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# *Plastic Trash Bag Program*

*Report to the Legislature*

*September 27, 2004*



*Zero Waste—You Make It Happen!*

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For additional copies of this publication, contact:

Integrated Waste Management Board  
Public Affairs Office, Publications Clearinghouse (MS-6)  
1001 I Street  
P.O. Box 4025  
Sacramento, CA 95812-4025  
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## Executive Summary

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The Plastic Trash Bag law requires manufacturers of *regulated (thickness of 0.7 mil or greater)* plastic trash bags to annually certify to the California Integrated Waste Management Board (Board) that either: (1) their regulated trash bags were manufactured with 10 percent or more postconsumer material; (2) used 30 percent postconsumer material in all of their plastic products not subject to compliance with the Rigid Plastic Packaging Container or other minimum-content law; or (3) demonstrate that there was an insufficient quality and/or quantity of postconsumer materials to satisfy the 10 or 30 percent standards.

California businesses and residents dispose of approximately 1.5 million tons of film plastic products in landfills each year. Through implementing California's Plastic Trash Bag Law, the Board has had some success in increasing the amount of recycled material being collected and returned to the economy in the form of products using postconsumer material. Since the law became effective in 1993 the amount of recycled plastic used in trash bags sold in California has increased fourfold, and nearly 5,000 tons of film plastic is being diverted from California's landfills each year. This has created business opportunities for a number of California recycled material collectors and postconsumer material suppliers. In summary, since the program's inception in 1993 about 80,000 tons of film plastic has been diverted from landfills through use in recycled content plastic trash bags.

In regard to the 2003 certification, while only two of the approximately 35 manufacturers of regulated trash bags failed to demonstrate compliance with the law, nearly 50 percent of the trash bags sold in California fail to meet the 10 percent postconsumer material standard. On average, the regulated trash bags sold in 2003 contained 8 percent recycled material.

Public Resources Code section 42297 prohibits non-compliant manufacturers, wholesalers or material suppliers from contracting with any agency of the State of California. The Department of General Services utilizes the Board's published list to confirm that a wholesaler or manufacturer is eligible for award of a contract by the State. The Board has listed seven manufacturers and four wholesalers as non-compliant for the 2003 reporting period on its web site.

This legislative report updates the Board's 2001 Report to the Legislature (Report) that was adopted by the Board. The 2001 Report was not submitted to the Legislature pending the completion of and recommendations stemming from the Board's *Plastics White Paper* (<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1010>). In addition, the update Report also includes data from the 2003 certifications of manufacturers and wholesalers, as well as the consideration of recommendations from the *Plastics White Paper*.

Specifically, the Board's 2003 *Plastics White Paper* recommended a more comprehensive approach be developed to implement systems that optimize plastics source reduction and recycling. This would require comprehensive approaches that reflect product stewardship/shared responsibility principles and equitable spreading of economic and environmental costs/impacts between all affected parties. The *Plastics White Paper* also recommended that the State should promote the use of plastic products and technologies, such as biodegradable plastic products and conversion processes, that minimize adverse environmental impacts associated with discarded plastics.

The recommendations in this report propose a more comprehensive approach to divert plastic film from California's landfills..

## Summary of Findings

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### ***A Comprehensive Approach to Film Plastic Products***

- California disposes of approximately 1.5 million tons of film plastics in landfills each year. This is about 4 percent by weight of municipal solid waste, but about 8 to 10 percent by volume of landfill space.
- Only about 20,000 tons of film plastics are recycled.
- The *Plastics White Paper* concluded that California needs a comprehensive program to manage the life-cycle benefits and impacts of film plastic use, disposal and re-use/recycling.
- Most plastic products contain no recycled material.

### ***Trash Bags Shipped/Sold Into California:***

- More than 4.5 billion trash bags are sold in California each year. Slightly less than one-half of these are “regulated trash bags” subject to the recycled content requirement.
- The 2.2 billion regulated bags contain 8,400 tons of postconsumer plastic material including nearly 5,000 tons that is diverted from California landfills.
- Approximately one-half of all manufacturers of regulated trash bags and suppliers of recycled plastic for trash bags are located in California.
- Fifty-seven percent of the 8,400 tons of recycled plastic used in California trash bags comes from California suppliers.
- More than 90 percent of regulated bags are between 0.70 and 2.0 mils in thickness.
- More than 50 percent of all trash bags sold in California are non-regulated bags and are not subject to the minimum-content requirement.

### ***Trash Bag Manufacturers: Number, Size, Compliance:***

- Only four of the ten largest manufacturers met the minimum-content requirement. Three other manufacturers were granted exemptions from the postconsumer use standard due to lack of available material,
- The ten largest manufacturers account for more than 85 percent of all regulated trash bags sold in California.
- Eighty-two wholesalers submitted certifications demonstrating compliance with the reporting requirement of the law.

### ***Trash Bag Wholesalers: Number, Size, Compliance:***

- The wholesalers reported selling less than 1.6 billion regulated trash bags in 2003 with a total weight of 47,000 tons. These totals are about 75 percent of the amount that the manufacturers report.
- The ten largest wholesalers account for about 85 percent of all trash bags distributed by wholesalers.

