

ETF FINAL REPORT 2010-11

Project No: 100051

Project Name: Recycling of Computer Waste in South-western New Brunswick

Organization: Eastern Charlotte Waterways Inc.

Project Summary

This project is a bridging program that will provide an alternative and preferable disposal method for computer waste in south-western New Brunswick until a provincial electronic waste collection and recycling program is in place. By providing an opportunity for participants to have their unused electronic components recycled free of charge and by distributing educational brochures on issues concerning electronic waste, the project objectives of diverting waste containing hazardous chemicals away from landfills and illegal dump sites, and secondarily of raising public awareness of the risks associated with electronic waste, were successfully achieved. The educational component of the project will also have positive implications with respect to establishing greater public support for the future provincial initiative. The project is also effective in clearing the system of existing electronic waste, since the forthcoming program is likely to be a variation of an extended producer responsibility model that addresses only electronic goods produced going forward.

Subsequent applications for ETF funding for this project will be contingent upon the timing of the establishment of a provincial electronic waste recycling program; Eastern Charlotte Waterways Inc. (ECW) will continue to appeal for financial support from ETF to continue this important project until such time, or until public participation in the initiative begins to decline, which is unlikely given the increased response to the project this year over the first year of the project, as well as the increasingly consumptive habits of the general populous with respect to electronic goods. ECW has been able to expand the scope of partnerships over the first two years of this project substantially, and will seek to engage more private sector entities in the upcoming project year. The potential for further participation from both public and private sector entities appears to be high, since not all requests for participation could be accommodated due to space and budgetary constraints, and furthermore many businesses were willing to contribute financially to the costs of the recycling initiative, by covering tipping costs associated with their electronic waste.

Project Accomplishments

Eastern Charlotte Waterways Inc. (ECW) continued, strengthened, and in some cases formed new partnerships with local organizations and municipalities in Charlotte County, New Brunswick (Table 1), which facilitated the implementation of the project in four different communities. Five one-day computer waste collection events took place; one in St. George, St. Stephen, St. Andrews and two in Blacks Harbour. ECW also designated two full time drop-off stations, at

each of the offices of ECW as well as the Southwest Solid Waste Commission (SWSWC) in Lawrence Station, which remained open for the duration of the collection period from July to October, for those residents who were unable to attend the organized collection events, or who lived outside of these four communities. ECW and SWSWC staff manned the collection events, which included palletizing the computer waste for transportation, collecting statistics on the nature of the computer waste collected (see Appendix 1 for survey form), and distributing educational information (see Appendix 2 for brochure) and re-usable bags to participants to encourage more environmentally-conscious behaviour.

The advertising effort for the collection events was considerable. ECW printed and distributed posters (see Appendix 3) in all four municipalities for the collection events as well as placed sixteen newspaper advertisements in the local papers. Radio and community announcements were also developed to publicize the collection events.

Project Results

The computer waste collection events and drop-off depots contributed to diverting over 700 computer parts from the landfill contributed by at least then 110 individuals from south-western NB. Figure 1 illustrates the percentage of computer components collected; the most abundant computer component brought to the collection sites were monitors and CPU's, which comprised 25% of the total components collected. Monitors contain lead, cadmium, mercury and other materials that are hazardous to the environment due to contamination

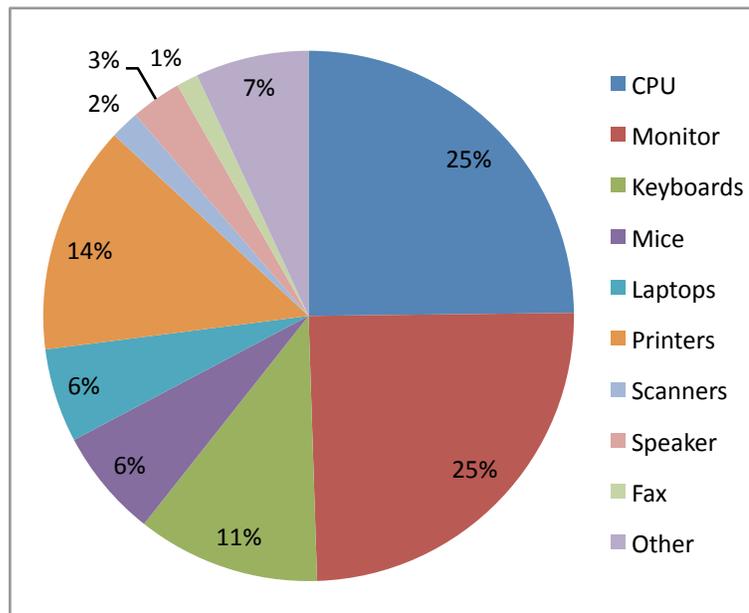


Figure1: Breakdown of computer components received

risks to surface and ground water, and by an extension pose a risk to humans and wild/aquatic life. Normally there is a tipping fee associated with disposal of monitors and electronic waste at recycling facilities; however this program covered the fee using funds provided by ETF for the residential population only. The requirement to pay this fee would most likely discourage the residential population from recycling their old computers, impeding the success of the project, since residents would likely dispose of the computer waste for no fee at the landfill, or at one of the 60 known illegal dumpsites in Charlotte County. One transport truck load containing 7,452 kilograms of computer waste was sent to Resnet, a recycling facility in Edmonston, while a small proportion of remaining components are being stored at ECW until there is enough volume to warrant the hiring of an additional transport truck, in order to avoid the high associated travel

costs and the wasteful consumption of green house gases associated with deploying a partially empty truck.

