

# MAINE STATE LEGISLATURE

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# Report on the Recycling of Cellular Telephones in Maine

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## I. Background

In 2006, the Second Session of the 122<sup>nd</sup> Maine Legislature passed P.L. 2005 Chapter 144, *Resolve, To Study the Recycling of Cellular Telephones* (Appendix A). This resolve was spurred by the growing issue of discarded electronics in Maine's waste stream. In 2003, INFORM, Inc., a national non-profit organization that identifies environmentally sustainable and practical ways of living and doing business, published a study on cell phones at their end of life. *Calling All Cell Phones: Collection, Reuse, and Recycling Programs in the U.S.*, provides an overview and assessment of the collection and recycling options for cell phones. This report estimates that consumers in the U.S. will dispose of over 100 million cell phones annually by 2005<sup>1</sup>. Using this figure, Maine's pro rata share of this waste stream is approximately 450,000 cell phones annually.

Like other electronics with circuit boards, liquid crystal displays and plastic components, cell phones contain hazardous substances including antimony, arsenic, beryllium, cadmium, copper, lead, nickel, zinc and brominated flame retardants. Collecting cell phones for recycling prevents the potential release of these contaminants to the environment and recaptures useable commodities for use in manufacturing new products. The purpose of this report is to review the current collection and ultimate disposal of used cell phones in Maine, including the amount of recycling, the current collection infrastructure and how it can be improved, and the financial consequences to non-profit organizations if a regulatory program is established in Maine for the collection of used cell phones.

Consumers may replace cell phones because their cell phones stop working or to upgrade the quality or flexibility of their handsets. Many discarded cell phones can be made fully functional with minimal reprogramming and refurbishment. Those that are at the end of their useful life can be recycled to provide raw materials for new products. Collection, refurbishment and recycling of cell phones is generally a net revenue generating activity due to the resale and commodity value of the handsets. The recycling of cell phone peripherals (e.g., chargers, earphones) may not be.

## II. Existing Collection Programs

INFORM's 2003 report found that although there are many collection and recycling programs for cell phones, less than 1% of cell phones have historically been collected for recycling. Since 2003, the private sector has established more collection and recycling programs, many available at no cost to the consumer.

The Cellular Telecommunications & Internet Association (CTIA) is a non-profit membership organization which represents many cell phone manufacturers and cell phone service carriers. Through CTIA, member companies have established a program called "Wireless – the New

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<sup>1</sup> *Calling All Cell Phones: Collection, Reuse, and Recycling Programs in the U.S.*; Eric Most, INFORM, NY, NY. 2003 ([www.informinc.org](http://www.informinc.org))

Recyclable” to promote the recycling of cell phones through public outreach about its member companies’ cell phone recycling programs. These companies collect cell phones at all their retail locations; some also provide collection through free shipping. In Maine, these include:

- Cingular’s *Reuse and Recycle* program;
- Motorola’s *Race to Recycle* program;
- Sprint’s *Project Connect* program;
- T Mobile’s *Huddle Up* program;
- Verizon’s HopeLine© program; and
- The Wireless Foundation’s *CALL TO PROTECT*.

All these programs adhere to environmentally sound management standards established by CTIA, and all donate at least a portion of their profits to social causes. Nokia and Sony Ericsson also offer no cost take back programs, although only available through the web.

Cell phone recycling programs are also offered by companies that are not handset manufacturers or wireless service providers. Most of these donate a portion of profits to charitable causes. Programs accessible to Maine residents include The Body Shop’s retail collection program, and partnership programs supporting local collections by CollectiveGood, ECO-CELL, GRC Wireless Recycling, Rechargeable Battery Recycling Program (RBRC), ReCellular, and Recycle for Breast Cancer. RBRC uses its proceeds to support its free battery recycling program.

Appendix B contains brief descriptions of all these programs and their web site addresses for additional information.

### III. Current Collection Rates in Maine

Most collection programs collect data on a national basis only. However, Maine-specific collection data was provided to Maine DEP by GRC, RBRC, and CTIA.

