An Overview of Carryout Bags in Los Angeles County

A Staff Report to the Los Angeles County Board of Supervisors

August 2007

"To Enrich Lives Through Effective and Caring Service"

COUNTY OF LOS ANGELES

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Preface

Report Mandate

On April 10, 2007, the Los Angeles County Board of Supervisors instructed the Chief Executive Officer to work with the Director of Internal Services and the Director of Public Works to solicit input from environmental protection and grocer organizations to:

- Investigate the issue of polyethylene plastic and paper sack consumption in the County, including the pros and cons of adopting a policy similar to that of San Francisco;
- Inventory and assess the impact of the current campaigns that urge recycling of paper and plastic sacks;
- Investigate the impact an ordinance similar to the one proposed in San Francisco would have on recycling efforts in Los Angeles County, and any unintended consequences of the ordinance; and,
- Report back to the Board with findings and recommendations to reduce grocery and retail sack waste within 90 days.

This report is in response to this Motion. Although the report to the Board of Supervisors was due on July 9, 2007, a memorandum was sent to the Board of Supervisors on July 12, 2007 requesting a 45-day extension to incorporate feedback from interested stakeholders, consumers, industry, and environmental representatives.

Solid Waste Management Responsibilities of the County of Los Angeles

Pursuant to the California Integrated Waste Management Act of 1989 (Assembly Bill 939), the County of Los Angeles undertakes the following solid waste management functions:

Unincorporated County Areas

- Implements source reduction and recycling programs in the unincorporated County areas to comply with the State's 50 percent waste reduction mandate. In 2004, the County was successful in documenting a 53 percent waste diversion rate for the unincorporated County areas.
- Operates seven Garbage Disposal Districts, providing solid waste collection, recycling, and disposal services for over 300,000 residents.
- Implements and administers a franchise solid waste collection system which, once fully implemented, will provide waste collection, recycling, and disposal services to over 700,000 residents, and will fund franchise area outreach programs to enhance recycling and waste reduction operations in unincorporated County areas that formerly operated under an open market system.

Countywide

- Implements a variety of innovative Countywide recycling programs, including: SmartGardening to teach residents about backyard composting and water wise gardening; Waste Tire Amnesty for convenient waste tire recycling; the convenient Environmental Hotline and Environmental Resources Internet Outreach Program; interactive Youth Education/Awareness Programs; and the renowned Household Hazardous/Electronic Waste Management and Used Oil Collection Programs.
- Prepares and administers the Countywide Siting Element, which is a planning document which provides for the County's long-term solid waste management disposal needs.
- Administers the Countywide Integrated Waste Management Summary Plan which describes how all 89 of the jurisdictions Countywide, acting independently and collaboratively, are complying with the State's waste reduction mandate.
- Provides staff for the Los Angeles County Solid Waste Management Task Force (Task Force). The Task Force is comprised of appointees from the League of California Cities, the County Board of Supervisors, the City of Los Angeles, solid waste industries, environmental groups, governmental agencies, and the private sector. The County performs the following Task Force functions:
    - Reviews all major solid waste planning documents prepared by all 89 jurisdictions prior to their submittal to the California Integrated Waste Management Board;
    - Assists the Task Force in determining the levels of needs for solid waste disposal, transfer and processing facilities; and,
    - Facilitates the development of multi-jurisdictional marketing strategies for diverted materials.

Report Organization

The Executive Summary provides an overview of the report; Chapter 1 contains an introduction and description of the report's methodology; Chapter 2 provides the history and overview of plastic carryout bags; Chapter 3 discusses the litter impacts from plastic carryout bags; Chapter 4 includes general ecosystem, environmental and public health issues; Chapter 5 compares types and costs of some reusable bags; Chapter 6 summarizes case studies on plastic carryout bags in other countries and jurisdictions, including a discussion on San Francisco's Ordinance and California's new at-store recycling program; Chapter 7 provides a summary of stakeholder comments; Chapter 8 contains the report's findings and options for the Board of Supervisors to consider.

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EXECUTIVE SUMMARY

Key Findings

- **Plastic carryout bags have been found to significantly contribute to litter and have other negative impacts on marine wildlife and the environment.**

- **Biodegradable carryout bags are not a practical solution to this issue in Los Angeles County because there are no local commercial composting facilities able to process the biodegradable carryout bags at this time.**

- **Reusable bags contribute towards environmental sustainability over plastic and paper carryout bags.**

- **Accelerating the widespread use of reusable bags will diminish plastic bag litter and redirect environmental preservation efforts and resources towards "greener" practices.**

Background

Increasing Environmental Awareness and Recycling Efforts

In 2006, despite achieving a 50 percent Countywide recycling rate (one of the highest in the nation), Los Angeles County still disposed over 12 million tons of trash – this is equivalent to filling the Rose Bowl 34 times. Currently, about 20 percent (7,400 tons per day) of the County's trash is exported for disposal to other counties, including Riverside, Orange, and Ventura Counties. By 2020, this figure could rise to 80 percent due to anticipated population/economic growth and landfill closures, assuming no landfill expansions or alternatives to landfills such as conversion technologies are developed. This means more trash being transported over long distances to other counties, leading to higher trash rates and added traffic congestion and air pollution.

To reduce the environmental impact of solid waste disposal, the County of Los Angeles, in partnership with the 88 cities and the private sector, is aggressively expanding and implementing new source reduction and recycling programs. Such programs are geared towards raising environmental awareness; promoting environmental stewardship; and, promoting sustainable uses of resources.

Figure 1 -- Typical Landfill Activity

Need to Reduce Plastic Bag Litter

Each year, approximately 6 billion plastic carryout bags are consumed in Los Angeles County.[1] This is equivalent to 600 bags per person per year. If tied together, these bags would form a string long enough to reach the moon and back, five times.[2]

Most plastic carryout bags are disposed (less than 5 percent are recycled[3]) due to lack of facilities needed to recycle plastic carryout bags. As a result, approximately 45,000 tons of plastic carryout bags are disposed by residents countywide each year, comprising approximately 0.4 percent of the 12 million tons of solid waste disposed each year.[4]

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[1] California Integrated Waste Management Board, Resolution, Agenda Item 14, June 12, 2007 Board Meeting. Countywide figure is prorated.
[2] http://sse.jpl.nasa.gov/planets/profile.cfm?Object=Moon, May 15, 2007. Assumes each bag is 1 foot wide and distance to moon is 238,855 miles.
[3] California Integrated Waste Management Board, Staff Report, Agenda Item 14, June 12, 2007 Board Meeting.
[4] California Integrated Waste Management Board's 2004 Statewide Characterization Study, Table 7. Countywide figure is prorated.

Although paper carryout bags have a higher recycling rate (21 percent nationally[5]), approximately 117,000 tons of paper carryout bags are disposed by residents countywide each year, comprising approximately 1 percent of the total 12 million tons of solid waste disposed each year.[6] This tonnage is higher than the amount of plastic carryout bags disposed because each paper bag weighs more than a comparable plastic carryout bag.

The indiscriminate littering of plastic carryout bags is an increasing blight problem. Although plastic carryout bags are inexpensive and have other useful qualities, they have a propensity to become litter, thus overshadowing these benefits. Due to their expansive and lightweight characteristics, wind easily carries these bags airborne like parachutes. They end up entangled in brush, tossed around along freeways, and caught on fences. Because it is often white or brightly colored and difficult to collect, plastic carryout bag litter is a greater eyesore and nuisance than other littered materials. For this reason, there is an increasing need to diminish the prevalence of plastic carryout bags to maintain a clean and healthy environment, positively enhance the County's recreational and tourism economy, and improve the quality of life for all residents countywide.

Figure 2 -- Seal Chewing on a Plastic Bag
(Courtesy of the Whale Rescue Team)

[5] US EPA 2005 Characterization of Municipal Solid Waste, Table 4.
[6] California Integrated Waste Management Board's 2004 Statewide Characterization Study, Table 7. Countywide figure is prorated.

Public agencies collectively spend tens of millions of dollars annually on litter prevention, cleanup, and enforcement activities. The litter collected is composed of constituents including plastic carryout bags. Additionally, the cost to local governments in Los Angeles County is expected to dramatically rise over the next few years in order to comply with Federal Clean Water Act. For example, the County of Los Angeles Department of Public Works and the Flood Control District annually spend $18 million per year on, but not limited to, street sweeping, catch basin cleanouts, cleanup programs, and litter prevention and education efforts.

Communities within close proximity to landfills and other solid waste processing facilities are especially impacted as plastic carryout bags escape from trash trucks while traveling or emptying their loads. Although trucks and facilities are required to provide cover and fences, carryout bags manage to escape despite Best Management Practices (BMPs) including using roving patrols to pickup littered bags. Inevitably the cost for cleanup is passed on to residents in the form of higher disposal costs. Despite the efforts of various cleanup activities and thousands of residents who annually volunteer countless hours in beach, roadside (e.g., Adopt-A-Highway programs), park, and neighborhood cleanups, plastic carryout bag litter remains a significant problem.

Figure 3 -- Plastic Carryout Bags Ruin The Otherwise Scenic Landscape Along Columbia Way In Palmdale

Reusable Bags

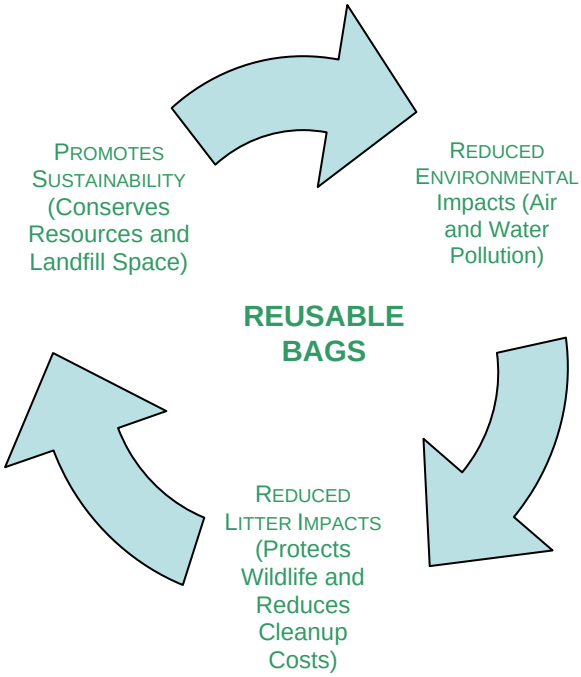
Upon comprehensively evaluating the environmental, ecological, and litter impacts of various types of carryout bags, it is conclusive that the widespread use of reusable bags in lieu of plastic and paper carryout bags would be socially, ecologically and economically beneficial. Facilitating the increased use of reusable bags would conserve energy and natural resources, reduce the total volume of waste disposed in landfills, diminish plastic bag litter, and invite citizens to actively participate in practices that promote a clean and sustainable environment.

