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**Massachusetts Sierra Club**

10 Milk Street, Suite 632  
Boston MA 02103-4621  
www.sierraclubmass.org  
office@sierraclubmass.org  
(617) 423-5775

July 3, 2013

Chairwoman Anne M. Gobi  
Joint Committee on Environment, Natural Resources and Agriculture  
State House, Room 473F, Boston, MA 02133

Chairman Marc R. Pacheco  
Joint Committee on Environment, Natural Resources and Agriculture  
State House, Room 312B, Boston, MA 02133

**Re: Sierra Club Testimony in support of H787, Related to Plastic Carryout Bags**

Dear Chairwoman Gobi, Chairman Pacheco, and Honorable Members of the Committee,

*On April 22, 2013, the Sierra Club testified before this committee in support of a ban on plastic bags. The bill was reported favorably by the committee. The Sierra Club enthusiastically supports this action. Below is a short description of the main differences between H787 and H3438 (the bill that was recommended favorably by this committee).*

Thank you Chairwoman Gobi, Chairman Pacheco, and Members of the Committee for providing this opportunity to offer our comments on bills H787 and H3438, related to reducing the use of plastic checkout bags in Massachusetts. We wish to express our support in favor of this legislation.

The Sierra Club is the oldest and largest grassroots non-profit and non-partisan environmental organization in the country, with over 1.4 million members and supporters nationwide. Its chapter in Massachusetts has over 22,000 members throughout the state and a history of protecting the environment that spans more than forty years. We work to create healthy, vibrant communities through support of clean air and water; clean energy; recycling and waste-elimination; and the preservation of the Commonwealth's most treasured forests, parks and open spaces.

There are differences between H.787, the filing by Rep. Denise Provost, and H3438. We hope that the legislature will consider these proposals.

**Bag Thickness:** H3438 allows an exemption of plastic bags with a thickness of greater than 2.25 mils (thousandths of an inch). Further research shows that some single-use disposable plastic bags could be improperly exempted, thus bypassing this bill's intent. The Sierra Club recommends consideration of Rep. Provost's suggested standard of 3.0 mils.

**Store Exemptions:** The Sierra Club has been contacted by small stores that seem to fall into a gray area of regulation. Rather than allowing the state to get unnecessarily bogged down with a difficult regulatory situation, the Sierra Club recommends amending H3438 by adopting Rep. Provost's suggested definition of retail stores, thereby eliminating the confusion surrounding store exemptions.

**Possible Bioplastic Exemptions:** The Sierra Club has been made aware that the bioplastic specified in H3438 as exempt is not currently available in North America. We therefore recommend amending H3438 by adopting Rep. Provost's suggested no-bioplastic exemption.

*Below is the testimony as submitted on April 22, 2013.*

These bills would ban polyethylene and other types of plastic carryout bags in retail stores. It would not limit other types of bags, such as those used in a market's vegetable aisle.

Plastic bags cost society a lot more than the price retailers are currently paying to provide them. There is no need for this environmental expense. Simple alternatives such as reusable shopping bags are available and already used in many stores throughout Massachusetts.

Single-use plastic carryout bags should be banned because:

