughout Lake County. Over 4,000 Lake County Residents have participated in these events dropping off nearly 245 tons of electronic equipment.

In an effort to explore alternative methods of collecting residential electronics within Lake County, SWALCO implemented a six-month pilot residential electronics collection program that began in April of 2003, and was conducted in the City of Lake Forest and the Village of Lake Bluff. The purpose of the pilot program was to determine the average volume of E-scrap generated through an on-going collection program and the feasibility of establishing other municipally sponsored, on-going E-Scrap drop-off locations and/or curbside collection programs.

After the pilot residential electronics collection program concluded, data analysis indicated that the cost to process E-scrap was lower compared to the one-day drop off events. This is primarily due to the lower volume of E-scrap delivered per participant. More than one-quarter of the participants in the pilot collection program used the service more than once, and 62% of the participants indicated that they would be willing to pay a fee to drop off their electronic items.

Many issues need to be considered as the Agency proceeds with plans to help residents manage their E-scrap. Drop-off and curbside collection programs could be an alternative or complement to one-day collection events. The costs associated with operating a permanent drop-off or curbside collection program will vary, and depend on transportation and processing fees. Other considerations include implementing a user fee to assist in reducing the overall program costs and accessibility for all county residents.

3.4.4 2004 Plan Update Recommendations

R.1 Maintain and expand collection of data on recycling activity in Lake County. Identify significant recycling data points that reflect changes in recycling activity in Lake County and develop programming that fosters increased diversion of recyclable materials.

R.2 Continue to expand recycling programs to achieve a 50% recycling goal for all subsequent years.

R.3 Continue to support area recyclers in activities that expand their capabilities of diverting marketable materials from landfills when feasible.

R.4 Assist the County with modifications to its Recycling Ordinance requiring all waste haulers operating within Lake County to offer volume based pricing for residential refuse collection services and make recycling available to all residential, multi-family, and commercial customers.

R.5 Encourage all SWALCO members to establish volume based pricing and utilize a full cost accounting model in their analysis of waste costs.

R.6 Encourage all SWALCO members to implement cart-based recycling programs within their residential areas.

R.7 Assist SWALCO members in franchising commercial refuse service as a means to reduce costs and increase recycling.

R.8 Continue to encourage all SWALCO members to adopt the model commercial and multi-family refuse and recycling enclosure ordinance.

R.9 Encourage SWALCO members to adopt a model C&D recycling ordinance that would require the implementation of recycling a recycling program at new construction sites within their communities.

R.10 Participate in the EPA Waste Wise Program and encourage commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities to participate in source reduction activities.

R.11 Depending on availability of funds and agency priorities, continue to further the development of source reduction programs, compost bin distributions and residential electronics collections along with commercial and multi-family pilot programs.

R.12 Continue to maintain the MRF contract with Recycle America Alliance to assure that sufficient capacity is available to SWALCO members along with assuring that SWALCO members that direct material to the facility do not incur processing charges.

R.13 Encourage SWALCO members to direct their hauler to deliver their communities recyclable material to the Recycle America Alliance MRF, or to another MRF where SWALCO has secured processing capacity, to avoid cost for processing.

R.14 Acquire capacity in C&D processing facilities in Lake County.

R.15 Pursue implementation of a C&D processing facility to provide processing capacity for SWALCO members.

R.16 Designate the C&D processing facility as an official component of SWALCO's waste disposal system and encourage all members to utilize the C&D processing facility for C&D projects within their municipal boundaries.

R.17 Explore the development of programs to reduce residential and commercial organic waste (such as yardwaste and food waste).

3.5 Household Chemical Waste Management

Since the development of the 1999 Solid Waste Management Plan, SWALCO's Board of Directors has elected to change the name of the Program from the Household Hazardous Waste Collection Program to the Household Chemical Waste Collection Program. The intent was to soften the public perception of the Program, but not to change its focus, which is to reduce the volume and toxicity of our municipal waste stream.

Household chemical wastes (HCW) are commercially available products found in the home, which contain hazardous components and/or exhibit hazardous characteristics. These products include, but are not limited to, cleaning solutions, pesticides, paints, solvents, automotive supplies, and other commercially available products. These materials are generally safe when properly stored in their containers, but when improperly used or stored they can become a threat to human and environmental health.

Many residents realize the negative implications of disposing of their HCW through the septic system or in their trash. Disposal via the municipal or sanitary waste streams can injure workers, put a strain on wastewater treatment plants, and potentially pollute the groundwater by leaching into the soil. HCW management programs provide safe disposal options to residents that help make the home and environment a healthier and safer place.

According to the USEPA, the United States generates 1.6 million tons of household hazardous waste per year, which is equivalent to 0.7% percent of the municipal waste stream (USEPA, 2004). It is also estimated the average household has between three and ten gallons of hazardous material stored in kitchens, bathrooms, garages, and basements (Water Environment Federation, 2004).

3.5.1 1999 Plan Update Recommendations

The 1999 Plan Update included a variety of recommendations related to HCW management. The predominant focus remained the implementation of a HCW collection program consisting

of the construction and operation of a permanent collection facility and obtaining operational and funding support from the IEPA. This goal was achieved in 2002 with the construction of SWALCO's Office and Household Chemical Waste transfer facility, and the execution of an Intergovernmental Agreement with the IEPA. The Intergovernmental Agreement provides general operational guidelines and annual funding to offset the costs of transportation and disposal of the wastes collected through the program.

The Plan Update also addressed the investigation, development and expansion of a variety of supplemental programs. The creation, expansion of new and existing waste oil collection centers and "Partner for Paint" program member locations was encouraged.

Oil drop-off centers (like the Lake Zurich Program) provide a year round means for residents to properly dispose of their unwanted motor oil. In addition to establishing a collection center, the development of a database listing commercially available outlets was also encouraged.

Another recommendation was to recruit new members into the Partner for Paint program and to support this program to the extent possible. The Partner for Paint program provides another outlet for residents who want to recycle their unwanted latex and oil-based paints.

Table 3-10 provides the status of the 1999 Plan Update HCW recommendations.