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- Sixty-eight wholesalers distributed trash bags produced by non-compliant manufacturers. Seven wholesalers only sold trash bags that were made by non-compliant manufacturers. Just three of the 20 largest wholesalers, only sold trash bags made by manufacturers who met the 10 percent postconsumer material requirement.

### ***Postconsumer Resin Suppliers:***

- The supply of postconsumer material both in California and nationally has declined since 2000.
- Only thirty percent of the postconsumer material suppliers listed in the 2001 report provided such material to manufacturer trash bags in 2003.
- The credit manufacturers receive for use of California-based recycled material appears to have increased the recovery of film plastic in California. Three manufacturers needed the credit to demonstrate compliance.

### ***Enforcement Issues:***

- The penalty provisions of the law are ineffective and allow wholesalers to sell non-compliant trash bags to state agencies.
- There is no funding mechanism provided by the trash bag law to enforce the audit provisions of the law.
- Ensuring compliance by foreign manufacturers with the existing trash bag law is infeasible.
- Biodegradable plastic bags and other film products may offer significant environmental benefits for California in regard to landfill diversion through food scrap, agricultural residue and yard trimming composting.

### ***Analyzing the Law's Effectiveness:***

The intent of the plastic trash bag law was to encourage the diversion of film plastics from California landfills by establishing a market for the diverted material in the manufacture of trash bags. The Board's enforcement of the law has resulted in the use of recycled, postconsumer resin in plastic trash bags sold in California, which has increased four-fold since the 1993. There is no evidence that manufacturers would have used recycled plastic in their trash bags without the minimum-content requirement in law. The law, therefore, created a demand for recycled plastic that has grown from about 2,000 tons per year to over 8,000 tons per year. This is plastic that would otherwise have been disposed in landfills.

Many film plastic products do not impose the technical challenge to manufacturers that trash bags do. For example, there are fewer seams, per square foot, and closure devices such as draw strings to make. Agricultural and construction film tend to be much thicker (greater than 2 mils) than trash bags which allows for the use of more postconsumer material. Producing quality postconsumer material (PCM) appropriate for use in film applications, however, will require investment in collection and processing infrastructure.

Film plastic products constitutes between 4 and 5 percent by weight of the municipal solid waste disposed of in California. By expanding the certification requirement to other film products a significant incentive would be created for the recovery and recycling more postconsumer material. The increased requirements should help develop a sustainable recycling industry for all types of film plastics.

Many of the material suppliers/recyclers are not sustainable businesses. Only 6 of the suppliers listed in the 2001 Report are listed in Appendix B of this Report. The businesses tend to lack adequate financial resources to purchase the cleaning, processing and testing equipment that is necessary to produce material that can be used in trash bags or other film products. By providing grants and low-interest loans the Board could foster the development of a sustainable plastic recycling infrastructure.

The grant or loan programs could be funded through a modest fee on film products. The amount of funding available will depend upon the plastic film products included under the revised law, and how the fee is levied. Board staff estimate that revenues would be in the several million of dollars. Changing the postconsumer material exemption from an annual process to a no more than three times with a five year period would create a real economic incentive for manufacturers to secure the material to make compliant film products. An exemption should provide a manufacturer with short-term relief for dynamic changes in market conditions and encourage the company to move toward compliance. The added incentive should also result in a more sustainable material supply market. The imposition of a penalty fee for non-compliance would also create an economic incentive.

Specific recommendations are outlined on page 13.

## **Purpose and Scope**

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The CIWMB was required by PRC section 42293(b) to survey plastic trash bag manufacturers and report to the Legislature in October 2001. This report updates the 2001 report by specifically addressing the questions posed to the Board for the 2001 report and updating with the latest information from the manufacturer and wholesaler certifications for the 2003 reporting period. This report also recommends implementation of a more comprehensive solution to film plastic recycling as recommended in the Plastics White Paper.

## **Introduction**

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The California Integrated Waste Management Act of 1989 (AB 939, Sher, Chapter 1095, Statutes of 1989, as amended) requires local jurisdictions and the CIWMB to cooperatively reduce the amount of solid waste disposed in landfills by promoting the reduction, recycling, and reuse of solid waste.

The plastic trash bag program was enacted in 1993 by Senate Bill (SB) 951 (Hart, Chapter 1076, Statutes of 1993), and is codified in Public Resources Code section 42290 et seq. The regulations implementing this program are found in Title 14 of California Code of Regulations (CCR) sections 17975 et seq. This law required all trash bags 0.75 mil or greater in thickness to use 30 percent recycled-plastic, postconsumer material.

Senate Bill 698 (Rainey, Chapter 44, Statutes of 1998) was signed into law on May 22, 1998, and amended certain provisions of SB 951. The 30 percent recycled-content requirement for trash bags was eliminated and replaced with three compliance options for manufacturers of trash bags 0.70 mil and greater in thickness. These three options are:

1. Ensuring that plastic trash bags contain a quantity of recycled postconsumer material equal to at least 10 percent of the weight of the regulated bags; or
2. Ensuring that at least 30 percent of the weight of material used in all of a manufacturer's plastic products intended for sale in California is recycled postconsumer material; or

3. Demonstrate that the manufacturer could not obtain postconsumer material meeting certain quantity and quality standards.