Specifically, benefits of widespread use of reusable bags include the following:

- Fewer plastic carryout bags littering neighborhoods.
- Decreased likelihood of plastic bag litter negatively impacting the marine environment (marine wildlife, such as sea turtles and whales, ingest littered plastic carryout bags, which they mistake for food).
- Significant cost savings to taxpayers (e.g., less money spent on litter prevention/cleanup/enforcement resulting from plastic bag litter).
- An environmental cycle motivated by less waste generated, fewer natural resources consumed, reduced energy consumption, and less air and water pollution from manufacturing, transportation, and recycling/disposal processes.
- Grocers' costs for purchasing plastic and paper carryout bags would no longer be passed on to customers.
- Consistent with the intent of Assembly Bill 2449 (Levine, 2006 Statutes) "to encourage the use of reusable bags by consumers and retailers and to reduce the consumption of single-use bags." [7]
- Assists in the development of the emerging "green economy" by spurring the reusable bag industry.

As environmental awareness gains momentum, the timing is optimal for instilling the importance of sustainable practices. One of the most pressing needs now, as landfill capacity become scarce, is to maximize our waste reduction and reuse efforts.

[7] Assembly Bill 2449, Chapter 845, Statutes of 2006.



Biodegradable Carryout Bags

Biodegradable carryout bag usage in Los Angeles County is not practical at this time, due to the lack of commercial composting facilities needed to process the biodegradable carryout bags. The nearest facilities are located in Kern and San Bernardino Counties.[8] Since transporting biodegradable carryout bags to distant commercial composting facilities involves higher services rates, increased traffic congestion and adds to air pollution, it is less ideal in comparison to other alternatives that involve local operations.

Additionally, the use of biodegradable carryout bags would not alleviate the litter problem or potential harm to marine wildlife since they have the same general characteristics of plastic carryout bags (lightweight, persistent in the marine environment, etc.). Furthermore, the presence of biodegradable carryout bags in the recycling stream could potentially jeopardize plastic recycling programs through contamination, and reduce the quality of plastic resins. This contamination could ultimately result in batches of recyclable plastic materials or biodegradable carryout bags being landfilled.

[8] California Integrated Waste Management Board's Solid Waste Information System (SWIS), www.ciwmb.ca.gov/SWIS/Search.asp

State Law and Other Relevant Issues

The majority of plastic carryout bags consumed in the County are distributed at supermarket checkout stands. Because supermarket bags are lighter and thinner than bags used at other retail stores, they have a higher propensity to become litter. To address this and other issues, California adopted Assembly Bill 2449 (Levine, 2006 Statues) in 2006, whose goal was to "encourage the use of reusable bags by consumers and retailers and to reduce the consumption of single-use carryout bags."[9]

AB 2449, which became effective July 1, 2007, requires all large supermarkets and retail stores to make available at-store containers for the collection and recycling of plastic carryout bags, and reusable bags for purchase. Although this requirement may increase the recycling rate of plastic carryout bags (currently at less than 5 percent), no recycling rate benchmarks were established. Moreover, AB 2449 also included a clause which prohibits local governments from imposing a fee on plastic carryout bags or otherwise "interfering" with the at-store plastic bag recycling program.

Since a fee cannot be imposed on plastic carryout bags, another option for local governments to reduce the consumption of plastic carryout bags is to implement a ban. The implementation of such a ban, in conjunction with supplementary measures not pre-empted by AB 2449, are described below.

Alternatives for the Board of Supervisors to Consider

Since plastic carryout bags distributed at supermarkets and other large retail outlets contribute disproportionately to the litter problem, the County plastic bag working group recommends reducing the prevalence of these bags as a first priority. The working group seeks to subsequently investigate measures to reduce the consumption of plastic and paper carryout bags at the remaining retail establishments throughout the County.

Based on the above factors, the following alternatives are presented to the Board for consideration. Supplementary measures are also provided below to further strengthen the main alternatives.

- **ALTERNATIVE 1 – Ban Plastic Carryout Bags at Large Supermarkets and Retail Stores One Year After Adoption of Ordinance**

  To reduce plastic bag litter, request the County's plastic bag working group (consisting of the Chief Executive Office, County Counsel, Internal Services Department, Public Works, and other County departments/agencies as

[9] Assembly Bill 2449, Chapter 845, Statutes of 2006.

appropriate) to draft an ordinance banning plastic carryout bags at large supermarkets and retail stores. All large supermarkets and retail stores voluntarily applying a point of sale fee (e.g., 10¢) on each plastic carryout bag consumed would be exempt from the Ordinance. This exemption would provide more flexibility to affected stores, while providing a mechanism (the consumption fee) with proven effectiveness in reducing overall consumption. The consumption fee is to be retained by the affected store. The Ordinance would also define "large supermarkets and retail stores."

Delay implementation of the ban for one year to allow the working group to work with affected stakeholders, conduct additional outreach efforts and promote awareness of the upcoming ban.

- **ALTERNATIVE 2 – Ban Plastic Carryout Bags At Large Supermarkets And Retail Stores Effective:**
  - **July 1, 2010, If The Bag Disposal Rate Does Not Decrease By A Minimum Of 35%.**
  - **July 1, 2013, If The Bag Disposal Rate Does Not Decrease By A Minimum Of 70%.**

To reduce plastic bag litter, request the County's plastic bag working group to draft an ordinance banning plastic carryout bags at large supermarkets and retail stores. The ban would go into effect automatically, effective:

- July 1, 2010 if the disposal rate of plastic carryout bags does not decrease by a minimum of 35%, using FY 2007-08 as the baseline, by January 1, 2010.
- July 1, 2013 if the disposal rate of plastic carryout bags does not decrease by a minimum of 70%, using FY 2007-08 as the baseline, by January 1, 2013.

All large supermarkets and retail stores voluntarily applying a point of sale fee (e.g., 10¢) on each plastic carryout bag consumed would be exempt from the Ordinance. This exemption would provide more flexibility to affected stores, while providing a mechanism (the consumption fee) with proven effectiveness in reducing overall consumption. The consumption fee is to be retained by the affected store. The Ordinance would also define "large supermarkets and retail stores."

To achieve these goals, the working group shall coordinate with grocers/industry to establish the aforementioned baseline (the difference between total consumption and recycling), reduce the consumption of plastic carryout bags, and increase the recycling rate of plastic carryout bags (within the constraints of Assembly Bill 2449).

The County may accelerate the ban on plastic carryout bags if cities containing a majority of the County's population adopt an ordinance or enter into a Memorandum of Understanding with the County banning plastic carryout bags.

- **ALTERNATIVE 3 – Status Quo**

  Request the County's plastic bag working group to monitor the effects of Assembly Bill 2449 and other related actions.

Supplementary Measures

To complement the alternatives identified above, the working group also recommends implementing all of the following supplementary measures. Each of these measures may be implemented in addition to whichever alternative is selected by the Board:

A. Direct the Department of Public Works, in consultation with the County plastic bag working group, to implement a comprehensive public education campaign, and create partnerships with large supermarkets, retail stores, and elementary schools to promote reusable bags over plastic and paper carryout bags.

B. Direct the plastic bag working group to draft a resolution for Board consideration prohibiting the purchase and use of plastic carryout bags at all County-owned facilities and County offices.

C. Direct the County's plastic bag working group to actively work with the 88 cities in Los Angeles County to implement measures which reduce the consumption of plastic and paper carryout bags.

D. Direct the Department of Public Works, to aggressively pursue grants and other funding opportunities to fund the comprehensive public education campaign as described in Supplementary Measure A above.

E. Direct the Chief Executive Office, Department of Public Works, and the County's Legislative Advocates to work with the State legislature to:

   - Repeal the provision of Assembly Bill 2449 which prohibits local governments from imposing a fee on plastic carryout bags or implementing other at-store recycling measures;
   - Implement either a statewide fee on each plastic bag used with funds directed to local governments on a per-capita basis for litter prevention and cleanup efforts; or implement statewide

benchmarks to reduce the consumption of plastic carryout bags; or implement a statewide ban on plastic carryout bags.

F. Direct the County's plastic bag working group to investigate measures to reduce the consumption of plastic carryout bags at other retail establishments, as well as evaluate paper bag usage throughout the County.

G. Direct Public Works to work with the State, solid waste industry and other stakeholders to develop markets and other programs to reduce plastic bag litter.

H. Direct the County's plastic bag working group to establish a Subcommittee to assist in carrying out the functions of the working group, including tracking the reduction of plastic bag litter to comply with the Federal Clean Water Act.

I. Direct the County's plastic bag working group to provide a semi-annual progress report to the Board describing progress and efforts to reduce the consumption of plastic and paper carryout bags in Los Angeles County.

CHAPTER 1

INTRODUCTION AND METHODOLOGY

Introduction

Description of Motion

On April 10, 2007, the Los Angeles County Board of Supervisors instructed the Chief Executive Officer to work with the Director of Internal Services and the Director of Public Works to solicit input from outside environmental protection and grocer organizations to:

- Investigate the issue of polyethylene plastic and paper sack consumption in the County, including the pros and cons of adopting a policy similar to that of San Francisco;
- Inventory and assess the impact of the current campaigns that urge recycling of paper and plastic sacks;
- Investigate the impact an ordinance similar to the one proposed in San Francisco would have on recycling efforts in Los Angeles County, and any unintended consequences of the ordinance; and,
- Report back to the Board with findings and recommendations to reduce grocery and retail sack waste within 90 days.