- Eleven non-profits in Maine are currently utilizing GRC’s programs. Together they have received almost \$4000 from GRC, with Caring Unlimited in Sanford earning over \$2,500<sup>2</sup>.
- In 2005, RBRC collected 1082 cell phones from Maine; through November 14, 2006, RBRC had collected 1076 cell phones from Maine in 2006<sup>3</sup>.
- ReCellular, the third party vendor that handles recycling and refurbishing for various wireless carriers, handset manufacturers and charitable organizations, has 166 collection points in Maine. These collection sites are operated by Best Buy, Cell Fund, Green Planet Recycling, Institution Recycling Network, March of Dimes, Recycle First, Shelter Help, Sprint Project Connect, The Body Shop, The Wireless Foundation, Verizon Wireless, and Wal-Mart. Between January 1, 2005 and August 31, 2006, these programs

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<sup>2</sup> October 13, 2006 e-mail from Michele Jelasco, Director of Administration, GRC Wireless Recycling, to Carole Cifrino, Maine DEP

<sup>3</sup> November 15, 2006 e-mail from Shane Thompson, RBRC Northeast Recycling Manager, to Carole Cifrino, Maine DEP

collected 5,806 handsets in Maine, representing less than 1% of units expected to be available for recycling<sup>4</sup>.

### III. Increasing Cell Phone Recycling – Public Policy Options

The 2003 INFORM report and this review of current cell phone collection programs both show that although cell phone collection programs are generally available, the number of cell phones recycled is very low (less than 1% in 2003), although likely to be improving. The challenge for Maine is to motivate consumers to turn their phones in for reuse or recycling rather than simply throwing them in the trash.

To achieve a high rate of cell phone recycling, consumers need:

- to have easy access to collection systems,
- to know of the opportunities to recycle, and
- to have some incentive to “deliver” their used cell phones into the collection and recycling system rather than into their trashcan.

The public policy question is, “Who should be responsible for providing each of these three components?”

#### Creating convenient, recognized collection locations

The initial legislation on cell phone recycling introduced to the Second Session of the 122<sup>nd</sup> Legislature (LD1840, Appendix C) proposed that all retailers of cell phones be required to take back and recycle used cellular telephones which they previously sold as well as used cellular telephone from consumers purchasing new cell phones. Retailers in Maine include “standard plan” (monthly subscription) wireless service providers Cingular, T Mobile, US Cellular, Unicel, and Verizon. As noted above, three of these companies already offer no-cost take back of any brand of cell phone at their retail outlets and through free postage-paid mailing labels provided over the internet. US Cellular and Unicel do not offer a cell phone recycling service.

Retailers that would have been affected by LD 1840 if adopted as law also include stores that sell cell phones utilizing pre-paid wireless service such as Tracfone© and Net10©. This includes large retailers such as Wal-Mart and Target. Although there are free collection programs available to pre-paid cell phone retailers, their participation in such programs is inconsistent and not widely known. Requiring collection at retail locations would increase the convenience for consumers, as it would increase the number of collection sites. Consumers could be easily educated about such a law and could then expect to find collection boxes at these retailers, although they would not necessarily be motivated to utilize them.

The number and convenience of collection sites can also be expanded through non-profit private and public sector partnering with existing cell phone recycling programs that provide a fundraising service for non-profit entities (e.g., GRC Wireless, Motorola’s Race to Recycle,

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<sup>4</sup> December 21, 2006 e-mail from Carolyn Brandon, CTIA, to Carole Cifrino, Maine DEP.

CollectiveGood, and ECO-CELL). This option has been available for several years, but few retailers have taken advantage of it. To ensure that such collections are on-going and widespread, additional work is needed to promote these programs to municipalities and non-profits. This could be done through an education & outreach campaign by Maine's Solid Waste Management and Recycling Programs at the Maine State Planning Office (SPO) and the Maine Department of Environmental Protection (DEP).

Maine's current rate of recycling for household waste confirms that not everyone will choose to recycle even when provided with convenient collection locations. More cell phones will be collected if everyone is provided the opportunity to recycle their used phones when purchasing a new one. This could be achieved by requiring every wireless service provider and manufacturers of pre-paid phones sold at retail in Maine to provide no-cost takeback programs for cell phones to consumers through collections at all cell phone retail locations.