- Plastic bags are so light and capture airflow so well that even when properly disposed of, they often blow away and become **litter**. Plastic bags are a unique form of litter in that they can end up tangled in trees, causing visual blight and other problems. The City of Los Angeles found that plastic bags account for 25% of litter in their storm drains.<sup>1</sup> Bags easily escape from garbage trucks, landfills, boats, and the hands of everyday consumers – and are then carried into lakes and waterways, and eventually into the ocean. Plastic bags make up the third most prevalent type of litter from land-based sources found on U.S. coasts.<sup>2</sup>
- **Plastic bags harm wildlife.** The bags are often mistaken as food by both domesticated and wild animals. Birds may also use them for nesting material with dangerous results. Untold numbers of animals die per year by ingesting plastic bags.<sup>3</sup> These animals typically suffer painful deaths, choking on the plastic or having it impede digestion **Plastic bags entangle and sometimes strangle turtles, whales, sea lions, seals, birds, and fish** among other species.<sup>4 5</sup> Many of these animals are already threatened due to over-fishing and/or habitat loss. The list of local animals threatened by plastic bags includes green turtles that nest on Nantucket and right whales that feed off the Massachusetts coast line.
- **Plastic bags do not biodegrade**<sup>6</sup> and although they do break apart through mechanical action<sup>7</sup> and photodegradation in the presence of light, these processes take up to 1000 years to complete. When the bags finally do break down, they do not dissolve into benign substances; they just fracture into smaller and smaller bits called "microplastics." These small particles present a tremendous long-term danger, as these particles **displace food supplies in our oceans**. They have a nearly identical density of seawater so their removal is not possible. Once microplastics enter our oceans, they will stay there.
- **Only 5.2% of our plastic bags are recycled.**<sup>8</sup> This problem requires a non-recycling solution primarily because plastic bags are an extremely low-value product. The difficulty in collecting, sorting and controlling for the quality of plastic bags makes recycling this product cost-prohibitive.

For all of the above reasons, single-use plastic bag consumption needs to be heavily reduced. Because plastic bags are virtually cost-free and convenient, legislation will be necessary in order to change the behavior of consumers and the retail industry. Voluntary efforts thus far have come up short.

## **ALTERNATIVES**

All these noted bills allow the use of paper bags without any fees or restrictions. In our region, almost all paper bags are made up of 80% recycled content – some have 100% recycled content. They're also recycled by consumers at a very high rate, enjoying an existing structure to recycle them efficiently. Although paper has a higher initial CO2 footprint, it doesn't kill animals, persist in the environment, or wreak the kind of permanent environmental damage that plastics do.

H.696 proposes exceptions for two types of plastics derived from organic sources: ASTM D6400, specifying a compostable plastic which breaks down into CO2 and water, and ASTM D7081, which does the same in a marine environment. While both of these types of bags biodegrade, they are not without significant drawbacks. They are made from starchy plant materials, typically corn. Using these to circumvent our current habit of HDPE bags would divert badly needed resources from the agricultural system. Our use of ethanol in gasoline drove up corn prices outside the US, and making our plastic bags out of corn would undoubtedly have a similar effect. The real answer lies with decreasing our dependency on all disposable single-use bags.

A number of manufacturers are promoting so-called "oxo-degradable" or ASTM D5272 bags. ASTM D5272 does not measure the environmental aspects of the product, but only its ability to withstand sunlight exposure. ASTM D5272 bags are NOT biodegradable, but simply degradable – meaning that they break into small bits. Furthermore, it appears that the vast majority of these bags are made from HDPE (in varying percentages). Although some companies promote their ASTM D5272 bags as degrading into non-toxic or inert particles, this does not mean they are environmentally benign.

## **VOLUNTARY AGREEMENTS HAVE FAILED**

As a response to public pressure against plastic bags, on March 12, 2009, the Mass Food Association entered a voluntary agreement with the Mass DEP to commit major supermarkets to a 33% decrease in plastic bag use by the year 2013. A 33% reduction, if realized, would rank us last in effectiveness among all places that have enacted ANY regulation concerning plastic bags – even below Botswana and Burma. However, the Sierra Club has received reports from across the state of no change in behavior at supermarkets. No evidence has been provided to support a change in the industry, nor has an independent body verified any change in bag use. Additionally, the performance data referenced to support voluntary action is gathered by the supermarkets' lobby firm and is not audited.

An inspection of many checkout stations at Star Market, Stop and Shop, and Home Depot clearly show that only plastic bags are available – not paper. Observers have noted that supermarket cashiers still regularly double bag groceries, and place bulky items with handles, such as boxes of detergent, in plastic bags. Whatever training being done to help achieve this voluntary goal is not having a meaningful impact.

Even if we were to achieve a 33% reduction in plastic checkout bag use, we would still have 67% of these bags adrift in the waste stream and in the environment. The very reason to decrease plastic bag use is that they enter the environment and wreak havoc on wildlife.

Around the world, when plastic bag bans are implemented, the next day, nothing bad happens. People still shop for groceries. Some of them bring reusable bags, some buy cloth bags, some use paper. People don't buy fewer groceries.