This report is in response to this Motion. Although the report to the Board of Supervisors was due on July 9, 2007, a memorandum was sent to the Board of Supervisors on July 12, 2007 requesting a 45-day extension to incorporate feedback from interested stakeholders, consumers, industry, and environmental representatives.

Background on Current Disposal Conditions

Los Angeles County has the most extensive and complex solid waste system in the nation. It covers an area of 4,752 square miles and encompasses 88 cities and 140 unincorporated communities. Home to more than 10.2 million people, Los Angeles County is the most populous county in the nation, having a larger population than 42 states and 162 countries.[10] One in three Californian's live in Los Angeles County. The County's population is expected to increase to

[10] Los Angeles County Economic Development Corporation, Los Angeles County Profile, May 2006.

approximately 11 million people by 2020.[11] If it were a country, Los Angeles County would rank 17th in the world in terms of Gross Domestic Product.[12] This vigorous population growth, coupled with comparable increases in economic activity, will have a major impact on the solid waste management infrastructure in Los Angeles County.

In 1989, the California Legislature passed the California Integrated Waste Management Act (Assembly Bill 939). Assembly Bill 939 requires every city and county to divert 50 percent of solid waste generated from landfill disposal, otherwise face a fine of $10,000 per day. Counties have the added responsibility of managing the residual trash that remains after recycling.

Since 1990, numerous programs have been implemented at the city and County levels, including curbside recycling, construction and demolition waste recycling, and business recycling enhancement programs. In addition, the County has implemented Countywide recycling programs to assist jurisdictions to comply with Assembly Bill 939, such as the Countywide Household Hazardous Waste/Electronic Waste Management Program, the Waste Tire Collection Program, and the SmartGardening Program.

In 2006, despite achieving a 50 percent Countywide recycling rate (one of the highest in the nation), Los Angeles County disposed over 12 million tons of trash – this is equivalent to filling the Rose Bowl 34 times. Currently, about 20 percent (7,400 tons per day) of the County's trash is exported for disposal to other counties, including Riverside, Orange, and Ventura Counties. By 2020, this figure could rise to 80 percent due to anticipated population/economic growth and landfill closures, assuming no landfill expansions or alternatives to landfills such as conversion technologies are developed. This means more trash being transported over long distances to neighboring counties, leading to higher trash rates and added traffic congestion and air pollution.

To reduce the environmental impact of solid waste disposal, the County of Los Angeles, in partnership with the 88 cities and the private sector, is aggressively expanding and implementing new source reduction and recycling programs. Such programs are geared towards raising environmental awareness; promoting environmental stewardship; and, promoting sustainable uses of resources.

Methodology Used

To comprehensively assess the ecological, environmental, and financial impacts of carryout bags on Los Angeles County, published studies from around the

[11] Los Angeles County Economic Development Corporation, L.A. Stats, June 2006.
[12] http://lacounty.info/miscellany.pdf, May 15, 2007.

world were reviewed and analyzed. In addition, surveys of major grocery and retail stores, solid waste facilities, Caltrans, cities, and County departments were conducted to gather information on prevailing recycling, litter, and cleanup methods and costs. Several public and environmental interest groups, industry and manufacturing trade organizations were also consulted regarding plastic carryout bag consumption and management, litter impacts, and cleanup efforts.

CHAPTER 2

OVERVIEW OF PLASTIC CARRYOUT BAGS

Overview

Plastic carryout bags were first introduced into the marketplace in 1975.[13] Since then, plastic carryout bags have become an integral part of our everyday custom because they are convenient, inexpensive, and functional. They are sometimes reused to line trash cans, collect pet waste, and for general storage purposes. Below is a history of plastic carryout bags as well as relevant facts and figures.

Plastic Bag History

1975: Montgomery Ward, Sears, J.C. Penny, Jordan Marsh, and other large retail stores were the first to switch to plastic merchandise bags.[14]

1977: Supermarkets began offering plastic carryout bags.[15]

1996: Four of every five grocery stores use plastic carryout bags.[16]

2002: Ireland introduced the first consumer plastic carryout bag fee (20¢ [U.S.] per bag).[17]

2006: California passed legislation mandating at-store recycling of plastic carryout bags, by all large supermarkets and retail businesses beginning July 1, 2007.[18]

2007: San Francisco becomes the first U.S. city to ban the use of non-biodegradable plastic carryout bags at all large supermarkets and pharmacy chains.

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[13] www.plasticsindustry.org/about/fbf/environment.htm#plasticbaghistory, May 3, 2007.
[14] Ibid.
[15] Ibid.
[16] Ibid.
[17] http://www.environ.ie/en/Environment/Waste/PlasticBags/News/MainBody,3199,en.htm, May 1, 2007.
[18] Assembly Bill 2449, Chapter 845, Statutes of 2006.

Table 1 -- Plastic and Paper Bag Statistics

Item	Statistic
Annual Plastic Bag Consumption Rate	
Worldwide	Between 500 billion and 1 trillion[19]
National	380 billion plastic carryout bags, sacks, wraps per year[20]
California	<20 billion[21]
Countywide	6 billion[22]
Unincorporated County area	600 million[23]
Percentage of Overall Disposal Waste Stream[24]	
Plastic Carryout Bags	0.4 percent by weight
Paper Carryout Bags	1 percent by weight
Annual Rate of Disposal at Landfills[25]	
Plastic Carryout Bags	
California	147,038 tons
Countywide	45,000 tons
Paper Carryout Bags	
California	386,097 tons
Countywide	117,000 tons
Annual Rate of Recycling	
Plastic Carryout Bags	
National	<5 percent[26]
California	<5 percent[27]
Countywide	<5 percent[28]
Paper Carryout Bags	

[19] http://www.epa.gov/oamsrpod/hcsc/0613326/att10.pdf May 2007
[20] http://www.epa.gov/region1/communities/shopbags.html, May 14, 2007.
[21] California Integrated Waste Management Board, Resolution, Agenda Item 14, June 12, 2007 Board Meeting.
[22] Prorated from the State figure.
[23] Ibid.
[24] California Integrated Waste Management Board's 2004 Statewide Characterization Study, Table 7.
[25] California Integrated Waste Management Board's 2004 Statewide Characterization Study, Table 7. Countywide figures are prorated from State figures.
[26] US EPA 2005 Characterization of Municipal Solid Waste, Table 7.
[27] California Integrated Waste Management Board, Staff Report, Agenda Item 14, June 12, 2007 Board Meeting.
[28] Assumed State rate applies to Los Angeles County.

Item	Statistic
National	21 percent[29]
California	21 percent[30]
Countywide	21 percent[31]
Cost to Purchase	
Plastic Carryout Bags	2 – 5 cents each[32]
Paper Carryout Bags	5 – 23 cents each[33]
Biodegradable Carryout Bags	8 – 17 cents each[34]

How Are Plastic Carryout Bags Manufactured?

Plastic resin is created by taking chemical chains called polymers commonly found in petroleum and natural gas processing, and connecting them together using heat and pressure to create plastic resins. The plastic resin is heated in a chamber and pushed through an opening (called a die) by air, which cools the heated plastic, and creates the air pocket of the plastic bag. After the plastic sheet is cooled, it is guided through several rollers to flatten and stretch the film to size the width of the bag. Once properly sized, the final step is to cut the plastic sheet into appropriate size bags.[35]

It is estimated that there are at least nine companies in Southern California, and three companies in Northern California that manufacture plastic carryout bags.[36]

[29] US EPA 2005 Characterization of Municipal Solid Waste, Table 4.
[30] Assumed National rate applies to California.
[31] Assumed National rate applies to Los Angeles County.
[32] www.usplastic.com (May 22, 2007), www.restockit.com (May 22, 2007).
[33] www.mrtakeoutbags.com (May 22, 2007), www.restockit.com (May 22, 2007).
[34] www.ecoproducts.com (May 22, 2007).
[35] www.Plasticresources.org (May 22, 2007).
[36] www.Thomasnet.com (May 22, 2007).

Figure 4 -- Plastic Pellets Used to Make Plastic carryout bags

What Types of Plastic Carryout Bag Are Commonly Used by Supermarkets, Food Establishments and Retail Stores?

Published studies and reports show that there are two main types of plastic carryout bags on the market. The first type of bag is HDPE 2 which is thin, lightweight and found in most grocery stores. The second type of bag is LDPE 4 which is thicker and glossier and found in retail stores. A random survey of major supermarkets, food establishments, and retail stores countywide, and site visits to plastic bag manufacturers confirmed this information.

Figure 5 -- HDPE 2 Plastic Carryout Bag

Figure 6 -- LDPE 4 Plastic Carryout Bag

Table 2 -- Types of Plastic Carryout Bags Used

Store	Type of Plastic Bag Used?
Grocery	
Albertsons	HDPE 2
Food4Less	HDPE 2
Ralphs	HDPE 2
Safeway	HDPE 2
Stater Bros.	HDPE 2
Vons	HDPE 2
Wild Oats	HDPE 2
Retail	
99 Cent Store	HDPE 2
CVS	HDPE 2
Kmart	HDPE 2
RiteAid	HDPE 2
Target	LDPE 4
Walmart	HDPE 2

Do Local Jurisdictions Collect Plastic Carryout Bags at Curbside?

A survey of the 89 jurisdictions in Los Angeles County revealed that 25 cities currently allow their residents to recycle their plastic carryout bags at curbside.