The plastic trash bag law also requires plastic trash bag manufacturers to submit, no later than March 1 of each year, a certification to the Board of their compliance with the postconsumer content requirement, for those trash bags that are intended for sale in California. Wholesalers are required to submit annual certifications identifying the manufacturer(s) they purchased trash bags from and the amount distributed in California.

Public Resources Code (PRC) section 42290 *et seq* and accompanying regulations require all manufacturers and wholesalers of plastic trash bags sold in California to annually submit a certification to the California Integrated Waste Management Board (Board).

## **2001 Report to the Legislature: Discussion of Changes**

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The 2001 Report to the Legislature concluded that the trash bag program had been successful in increasing the amount of postconsumer film plastic being recycled into trash bags sold in California. The report recommended that Board work with the Department of General Services to develop a list of approved trash bag brands for purchase by state agencies and that the certification program be replaced with a more comprehensive program for film plastic products. This recommendation was based on technological improvements in trash bag and other film plastic production that would allow for increased use of postconsumer material without sacrificing product performance and quality. The Board's *Plastics White Paper* was expected to develop a consensus among the industry, environmental and governmental stakeholders on type of products that would be subject to a postconsumer resin.

The *Plastics White Paper* recommended that the State of California develop management systems to optimize plastics use, recycling and disposal. This would require comprehensive approaches that reflect product stewardship/shared responsibility principles and equitable spreading of economic and environmental costs/impacts between all affected parties. The Board recommends that the more comprehensive program include expanded certification requirements for a wider range of plastic film products.

Reasonable recycling targets need to be established that promote technological innovations in recycling. The State should promote the use of plastics, such as biodegradable plastic products, that minimize environmental impacts.

The *Plastics White Paper* specifically concluded that the trash bag law as written is not reflective of plastics use, manufacturing technology and material supply in 2004 despite the four-fold increase in amount of postconsumer film plastics being recovered.

Public Resources Code section 42293 (b) directed the Board to survey trash bag manufacturers to answer the following questions as part of the Board's Report:

- The names and locations of suppliers certified by manufacturers.
- The quantities of recycled plastic postconsumer material provided by California suppliers and the suppliers outside of the state.
- Provide recommendations regarding recycled plastic postconsumer material content requirements based on the availability of that material.

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- Identify gauge thickness of all regulated bags.
- Determine the extent of manufacturers producing separate trash bags lines for California.

The 2001 Report provided answers to those questions and this report updates that information with data from the 2003 reporting period.

A workshop was held in January 2002 to receive stakeholder input on technical constraints with using recycled material in trash bags and quantity and quality of postconsumer materials being supplied to the manufacturers. The manufacturers stated the raising the certification requirement above 10 percent would require the manufacturers to make thicker bags. The industry trend is toward of thinner and thinner bags. Several manufacturers stated that they were already making different bags for the eastern states than from those being marketed in California. The thicker bags would result in an increase in the amount of plastic being used in trash bags. Increasing the amount of plastic used would be counter to the intent of the law. The manufacturers also expressed concerns about the supply of recycled material. They felt that while material was available the quality made it difficult to incorporate into trash bags. Plastic lumber and other products can use this contaminated material much more easily than trash bags.

In October 2003, Board staff conducted another workshop on trash bag manufacturing and recycled material supply constraints. Several of the major manufacturers had requested a compliance exemption due to their inability to acquire sufficient postconsumer material. The manufacturers asserted that there was both a lack of recycled material and that the available material was of such poor quality that it was impossible to manufacture bags that consumers would actually purchase. A significant volume of the material being was being diverted from disposal and recycled was going to both composite lumber and similar products, or was being exported to Asian markets. Following the workshop, one national manufacturer modified its recycled material purchasing specifications and practices; a couple of other manufacturers entered into long-term arrangements with suppliers.

The *Plastics White Paper* and the Trash Bag reports have included significant public and stakeholder input in the development of the reports and their recommendations.

### **Update of 2001 Report**

The 2001 Report to the Legislature specifically addressed the areas listed below. This information has now been updated based on the results from the last three year's trash bag certifications.

#### 1. Location of Postconsumer Material Suppliers

The trash bag manufacturers identified 23 companies that supplied them with recycled material during 2003. About half of the suppliers are located in California. All but two of the twelve is located in Southern California. The other two are located in the Bay Area. Ten of the suppliers are located in other states. Four of the out-of-state suppliers are located in the south; four conduct business from the Midwest; two are located in the West.

#### 2. Supply of Postconsumer Material

Almost 57 percent of the 8,400 tons of postconsumer material used in California plastic trash bags comes from suppliers located in California. The largest single supplier is located in the south and provided nearly 30 percent of the total supply. A larger portion of the material is coming from the south and mid-continent areas. The 2001 report indicated a significant amount from the east coast states and Canada.