## **BAGS ARE BEING BANNED WORLDWIDE**

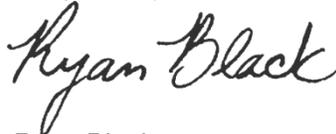
Legislation is a realistic solution. Plastic bag bans or surcharges have already been put in place in countries, provinces and cities all over the world, including: Brookline MA, Manchester MA, Nantucket MA, as well as China, Canada, Israel, Belgium, Italy, Ireland, Hong Kong, Taiwan, Singapore, Botswana, Kenya, Tanzania, South Africa, Thailand, several states in India, three states and territories of Australia, 30 rural villages in Alaska, Westport CT, Edmond WA, Bangladesh<sup>9</sup>, Malawi, Germany, Sweden, Paris, San Francisco, Oakland, Washington DC, Brownsville TX, Mexico City, North Carolina's Outer Banks Region, and for the past 20 years, Nantucket Island<sup>10</sup>.

## CONCLUSION

Single use plastic bags are contributing to serious issues facing Massachusetts, the United States and the World, including energy production, public health, global warming, and species conservation. Tackling these issues will require the culmination of many small actions bring about large change. Banning plastic bags is an important and easily implemented step towards meaningful change.

The Sierra Club has long been committed to minimizing the negative environmental impact of human activity and because this legislation would significantly reduce such impact from plastic bags we hope this committee will report these bills favorably.

Respectfully,



Ryan Black  
Director  
Massachusetts Sierra Club

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<sup>1</sup> California Ocean Protection Council, "An Implementation Strategy to Reduce and Prevent Ocean Litter", 2004, p. 13  
[[http://www.opc.ca.gov/webmaster/ftp/pdf/opc\\_ocean\\_litter\\_final\\_strategy.pdf](http://www.opc.ca.gov/webmaster/ftp/pdf/opc_ocean_litter_final_strategy.pdf)]

<sup>2</sup> Ocean Conservancy, "Tracking Trash", 2011 report, p. 66

<sup>3</sup> "Plastic bag killed beaked whale", 2012-02-10

[[http://www.marineconnection.org/archives/marine\\_impacts/plasticbag.htm](http://www.marineconnection.org/archives/marine_impacts/plasticbag.htm)]

<sup>4</sup> Lazar, B. and R. Gracan, "Ingestion of marine debris by loggerhead sea turtles, *Caretta caretta*, in the Adriatic Sea." 2011. *Marine Pollution Bulletin* 62: 43-47.

<sup>5</sup> United Nations Environmental Programme. "Marine Litter-Trash that kills". 2001.

[<http://www.unep.org/regionalseas/marinelitter/publications/default.asp>]

<sup>6</sup> Algalita Marine Research Foundation, *Research-Pelagic Plastic-Gyre Voyage 2002*, July 26, 2002  
([http://www.algalita.org/research\\_ffs.html](http://www.algalita.org/research_ffs.html)).

<sup>7</sup> Crump, Andrea, Marine Conservation Society, *Long Term Impacts of Plastic Bags in the Marine Environment*  
[www.mcsuk.org/downloads/policy/coastal\\_polln/MCS\\_Long\\_Term\\_Impacts\\_of\\_Plastic\\_Bags\\_In\\_the\\_Marine\\_Environment\\_\(Aug\\_2004\).doc](http://www.mcsuk.org/downloads/policy/coastal_polln/MCS_Long_Term_Impacts_of_Plastic_Bags_In_the_Marine_Environment_(Aug_2004).doc).

<sup>8</sup> US Environmental Protection Agency (EPA), Report (web) Wastes, Non-Hazardous Waste, Municipal Solid Waste. November, 2008.

<sup>9</sup> More Cities and Stores Banning Plastic Bags, Planetsave. Feb. 16, 2008.

<sup>10</sup> Janel Sterbentz. "More Cities and Stores Banning Plastic Bags". Website. Accessed June 14, 2011.  
<http://planetsave.com/2008/02/16/more-cities-and-stores-banning-plastic-bags/>.