Table 3 -- Curbside Collection of Plastic Carryout Bags

Jurisdiction	Existing Plastic Carryout Bag Recycling at Curbside
Agoura Hills	Yes
Alhambra	No
Arcadia	No
Artesia	Yes
Avalon	No
Azusa	No
Baldwin Park	No
Bell	Yes
Bell Gardens	No
Bellflower	No
Beverly Hills	Yes
Bradbury	No
Burbank	No
Calabasas	Yes
Carson	No
Cerritos	No
Commerce	No
Claremont	No
Compton	No
Covina	Yes
Cudahy	No
Culver City	No
Diamond Bar	No
Downey	No
Duarte	No
El Monte	No
El Segundo	No
Gardena	Yes
Glendale	No
Glendora	Yes

Jurisdiction	Existing Plastic Carryout Bag Recycling at Curbside
Hawaiian Gardens	No
Hawthorne	No
Hermosa Beach	Yes
Hidden Hills	No
Huntington Park	No
Industry	No
Inglewood	No
Irwindale	Yes
La Canada Flintrige	Yes
La Habra Heights	No
La Mirada	No
La Puente	No
La Verne	No
Lakewood	Yes
Lancaster	No
Lawndale	Yes
Lomita	No
Long Beach	No
Los Angeles	Yes
Lynwood	Yes
Malibu	No
Manhattan Beach	No
Maywood	No
Monrovia	Yes
Montebello	No
Monterey Park	Yes
Norwalk	Yes
Palmdale	No
Palos Verdes Estates	No
Paramount	Unknown
Pasadena	No
Pico Rivera	No
Pomona	No
Rancho Palos Verdes	No
Redondo Beach	No
Rolling Hills	No
Rolling Hills	Yes

Jurisdiction	Existing Plastic Carryout Bag Recycling at Curbside
Estates	
Rosemead	No
San Dimas	No
San Fernando	No
San Gabriel	No
San Marino	Yes
Santa Clarita	No
Santa Fe Springs	No
Santa Monica	No
Sierra Madre	Yes
Signal Hill	Yes
South El Monte	Yes
South Gate	No
South Pasadena	Yes
Temple City	No
Torrance	No
Vernon	No
Walnut	No
West Covina	No
West Hollywood	Yes
Westlake Village	No
Whittier	No
Uninc. County	No
TOTAL	**25 responded Yes**

The collected plastic carryout bags are taken to a recycling or materials recovery facility (depending on the jurisdiction's collection system) where they are either sent for disposal, or in some cases sorted, baled, and sold on the open market. The facility's main objective is to maximize diversion of recyclables from the waste stream, while reducing cost and maximizing revenue from those materials targeted for recovery. The most commonly recovered materials include plastic containers, paper, aluminum cans, and cardboard because they are easy to collect, have an available market, and provide the most revenue without specialized sorting machinery. Like most plastics, the majority of plastic carryout bags that are recovered are sold to foreign markets, where anecdotal accounts reveal that the material is converted to plastic resin for remanufacturing or incinerated for energy. Policy makers have begun to take notice of this issue for all commodities, not just plastics, because commodities managed overseas do not meet the same level of standards for environmental protection as in the U.S.

Based on a survey of recycling and materials recovery facilities (and field visits of selected facilities), it was revealed that over 90 percent of the plastic carryout bags taken to these facilities are *not* recycled, but instead taken to landfills for the following reasons:

- Plastic carryout bags usually have a high contamination rate due to reuse as a household trash bin liner or by coming into contact with other contaminants (e.g., pet waste) when placed in the collection bin. As the contamination rate increases, the quality of the plastic resin is reduced.

- Plastic carryout bags interfere with machinery and have a tendency to jam the screens used to separate materials.

- It is not cost efficient to recycle plastic carryout bags due to lack of suitable markets. The domestic market for plastic carryout bags are extremely limited, especially in California, requiring recycling facilities and materials recovery facilities to truck plastic carryout bags over long distances, making the recycling of plastic carryout bags economically unfeasible. Foreign markets have shifted to using local markets due to quality concerns and transportation costs.

Figure 7 -- Typical Waste Stream Traveling Along a Conveyor Belt

Do County Departments Use Plastic Carryout Bags?

Based on a survey of County departments, it was revealed that plastic carryout bags are rarely used (see below).[37]

Table 4 -- Use of Plastic Carryout Bags by County Department

County Department	Use Plastic Carryout Bags?	If Yes, How Much?
Child Support Services	No	N/A
Coroner	No	N/A
Community Development Commission	No	N/A
LACERA	No	N/A
Community Senior Services	Yes	Don't know
Superior Court	No	N/A
Grand Jury	No	N/A
Chief Information Office	No	N/A
Public Defender	No	N/A
Fire Department	No	N/A
Sheriff	Yes	20-30 lbs
Registrar Recorder/County Clerk	No	N/A
Treasurer and Tax Collector	No	N/A
Internal Services	No	N/A
Assessor, Office of	No	N/A
LACMA	No	N/A
Affirmative Action Compliance, Office of	No	N/A
Mental Health	No	N/A
Animal Care and Control	No	N/A
District Attorney's Office	No	N/A
Parks and Recreation	Yes	36700/month
Regional Planning Dept.	No	N/A
Public Health	No	N/A
Health Services	No	N/A
Alternate Public Defender	No	N/A

[37] Of the 56 County Departments, only 25 responded to the survey. The Department of Community Senior Services indicated that they utilize plastic carryout bags to carry food in their food pantry program once a week.

CHAPTER 3

LITTER IMPACT OF PLASTIC CARRYOUT BAGS

Litter Impact

The indiscriminate littering of plastic carryout bags is an increasing blight problem. Although plastic carryout bags are inexpensive and have other useful qualities, they have a propensity to become litter, thus overshadowing these benefits. Due to their expansive and lightweight characteristics, wind easily carries these bags airborne like parachutes. They end up entangled in brush, tossed around along freeways, and caught on fences. Because it is often white or brightly colored and difficult to collect, plastic carryout bag litter is a greater eyesore and nuisance than other littered materials. For this reason, there is an increasing need to diminish the prevalence of plastic carryout bags to maintain a clean and healthy environment, positively enhance the County's recreational and tourism economy, and improve the quality of life for all residents countywide.

Public agencies collectively spend tens of millions of dollars annually on litter prevention, cleanup, and enforcement activities. The litter collected is composed of constituents including plastic carryout bags. Additionally, the cost to local governments in Los Angeles County is expected to dramatically rise over the next few years in order to comply with Federal Clean Water Act. For example, the County of Los Angeles Department of Public Works and the Flood Control District annually spend $18 million per year on, but not limited to, street sweeping, catch basin cleanouts, cleanup programs, and litter prevention and education efforts.

Communities within close proximity to landfills and other solid waste processing facilities are especially impacted as plastic carryout bags escape from trash trucks while traveling or emptying their loads. Although trucks and facilities are required to provide cover and fences, carryout bags manage to escape despite Best Management Practices (BMPs) such as using roving patrols to pickup littered bags. Despite litter control devices (e.g., litter fences), local landfills and solid waste transfer station operators estimate they spend approximately $25,000 and $1,500 per month at each facility, respectively, to send roving patrols to pickup littered plastic carryout bags. Even with these measures, it is very difficult to pick up the errant plastic carryout bags. Inevitably the cost for cleanup is passed on to residents in the form of higher disposal costs. Despite the efforts of various cleanup activities and thousands of residents who annually volunteer countless hours in beach, roadside (e.g., Adopt-A-Highway programs), park, and neighborhood cleanups, plastic carryout bag litter remains a significant problem.

Plastic carryout bags that make their way into the storm drain system impact the system's ability to efficiently channel storm water runoff. The County Department of Parks and Recreation, confers that plastic carryout bags contribute to litter within local lakes, and negatively impacts the environment and wildlife. Furthermore, plastic carryout bag litter inhibits proper landscape maintenance operations as it becomes entangled in the turf mowing machinery.

While the exact percentage of plastic carryout bags in the total litter stream is not definitively quantified, below is a summary of several studies conducted on plastic litter.

Table 5 -- Summary of Litter Studies

	All Plastic Film		Plastic Bags	
	Weight %	Volume %	Weigh %	Volume %
Caltrans Litter Management Pilot Study (1998-2000)	7	12		
Great Los Angeles River Clean Up (4/30/04)		34		
City of Los Angeles Catch Basin Cleaning (6/10/04) (Note, plastic carryout bags listed separately; not included under All Plastic Film)	30	24	25	19
Hamilton Bowl Project-Street Sweeping (2006)	20			
Hamilton Bowl Project-Trash Capture Devices (Feb. 2007)	30			

- Caltrans Litter Management Pilot Study -- The purpose of the study was to investigate the characteristics of litter in freeway stormwater and the effectiveness of BMPs. The study was conducted from 1998 through 2000 on a freeway in the Los Angeles area. Results showed that plastic film, which includes plastic carryout bags, was 7 percent by mass of the litter collected and 12 percent by volume. These percentages do not include moldable plastics, which was a separate category.

- On April 30, 2004, during the Great Los Angeles River Clean Up, organized by the Friends of Los Angeles River, a waste characterization study was conducted. Approximately 60 cubic feet of litter was collected and sorted. Results showed plastic film to be 34 percent of the total litter by volume. This percentage does not include moldable plastics, which was a separate category.

- On June 10, 2004, the City of Los Angeles conducted a waste characterization study. Litter was cleaned from 30 storm drain catch basins and characterized for plastic film and plastic carryout bags separately, among other litter types. The plastic film was found to be 30 percent by weight and 24 percent by volume of the litter. Plastic bags were 25 percent by weight and 19 percent by volume.

- The Hamilton Bowl Trash Reduction Project -- The purpose of the study was to investigate the costs and efficiency of three end-of-pipe and one catch basin structural trash capture systems. The Hamilton Bowl is a 15 acre storm detention basin containing 15 water outfalls in the City of Long Beach.

  The Hamilton Bowl Project characterized trash collected from street sweeping and trash capture systems. In summer 2006, trash from street sweeping from various land uses was collected and sorted. The composition was classified into glass, paper, yard waste, and plastic. Plastic consisted of bags, bottles, jugs and Styrofoam. It ranged from 5 percent of the total trash from open space and commercial land uses to 20 percent from institutional land use.

  Then in December 2006 and February 2007, trash from the Hamilton Bowl's trash capture system was characterized. This trash was sorted and found to consist of up to 30 percent plastics.

Financial Impact

County of Los Angeles' Litter Cleanup/Prevention Costs

The Los Angeles County Department of Public Works, as the lead County agency responsible for implementing litter reduction and education programs, implements a variety of programs to reduce the impact of litter on our communities. This includes litter collection along roadways, channel inverts, street sweeping, emptying public trash containers, catch basin cleanouts, flood control channel cleanups, stormwater pollution prevention activities, capital improvement projects, implementing best management practices, and implementing public education and outreach activities. The County of Los Angeles Department of Public Works and the Flood Control District spends approximately $18 million per year to carryout these responsibilities.