Figure 2 illustrates the contribution from the addition of two computer waste continuous drop-off depots, which proved to be an added benefit to the collection of computer waste from the residents of Charlotte County, as ECW's office received 31% of the total computer waste. The St. Stephen collection event was the most successful, contributing 29% of the overall computer components, which was not unexpected due to the encouraging results from last year's computer waste collection and its large size relative to the other communities. Furthermore local educational institutions also contributed computer waste to the recycling effort, which is not captured in the figures provided since the components had been palletized prior to pick.

Figure 3 illustrates the results of the project in the second year relative to the first year, in terms of quantities of components collected. This graph clearly demonstrates an increase in computer waste collected in the second year as well as the number of participating residents from Charlotte County. The most impressive increase is the amount of central processing unities or CPU's, with over 100 more collected in the second year. Overall, there was a 52% increase in the number of computer waste received a 23% increase in the number of participants over the entire project duration.

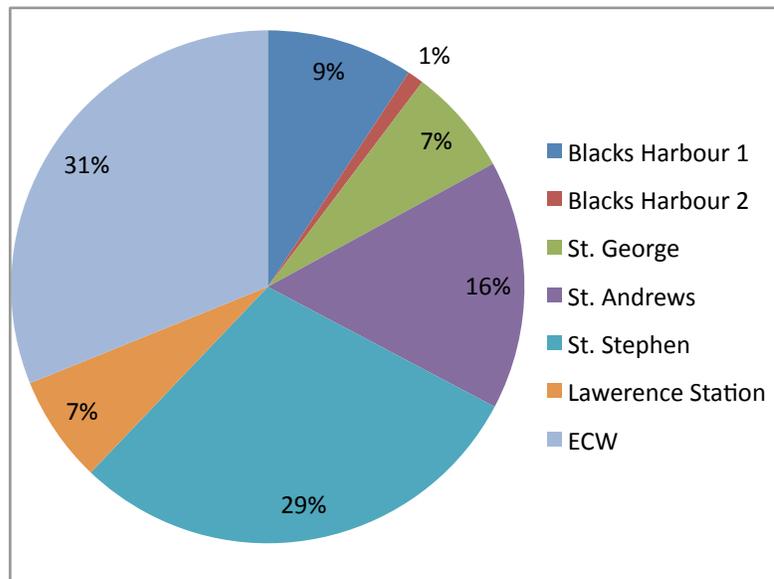


Figure 2: Relative contribution of each collection event and depot facility

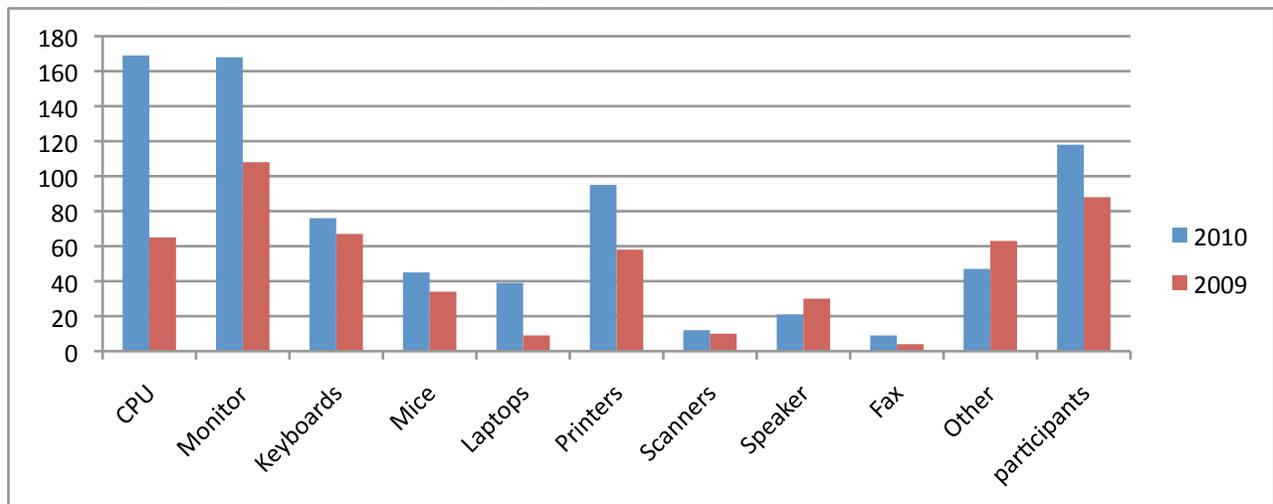


Figure 3: Quantities of computer components collected in 2009 and 2010

Conclusion

This project was considered even more successful in its second year, as demonstrated by the increase in computer waste collected and participants. If the computer waste generated in Charlotte County continues to increase at the same rate of 52%, next year there will be over 1000 computer components to dispose of properly. Furthermore, interest among the Charlotte County private sector is growing as well, and we are encouraged by the willingness of these entities to contribute to the costs associated with disposing of their hazardous electronic waste. We hope to encourage the participation of more private and public sector entities in the future by reaching out individually to potential participants and by enhancing public acknowledgement of their efforts. By diverting the disposal of well over 7,450 kilograms of hazardous computer waste to a recycling facility, the project contributed to prolonging the life of the landfill and reduced the risk of illegal dumping and the associated leaching of materials such as lead, mercury, cadmium and heavy metals into the environment. Ongoing inquiries from residential population attests to the continued interest in the project, as well as the need for the continuation of the project to clear the system of old, unwanted computer waste in anticipation of the provincial initiative to extend producer responsibility for recycling electronics.

Appendix 1: Survey form for project participants

Date:
Time:

Location:
Event:

Staff:

People	Computer Parts										Advertisement Method				Bag	Total
	CPU	Monitors	Keyboards	Mice	Laptops	Printers	Scanners	Speaker	Fax	Other	Radio	Paper	Poster	Mouth		
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
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Total																

Appendix 2: Educational brochure distributed to project participants