Table 3-10 Status of 1999 Plan Update Household Chemical Waste Recommendations

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.5.3)
H.1	Operate a permanent HCW collection program for Lake County residents and, to the extent possible, obtain co-sponsorship/funding of the program from IEPA	SWALCO operated an independent (no IEPA agreement) permanent HCW program from 1999-2001 consisting of twenty-three one-day mobile collection events. Permanent Office/HCW facility constructed in April 2002. Permanent program (under IEPA agreement) initiated in Fall 2002 – open to any Illinois resident.
H.2	Develop and expand used motor oil collection programs. Create a database of commercial establishments accepting residential motor oil and solicit municipal Public Works departments throughout the county to become active oil drop-off centers (i.e. the Lake Zurich Public Works collection program).	Provided financial and operational support to LZ Oil Collection Program. Executed a two-year agreement extension in Dec. 2002. Maintaining and updating a listing of municipal and commercial oil drop-off centers.
H.3	Explore alternative waste paint collection methods/programs, and work to recruit additional members to join the IEPA Partner for Waste Paint Program. Consider using incentives, if needed, to recruit new members into the program.	Larsen and Petersen Paint Company closed its Waukegan facility and opted out of the Program in 2003. A new member, Ela Township Highway Department, joined the Program in Fall of 2003. SWALCO providing financial and operational support to Ela.
H.4	Distribute HCW educational information to County residents listing common everyday products that fit the HCW classification, proper handling and storage methods, generation reduction steps and proper disposal. Explore and evaluate methods of information distribution (via trash haulers, billings etc.).	Public education/information efforts have increased as the Program expanded, and include the distribution of Member Services Bulletins, paid advertisements in newspapers and on the local radio stations, the mass mailing of a Disposal Guide, and school education activities.

H.5	Obtain and review, if available, a list of Conditionally Exempt Small Quantity Generators (CESQGs) in Lake County and evaluate options for informing them of the proper handling and disposal of material associated with their business. Consider exploring programs that address disposal needs and investigate funding mechanisms necessary to implement a CESQG specific collection program.	Partially complete; an inventory of Conditionally Exempt Small Quantity Generators (CESQGs) is maintained by the Lake County Health Department. A listing of environmental service companies is maintained in the offices for company referrals.
H.6	Investigate options/programs to remove household batteries from the waste stream, focusing efforts on mercury and rechargeable nickel-cadmium batteries. Explore the use of existing commercial establishments as an outlet. The subsequent finding of these analyses should be incorporated into the programs implemented in conjunction with HCW.	The use of heavy metals in the alkaline manufacturing process has decreased significantly over the past several years. The decreased metal content renders the batteries more environmentally friendly and reduces the demand/interest by heavy metal reclamation facilities. Residents are advised to bring their rechargeable batteries to the collection events and to dispose of their alkaline batteries in the trash.
H.7	Investigate options for implementing separate programs for used tire management. Develop a data base of outlets and options for public referral which address the handling of unwanted automotive tires	Conducted a countywide tire collection event in summer 2001. Continue to assist Highway Depts. municipalities, residents without outlet options. Keeping abreast of the IEPA tire collection program.

3.5.2 Status of Current System

The IEPA coordinates one-day household hazardous waste collections each year in the spring and fall. The first of these collections began in 1989 and since that time, 262,100 households have participated in 292 events, with 53,765 drums of material collected. (IEPA, 2003b)

At present, Illinois has three long-term HCW collection and processing facilities, which are located in Naperville (opened in 1992), Rockford (opened in 1995), and Gurnee (opened in 2002). In addition, the City of Chicago is currently planning to construct a permanent HCW and electronics collection and processing facility in the near future.

3.5.3 Solid Waste Agency Activities

The Household Chemical Waste Program has been very active since the 1999 Plan Update. Some of the activities conducted include:

- The construction and operation of a permanent household chemical waste facility
- Execution of an Intergovernmental Agreement with the Illinois Environmental Protection Agency
- Conducting thirty-eight one-day Household Chemical Waste collection events
- Recruiting drop-off centers for the collection of used motor oil and household paints
- Development and implementation of a latex paint solidification program

In January of 2000, SWALCO executed an Intergovernmental Agreement with the Village of Gurnee authorizing the construction and operation of a permanent Household Chemical Waste facility. Shortly thereafter, SWALCO purchased a parcel of property in an industrial park and

contracted with CDM to begin the design and permitting of the facility. The final facility design incorporated SWALCO's administrative offices and the storage facility into the same building.

SWALCO received an IEPA Developmental and Operations permit in August 2000 and advertised a construction bid for the facility in September 2000. Tri-State Management Company was awarded the construction project in January 2001. Facility construction began in early 2001 and concluded in fall of 2002.

In February 2001, SWALCO signed an Intergovernmental Agreement with the IEPA. The Agreement provides general operating guidelines, annual funding and names the IEPA as generator of the wastes. This agreement was renewed for another three-year term in March 2004.

The facility was designed and constructed with features that will allow for public drop-off of residential household chemical wastes. However, the Intergovernmental Agreement with the Village of Gurnee as originally drafted prohibits SWALCO from allowing public drop off to take place at the facility. Therefore, SWALCO's program consists of conducting several one-day collection events at locations throughout the county. Chemicals are sorted and transported back to the SWALCO facility for temporary storage prior to being shipped out to IEPA-approved facilities for recycling or disposal.

Since the 1999 Plan Update, a total of thirty-eight collection events have been conducted in Lake County through the end of 2003. Twenty-two of the collection events were conducted under the IEPA Intergovernmental Agreement and used the HCW storage facility in Gurnee. Overall, the thirty-eight collection events served 21,052 households and collected 5,743 barrels of waste.

Table 3-11 provides a summary of the events. During these collection events, SWALCO has distributed HCW information materials to households in Lake County. The materials inform and educate residents on proper disposal methods and storage alternatives for common HCW.

Table 3-11 Summary of HCW Collection Events 1999-2003

Collection Period	No. of Collection Events	Households Served	Waste Collected # 55 gal. Drums
Jan. – Dec. 1999	7	6,071	1,581
Jan. – Dec. 2000	9	6,876	2,104
Jan. – Dec. 2001	7	4,288	1,177
Jan. – Dec. 2002*	8	3,232	872
Jan. – Dec. 2003	14	6,656	1,556

* Facility construction delayed Program startup. Collection events took place from September – December.