3. Thickness of Regulated Bags

A “regulated bag” is a plastic trash bag of 0.70 mil or greater in thickness. The Board’s 2000 survey found that more than 90 percent of all regulated trash bags are between 0.70 and 2.0 mil in thickness. Manufacturers while confirming that 90 percent of the regulated bags are between 0.70 and 2.0 mils, a growing percentage of bags are under 1.0 mil in thickness. Further, the number of trash bags less than 0.70 mils appears to be increasing.

4. Production of California-specific Trash Bags

Most of the manufacturers have reported that they do not have separate production lines or products for California. The 2001 report found that less than ten percent of the bags were produced only for the California market.

5. Availability of Postconsumer Material

In aggregate there appears to be a sufficient amount of recycled postconsumer material to allow virtually all manufacturers to meet the 10 percent requirement for all regulated trash bags. The material suppliers provided 2,800 tons more than the manufacturers incorporated into regulated trash bags in 2003. The four companies requesting exemptions and the two compliant companies, who filed forms, needed about 3,000 tons to meet the standard.

The 23 manufacturers who demonstrated compliant with the postconsumer material requirement used 1,300 tons more than is necessary to meet the standard. Most of these are relatively small manufacturers.

The large manufacturers who have requested exemptions during the 2001-2003 period have stated that they are not able to find postconsumer material of sufficient quality to meet the standard. The available material is often too contaminated to allow for use above 5 percent postconsumer material.

Manufacturers also claims that their customers, both consumers and retailers’ “private label” brands, demand bags certain strength and tear resistance standards, or be clear or white, have drawstrings, be of a certain thickness that makes the incorporation of postconsumer material difficult. Other often-cited reasons include the inability of suppliers to certify that the material is postconsumer, rather than post-commercial/industrial, or that recycled material is more expensive than virgin resin.

## **Film Plastic Products: Expanded Certification Options?**

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Film plastics are used for a large variety of packaging and other applications. The two largest uses appear to be agricultural film and construction film. The volume of film plastics increases each and every year. This has resulted in increased amount of plastic material being disposed in California’s landfills.

The establishment of a certification program for these other film plastics should increase the volume of plastic being recovered and recycled. In keeping with the shared responsibility theme of the *Plastics White Paper*, extension of the certification requirements to other types of film plastic products/uses levels “the playing field” and addresses the arguments by manufacturers that they simply make a “bag” and they do not know how customers may use it.

Most film plastics are not intended for immediate disposal and are much thicker than trash bags. This makes incorporating recycled material into these products more feasible. Currently, trash bags that are thinner than 0.7 mils do not have to meet the recycled content mandate. The current technology makes it very difficult to use postconsumer material in thin plastic film. The Board recommends keeping the present .7 mil thickness standard for compliance purposes.

More importantly, the more plastic applications that are subject to a certification requirement, then the more that will create an incentive for material suppliers to recover more plastic material, invest in equipment to clean and sort material, and for the manufacturers to incorporate the recycled material into the new products.

## **Biodegradable Plastic Bags: New and Expanded Landfill Diversion Opportunities?**

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Biodegradable plastic bags and products offer environmental benefits of reduced pollution, landfill space conservation, and complete decomposition of the plastic into inert molecules. The American Society of Testing and Materials (ASTM) implemented a standard test protocol, D 6400, for determining whether the plastic material is, in fact, biodegradable.

The Board believes that biodegradable plastic film products meet the objectives of trash bag law and should not be required to demonstrate compliance with the certification requirements of a more comprehensive law. Minimum-content mandates are an appropriate vehicle for implementing recycling-based resource management strategies. For biodegradable products such as yard waste/trash bags the best management strategy is through composting. Use of these products in association with food scrap and green material diversion programs could significantly increase the diversion of film plastic and organic materials.

## **2003 Trash Bag Certification Summary**

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### ***Manufacturers:***

Forty-one (41) trash bag manufacturers submitted certification forms for the 2003 reporting period. Twenty-three (23) manufacturers demonstrated compliance with the 10 percent postconsumer resin requirement. These manufacturers certified as using between 10 and 47 percent postconsumer material in their regulated trash bags. Three manufacturers were granted exemptions from postconsumer recycled material content requirement. A determination on an exemption request from one manufacturer is still pending.

Two manufacturers failed to meet the 10 percent postconsumer requirement and were determined to be non-compliant. Three manufacturers whose trash bags were sold in California during 2003 failed to submit certification forms and were determined to be non-compliant with the reporting requirements of the law. Six manufacturers submitted certification forms indicated that they neither manufactured nor sold “regulated” trash bags in California during the 2003 reporting period.

The manufacturers reported selling nearly 4.5 billion trash bags in California of which 50 percent were regulated trash bags.

Table 1, below, summarizes the use of postconsumer material by compliance category for these 29 manufacturers. The table shows the amount of postconsumer material used and the amount that would be needed for all manufacturers to meet the 10 percent standard. The

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“Deficit/Surplus” column is the difference between used and amount needed. As might be expected the “Compliant” group had a surplus of material and the other groups were in a deficit situation. The 1,625-ton deficit represents the amount of film plastics necessary for the industry, as a whole, to achieve compliance.