For example, the County sweeps over 81,000 miles of streets on a weekly basis. Street sweeping is an effective means to collect litter before it enters catch basins and the storm drain system, thus reducing possible impacts to the environment.

In addition, in order to maintain the integrity of the County storm drain system and meet the National Pollutant Discharge Elimination System (NPDES) permit

requirements, the Department of Public Works cleans out litter from its 78,000 catch basins and additional city owned catch basins at least once a year. In addition, catch basins which receive considerable litter are cleaned up to three additional times a year. Over 644 tons of litter was removed from County and city catch basins in the 2005-2006 rain year.

Furthermore, Public Works installs and maintains numerous devices to allow for the removal of litter from the storm drain system. They include 1,026 catch basin inserts and 1,826 curb inlet catch basin retractable screens, 61 "full capture" hydrodynamic separators, 4 end-of-pipe screens, and 21 in-stream floating booms or nets.

End-of-Pipe Net at Hamilton Bowl

In-Stream Floating Net

Figures 8 and 9 -- Sample Litter Capture Devices

Caltrans Costs

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, and maintaining the State's highway system. Caltrans District 7, which consists of Los Angeles and Ventura Counties is the second largest of the 12 workforce districts. It is responsible for maintaining 915 freeway and highway miles in Los Angeles County alone. In fiscal year 2005-2006, District 7 collected 50,000 cubic yards of litter and debris at a cost of $12 million, not including the tens of thousands of man hours spent by community service workers collecting litter along the highways.

Zero Trash TMDL

The quality of storm water and urban runoff is fundamentally important to the health of the environment and quality of life in Southern California. Polluted storm

water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during dry and wet weather) are often contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through the storm drain networks directly into the receiving waters of the Region.

A watershed is the land area where water collects and drains onto a lower level property or drains into a river, ocean or other body of water. There are 8 watersheds in Los Angeles County: The Los Angeles River, Sun Valley, San Gabriel River, Ballona Creek, North Santa Monica Bay, Dominguez, Santa Clara River, and Antelope Valley.

The Los Angeles County Flood Control District, the County of Los Angeles, and cities within the County are required to by their National Pollutant Discharge Elimination System (NPDES) permit to prevent discharges into its rivers, lakes, and ocean, *including the above watersheds*. In addition, the Regional Water Quality Control Board recently imposed a total maximum daily load (TMDL) for what can enter these water bodies. Therefore, the County must implement BMPs to meet these TMDL requirements. The County has for years implemented and maintained numerous BMPs to prevent littering and to remove the litter from its right-of-ways and its storm drain system.

Recently, the Regional Water Quality Control Board established a Zero Trash TMDL for the Los Angeles River and Ballona Creek watersheds. These TMDLs require a 10 percent annual reduction of trash entering the water body until zero trash is reached by 2014. These TMDLs not only affect the County of Los Angeles, but also many other agencies. For example, the Ballona Creek Trash TMDL also applies to Caltrans and the cities of Los Angeles, Culver City, Beverly Hills, Santa Monica, West Hollywood, and Inglewood. The Los Angeles River Trash TMDL also affects Caltrans, the City of Los Angeles, and 41 other municipalities within the Los Angeles River watershed. The estimated annual operation and maintenance costs to comply with these requirements for the County of Los Angles and other agencies is expected to exponentially increase in coming years.

Anti-littering Law

State law requires any person convicted for littering to pay the following fine:

- Between $250 and $1,000 (first conviction)
- Between $500 and $1,500 (second conviction)
- Between $750 and $3,000 (third conviction)

The court may require a person to perform 8 hours of community service by picking up litter.[38]

However, this law is difficult to enforce because a law enforcement officer must observe the person in the act of littering. In addition, inadvertent plastic carryout bag litter (which is a significant source) is extremely difficult to enforce because it is not possible to identify and fine the person causing the inadvertent litter.

[38] Section 374.4 of the Penal Code.

CHAPTER 4

ECOSYSTEM, ENVIRONMENTAL AND PUBLIC HEALTH ISSUES

Ecosystem Impacts From Littered Carryout Bags

Plastic Carryout Bags

Although plastic bag litter creates blight, it also has many adverse effects on marine- and land-based wildlife. Due to the County's extensive and diverse watersheds, many of the littered plastic carryout bags find their way into local beaches, and eventually the ocean.

Several studies have reported that up to 90 percent of marine debris is plastic, with plastic carryout bags making up a portion of the litter.[39] It is estimated that over 267 species of wildlife have been affected by plastic bag litter, including birds, whales, turtles and many others.[40]

Although the impacts of plastic carryout bags on the ecosystem are not precisely quantified, several anecdotal reports have documented numerous health impacts on wildlife attributed to plastic carryout bag litter. For example, ingested plastic carryout bags have impacted marine life in the following unintended ways:

- Clogging the throat, thus choking the animal
- Artificially filling the stomach so that the animal cannot consume food, depriving them of nutrients
- Infecting them with harmful toxins that can poison the animal
- Entangling the animal, leading to choking, cuts, and even restricting growth[41]

Whales and large birds often swallow plastic carryout bags inadvertently during feeding, which become permanently lodged in the stomach. Turtles swallow plastic carryout bags, since they resemble their main food source, jellyfish.[42] Similarly, plastic bags can smother plants, restricting growth and destroying the

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[39] www.cawrecycles.org (May 15, 2007), www.plasticdebris.org (May 15, 2007).
[40] http://www.mcsuk.org/mcsaction/pollution/litter (May 15, 2007), http://www.plasticdebris.com/PRDS_Brochure_DOWNLOAD.pdf (May 15, 2007).
[41] www.marinedebris.noaa.gov (May 15, 2007), http://www.plasticdebris.com/PRDS_Brochure_DOWNLOAD.pdf (May 15, 2007).
[42] http://www.seaworld.org/animal-info/Animal-Bytes/animalia/eumetazoa/coelomates/deuterostomes/chordata/craniata/reptilia/testudines/sea-turtles.htm (August 1, 2007)

natural habitats of many different species of marine wildlife.[43] Recent studies indicate that plastic carryout bags also contain many different additives such as PCBs, DDT and nonylphenols and in turn can seep into marine animals that inadvertently ingest them, which endangers their health.[44]

Figure 10 -- Seal Entangled in Plastic Bag
(Courtesy of the Whale Rescue Team)

Plastic carryout bags also affect domestic land animals such as cows, goats, and horses, which occasionally eat plastic carryout bags found on the ground or entangled in brush.[45] Plastic bag litter is found to have similar undesirable health impacts on these animals.[46]

The North Pacific Gyre is an area located roughly 1,000 miles from the California coast line, where several ocean circular currents meet, creating an accumulation of marine debris, especially plastics. Since plastics do not biodegrade, they are often accumulated in the Gyre from multiple northern Pacific Rim countries. The table below summarizes the results from an August 1999 research expedition.

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[43] www.nos.noaa.gov/education/kits/corals/coral09_humanthreats.html (July 1, 2007)
[44] A Brief Analysis of Organic Pollutants Absorbed to Pre and Post Production Plastic Particles from the Los Angeles and San Gabriel River Watersheds, C.J. Moore, G.L Lattin, A.F Zellers, Algalita Marine Research Foundation, Long Beach, CA.
[45] www.Reusablebags.com (May 15, 2007), www.epa.com/jtr/jtrnet/plastic.htm (May 15, 2007).
[46] www.plasticbageconomics.com (May 15, 2007).

Plastic film, which includes plastic carryout bags, makes up approximately 29% of the plastic pieces collected.

Table 6 -- Abundance (pieces/km^2) by type and size of plastic pieces and tar found in the North Pacific gyre

Mesh-size (mm)	Fragments	Styro-foam Pieces	Pellets	PP/Mono-filament	Thin Plastic Films	Tar	Misc./ Unid.	Total
>4.760	1,931	84	36	16,811	5,322	217	350	24,764
4.759-2.800	4,502	121	471	4,839	9,631	97	36	19,696
2.799-1.000	61,187	1,593	12	9,969	40,622	833	72	114,288
0.999-0.710	55,780	591	0	2,933	26,273	278	48	85,903
0.709-0.500	45,196	567	12	1,460	10,572	121	0	57,928
0.499-0.355	26,888	338	0	845	3,222	169	229	31,692
Total	195,484	3,295	531	36,857	95,642	1,714	736	334,270

Paper Carryout Bags

Littered paper carryout bags do not have the same impact on the ecosystem as plastic carryout bags for the following reasons:

- Paper carryout bags are less likely to be littered because they are heavier and less likely to become airborne, as well as have a higher recycling rate (e.g., they are universally collected at curbside and have a recycling rate of 21 percent[47]); and,
- Paper carryout bags will biodegrade in the marine environment, minimizing the negative environmental impacts.

Biodegradable Carryout Bags

Although biodegradable carryout bags will only decompose in a commercial composting facility, no such facilities exist in Los Angeles County. In addition, reports have shown that biodegradable carryout bags can take over five months to partially decompose in marine environments; thus, it is assumed that these biodegradable carryout bags would have similar impacts as regular plastic carryout bags.[48]

[47] US EPA 2005 Characterization of Municipal Solid Waste, Table 4.
[48] The Biodegradation of Mater-Bi Starch-Based Polymer in Freshwater and Sea Water Project Report, December 1996, Dr. Nick McClure, Finders University of South Australia.