#### Motivating consumers – Changing behavior

If convenient and on-going cell phone collection and recycling programs are widely established in Maine, consumer behavior still needs to change in order to increase cell phone recycling. Individuals must be thoughtful about when and where they discard their used cell phones. First they need to be educated about their collection options. Once they know where to recycle their cell phones, some Maine people will be motivated by their own recycling ethic or by the opportunity to raise funds for a favorite charity or community organization.

Instituting a disposal ban on cell phones, similar to Maine's bans on disposal of mercury-added products and cathode ray tubes, can help encourage more municipalities to offer cell phone collection for recycling at their municipal solid waste facilities. Many municipalities already participate in the RBRC rechargeable battery collection program, which includes collection and recycling of cell phones. Maine DEP and SPO can provide municipalities with assistance in implementing a disposal ban by educating them to available cell phone collection programs, including RBRC and others that return a share of proceeds to the collection sponsor.

Finally, consumers may be motivated to change their behavior to increase cell phone recycling if offered a financial reward for each cell phone turned in for recycling. This could be funded as a deposit program, similar to Maine's bottle bill, or as a manufacturer takeback program similar to mercury auto switches and mercury thermostats. The Product Stewardship Institute is currently piloting collection programs for mercury thermostats that will evaluate the effectiveness of different financial incentive programs (see [www.productstewardshipinstitute.org](http://www.productstewardshipinstitute.org) for details). Results from this project will be available in late in 2007; lessons learned from this project may be helpful in determining whether providing a financial incentive would significantly improve cell phone recycling rates.

#### Policy options

Maine has much experience in establishing recycling programs, from the bottle deposit system through voluntary recycling of paper, cardboard, plastics and metal, to programs requiring and supporting the recycling of electronic waste and mercury products. Implementing and

maintaining each of these programs has provided DEP and SPO with experience in the efficacy of different approaches, which varies by waste stream. The table below delineates the anticipated effect of different policy options on the critical factors that must be addressed to increase cell phone recycling. It also shows the anticipated ease of implementation of each option in light of the availability of no-cost programs for recycling cell phones, including programs supported by some of the wireless carriers and handset manufacturers.

<b>Policy option</b>	<b>Effect on collection convenience</b>	<b>Effect on consumer awareness</b>	<b>Effect on consumer motivation</b>	<b>Ease of implementation</b>
DEP/SPO outreach to municipalities	medium	medium	low	simple
Disposal ban	high	high	medium	simple
Wireless carrier, retailer and/or manufacturer required to recycle	high	high	low	simple
Deposit/bounty system	high	high	high	complex

#### Cellular telephone laws in other states

In 2004, California adopted the *Cell Phone Recycling Act of 2004* (Public Resources Code Sections 42490-42499). This law requires all cellular telephone retailers, including internet retailers, to offer free cellular telephone collection and recycling to consumers and to make consumers aware of their recycling program. Any retailer that is not in compliance with the law is prohibited from selling cellular phones in California. The law also requires state agencies to require certification of compliance with the *Cell Phone Recycling Act of 2004* from any bidders seeking to supply cell phones to state agencies.

With its *Cell Phone Recycling Act of 2006*, New York became the second state to adopt cell phone legislation. This law requires all wireless telephone service providers engaged in retail sale to accept cell phones for recycling at no charge during normal business hours beginning January 1, 2007. Retailer responsibility includes taking reasonable steps to ensure that the collected cell phones are recycled, reused or disposed of in an environmentally sound manner, and the promotion of the program through the posting of a sign to public view that clearly states used cellular telephones are accepted or shipped for recycling at no charge.

Prior to adoption of the statewide law, Westchester County, NY passed its own law that prohibits the disposal of cellular telephones. This law includes provisions for a public education campaign by the Department of Environmental Facilities with the Department of Consumer Affairs, as well as penalty and enforcement provisions with fines up to \$250 per violation.



#### IV. Recommendations

In keeping with Maine's waste management hierarchy, the reuse and recycling of used cellular telephones is Maine's preferred waste management option. To maximize the collection of cellular telephones for recycling, collection locations must be convenient, and consumers must know about the collection locations and be motivated to use them.