**Table 1. Summary of Regulated Bags Weights and Postconsumer Material by Compliance Category—2003 Reporting Period (tons)**

<u>Manufacturers</u>	<u>Reg Bags</u>	<u>PCM used</u>	<u>PCM needed</u>	<u>Deficit/Surplus</u>
Compliant (23)	45,521	5,869	4,552	1,317
Non-Comply (2)	7,329	438	733	(295)
Exemptions (4)	38,688	1,222	3,869	(2,647)
Totals (29)	91,538	7,529	9,154	(1,625)

Of the 10 largest (on a weight basis) manufacturers of regulated trash bags, four requested exemptions and one did not demonstrate compliance. For the remaining 19 manufacturers, 18 were determined to have complied with the law during 2003. The top 10 manufacturers, see Table 2, used about 7 times the amount of plastic material used by the other 19 manufacturers combined.

**Table 2. Summary of Regulated Bags Weights and Postconsumer Material by Manufacturer Size—2003 Reporting Period (tons)**

<u>Manufacturers</u>	<u>Reg Bags</u>	<u>PCM used</u>	<u>PCM needed</u>	<u>Deficit/Surplus</u>
Largest 10	79,782	5,581	7,978	(2,397)
Other Manuf.	11,755	1,948	1,176	773
Totals	91,538	7,529	9,154	(1,625)

**Wholesalers:**

Eighty-two (82) wholesalers submitted certifications with the Board demonstrating compliance for the 2003 reporting period. Another 43 wholesalers submitted forms claiming that they did not sell regulated trash bags. Six wholesalers were determined to be non-compliant for failing to submit certification forms and were placed on the Board’s non-compliant list. The responding wholesalers accounted for 1.6 billion trash bags weighting over 47,000 tons. These numbers are about 60 percent of the totals that the manufacturers certify were sold in California.

A wholesaler is defined as any person who purchases trash bags from a manufacturer for subsequent re-sale in California. This definition includes a number of large retailers. Wholesalers must certify the manufacturers and other wholesalers from whom trash bags were acquired and the amount of trash bags sold in the state.

Seven (7) wholesaler purchased all of their trash bags from non-compliant manufacturers. Only 14 wholesalers did not acquire trash bags from non-compliant manufacturers. Of the twenty largest wholesalers, which account for about 90 percent of the trash bags, only three wholesalers acquired bags from the manufacturers meeting the 10 percent minimum-content standard.

None of the wholesalers who submitted certifications identified eight of the manufacturers who claimed to have sold regulated trash bags during 2003. Three of these manufacturers are located

in California. The most likely explanation is that the wholesalers who handle these companies products were never asked to submit certification forms to the Board.

## **Supply of Postconsumer Material**

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Twenty-three companies were listed by manufacturers as suppliers of postconsumer material for the 2003 reporting period. Twelve of the suppliers are located in California, and all but two of those are located in southern California.

These suppliers provided over 11,000 tons of postconsumer material to manufacturers. Two mid-western suppliers furnished 4,600 tons to six of the reporting manufacturers. About 5,000 tons were provided by the 12 California-based suppliers, and ranged in amount from 42 to 983 tons. Most of the suppliers provided material to only one or two manufacturers.

The 2001 Trash Bag Report characterized the recycled material market as stable and growing. Data for the post-2000 reporting periods does not support this view. More than half of the suppliers listed in the 2001 report did not supply material for the 2003 year. Also, the volume of material being recovered for trash bag manufacturing is actually declining. Specifically, the amount of recycled material being supplied has declined from about 14,000 tons in 1998 to 11,000 tons in 2003. The amount of California postconsumer material has similarly decreased.

Several of the large manufacturers assert that efforts to increase the recovery of plastics is needed. They have reported that the actual amount of processed postconsumer material available as a manufacturing feedstock is also decreasing. The primary reason cited for this is the growing demand by plastic lumber industry, and the export markets to China and other Asian countries.

## **California Material Credit: Keep It!**

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Manufacturers who use California-generated recycled material quality for a 20 percent credit (1.2 pounds for each pound used) towards the 10 percent postconsumer material mandate. The Board believes that the credit has been partially responsible for the recovery and re-use of California-based postconsumer material in trash bags. For the 2003 period, nearly 60 percent of the recycled material in the trash bags was from California sources. Further, three manufacturers would not have met compliance without the California credit.

The Board recommends that the credit be extended to the manufacturers of all film plastic products if the minimum-content requirement is expended as recommended in this report.

## **Imported Bags and Foreign Manufacturers: Compliance Challenges**

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A significant number of trash bags sold in California are manufactured outside of the United States. Estimates have placed the number of imported bags as high as 20 percent of the total amount sold. For the 2003 reporting period only one foreign manufacturer submitted a trash bag certification form. That manufacturer reported making only non-regulated bags.

The wholesalers reported purchasing imported trash bags from about five foreign manufacturers. A number of domestic manufacturers and wholesalers assert that the manufacturers and suppliers of imported bags make claims of significant postconsumer content which cannot be substantiated. In fact, stakeholder believe these imported bags are unlikely to contain much, if any, recycled material.