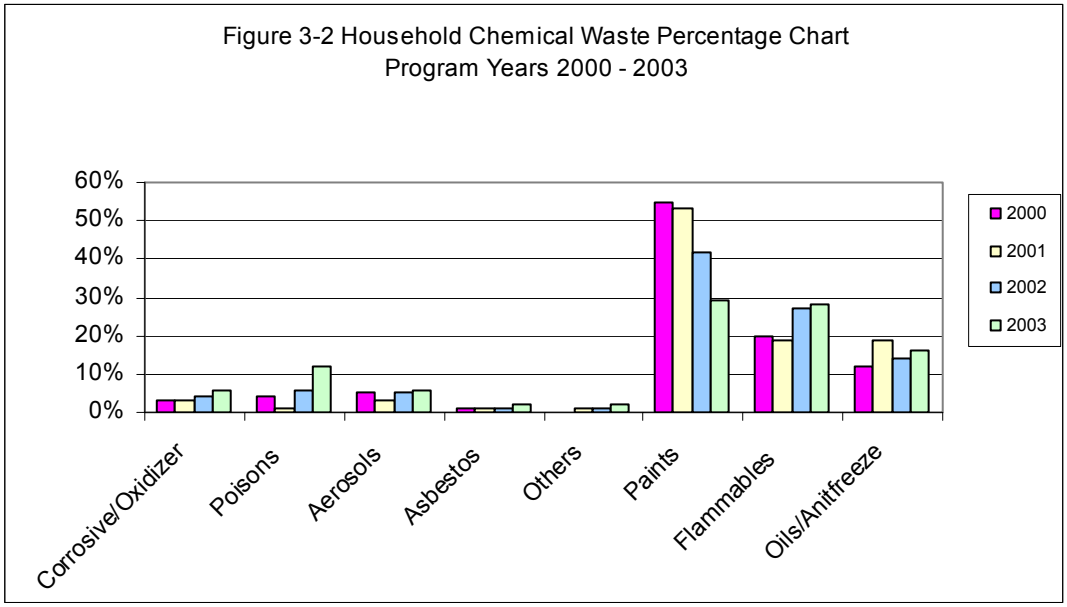
In 2002, the IEPA deemed latex paint as a non-hazardous material and therefore removed it from its list of materials accepted through its Household Hazardous Waste Collection Program. In accordance with the Intergovernmental agreement, SWALCO also implemented the same operational change.

That same year, SWALCO implemented a latex paint solidification program. The program provides residents an alternative disposal method by providing 5 pound bags of crushed corncob for use in solidifying their unwanted latex paint. Once solidified, the latex paint can then be safely disposed of in their municipal trash. This program has become very popular over the past few years. In 2003, approximately 40,000 pounds of were made available/distributed to Lake County residents through municipal facilities and local hardware establishments.

SWALCO also recruits members to join an IEPA sponsored paint recycle/reuse program entitled Partners for Paint. In this program a local business, typically a paint or hardware store, agrees to become a drop-off point for residents to dispose of their unwanted paint. The Partner for Paint member then empties the paint from the cans and resells or donates the paint to charity. Oil based paint and unusable latex paint is disposed of by the IEPA. Larsen & Petersen's Waukegan paint store was a Partner for Paint member from 1997 through 2003 before closing and relocating to Gurnee. A new member, Ela Township Highway Department, was added to the program in the Fall of 2003. SWALCO continues to encourage businesses to participate in this program.

SWALCO is involved with a variety of supplemental programs. For instance, the Village of Lake Zurich and SWALCO cosponsor an oil collection program at the Lake Zurich Public Works facility. Lake Zurich manages the daily operations while SWALCO provides administrative and technical support. Since 1999, this program has collected approximately 30,000 gallons of motor oil. Note this quantity of oil is in addition to the volume of motor oil collected through the HCW program.

Figure 3-2 illustrates the composition of HCW collected at SWALCO events conducted between 2000 and 2003.



3.5.4 2004 Plan Update Recommendations

H.1 Continue operating a permanent Household Chemical Waste Collection Program, and raise or eliminate the financial cap from the IEPA.

H.2 Determine the feasibility of permitting the Household Chemical Waste Storage facility for use as a public drop-off location to supplement one-day collection events.

H.3 Support and expand oil collection and Partner for Paint programs (i.e., Lake Zurich oil collection center, Ela Township Highway Dept. paint program).

H.4 Continue the corncob distribution program (for latex paint solidification) and seek new distribution points to be accompanied by in-store advertising and point-of-purchase displays.

H.5 Explore options and expand programs for used tire management (such as the use of tire chips for road bedding or alternative daily cover at a landfill) and consider the possibility of cosponsoring collections through the IEPA tire collection program.

H.6 Obtain a list of Conditionally Exempt Small Quantity Generators (CESQGs), such as automotive care centers, beauty salons, etc. from the Health Department and investigate options on how to assist them with hazardous materials management.

H.7 Compile a listing of Lake County school districts and assist them, to the extent possible, with their chemical waste disposal needs. Identify environmental contractors and disposal programs such as the IEPA laboratory waste collection program.

H.8 Consider the feasibility and implications of conducting one-day collection events in other northern Illinois counties.

H.9 Explore feasibility of adding additional HCW satellite collection points at existing facilities (e.g. fire stations).

3.6 Landfilling

Landfilling is the preferred method of disposal in the United States with 56 percent of the waste generated being landfilled, 30 percent recycled or composted, and 15 percent incinerated. Although landfilling in Illinois is more predominant accepting approximately 66% of the municipal waste generated, 34% of waste is recycled. In 2002, approximately 57% of Lake County municipal waste was landfilled (approximately 43% was recycled).

3.6.1 1999 Plan Update Recommendations

The original Solid Waste Management Plan for Lake County focused on the development of an SWALCO owned and operated landfill that would serve SWALCO members. However, as noted in the 1999 Plan Update, the development of such a site was determined to be uneconomical and unnecessary. The 1999 Plan Update recommended the contracting of a

private landfill that provides a certain capacity and the development of a separate construction and demolition debris landfill. In order to reduce the dependence on landfilling, SWALCO was encouraged to investigate source reduction, recycling, and composting programs.