Many private entities currently offer cell phone collection and recycling programs. Three out of five wireless service providers in Maine offer free recycling at their retail locations as well as providing pre-paid mailing labels through the internet.

Recommendation #1: The State should adopt legislation to require all wireless carriers operating in Maine to provide no-cost takeback programs to consumers through collections at all retail locations. Maine should also require retailers of cell phones to provide similar no-cost takeback program at any retail location at which cell phones are offered for sale. Wireless carriers and retailers should be required to report annually to the Maine DEP on the number of units sold and recycled from Maine through their collection systems; this will help the State assess the efficacy of cell phone recycling requirements.

Other existing recycling programs rely on voluntary partners to establish and operate local collections; some of these programs offer a fundraising component to their local partners. Despite the general availability of these programs to municipalities and non-profits, very few have currently operating collections in Maine.

Recommendation #2: Maine's Waste Management and Recycling Programs at DEP and SPO should provide education and outreach support to municipalities and non-profit organizations to institute cell phone collection and recycling programs.

The success of any recycling program is heavily dependent on a knowledgeable consumer. A disposal ban on cellular telephones would serve to educate Maine residents to the need to recycle, and would spur municipalities to establish collection programs.

Recommendation #3: The State should adopt legislation to ban the disposal of cell phones.

Each of these recommendations is relatively simple to implement. Implemented together, they are expected to have a significant impact in creating convenient collection for consumers who are motivated to recycle their used cell phones. These changes still allow municipalities and non-profit organizations to sponsor fundraising cell phone collections with the recycling partners of their choice.

Appendix A

**CHAPTER 144**

**H.P. 1280 - L.D. 1840**

**Resolve, To Study the Recycling of Cellular Telephones**

**Sec. 1. Report regarding cellular telephones. Resolved:** That, by January 15, 2007, the Department of Environmental Protection shall report on the effectiveness of cellular telephone recycling collection programs in the State to the joint standing committee of the Legislature having jurisdiction over natural resources matters. The report must include information on:

1. The collection and ultimate disposal of used cellular telephones in the State, including the recycling efforts of the Rechargeable Battery Recycling Corporation;
2. The amount of recycling of cellular telephones that is taking place in the State;
3. The current infrastructure for cellular telephone recycling and how it can be improved; and
4. The financial consequences to nonprofit programs if a regulatory program is established for the collection of used cellular telephones.

The joint standing committee of the Legislature having jurisdiction over natural resources matters is authorized to report out legislation relating to the department's report pursuant to this resolve to the First Regular Session of the 123rd Legislature.

## Appendix B

### **Description of Cell Phone Recycling Programs Available to Maine Consumers**

Through CTIA, these member companies have established a program called “Wireless – the New Recyclable” to promote the recycling of cell phones through public outreach on its member companies’ cell phone recycling programs. These companies collect cell phones at all their retail locations; some also provide collection through free shipping. In Maine, these include:

- Cingular Reuse and Recycle - Cingular’s program donates, recycles and resells wireless phones and accessories. [www.cingular.com/about/community-support/recycling.jsp](http://www.cingular.com/about/community-support/recycling.jsp)
- Motorola’s “Race to Recycle” - This program raises funds for accredited K-12 schools. Motorola provides prepaid shipping labels through its website to schools that want to participate and to anyone who wants to donate to this program. In 2005, 275,000 phones were recycled from the U.S. [www.racetorecycle.com/index.asp](http://www.racetorecycle.com/index.asp)
- Sprint Project Connect – Donated wireless phones are recycled or sold, with a portion of the net proceeds benefiting K-12 education programs. Sprint makes postage-paid mailing labels available over the internet.  
[www.sprint.com/community/communities\\_across/project\\_connect.html](http://www.sprint.com/community/communities_across/project_connect.html)
- T Mobile – “T-Mobile Huddle Up” program provides funding and other support to support high quality afterschool programs in urban areas.  
[www.t-mobile.com/Company/Community.aspx?tp=Abt Tab HandsetRecycling](http://www.t-mobile.com/Company/Community.aspx?tp=Abt Tab HandsetRecycling)
- Verizon – Verizon’s HopeLine© program collects no-longer-used cell phones from any service provider; it donates phones and airtime to domestic violence victims as well as funding to domestic violence shelters and prevention programs.  
<http://aboutus.vzw.com/communityservice/hopeLineRecycling.html>
- The Wireless Foundation CALL TO PROTECT – This national non-profit program established by CTIA generates funds to provide phones, with matching airtime, to domestic violence agencies as well as grants to national organizations working to prevent domestic violence. [www.wirelessfoundation.org/CalltoProtect/donate.cfm](http://www.wirelessfoundation.org/CalltoProtect/donate.cfm)