The Board recommends that the only imported trash bags that state agencies can purchase are those for which the Board has specifically determined contain, at least, 10 percent postconsumer material.

## **Penalties for Non-Compliance with the Law: How Effective?**

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Public Resources Code section 42997 prohibits State of California agencies from entering into, or amending existing, contracts for the acquisition of any goods or services with any party found by the Board to be non-compliant with the provisions of the plastic trash bag law. Manufacturers are required to submit annual certifications to the Board demonstrating that their trash bags met one of the postconsumer material use requirements or that there was insufficient material to meet the mandates. Wholesalers are only required annual certification identifying their suppliers and the amount distributed within California. This creates the relatively common situation of compliant wholesaler selling trash bags that do not contain 10 percent recycled material or other products of non-compliant manufacturers. Because it is more likely that wholesalers will contract with state agencies for the delivery of trash bags and other supplies, the statutory penalties are not creating the desired incentive for manufacturers to make trash bags with postconsumer material.

A number of manufacturers have stated that they will not even submit certification forms—let alone meet the minimum-content mandate—because they do not contract with the State of California. One manufacturer claims that it is not be subject to the law, because the company makes “custom bags” and cannot control how the customers use the bags.

### ***2003 Certifications Results and Findings***

These findings are based on information from the 2003 certification.

#### **Trash Bags Shipped/Sold Into California:**

- More than 4.5 billion trash bags are sold in California each year. Slightly less than one-half of these are “regulated trash bags” subject to the recycled content requirement.
- The 2.2 billion regulated bags contain 8,400 tons of postconsumer plastic material including nearly 5,000 tons that is diverted from California landfills.
- Approximately one-half of all manufacturers of regulated trash bags and suppliers of recycled plastic for trash bags are located in California.
- Fifty-seven percent of the 8,400 tons of recycled plastic used in California trash bags comes from California suppliers.
- More than 90 percent of regulated bags are between 0.70 and 2.0 mils in thickness.
- More than 50 percent of all trash bags sold in California are non-regulated bags and are not subject to the minimum-content requirement.

#### **Trash Bag Manufacturers: Number, Size, Compliance:**

- Only four of the ten largest manufacturers met the minimum-content requirement. Three other manufacturers were granted exemptions from the postconsumer use standard due to lack of available material.

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- The ten largest manufacturers account for more than 85 percent of all regulated trash bags sold in California.

### **Trash Bag Wholesalers: Number, Size, Compliance:**

- The wholesalers reported selling less than 1.6 billion regulated trash bags in 2003 with a total weight of 47,000 tons. These totals are about 75 percent of the amount that the manufacturers report.
- The ten largest wholesalers account for about 85 percent of all trash bags distributed by wholesalers.
- Sixty-eight wholesalers distributed trash bags produced by non-compliant manufacturers. Seven wholesalers only sold trash bags that were made by non-compliant manufacturers. Just three of the 20 largest wholesalers, only sold trash bags made by manufacturers who met the 10 percent postconsumer material requirement.

### **Postconsumer Resin Suppliers:**

- The supply of postconsumer material both in California and nationally has declined since 2000.
- Only thirty percent of the postconsumer material suppliers listed in the 2001 report provided such material to manufacturer trash bags in 2003.
- The credit manufacturers receive for use of California-based recycled material appears to have increased the recovery of film plastic in California. Three manufacturers needed the credit to demonstrate compliance.

## **Legislative Recommendations: A Comprehensive Approach To Plastic Film Collection and Recycling**

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Approximately 1.5 million tons of plastic film products are disposed of in California's landfills each year. According to the Board's 1999 Waste Characterization study, plastic film was only being recycled at 1.2 percent rate. Board staff anticipates, based on US EPA data regarding plastic use and disposal nationally, that the Board's latest Waste Characterization Study will show that plastics will have increased in the waste stream from 8.9 percent in 1999 to almost 15 percent in 2003. The final report is due out sometime in October 2004. In addition to the above, the overall recycling rate for plastic remains very low, about 3-5 percent. For the Board to help California reach its 50 percent landfill diversion mandate on a statewide basis, plastic discards must be addressed. Furthermore, if the Board is to make progress toward its zero waste goal, then the challenges associated with plastic recovery and recycling must be overcome. The Board has determined that Plastic film is significant part of that problem, and therefore presents both a challenge and opportunity for the increased recycling of plastic to meet the above goals.

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Therefore, the Board recommends that the Legislature revise the plastic trash bag law to regulate a much broader range of plastic film products, and remove plastic trash bags from the certification requirements of the law. Plastic trash bags are a small part of the plastic waste stream, only represent a single use option for PCM, and are not recyclable themselves. By applying certification requirements on other, more prevalent, plastic film products such as stretch wrap, agricultural film, construction film or other film products deemed appropriate by the Legislature, significantly more plastic film material could be diverted from landfills.

Specifically, the Board recommends that the below steps be taken in order to create a certification program for specified plastic film manufacturers and wholesalers to increase the diversion of plastic film in California. Non-compliant wholesalers would be required to pay a fee to fund new and expanded collection and processing systems needed to recycle significant quantities of plastic film. These funds are crucial to the State's ability to increase both the quantity and quality of post-consumer plastic material for use in recycled content products. ; The certification program and its associated fees are also consistent with the product manufacturer and financial responsibility recommendation adopted by the Board after considering the recommendations put forward in the Plastics White paper.