Table 3-12 provides the status of the 1999 Plan Update Landfilling Recommendations.

Table 3-12 Status of 1999 Plan Update Landfilling Recommendations

1999 Plan Update No.	Recommendations	Status of Completion (details listed below in 3.7.3)
L.1	Maintain contacts with the sanitary landfills serving Lake County for the provision of a given amount of privately-owned-and-operated landfill disposal capacity, secured by a public contract to deliver waste.	No change.
L.2	Pursue the availability of land for future solid waste disposal needs.	Incomplete; SWALCO pursues land as it becomes available, however purchasing hundreds of acres of land exceeds SWALCO financial capabilities.
L.3	Implement source reduction, reuse, recycling and composting programs to reduce dependence on landfilling.	Successfully completed; activities are underway in a number of different programming areas.
L.4	The design, operation, and monitoring of public or private landfills under contract to SWALCO should, at a minimum, comply with the most current RCRA Subtitle D regulations developed by the U.S. EPA and other regulations subsequently adopted by the State of Illinois.	Successfully completed; SWALCO conducts annual audits of the three landfills under contract. Audits conducted to date have indicated the landfills are typically operating within the limits of these regulations.
L.5	Solid waste facilities should be designed to provide environmentally sound management of releases to the environment.	No change.
L.6	The siting criteria which appear in Section 7.0 of the 1989 Plan should serve as guidelines for establishing areas most suitable for solid waste management facility siting.	No change.
L.7	Although transfer stations are not needed at this time in Lake County to transport waste to SWALCO contracted landfills, the need for transfer stations should be re-evaluated in the future as necessary.	Successfully completed; A transfer station feasibility study for Lake County was completed in 2002.

3.6.2 Status of Current System

The amount of waste generated and disposed of in Lake County landfills between 1997 and 2002 has increased slightly. According to the IEPA Nonhazardous Solid Waste Management and Landfill Capacity 2002 Annual Report, approximately 1,350 tons of waste generated in Lake County were landfilled per calendar day in 1997; compared to approximately 1,364 tons of waste generated in Lake County that were landfilled per calendar day in 2002.

Fifteen years after adoption of the Plan, landfilling continues to be the predominant method of waste disposal in Lake County. Currently, there are two landfills operating in Lake County: Countryside Landfill (CLI) in Grayslake and Onyx Zion Sanitary Landfill in Zion. Neither of these landfills have expanded their available disposal capacity since the 1999 Update.

Most of the waste generated in Lake County is taken to three landfills: Countryside Landfill, Onyx Zion Landfill, or Waste Management's Pheasant Run Recycling & Disposal Facility located in the Town of Bristol, Wisconsin. The export of waste to Wisconsin from Illinois has decreased considerably since 1999. In 1999, Illinois exported approximately 730,000 tons of waste to Pheasant Run Landfill, whereas in 2002, the landfill received approximately 410,000 tons of waste from Illinois. No records are being maintained at Pheasant Run Landfill that document waste quantities from Lake County.

Countryside Landfill is located in unincorporated Lake County, Illinois on a 201-acre parcel of land near the Village of Grayslake. On July 16, 1998, USA Waste Services officially merged with Waste Management (WM). As a result of the merger, some reorganization of waste hauling and waste disposal practices within Lake County occurred. Prior to the merger, waste originating from Waste Management hauling routes in Lake County was typically being taken to Pheasant Run RDF and the Wheeling Township Transfer Station. Currently, this waste has been redirected to CLI because of its closer proximity. However, waste acceptance at CLI has not been significantly affected by this change.

Since the 1999 Plan Update, construction of an off-site gas-to-energy facility was completed and the facility began accepting Countryside Landfill's landfill gas on February 9, 2001. The facility uses six gas fired internal combustion engine driven generator sets to produce 8 megawatts of electricity from landfill gas supplied by CLI. Leachate recirculation is currently not being conducted at Countryside Landfill. In order to conduct leachate recirculation using the existing piping network installed, CLI would need to request a permit modification that includes a construction acceptance report for the leachate recirculation system in place. CLI has expressed interest in operating a leachate recirculation system, although the exact design and operation has not been determined.

Of the total waste received by Countryside Landfill, 82 percent originated in Lake County. As of January 1, 2003, the total remaining volume of the landfill was approximately 9.5 million cubic yards. Assuming the annual rate of waste received remains constant, the remaining operating life is 13.1 years with an expected closure in January 2016.

The Onyx Zion Landfill (previously BFI Zion Landfill) is a general-use landfill permitted to dispose of municipal and non-hazardous special wastes and is located on an approximately 250-acre parcel of land near the Illinois-Wisconsin State Line. On July 30, 1999, Allied Waste Industries, Inc. acquired Browning-Ferris Industries, Inc. and its subsidiaries pursuant to a stock purchase. The U.S. Department of Justice approved the acquisition on the condition that certain assets, including the Zion Landfill Facility, be divested within a short time frame. Therefore, on March 31, 2000, the sale of the Zion Landfill Facility to Superior Zion Landfill, Inc. was completed. That same day, Superior Zion Landfill, Inc. changed its name to Onyx Zion Landfill, Inc. Onyx Zion Landfill has owned the Zion Landfill Facility since that date. Operation of the facility is divided between two companies. Onyx Zion operates the active Site 2 landfill and BFI Waste Systems of North America, a wholly owned subsidiary of Allied Waste, operates the closed Site 1 Phase A landfill and Site 1 Phase B landfill.

Since the 1999 Plan Update, a gas-to-energy plant was constructed at the Onyx Zion Landfill and was placed into operation on June 28, 2002. The facility consists of four gas fired internal combustion engine driven generator sets to produce 5.2 megawatts of electricity. A leachate recirculation system permit modification application was approved by IEPA on July 2, 2002, and leachate recirculation has been initiated at the Onyx Zion Landfill.

Pheasant Run RDF is located in Bristol, Wisconsin and covers approximately 701 acres of land. The landfill was first permitted as a solid waste landfill in 1983 with the development of the South Landfill. The facility consists of a landfill, Yard waste Compost area, Food Waste Compost area, Contaminated Soil Processing Facility, and the Solidification Processing Facility.