Environmental Impacts From Carryout Bags

To comprehensively evaluate the environmental impacts of various carryout bags, published studies were reviewed and analyzed that investigated air quality impacts and energy consumption from different phases of the lifecycle.[49] Although we were unable to locate any current U.S. research publication detailing these impacts, we were able to locate several published studies conducted overseas.[50] Based on our review of these studies, the study prepared in 2002 for the Australian Department of the Environment and Heritage[51] was the most comprehensive and comparable report. The report included a computer model that simulated the life-cycle impacts of various carryout bags. Below is a summary table detailing the environmental findings from this life cycle analysis.[52]

Table 7 -- Australia's Assessment of Alternatives

Type of Carryout Bag	Bags Used per Year	Material Consumed (kg)	Greenhouse Gas Equivalent (CO2) For One Year	Primary Energy Use For One Year (MJ)
Reusable (PP fiber bag)	4.15	0.48	1.96	46.3
Biodegradable (starch based)	520	6.5	6.61	61.3
Single HDPE	520	3.12	6.08	210
Kraft Paper Bag (with handles)	520	22.15	11.8	721
Boutique LDPE	650	11.77	29.8	957

Based on the information above, reusable bags made of polypropylene have the least environmental impact due to the reduced number of bags consumed per year. However, it must be noted that the study may not represent actual conditions in Los Angeles County. For example, the study assumed the following information regarding manufacturing/transportation and disposal:

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[49] Australian Department of the Environment and Heritage Plastic Shopping Bags – Anaylsis of Levies and Environmental Impacts Final Report, prepared by Nolan-ITU, December 2002, page 28.

[50] Australian Department of the Environment and Heritage Plastic Shopping Bags – Anaylsis of Levies and Environmental Impacts Final Report, prepared by Nolan-ITU, December 2002; SOCIO Economic Impact of the Proposed Plastic Bag Regulations by Bentley West Management; and, Environmental Group Research Report: Proposed Plastic Bag Levy – Extended Impact Assessment Volume 1: Main Report 2005.

[51] Plastic Shopping Bags – Analysis of Levies and Environmental Impacts, prepare by Nolan-ITU.

[52] Australian Department of the Environment and Heritage Plastic Shopping Bags – Anaylsis of Levies and Environmental Impacts Final Report, prepared by Nolan-ITU, December 2002, page 36.

Manufacturing/Transportation

- 67% of HDPE plastic carryout bags were imported from South-east Asia
- 66% of LDPE plastic carryout bags were imported from South-east Asia
- 0% of paper carryout bags were imported
- 100% of biodegradable carryout bags were imported from Italy (but made in Australia)
- 0% of reusable bags imported

End-of-Life (Disposal) Assumptions

- 78.5%, 2%, 0.5%, and 19% of HDPE plastic carryout bags were landfilled, recycled, littered, and reused per year
- 80.5%, 0%, 0.5%, and 19% of LDPE plastic carryout bags were landfilled, recycled, littered, and reused per year
- 39.5%, 60%, 0.5%, and 0% of paper carryout bags were landfilled, recycled, littered, and reused per year
- 80.5%, 0%, 0.5%, and 19% of biodegradable carryout bags were landfilled, recycled, littered, and reused per year
- 99.5%, 0%, 0.5%, and 0% of reusable bags were landfilled, recycled, littered, and reused per year

Public Health Impact of Carryout Bags

Most plastic carryout bags carry a voluntary warning label which typically states, "Warning: To Avoid Danger of Suffocation, Keep This Plastic Bag Away From Babies and Children. Please Do Not Use This Bag in Cribs, Beds, Carriages and Playpens."

Despite the above safety warning, according to the United States Consumer Product Commission, the Commission receives "an average of about 25 reports a year [nationwide] describing deaths to children who suffocated due to plastic carryout bags. Almost 90 percent of them were under one year of age. Recent reports often describe bags originally used for dry cleaning or storage. Some may have been used to protect bedding and furniture, and others just were not carefully discarded."[53]

[53] http://www.cpsc.gov/CPSCPUB/PUBS/5064.html, April 30, 2007.

CHAPTER 5

TYPE AND COST OF REUSABLE BAGS

Reusable Bag Types

Reusable bags are a viable option for consumers because they are typically recyclable, lightweight, durable, washable, and can carry three to four times that of a plastic carryout bag. Reusable bags can be purchased from a number of locations, including grocery and retail stores, and internet websites such as www.reusablebags.com and www.earthwise.com. Below is list of common reusable bags.

Table 8 -- Types of Reusable Bags

Type	Store	Avg. Cost	Contents
	**Whole Foods** (Gives 5¢ back for each reusable bag used)	$2.99	Non-woven polypropylene (Plastic #5) 100% recyclable
	**Ralphs** (Gives 5¢ back for each reusable bag used)	$1.50 (50¢ will be donated to environmental groups)	Non-woven polypropylene (Plastic #5) 100% recyclable
	**Vons**	99¢	Non-woven polypropylene (Plastic #5) 100% recyclable
	**Albertsons**	99¢	Non-woven polypropylene (Plastic #5) 100% recyclable

Type	Store	Avg. Cost	Contents
	**Target**	$1.49	Non-woven polypropylene (Plastic #5) 100% recyclable
	**Recycled Products.com**	$5.00	Cotton canvas
	**Etcetera, Etcetera, Etcetera**	$6.00	100% recycled water/soda bottles
	**Papernorplastic.com**	$9.99 (4th free)	600 Denier Polyester backed with Vinyl (similar to school backpacks)
	**Ecobags.com**	$10	100% cotton

Economics of Reusable Bags

Although reusable bags cost between 99¢ and $10 each, the savings to consumers can be significant since grocers/retailers cost for purchasing single use carryout bags is no longer passed along to customers (see table below).

Table 9 -- Cost Comparison of Carryout Bags

Type of Carryout Bag	Annual Consumption Rate	Average Cost Per Bag	Annual Cost To Consumers
Plastic Bag	600	3¢ (ranges between 2 - 5¢)[54]	$18 (in hidden costs)
Paper Bag	300 (consumption rate is unknown, assumed ½ of plastic carryout bags due to size)	10¢ (ranges between 5 - 23¢)[55]	$30 (in hidden costs)
Biodegradable Bag	600	15¢ (ranges between 8 - 17¢)[56]	$90 (in hidden costs)
Whole Food Reusable Bag	1 (assumes avg. consumer will use 3 bags/year and will last 2 years before replacement)	$2.99	$4.50 (direct cost)

[54] www.usplastic.com (May 22, 2007), www.restockit.com (May 22, 2007).
[55] www.mrtakeoutbags.com (May 22, 2007), www.restockit.com (May 22, 2007).
[56] www.ecoproducts.com (May 22, 2007).

CHAPTER 6

CASE STUDIES

City/County of San Francisco

In 2005, the City of San Francisco considered imposing a 17¢ fee on non-biodegradable plastic carryout bags before reaching an agreement with the California Grocers Association. The agreement called for large supermarket stores to voluntarily reduce the number of plastic bags consumed by 10 million in 2006. Although the California Grocers Association claimed that supermarket stores reduced plastic bag consumption by 7.6 million, the City disputed this figure since it was not verifiable. This disagreement led to a renewed interest in banning non-biodegradable plastic carryout bags.[57]

On March 22, 2007, San Francisco adopted an ordinance banning the distribution of ***non-biodegradable*** plastic carryout bags. Effective September 22, 2007, all supermarket stores (generating $2 million or more) must provide their customers one (or a combination) of the following 3 choices:

- Biodegradable carryout bags – the bags must display the words "green cart compostable" and "reusable," and display a solid green line that circles the bag.
- Paper carryout bags -- the bags must display the words "reusable" and "recyclable," cannot contain old-growth fiber, and be made of 40 percent post-consumer recycled content.
- Reusable bags – the bags must be cloth or plastic (greater than 2.25 mils thick) bags.[58]

In addition, effective March 22, 2008, all pharmacy chains (with more than 5 stores located in San Francisco) must also comply with the above requirement. Supermarkets or pharmacies failing to comply with the Ordinance may face civil liabilities of $100, $200, or $500 for the first, second, or third violation, respectively.[59]

According to the Biodegradable Products Institute, San Francisco is promoting the use of biodegradable carryout bags because it has an advanced residential and commercial food scrap diversion program.[60] However, Biodegradable

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[57] San Francisco Chronicle, March 28, 2007, San Francisco First City to Ban Shopping Bags.
[58] Plastic Bag Reduction Ordinance, San Francisco County Board of Supervisors, March 22, 2007.
[59] Ibid.
[60] http://www.bpiworld.org/Files/PressRelease/PRsxdBPP.pdf, May 20, 2007

carryout bags usage in Los Angeles County is not practicable at this time, due to the lack of commercial composting facilities necessary to process the biodegradable carryout bags. The nearest facilities are located in Kern and San Bernardino Counties.[61] Since transporting biodegradable carryout bags to distant commercial composting facilities involves higher service costs, and adds to traffic congestion and air pollution, it is less ideal in comparison to other alternatives that involve local operations.

Additionally, the use of biodegradable carryout bags would not alleviate the litter problem or potential harm to marine wildlife since they have the same general characteristics of plastic carryout bags (lightweight, persistent in the marine environment, etc.). Furthermore, the presence of biodegradable carryout bags in the recycling stream could potentially jeopardize plastic recycling programs through contamination and reduce the quality of plastic resins. This contamination could ultimately result in batches of recyclable plastic materials or biodegradable carryout bags being landfilled.

City of Oakland

On July 17, 2007, the City of Oakland adopted an ordinance banning the distribution of *non-biodegradable* plastic carryout bags. Effective January 17, 2008, all stores (generating $1 million or more), except restaurant and fast food establishments, must provide their customers one (or a combination) of the following 3 choices:

- Compostable or biodegradable carryout bags.
- Paper carryout bags -- the bags cannot contain old-growth fiber, and be made of 40 percent post-consumer recycled content.
- Reusable bags – the bags must be (1) cloth or other machine washable fabric, or (2) made of other durable material suitable for reuse.[62]

Stores failing to comply with the Ordinance will be given a written warning. If a store continues to violate the Ordinance, the owner may face civil liabilities of $100, $200, or $500 for the first, second, or third violation, respectively, following the initial warning[63]

According to City of Oakland's Resolution accompanying the Ordinance, Oakland is banning non-biodegradable plastic carryout bags because:

- Of its negative impacts on the environment and wildlife;

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[61] California Integrated Waste Management Board's Solid Waste Information System (SWIS), www.ciwmb.ca.gov/SWIS/Search.asp
[62] Ordinance Banning Plastic Carry-out Bags, City of Oakland, July 3, 2007.
[63] Ibid.