**A) Develop a Tiered Certification Structure:**

Under this strategy the Legislature would provide specified film plastic manufacturers with a flexible approach for demonstrating compliance. This would be accomplished by allowing manufacturers to select from a range of compliance options. This strategy will also help to promote the use of postconsumer resins in a wider range of plastic film products.

1. Establish a 10 percent minimum-content requirement for specified film plastic products thicker than 0.7 mils, including but not limited to: agricultural film, construction film, tarps, stretch wrap, bubble wrap, and mattress bags.
2. Maintain the current California-recycled material compliance credit for all regulated film plastic products.
3. Retain the current 30 percent minimum content compliance option for averaging across all other plastic products produced by a manufacturer. The Board recommends reducing the compliance amount to 25 percent, and eliminating the exclusion for products/packaging subject to other state minimum-content requirements.
4. Establish a 10 percent source-reduction option that would allow manufacturers who use less total plastic in the manufacture of their product to comply through light weighting.
5. Allow for regulated plastic film products that are Bio-degradable, as defined by ASTM Standard D 6400 (Standard Specification for Compostable Plastics), to either be exempted from the compliance requirements of the law, or count toward the 10 percent recycled content option. Manufacturers and wholesalers of biodegradable bags would be required to submit information regarding amounts of biodegradable products manufactured/sold into California, and provide test results and applicable test dates.

Note: The Board seeks stakeholder input and guidance on several compliance related issues:

1. An estimate of the number of potential manufacturers and wholesalers of all film plastic products?
2. Specific data requirements for the postconsumer material compliance option?
3. Appropriate measurement data and base period for a source-reduction option?

## **B) Support New and Expanded Plastic Film Collection and Processing Infrastructure:**

Through workshops and meetings with stakeholders it has become clear that the present collection and processing infrastructure for plastic does not adequately meet many manufacturers' demand for material. A main reason for this is the current costs to collect, clean and process film plastic is too high for it to be done competitively versus virgin resin. At least at the discount price that manufacturers want for PCM, because historically the price of PCM has been cheaper than the price for virgin resin. This is still true today, but the quality of available PCM remains a barrier. In addition, the necessary capital for developing systems that could collect, clean, bale and/or process film at an economical rate has not been available. The Legislature can address this problem by enacting a mil fee on the sale selected plastic film products. The mil feewould be used to fund the necessary collection programs, and cleaning and processing facilities to increase the collection of plastic film products. The Legislature could insert a sunset provision into the law and direct the Board to request authorization to continue the program based on demonstrable results. In conclusion, the Board recommends that the Legislature do the following:

1. Enact a mil fee on the sales of film plastic products, including, but not limited to, agricultural film, construction film, stretch wrap, bubble wrap, and mattress bags. The revenues would be used to support an expanded Recycling Market Development Loan program. The fees would be used to increase/expand the collection of plastic material that is difficult to sort, clear and process.
2. Direct the Recycling Market Zones and Loan Programs to increase the recovery and recycling of film plastics, and as well as the manufacturing of film plastic products containing postconsumer materials by allowing for the funding of collection, baling and processing of plastic.
3. Establish a grant and/or loan program to fund businesses that will produce a recycled content product using the postconsumer material diverted and processed into a manufacturing feedstock.
4. Retain the current credit under PRC section 42291.5 for the use of California-generated recycled material.

## **C) Help Improve the Quality of Postconsumer Resins**

One of the most significant barriers cited by manufacturers is the lack of availability of high quality PCM that is compatible and usable in their manufacturing process. To help address this

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problem the Board has a contract with California State University Chico, to develop quality assurance and quality control guidelines designed to help processors of postconsumer film make a higher quality recycled content manufacturing feedstock. These guidelines should be in completed by December, 2004. The guidelines will serve as the basis for a Board led continuous improvement process for PCM. To further help with this problem, the Board recommends that the Legislature n establish a program to further advance this PCM continuous improvement process.

1. The Legislature should establish a state-run program to implement a marketing/purchasing co-operative and the establishment of uniform quality standards, and promote the International Organization for Standardization (ISO) certification of processors.

### **D) Minimize Compliance Exemptions and Omissions**

There are currently some compliance/enforcement provisions of the law that, if revised, would help to make the law more effective.

1. Require wholesalers buying from non-compliant manufacturers to be listed as non-compliant on Board published compliance lists..
2. Prohibit the State of California from contracting with manufacturers or wholesalers of any regulated film plastic products that do not meet one of the compliance options provided by the Legislature.
3. Limit manufacturers to no more the three exemption requests in a five-year period and no more than two consecutive years.