Cell phone recycling programs are also offered by companies that are not handset manufacturers or wireless service providers. Those accessible to Maine residents include:

- The Body Shop – This personal care products retailer began offering its “National Cell Phone Collection Program” in September 2002 at all Body Shop stores. Proceeds are donated to the National Coalition Against Domestic Violence.
- CollectiveGood – CollectiveGood collects cell phones to benefit charities specified at its website through the mail (mailing costs may be covered by selected charity) and through

collections organized by local partners (including Staples retail stores).  
[www.collectivegood.com](http://www.collectivegood.com)

- ECO-CELL – ECO-CELL partners with conservation and public organizations to set up profitable local collection programs. <http://www.eco-cell.org/>
- GRC Wireless Recycling – Through its “Recycling Alliance” and “Shelter Alliance” programs, GRC Wireless offers cell phone fundraising and recycling programs for schools, non-profits, religious organizations, community groups, municipal recyclers, shelters, and social service groups. Donations of used cell phones are accepted from businesses and consumers. <http://www.grcrecycling.com/>
- Rechargeable Battery Recycling Program (RBRC) – RBRC accepts cell phones for recycling through its rechargeable battery collection program. RBRC collection boxes are currently available at over 150 retail locations throughout Maine; RBRC provides free collection boxes and shipping to municipalities. <http://www.rbrc.org/call2recycle/>
- ReCellular – ReCellular offers cell phone collection and recycling program support to all kinds of organizations, including big box retailers, to help these organizations raise funds for charitable and environmental programs.  
<http://www.wirelessrecycling.com/home/index.html>

Appendix C

LD 1840 – 122<sup>nd</sup> Session of the Maine Legislature

**Be it enacted by the People of the State of Maine as follows:**

**Sec. 1. 38 MRSA §2143** is enacted to read:

**§2143. Cellular telephone recycling**

For the purposes of this section, a cellular telephone is a mobile wireless telephone device that is designed to send or receive transmissions through a cellular radiotelephone service as defined in 47 Code of Federal Regulations, Section 22.99 (2005). A cellular telephone does not include a wireless telephone device that is integrated into the electrical architecture of a motor vehicle.

**1. System established.** Effective August 1, 2006, a person or retail establishment selling or offering for retail sale cellular telephones shall have a system for the acceptance and collection of used cellular telephones for reuse, recycling or proper disposal that includes at a minimum all of the following:

A. The return from a consumer of a used cellular telephone that the retailer previously sold to the consumer, at no cost to that consumer. The retailer may require proof of purchase;

B. The acceptance of a used cellular telephone from a consumer who is purchasing a new cellular telephone from that retailer, at no cost to that consumer;

C. Mechanisms to ensure safe disposal of any hazardous parts of cellular telephones not resold or reused; and

D. The posting of an 8.5" by 11" written notice provided by the department pursuant to subsection 2 that includes the display of the universal recycling symbol and the notice: "State law requires us to accept used cellular telephones for recycling in exchange for new cellular telephones purchased."

**2. Inspection and enforcement.** The department shall produce, print and distribute the notices required under subsection 1, paragraph D. The department shall enforce the provisions of this section and may inspect premises where cellular telephones are sold.

**SUMMARY**

This bill requires a retail establishment that sells cellular telephones to accept used cellular telephones for reuse, recycling or proper disposal of hazardous parts of the telephone.