Since the 1999 Plan Update, the yard waste composting facility has expanded 10 acres. A horizontal and vertical expansion of the North 80 Disposal Area was approved on March 21, 2000. This expansion extended the existing footprint by 9 acres and provided an additional 2,000,000 cubic yards of airspace. In May 2003, WMWI submitted an initial site report for another vertical expansion of the North 80 landfill, in order to obtain approximately 1,000,000 cubic yards of airspace for an additional 1 to 1.5 years of operating life.

The Northeast Expansion was approved on August 13, 2002. The Northeast Expansion is a non-contiguous expansion of the existing Pheasant Run RDF. This 60-acre expansion provides approximately 7.43 million cubic yards of additional capacity, with an anticipated life expectancy of 5.8 years and an expected closure in 2009. The Northeast Expansion has since been constructed and started accepting waste on July 31, 2003. Pheasant Run Landfill currently has no leachate recirculation. Gas is collected at the Pheasant Run Landfill and is typically directed to an 8.8-megawatt gas recovery facility. The gas recovery facility consists of three power plants which generated a combined 75,644,327 kilowatt-hours of electricity between August 1, 2002 and July 31, 2003.

On a statewide basis, the ratio of landfill capacity to volume of waste disposed of decreased between 1997 and 2001. The IEPA annual report on landfill capacity, "Nonhazardous Solid Waste Management and Landfill Capacity in Illinois: 2002" (annual report), shows a 13:1 ratio of landfill capacity to disposal volumes in 2001. Previous reports indicated a 15:1 ratio in 1997. Based on current trends, it is expected to remain the predominant waste disposal method within Illinois and Lake County for at least the next five years.

3.6.3 Solid Waste Agency Activities

In response to the recommendation given in the 1994 Plan Update, SWALCO initiated disposal contracts with the three landfills serving Lake County; Countryside Landfill, Onyx Zion Landfill, and Pheasant Run Recycling and Disposal Facility. Table 3-13 provides a summary of these agreements.

Table 3-13 SWALCO Landfill Disposal Agreements

Terms of Contract	Countryside Landfill	ONYX Zion Landfill	Pheasant Run RDF
Date of Agreement	June 23, 1994	December 8, 1994	December 5, 1996
Agreement Term	20 Years	20 Years	20 Years
Commencement Date	January 1997	May 1998	January 1997
Total Capacity Guarantee	14 million cubic gate yards	8.5 million cubic gate yards	4.25 million tons[1] (8.5 million GY)
Annual Capacity Guarantee	700,000 cubic gate yards	425,000 cubic gate yards	196,000 TPY (2002 to 2006)[2]

Notes: [1] Pending approval of the North 80 Expansion and the 65 Acre Expansion
[2] Changes to 243,000 TPY (2007 to 2016)

In accordance with these agreements, SWALCO contracted CDM to perform annual audits of the landfills. The audits were conducted in order to review:

- Compliance with state environmental regulations
- Compliance to local siting and operation criteria
- Site hydrogeology/groundwater and leachate monitoring
- Site operations
- Closure and post-closure activities and funding

Overall, it was found that the landfills were generally operating within the limits of their respective permits and agreements.

SWALCO entered into a disposal agreement with CLI on June 23, 1994. The agreement guarantees disposal for Lake County waste at CLI for 20 years from January 1, 1997 (January 2017) based on an annual disposal quantity of 700,000 gate cubic yards (gcy) per year, guaranteeing Lake County a total disposal of 14,000,000 gate cubic yards. Due to the disposal of Lake County waste in excess of the contractually obligated amount between 1998 and May 2003 (1998 – 1,088,128 gcy; 1999 – 1,020,966 gcy; 2000 – 1,257,258 gcy; 2001 – 1,479,219 gcy; 2002 – 1,551,252 gcy; January through May 2003 – 696,290 gcy), the time period of guaranteed disposal has been adjusted. After factoring in additional waste received beyond the guaranteed disposal quantity, CLI must guarantee disposal capacity through October 2011, assuming future annual disposal quantities of 700,000 cubic yards. Therefore, CLI has sufficient disposal capacity to comply with requirements of the disposal agreement between CLI and SWALCO.

This is the first Plan Update for which 20 years of landfill capacity are not guaranteed from the three major landfills that serve the Agency Planning Area. This highlights the need for SWALCO to obtain additional landfill capacity within the next 20 years in order to satisfy projected demand. Additional landfill capacity may be obtained through the expansion or development of landfills in or near Lake County or through the establishment of solid waste transfer stations in order to transport waste to other landfills that are located farther away.

The disposal agreement between SWALCO and CLI was amended on November 20, 1998 to address an overfill condition at the Countryside Landfill. The amendment provided for: 1) Quarterly compliance certification, 2) Review of the design revisions, 3) Reimbursement for all costs incurred in reviewing the issue, 4) Reimbursement for the Annual Audit for two years, and 5) Reimbursement of the Affected Area Compensation Fees for the overfilled waste.

SWALCO entered into a disposal agreement with Onyx Zion Landfill on December 8, 1994. This agreement guaranteed disposal of 8.5 million gate cubic yards (gate yards) of Lake County waste at the Onyx Zion landfill Facility. This capacity agreement provided 8,500,000 gcy of waste disposal at the landfill, for an estimated 20 years, from May 1998 to May 2018. Based on current estimations, Onyx Zion has capacity for waste disposal through February 2011. Based on Lake County waste quantities reported for 2002, Onyx will fulfill its commitment to SWALCO in May 2007.

SWALCO entered into a disposal agreement with Pheasant Run RDF on December 5, 1996. The requirements of the disposal agreement between Waste Management and SWALCO guarantees disposal for Lake County waste through 2001 at Pheasant Run RDF. However, without further expansion, Pheasant Run RDF will not be able to fulfill any agreement extensions with SWALCO (up to 3 additional 5-year terms to 2016). Waste Management of Wisconsin constructed an additional 7.43 million cubic yards capacity in the Northeast Expansion. A Plan of Operation has been approved by WDNR and the Northeast Expansion began accepting waste on July 31, 2003. It will extend the life of the landfill 5.8 years.

3.6.4 2004 Plan Update Recommendations

L.1 Maintain contracts with the sanitary landfills serving Lake County to provide for privately-owned-and-operated landfill disposal capacity.