### **E) Non-Legislative Recommendations:**

1. Notwithstanding “restraint of trade” concerns, plastic film manufacturers should consider the formation of a purchasing co-operative for postconsumer material.
2. Working with plastic product manufacturers, direct the Board to develop and adopt new and revised PCM quality standards that are compatible with specified plastic products, including, but not limited to: plastic film products; molded plastic products; durable plastic products; and other specified end uses for PCM as determined by the Legislature.
2. Product Stewardship/Shared Responsibility and Co-operative Efforts

The Plastics White Paper recommends that the principle of product stewardship and shared responsibilities must be applied to plastic products. Product stewardship requires a manufacturer/generator to take responsibility for the impacts and social costs of its product(s) throughout a product’s life. These programs can be done individually, or in concert with other stakeholders.

Stewardship mandates such as the trash bag minimum-content requirement impose upon manufacturers the obligation to re-use material of the type it uses to create products. If each member of an industry group faithfully carries out it obligation, the concept of shared responsibility works. By enacting a mil fee on non-compliant wholesalers/manufacturers, specified industries will accept financial responsibility for their products. Also, the Plastic White

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Paper’s recommendation (number 11) that a marketing/purchasing co-operative be created would bring shared responsibility to the film plastics industry in California.

And finally, by working with processors to implement quality assurance guidelines currently under development, the Board can help processors to enter into a continuous improvement process that may assist them in seeking certification from the International Organization for Standardization (ISO).

Board staff will also seek to partner with key stakeholders to foster the development of new and expanded plastic film collection programs for agricultural and commercial film. There is general agreement that there are markets for this material if can efficiently collected, cleaned and processed.

**Stakeholder Input:**

The Board staff through the existing plastic interested parties meetings, and a 15 day review period following the first 30 day review period, will continue to discuss the proposed comprehensive solution to film plastics diversion.

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## **Zero Waste and Sustainability**

The Integrated Waste Management Act (AB 939, 1989) established a social goal to reduce the amount of waste being generated in California and specifically mandated a 25 percent reduction by 1995 and 50 percent by 2000. It is a long-term vision of the Board to minimize the amount of material that needs to be disposed. This “zero waste” vision is a guiding principle of all waste management policies. To attain the vision for film plastic products sustainable collection, recycling and re-processing industries must be developed.

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## **Trash Bag Program and Legislative Report Timeline**

<b>Event</b>	<b>Action</b>	<b>Date</b>
2001 Report to the Legislature	Board Approval	September 2001
2001 Certification Lists	Board Approval of Lists	2002
Trash Bag Workshop	Staff Workshop	January 2002

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Plastics White Paper	Board Adoption	June 2003
2002 Certification Lists	Board Adoption of Lists	August 2003
2002 Exemptions	Board Approval	September 2003
Trash Bag Workshop	Staff Workshop	October 2003
2003 Certification Lists	Board Approval of Lists	June 2004
2003 Exemptions	Board Approval	June & Sept 2004

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## Appendix A: Trash Bag Production and Postconsumer Material Use

### SUMMARY OF TRASH BAG AND REGULATED BAGS PRODUCTION AND POSTCONSUMER MATERIAL: 1993-2003 (Weight in tons)

<u>Year</u>	<u>All Trash Bags</u>	<u>Regulated Bags</u>	<u>Total PCM</u>	<u>Percent</u>	<u>Calif. PCM</u>
1993	57,465	15,196	1,905	12.5	N.A.
1994	71,760	23,153	3,193	3.8	N.A.
1995	86,054	31,110	5,350	17.2	N.A.
1996	83,624	30,046	7,366	24.5	N.A.
1997	81,139	31,776	8,719	27.4	N.A.
1998	106,844	70,184	12,088	17.2	5,601
1999	97,214	73,748	8,724	11.8	4,649
2000	98,905	67,796	6,739	9.9	4,902
2001	122,460	71,532	6,187	8.6	2,756
2002	124,734	83,192	8,975	10.8	5,359
2003	130,375	91,538	8,383	9.2	5,726
Totals	1,060,574	589,271	77,629	13.2	28,993

N.A.: ..... Data is not available

PCM: Postconsumer Material

Percent: The percentage of Postconsumer Material in Regulated Trash Bags

## Appendix B: Suppliers of Postconsumer Material

<u>Supplier's Name</u>	<u>(Location)</u>
3G Inc.	Vernon, CA
ABC Polymers Inc.	Stone Mountain, GA
Al's Company	Vernon, CA
Alpha Omega Plastics	Elk Grove Village, IL
Bay Polymer Corp.	Fremont, CA
Bayou Plastics Inc.	Monroe, LA
Dakota Western	Agency Village, SD
Delta Plastics	Stuttgart, AR
Discover Plastics	Rancho Cucamonga, CA
Envision Plastics	Pomona, CA
Interstate Plastics	Vancouver, WA
LPCC	West Monroe, LA
Mercury Plastics	City of Industry, CA
Muehlstein	Orange, CA
Omega Extruding	Rancho Cucamonga, CA
Pacific Source	Fullerton, CA
Petoskey Plastics Inc.	Petoskey, MI
Pitt Plastics	Pittsburg, KS
PPP, LLC	Los Angeles, CA
Rainier Plastics	Yakima, WA
Renegade	Thousand Oaks, CA
Starlight Manufacturing	Oakland, CA
Webster Industries	Montgomery, AL