- o It's consistent with the City's adopted policy to reduce its reliance on oil; and,
- o It's consistent with Assembly Bill 2449 (Levine, 2006 Statutes), which "encourage[s] the use of reusable bags by consumers and retailers and reduce the consumption of single-use bags."[64]

All City sponsored events are also prohibited from distributing non-biodegradable plastic carryout bags effective October 17, 2007.[65]

On August 3, 2007, the "Coalition to Support Plastic Bag Recycling" filed a petition for writ of mandate under the California Environmental Quality Act (CEQA) in Alameda Superior Court. The coalition alleges that Oakland failed to analyze the ordinance's potential environmental impact as required by CEQA.

Other States and Cities Considering Restrictions

Since San Francisco's move to ban ***non-biodegradable*** plastic carryout bags in March 2007, and the Los Angeles County Board of Supervisors request to investigate the feasibility of banning plastic carryout bags in April 2007, a number of U.S. cities and states have also begun investigating similar measures.

State
Alaska
New York

Cities
Annapolis, MD
Austin, TX
Bakersfield, CA [Issue placed on hold]
Baltimore, MD
Berkeley, CA
Boston, MA
Fairfax, CA
Maui, HI
New Haven, CT
Oakland, CA [Banned non-biodegradable plastic carryout bags on July 17, 2007]
Portland, OR
Phoenix, AZ
Santa Cruz, CA
Seattle, WA

[64] Ibid.
[65] Ibid.

Elsewhere

Several countries have restricted the consumption of plastic carryout bags, through bans, taxes, and/or increased public awareness and recycling. Litter, conservation of natural resources, and negative impacts on the marine environment were the primary reasons of this action. Below is a brief description of several actions.

Ireland

Effective 2002, Ireland imposed a fee of 20 cents (U.S.) on each plastic carryout bag consumed.[66] The primary purpose of the tax, commonly known as PlasTax, was to shift public behavior towards greater use of reusable bags, and reduce plastic carryout bag litter which was impacting the Country's coastline and tourism industry. The collected monies are used to fund litter, waste management, and other environmental initiatives.[67]

The Minister for the Environment determined that a consumer fee would be the most effective way to change shopping habits and break consumer reliance on plastic carryout bags. Therefore, a decision was made to impose a fee on consumers.

Prior to the PlasTax, an estimated 1.2 billion plastic carryout bags were consumed annually. Within months of its inception, the consumption rate dropped precipitously – studies found a dramatic reduction from 328 bags used per person per year to 21 (a 95 percent drop).[68]

The use of reusable bags has become widely accepted and consumers now carry reusable bags when they go grocery shopping. Moreover, even people who use reusable bags support the PlasTax model because it allows a 'safety net' in case they do not have their reusable bags at the time of purchase.

To further reduce plastic carryout bag consumption, effective July 1, 2007, Ireland increased the PlasTax to 25 (U.S.) cents per bag.[69]

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[66] www.environ.ie/en/Environment/Waste/PlasticBags/News/MainBody,3199,en.htm, May 1, 2007.
[67] www.environ.ie/en/Environment/Waste/PlasticBags/PublicationsDocuments/FileDownLoad,1386,en.pdf, May 1, 2007.
[68] www.environ.ie/en/Environment/Waste/PlasticBags/News/MainBody,3199,en.htm, May 1, 2007.
[69] http://www.ireland.com/newspaper/breaking/2007/0701/breaking27.htm, July 17, 2007.

Australia

In 2002, it was estimated that Australians were using approximately 6.9 billion plastic carryout bags each year, of which 50 to 80 million bags ended up as litter. In October 2002 the Australian government convened a stakeholder working group consisting of state and local governments, industry, retailers, recyclers, and environmental groups. This stakeholder group established a national voluntary goal to reduce plastic carryout bag litter by 75% and reduce the consumption of HDPE type plastic carryout bags by 50% (by December 31, 2005).[70]

Retailers were categorized in two groups

- Group One retailers (major supermarkets)
- Group Two retailers (all others providing plastic carryout bags)

Since then, a number of initiatives have been implemented, including voluntary at-store recycling of plastic HDPE type carryout bags.

According to a report from the Australia Retailers Association, as of December 31, 2005, **Group One** retailers spent $50 million on public education efforts over two years which resulted in a 45% reduction in the issuance of plastic carryout HDPE bags and a 14 percent in-store recycling rate. The report concluded that "despite these major achievements, the majority of consumers have yet to alter their behavior," and plastic carryout bag "litter remains static over the five year life . . . at around 2% of the total litter stream."[71] This finding is supported by a subsequent report which found "in Australia, voluntary efforts have seen significant reductions in plastic bag consumption; however ***these do not appear to have had a noticeable impact on litter with levels remaining approximately the same***."[72] (emphasis added)

Regarding **Group Two** retailers, "identifying target retailers and activities to gain their attention, and subsequent commitment to act, proved challenging. . ." Thus, it's estimated that Group Two retailers reduced their consumption by only 23%.[73]

Currently, the Australian Retailers Association continues to advocate for more education, and the Australian government continues to examine other options to

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[70] Consultation Regulatory Impact Statement: Investigation of Options to Reduce The Environmental Impact of Plastic Bags, Environment Protection and Heritage Council, January 2007, page 37.
[71] http://www.ephc.gov.au/pdf/Plastic_Bags/ANRA_Report_to_EPHC_Chair_22_May_2006.pdf.
[72] Consultation Regulatory Impact Statement: Investigation of Options to Reduce The Environmental Impact of Plastic Bags, Environment Protection and Heritage Council, January 2007, page 23.
[73] Ibid, page 38.

phase out plastic carryout bags by 2009, including banning them or levying a fee on each plastic carryout bag consumed (similar to Ireland's PlasTax). [74, 75, 76]

South Africa

In 2003, the South African government adopted regulations impacting the manufacture, trade, and commercial distribution of plastic carryout bags in order to combat the plastic carryout bag litter problem. The problem was so pervasive that plastic bag litter was commonly referred to as 'the new national flower.'

Under the new regulations, all plastic carryout bags must now have a minimum thickness of 24 micrometers (microns). In addition, all monies collected from a 3 cent levy are used to fund cleanup efforts, and promote reuse and recycling.[77]

California's New At-Store Recycling Program

To increase the plastic carryout bag recycling rate (currently less than 5 percent), in 2006, California passed Assembly Bill 2449 to "encourage the use of reusable bags by consumers and retailers and to reduce the consumption of single-use carryout bags."[78] Effective July 1, 2007, all large supermarkets and retail businesses (of at least 10,000 square feet with a licensed pharmacy) are required to:

- Establish a plastic carryout bag recycling program at each store;
- Make the recycling bin easily accessible and identifiable to customers;
- Ensure that each plastic carryout bag provided to customers be labeled, "Please Return To A Participating Store For Recycling;" [79]
- Make available reusable bags which are made of cloth, fabric or plastic with a thickness of 2.25 mils or greater. The stores may charge for reusable bags; and,
- Maintain program records for a minimum of three years and make the records available to the California Integrated Waste Management Board or the host jurisdiction.

It is estimated that 7,000 stores statewide are affected.[80] If large supermarkets or manufactures fail to comply, they may face a fine of $500, $1,000, or $2,000 for the first, second, or third violation, respectively.

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[74] http://www.ephc.gov.au/pdf/Plastic_Bags/ANRA_Report_to_EPHC_Chair_22_May_2006.pdf.
[75] Consultation Regulatory Impact Statement: Investigation of Options to Reduce the Environmental Impact of Plastic Bags, Environment Protection and Heritage Council, January 2007, page 70.
[76] The Daily Telegraph - Australia, July 21, 2007, Plastic Bags Ban Rubbished.
[77] http://www.lib.uct.ac.za/govpubs/plasticbags.htm
[78] Assembly Bill 2449, Chapter 845, Statutes of 2006.
[79] Ibid.

Although Assembly Bill 2449 does not establish an at-store recycling rate goal or a consumption reduction goal, on June 12, 2007, the California Integrated Waste Management Board adopted emergency regulations establishing reporting requirements to evaluate the effectiveness of the program.[81]

However, of most interest to local governments is Assembly Bill 2449's preemption clause which prohibits local governments from interfering in the above at-store recycling program, imposing a plastic carryout bag fee on the affected stores, or increasing the above reporting requirements.

While it is unclear where the collected plastic carryout bags are taken for recycling, a few businesses indicated that the bags are taken to their distribution centers and shipped to various recyclers throughout the country.

Assembly Bill 2449 sunsets on January 1, 2013.[82]

Ikea's Self-Imposed Fee On Plastic Carryout Bags

On March 15, 2007, to reduce plastic carryout bag consumption, IKEA became the first major retailer in the United States to voluntarily no longer offer a 'free' plastic bag to customers. Instead, customers are given a choice of purchasing a plastic carryout bag for 5 cents each (all proceeds in the first year would go towards American Forests to plant trees), or purchasing a 'big blue' reusable bag for 59 cents (down from 99 cents).[83] After IKEA introduced a similar program in the United Kingdom last year, IKEA's plastic carryout bag consumption dropped 95 percent.[84]

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[80] California Integrated Waste Management Board, Staff Report, Agenda Item 14, June 12, 2007 Board Meeting.
[81] Ibid.
[82] Assembly Bill 2449, Chapter 845, Statutes of 2006.
[83] http://www.ikea.com/ms/en_US/about_ikea/social_environmental/environment.html, July 17, 2007.
[84] http://www.sltrib.com/ci_6384558, July 17, 2007.

CHAPTER 7

STAKEHOLDER COMMENTS

Industry/Grocer Concerns

While many plastic products play a vital and important role in enhancing our quality of life, recent proposals by local and state governments to ban plastic carryout bags to reduce litter and increase recycling have concerned the plastic and grocer industries. Although these industries acknowledge that plastic carryout bags are a contributor to the litter problem, they believe that plastic carryout bags are unfairly targeted because the problem is not with the plastic carryout bags themselves, but with the lack public education regarding recycling programs. Industries believe that increasing plastic carryout bag recycling programs at stores and at curbside is the key to reducing litter. Industry also believes that a lack of litter prevention programs is the main cause of litter around parks and beaches (e.g., trash cans often don't have lids or are overfilled, causing trash to spill on the ground and plastic carryout bags to be blown away).