L.2 Implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.

L.3 The design, operation, and monitoring of public or private landfills under contract to SWALCO should, at a minimum, comply with the most current RCRA Subtitle D regulations and other regulations adopted by the State of Illinois.

L.4 The siting criteria that appear in Section 7.0 of the 1989 Plan should serve as guidelines for selecting areas most suitable for solid waste management facility siting.

L.5 Encourage landfill owners to design and implement landfill technologies such as leachate recirculation systems to extend life expectancy, reduce long term toxicity and conserve resources when possible and environmentally appropriate.

L.6 Acquire additional landfill capacity for Lake County to meet waste disposal needs for a twenty (20) year period.

3.7 Emerging Technologies

3.7.1 1999 Plan Update Recommendations

The 1999 Plan Update recommended that SWALCO monitor and evaluate emerging technologies that appear to be effective on a waste stream which is similar in quantity and composition to SWALCO's waste stream. The status of this recommendation has not changed since the 1999 Plan Update.

3.7.2 Evaluation of Emerging Technologies

One part of the always changing process of planning and implementing a solid waste system is the monitoring of emerging technologies. By continuously monitoring these technologies and assessing their value to Lake County, a new technology may become viable, cost-effective, and save other resources. SWALCO is a member of the Solid Waste Association of North America (SWANA) Applied Research Foundation. This foundation reviews current technologies and practices. As an Applied Research Member, SWALCO can provide input on the research subjects. This year the foundation is examining food waste composting systems. Last year, they examined single stream recycling processing. It is through these associations that SWALCO can obtain research on new and emerging technologies. The following technologies should be considered:

- **Collection:** Collection equipment and alternative collection methods continue to evolve, particularly with respect to integration with recycling technologies. Collection methods to be monitored include single-pass methods in which residential recyclables and MSW are collected in a single stop and in the same truck, single-stream recycling in which all recyclables are collected in a single container but separated from MSW, collection of waste to a materials recovery facility (MRF), and separate collection systems for yard waste, wet wastes (i.e., food, wet papers), and other special wastes (Snow, 2003).
- **Processing:** Processing of recyclables continues to show improvement with respect to equipment efficiency and economics. Composting of selected waste stream components (e.g., wet materials, yard waste, sludge) is becoming more common. Single line MRFs are now able to process commingled recyclables from single pass collection programs, including old newspapers, residential mixed paper, cardboard, plastic containers, glass, steel and aluminum cans, and other recyclables, due to advances in automated processing technology and MRF design. Newer MRFs use equipment such as eddy current separators for nonferrous, automated plastic sorting equipment, and advanced vibratory shaker screens and/or air separation systems to separate fiber from containers. Although some hand sorting for materials such as old newspaper from corrugated cardboard is still required, there is much less manual labor required compared to older MRF designs. (Perez, 2001)
- **Landfill:** New landfilling technologies include landfill mining, aerobic landfills, wet-cell landfills, and landfill gas recovery. Leachate recirculation, a type of wet-cell technology, and landfill gas recovery have become more prominent in the last five years. *Landfill mining* (also known as landfill reclamation) refers to the excavation and processing of previously landfilled materials. An *aerobic landfill* is a landfill in which air is injected

into the waste mass to promote aerobic biodegradation. A *wet-cell landfill* is a landfill in which liquid is injected in a controlled fashion into the waste mass in order to accelerate or enhance biostabilization. *Leachate recirculation* refers to the return of leachate to a lined landfill for reinfiltration into the municipal solid waste. *Landfill gas recovery* generally refers to the collection of gas produced in a landfill for the recovery of energy in the form of electricity.

- **Other technologies and management methods:** Other technologies and programs that demonstrate promise for treating waste streams that are comparable to SWALCO's waste stream in quantity and composition should be monitored and investigated, as appropriate.

Municipal Solid Waste (MSW) composting (co-composting) systems continue to develop in the United States. Bedminster Corporation operates several co-composting projects**.** Co-composting refers to the composting of mixed municipal solid waste with a nutrient source or bulking agent. According to a recent BioCycle survey, a total of 15 full-scale operational MSW co-composting facilities were identified in the United States. Several of the larger co-composting facilities process the following waste quantities in tons per day (TPD):

- Vacaville, California: Averages 225 TPD of organic material, mostly source-separated organics collected at curbside from San Francisco residents
- Sumter County, Florida: Permitted to process 175 TPD of mixed MSW and 75-80 TPD of wet biosolids
- Cobb County, Georgia: Averages 300 TPD of mixed MSW and 100 TPD of wet biosolids
- Sevierville, Tennessee: Averages 240 TPD of MSW and 80 TPD of wet biosolids (Goldstein, 2003)

The largest co-composting facility in North America is in Edmonton, Alberta, Canada. It processes approximately 550 TPD of residential MSW and 70 TPD of dry biosolids.

Many co-composting facilities use the proprietary Bedminster technology, developed and licensed by Bedminster AB, a joint stock public company with headquarters in Stockholm, Sweden. "The core of the [Bedminster] technology is the 'Eweson Digester', a revolving compartmentalized aerobic composter. This device allows continuous throughput of material and accelerates the natural process of biological decomposition. After separating the non-biodegradable and recyclable content, the waste and sewage sludge are fed daily into the composter in a ratio for optimum carbon:nitrogen balance. Temperature and moisture are controlled to encourage a dense microbial population. Within three days the organic materials are broken down. The compost is screened to exclude nonbiodegradable material which is either recycled or used as sanitized landfill. Over the next 4 weeks the compost is matured before final screening and market distribution." (Environmental Waste Technology, 2004) Of the five co-composting facilities mentioned previously, at least four are known to use the Bedminster technology - Sumter County, Florida (1 Eweson digester), Cobb County, Georgia (5 Eweson digesters), Sevierville, Tennessee (4 Eweson digesters), and Edmonton, Canada (7

Eweson digesters). (Stockholm Partnerships for Sustainable Cities, 2004)

The potential use of co-composting for solid waste management in Lake County faces several challenges, including the need to update facilities to be economically competitive with landfilling, and potential odor problems associated with these facilities. SWALCO should continue to monitor this technology for its potential application to Lake County.

SWALCO should continue using the three guidelines that were outlined in the 1989 Plan for evaluating these technologies. These guidelines are: utilize proven technology; minimize emissions; and avoid large economic risks. SWALCO should consider evaluating the technology further if it meets these three basic criteria. The following list represents the types of information that should be gathered when evaluating the feasibility of a particular technology for Lake County:

- **Facility Requirements -** Are facilities required as part of the technology? How many facilities are needed and of what size?
- **Siting -** What are the facility siting requirements? Do suitable sites exist within the County?
- **Economics** -What are the capital, operation, and maintenance costs associated with the technology? What are the probable revenues and life cycle costs? How do these costs compare with those of the current system?
- **Technical Feasibility -** Is the technology proven for an area the size of Lake County, and can it provide reliable long-term management of the targeted waste stream?
- **Ability to Implement -** Can the technology be successfully engineered, is it socially and politically acceptable, and can it be implemented in time to serve its intended purpose?
- **Environmental Impacts -** What are the environmental impacts of the technology on the air, water, and land of Lake County and its surrounding neighbors?
- **Permitting -** What is the relative ease or difficulty in obtaining permits for the technology in Illinois?
- **Safety Issues** - What safety concerns for the worker and general public are associated with the facility and can they be adequately addressed?
- **Health Risk Assessment** - What are the health risks associated with the technology? Is a health risk assessment needed prior to making a feasibility determination?
- **Financing** - How is the technology going to be paid for and can financing be arranged?

3.7.3 2004 Plan Update Recommendations

E.1 Monitor and evaluate emerging technologies that appear to be effective on a waste stream which is similar in quantity and composition to SWALCO's waste stream.

Section 4
Implementation Strategies

4.1 Organization and Administration

The organization and administration of SWALCO has been sufficient to properly execute the solid waste plan throughout the county. Productive relationships exist between SWALCO and the solid waste industry operating in Lake County. These relationships have allowed for the successful implementation of programs by SWALCO and its members. The 2004 Plan Update recommends that the current organization and administration continue.

4.1.1 1999 Plan Update Recommendations

The 1999 Plan Update recommendations involved the continuation of SWALCO's countywide approach to the disposal of waste, recycling, and recovery. SWALCO was encouraged to provide centralized management of the Plan, and continue to recruit new member communities.

Table 4-1 provides the status of the 1999 Plan Update organization and administration recommendations.

Table 4-1 Status of 1999 Plan Update Organization and Administration Recommendations

1999 Plan Update No.	Recommendations	Status of Completion
O.1	Continue the coordinated county wide approach to the management and disposal of all nonhazardous waste generated within the membership of SWALCO, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including industrial waste and construction and demolition debris.	Successfully implemented; the commercial, multi-family and C&D site recycling programs represent a significant portion of SWALCO's program which result in direct services to the members. SWALCO initiated several demonstration programs and now is working with members to adopt requirements for residential new construction recycling.
O.2	The Solid Waste Agency of Lake County should continue providing centralized management of the plan implementation process and other municipalities should continue to be permitted to join SWALCO.	No change.
O.3	SWALCO members should assume responsibility for: (i) adopting recycling ordinances, (ii) adopting the model refuse collection franchise agreement, (iii) providing administrative and operational funding for SWALCO as determined by SWALCO Board of Directors, and (iv) using the waste management and disposal system established by SWALCO.	Implemented; Agency staff provides advice and assistance to members in bidding and selecting franchise refuse collection companies.
O.4	The Board of Directors shall provide for professional staff necessary to undertake all programs to implement the Solid Waste Plan. As programs are altered, it may be necessary to adjust staffing levels to implement program changes.	Over the last several years, several staff members attained or maintained certification in solid waste or related fields.
O.5	Utilize "economic flow control" through the use of market competitive disposal rates to gain indirect control of the waste stream and monitor federal authority to enact legislative flow control	No change.

O.6	Maintain the designation of the Intermediate Processing Facility (IPF) as an official component of SWALCO's waste management system and encourage all members to utilize the IPF for recoverables collected within their municipal boundaries; continue to establish and designate other components of the waste management system.	Consistent with industry practice, the Intermediate Processing Facility will henceforth be referred to as the Materials Recovery Facility (MRF). SWALCO modified their existing agreement with the owner of the MRF to allow for new processing equipment.
O.7	Obtain input from the public in the development of solid waste policies, such as from a citizens advisory group	No change.
O.8	Under the supervision of the Executive Director, apply third level screening criteria to identify candidate sites for the IPF, landfill, and other solid waste facilities; field-investigate candidate sites; and appoint a land acquisition team consisting of a Realtor and legal counsel to pursue purchasing options. All final decisions concerning site selection are the responsibility of SWALCO Board of Directors.	Not applied during this five year period.

4.1.2 2004 Plan Update Recommendations

O.1 Continue the coordinated county wide approach to the management and disposal of all nonhazardous waste generated within the membership of SWALCO, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including industrial waste and construction and demolition debris.

O.2 SWALCO should continue providing centralized management of the plan implementation process and other municipalities should continue to be permitted to join SWALCO.

O.3 SWALCO members should assume responsibility for: (i) adopting recycling ordinances, (ii) adopting the model refuse collection franchise agreement, (iii) providing administrative and operational funding for SWALCO as determined by SWALCO Board of Directors and (iv) using the waste management and disposal system established by SWALCO.

O.4 The Board of Directors shall provide for professional staff necessary to undertake all programs to implement the Solid Waste Plan. As programs are altered, it may be necessary to adjust staffing levels to implement program changes.

O.5 Utilize "economic flow control" through the use of market competitive disposal rates to gain indirect control of the waste stream and monitor federal authority to enact legislative flow control.

O.6 Maintain the use of designated Materials Recovery Facilities (MRFs) as an official component of SWALCO's waste management system and encourage all members to utilize MRFs for recoverables collected within their municipal boundaries; continue to establish and designate other components of the waste management system.

O.7 Obtain input from the public in the development of solid waste policies, such as from a citizens advisory group.