In addition, grocers fear a plastic carryout bag ban will result in increased paper bag use, which are heavier, cost more, and ultimately increase the cost to consumers. A rise in cost may also drive consumers to shop at stores not affected by the ban. In addition, grocers fear reusable bags would increase check-out times, thus negatively impacting their business operations. Grocers are quick to point out that many stores already stock reusable bags for consumers to purchase, and that large grocery stores are now required to offer plastic carryout bag recycling stations effective July 1, 2007 as a result of Assembly Bill 2449 (see Chapter 6) – thus, providing consumers more opportunities to recycle and curbing plastic carryout bag litter. Industry believes that with proper public education and promotion, AB 2449 will be successful in reducing the number of plastic carryout bags littered.

Examples of Alternative Products Advocated by Industry

Crown Poly

Crown Poly, a local manufacturer, has created a plastic carryout bag with a reinforced strip on the bottom and reinforced hold handles called the Hippo Sak™.

Because the Hippo Sak™ is slightly larger then the conventional plastic carryout bag, coupled with the aforementioned qualities, it allows consumers to carry more items in each bag and is capable of being reused as a trash can liner.

Although the number of conventional plastic carryout bags consumed may be reduced if the Hippo Sak™ was widely distributed, the litter and environmental impacts associated with conventional plastic carryout bags continue to be applicable to the Hippo Sak™.

DePoly Degradable Solutions

DePoly Degradable Solutions, a company based in England, specializes in making plastic products biodegradable by introducing an additive into the manufacture process. The technology, OXO-degradation, is capable of making plastic carryout bags biodegradable, thus allowing it to breakdown in the natural environment. Because it takes many months for the biodegradable plastic carryout bags to partially degrade in the natural environment, it would not reduce plastic bag litter.

Stripes2Stripes™

Stripes2stripes™ is an emerging company which advocates a system for recycling plastic carryout bags. Under the company's system, plastic carryout bags would have three identifiable diagonal stripes in the lower right-hand corner imprinted with a 1-800 number; consumers would be given a larger plastic bag to store their used Stripes2stripes™ bags; and, when the larger plastic bag is full, consumers would be encouraged to call the 1-800 number or visit the company's website for instructions on where to take their bag for recycling.

Upon evaluating the Stripes2stripes™ program, plastic carryout bag litter would not be reduced since the amount of plastic carryout bags consumed would remain the same; and, the program may contribute to litter since it introduces a larger recycling bag into the marketplace instead of encouraging consumers to store Stripes2stripes™ bags within the same bags.

Consumer and Environmental Groups Perspective

Plastic carryout bags, although convenient, have numerous adverse environmental impacts, including litter and harming marine wildlife. Consumer and environmental groups cited many of the same studies used throughout this report to support their claims.

In addition, these groups also emphasize that local governments should further promote a "reduce, reuse, and recycle" philosophy that educates consumers and businesses on the need to reduce overall plastic carryout bag usage through the use of reusable bags. To discourage the use of plastic carryout bags and curb litter, consumer and environmental groups support a ban or fee on each plastic carryout bag consumed.

List of Contacted Stakeholders

A number of stakeholders were contacted to participate in preparation of this report. Below is a list of those stakeholders.

Table 10 -- Stakeholder List

Organization
1 Bag at a Time
Algalita Marine Research Foundation
Ballona Creek Renaissance
Californians Against Waste
California Coastal Commission
California Grocers Association
California Integrated Waste Management Board
California Restaurant Association
City of Los Angeles (Public Works/Sanitation Department)
Command Packaging
Crown Poly
DePoly Degradable Solutions
Earth Resource Foundation
Ek & Ek, A Lobbyist and Public Advocacy Firm
Environmental Charter High School/Green Ambassadors
Friends of Ballona Wetlands
Keep California Beautiful
Heal the Bay
Los Angeles Audubon Society
Los Angeles Chamber of Commerce
Los Cerritos Wetlands Stewards
Natural Resources Defense Council
Parent Teachers Association Representative
Plastic Recycling Corporation of California
Progressive Bag Alliance
Rose & Kindel/Plastics Association
Santa Monica Baykeepers
Sierra Club, Los Angeles Chapter
Stephen Joseph “Stripes to Stripes”

CHAPTER 8

FINDINGS AND OPTIONS

Key Findings

- **Plastic carryout bags have been found to significantly contribute to litter and have other negative impacts on marine wildlife and the environment.**

- **Biodegradable carryout bags are not a practical solution to this issue in Los Angeles County because there are no local commercial composting facilities able to process the biodegradable carryout bags at this time.**

- **Reusable bags contribute towards environmental sustainability over plastic and paper carryout bags.**

- **Accelerating the widespread use of reusable bags will diminish plastic bag litter and redirect environmental preservation efforts and resources towards "greener" practices.**

Alternatives for the Board of Supervisors to Consider

Since plastic carryout bags distributed at supermarkets and other large retail outlets contribute disproportionately to the litter problem, the County plastic bag working group recommends reducing the prevalence of these bags as a first priority. The working group seeks to subsequently investigate measures to reduce the consumption of plastic and paper carryout bags at the remaining retail establishments throughout the County.

Based on the above factors, the following alternatives are presented to the Board for consideration. Supplementary measures are also provided below to further strengthen the main alternatives.

- **ALTERNATIVE 1 – Ban Plastic Carryout Bags at Large Supermarkets and Retail Stores One Year After Adoption of Ordinance**

  To reduce plastic bag litter, request the County's plastic bag working group (consisting of the Chief Executive Office, County Counsel, Internal Services Department, Public Works, and other County departments/agencies as appropriate) to draft an ordinance banning plastic carryout bags at large supermarkets and retail stores. All large supermarkets and retail stores

voluntarily applying a point of sale fee (e.g., 10¢) on each plastic carryout bag consumed would be exempt from the Ordinance. This exemption would provide more flexibility to affected stores, while providing a mechanism (the consumption fee) with proven effectiveness in reducing overall consumption. The consumption fee is to be retained by the affected store. The Ordinance would also define "large supermarkets and retail stores."

Delay implementation of the ban for one year to allow the working group to work with affected stakeholders, conduct additional outreach efforts and promote awareness of the upcoming ban.

- **ALTERNATIVE 2 – Ban Plastic Carryout Bags At Large Supermarkets And Retail Stores Effective:**
  - **July 1, 2010, If The Bag Disposal Rate Does Not Decrease By A Minimum Of 35%.**
  - **July 1, 2013, If The Bag Disposal Rate Does Not Decrease By A Minimum Of 70%.**

To reduce plastic bag litter, request the County's plastic bag working group to draft an ordinance banning plastic carryout bags at large supermarkets and retail stores. The ban would go into effect automatically, effective:

- July 1, 2010 if the disposal rate of plastic carryout bags does not decrease by a minimum of 35%, using FY 2007-08 as the baseline, by January 1, 2010.
- July 1, 2013 if the disposal rate of plastic carryout bags does not decrease by a minimum of 70%, using FY 2007-08 as the baseline, by January 1, 2013.

All large supermarkets and retail stores voluntarily applying a point of sale fee (e.g., 10¢) on each plastic carryout bag consumed would be exempt from the Ordinance. This exemption would provide more flexibility to affected stores, while providing a mechanism (the consumption fee) with proven effectiveness in reducing overall consumption. The consumption fee is to be retained by the affected store. The Ordinance would also define "large supermarkets and retail stores."

To achieve these goals, the working group shall coordinate with grocers/industry to establish the aforementioned baseline (the difference between total consumption and recycling), reduce the consumption of plastic carryout bags, and increase the recycling rate of plastic carryout bags (within the constraints of Assembly Bill 2449).

The County may accelerate the ban on plastic carryout bags if cities containing a majority of the County's population adopt an ordinance or enter

into a Memorandum of Understanding with the County banning plastic carryout bags.

- **ALTERNATIVE 3 – Status Quo**

  Request the County's plastic bag working group to monitor the effects of Assembly Bill 2449 and other related actions.

Supplementary Measures

To complement the alternatives identified above, the working group also recommends implementing all of the following supplementary measures. Each of these measures may be implemented in addition to whichever alternative is selected by the Board:

A. Direct the Department of Public Works, in consultation with the County plastic bag working group, to implement a comprehensive public education campaign, and create partnerships with large supermarkets, retail stores, and elementary schools to promote reusable bags over plastic and paper carryout bags.

B. Direct the plastic bag working group to draft a resolution for Board consideration prohibiting the purchase and use of plastic carryout bags at all County-owned facilities and County offices.

C. Direct the County's plastic bag working group to actively work with the 88 cities in Los Angeles County to implement measures which reduce the consumption of plastic and paper carryout bags.

D. Direct the Department of Public Works, to aggressively pursue grants and other funding opportunities to fund the comprehensive public education campaign as described in Supplementary Measure A above.

E. Direct the Chief Executive Office, Department of Public Works, and the County's Legislative Advocates to work with the State legislature to:

   - Repeal the provision of Assembly Bill 2449 which prohibits local governments from imposing a fee on plastic carryout bags or implementing other at-store recycling measures;
   - Implement either a statewide fee on each plastic bag used with funds directed to local governments on a per-capita basis for litter prevention and cleanup efforts; or implement statewide benchmarks to reduce the consumption of plastic carryout bags; or implement a statewide ban on plastic carryout bags.

F. Direct the County's plastic bag working group to investigate measures to reduce the consumption of plastic carryout bags at other retail establishments, as well as evaluate paper bag usage throughout the County.

G. Direct Public Works to work with the State, solid waste industry and other stakeholders to develop markets and other programs to reduce plastic bag litter.

H. Direct the County's plastic bag working group to establish a Subcommittee to assist in carrying out the functions of the working group, including tracking the reduction of plastic bag litter to comply with the Federal Clean Water Act.

I. Direct the County's plastic bag working group to provide a semi-annual progress report to the Board describing progress and efforts to reduce the consumption of plastic and paper carryout bags in Los Angeles County.