4.2 Finance and Ownership

The finance and ownership section in the 1999 Plan Update was designed to instruct SWALCO on investigating ways to fund a waste disposal or recycling facility in Lake County. Various methods of finance are provided as a plan for SWALCO to pay for its programs and possible facilities. These methods include bonding, county taxes, facility user fees, state grants, state loans, and "economic flow control".

4.2.1 1999 Plan Update Recommendations

The 1999 Plan Update recommendations relating to finance and ownership were very similar to those presented in the Plan. There was little need for change since no waste facility has been constructed. However, based on trends at the time, it was strongly recommended that SWALCO enter into disposal agreements with local landfills. As noted in the 1999 Plan Update, disposal capacity agreements were negotiated with the owners of the three landfills serving Lake County; including Countryside Landfill, Zion Sanitary Landfill, and Pheasant Run RDF. These agreements provide for 20 years of Lake County waste disposal capacity.

Table 4-2 provides the status of the remaining 1999 Plan Update finance and ownership recommendations.

Table 4-2 Status of 1999 Plan Update Finance and Ownership Recommendations

1994 Plan Update No.	Recommendations	Status of Completion
F.1	Monitor operations of the three sanitary landfills currently under agreement with SWALCO for the provision of a given amount of privately-owned-and-operated landfill disposal capacity, secured by public contract to deliver waste. Retain, as a long term option, the public ownership of landfill facilities to meet the disposal needs of Agency members.	Successfully completed; SWALCO conducted audits at each of the three contracted landfills.
F.2	Examine and where determined appropriate, pursue all reasonably available sources of interim and long-term funding for implementing programs and facilities recommended in the Plan Update.	Successfully completed; funding for current project is provided through an intergovernmental agreement with Lake County. This will suffice as long as the local solid waste surcharge tax can be applied.
F.3	Consider establishing different disposal-fee structures for different classes of recycling or disposal service. Consider the use of separate fee structures for disposal of: (i) residential, institutional, commercial and industrial waste; (ii) construction/demolition waste; and (iii) management of yardwaste and brush.	No change.
F.4	Apply to the Illinois Department of Commerce and Community Affairs for grants and loans to be used for capital assistance.	SWALCO provides letters of support to those entities requesting funding through the Illinois Department of Commerce and Economic Opportunity, formerly the Illinois Department of Commerce and Community Affairs. The application for DECO funding must be tempered by the extraordinary amount of oversight required.
F.5	Seek state, federal and private funding to assist in the support of waste information and education programs.	No change.
F.6	Agency members should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.	No change; SWALCO will fund programs to members when approved by the Board.

4.2.2 2004 Plan Update Recommendations

F.1 Monitor operations of the three sanitary landfills currently under agreement with SWALCO for the provision of a given amount of privately-owned-and-operated landfill disposal capacity, secured by public contract to deliver waste. Retain, as a long term option, the public ownership of landfill facilities to meet the disposal needs of Agency members.

F.2 Examine and where determined appropriate, pursue all reasonably available sources of interim and long-term funding for implementing programs and facilities recommended in the Plan Update.

F.3 Apply to the Illinois Department of Commerce and Economic Opportunity Affairs for grants and loans to be used for capital assistance.

F.4 SWALCO members should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.

4.3 Legislative Initiatives

4.3.1 1999 Plan Update Recommendations

The legislative initiatives of SWALCO are in place to make sure laws are encouraged which help rather than hinder SWALCO's implementation of the Plan. The 1999 Plan Update recommended that SWALCO support federal legislation efforts to "grandfather" current interstate waste transport, to revise the Superfund Act to limit municipal liability and to encourage energy development from biomass. The 1999 Plan update recommended that SWALCO support state legislation efforts to oppose changes to the local siting process:

- To reduce the local share of solid waste surcharge funds
- To mandate collection systems for municipalities
- To oppose landfill material bans until a viable alternative source is available
- To encourage energy development from biomass

Also, SWALCO supports State legislation efforts that encourage source reduction through: the implementation of volume based fee pricing, the development of markets for recycled materials and investigation of funding for the implementation of Solid Waste Management Plans.

Table 4-3 provides the status of the 1999 Plan Update legislative initiative recommendations.

Table 4-3 Status of 1999 Plan Update Legislative Initiative Recommendations

1999 Plan Update No.	Recommendations	Status of Completion
I.1	Utilize the SWALCO Legislative Committee to develop the annual Legislative Policy for approval by the Board of Directors. The Agency's legislative efforts should be coordinated with Lake County and other entities.	Ongoing; the legislative policy is developed annually and presented to our state and federal legislators. Simply refer to the Legislative Policy as adopted annually by the Board.

4.3.2 Status of Current System

The SWALCO Board of Directors adopted by-laws which detail how legislative policy is to be developed and implemented. The Board of Directors established a Legislative Committee to develop a legislative policy plan and submit the plan for approval by the Board of Directors. The plan was approved in September which is implemented by the Legislative Committee.

A summary of SWALCO's legislative initiatives as established by the Legislative Committee for the current year can be found on the agency's website (www.swalco.org).

4.3.3 2004 Plan Update Recommendations

I.1 Utilize the SWALCO Legislative Committee to develop the annual Legislative Policy for approval by the Board of Directors. SWALCO's legislative efforts should be coordinated with Lake County and other entities.

4.4 Host Community Benefit Agreement

4.4.1 Status of Current System

Many siting requirements and agreements also include a Host Community Benefit Agreement. A host agreement is used as an incentive and compensates the host community for environmental, infrastructure, and other impacts within its jurisdiction resulting from the development and operation of a new pollution control facility.

Examples of host community benefits for consideration during the siting of a proposed pollution control facility include the following:

- Lump sum or per ton payments to host community (per ton credits may be given to the facility for recyclables recovered from the waste stream).
- Financial support of community departments/organizations (e.g., fire department training programs).
- Financial support of community infrastructure improvements (e.g., construction and maintenance of roadways and public parks).
- Guaranteed waste disposal for SWALCO members at facility.
- Discounted collection/tipping fees for community waste.
- Discounted collection/processing fees for community recyclables.
- Restrictions on facility traffic.
- Indemnification of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability for waste disposed at pollution control facilities.

4.4.2 2004 Plan Update Recommendations

A.1 Any pollution control facility must enter into a Host Community Benefit Agreement with the appropriate units of local government.

Section 5
References

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