What is E-Waste?



E-Waste is a short name for Electronic waste. This includes electronic products such as computers, stereos, VCRs, DVD players, fax machines, televisions, gaming systems, etc. E-waste is one of the fastest growing wastes in North America. Most of the discards can be reused, refurbished, or recycled, if not they should be disposed of properly due to toxic chemicals and heavy metals. E-Waste cannot decompose in landfills

The fast growing e-waste is due to rapid changing technology, low initial cost, and planned obsolescence. Most of the e-waste in North America is going to developing countries where the workers face hazardous conditions and the environment is being polluted from improper disposal.



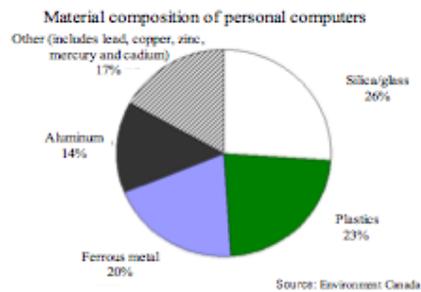
Statistics on E-Waste

More than 140,000 tonnes of e-waste accumulate in Canadian landfills each year.

4,750 tonnes of lead is contained in personal computers and TVs disposed each year in Canada

12,000 tonnes of e-waste discarded in Atlantic Canada 2005; 3,550 tonnes or 32% of which is in New Brunswick

300% richer in precious metal than virgin ore, which makes it a valuable resource.



92% of e-waste can be recycled using existing technology

70% of toxic chemicals comes from e-waste in landfills.

Up to 38 separate chemical elements are incorporated into electronic waste items

Flame retardant are 93 times higher in soil that has been in contact with e-waste than without.

What you can do!

Encouraging vendors and brand owners to subscribe to a take-back and recycling program for the electronic products they sell or make.

Upgrading or repairing electronic products where feasible instead of replacing them with new ones.

Donating your old equipment to a family member, friend or charitable organization.

Checking with your solid waste commission to learn about reuse, recycling and disposal options for electronics in your area.

Useful Links

www.ecwinc.nbnnet.nb.ca

www.hp.com/recycle

www.targetrecycling.com

www.call2recycle.org

www.apple.com/environment/recycling

www.squidoo.com/recycle_computer



**Computer Recycling
Program In Southwestern
New Brunswick**

Eastern Charlotte Waterways Inc. (ECW) has developed the computer recycling program to address the concern for the rapidly growing electronic waste problem. Our target area is Southwestern NB, where we are partnering with Quoddy Futures (QFF) and South West Solid Waste Commission (SWSWC) as a bridge to a provincial e-waste recycling program. Together we are collecting old computers and components to refurbish, recycle and/or dispose of properly. The computers will be sent to Resnet, a New Brunswick company, who guarantee all the computer parts will stay in North America.



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**Recycling Computers In
Southwestern New
Brunswick**



Appendix 3: Poster used to advertise e-waste collection events

**Need to dispose of
an Old Computer?**

Recycle

Let Us Help.

Electronic Waste:
The average PC contains up to 4 lbs of Lead and contains over 16 hazardous heavy metals.
Does not Decompose in Landfill Sites.
The fastest growing type of waste in North America

Free Recycling of Old Computers and Monitors will be available at:

We Accept: CPUs, Monitors, Keyboards, Mice, External Speakers, Printers, modems, scanners, and Laptops.
Be sure to back up and or remove any important documents before recycling. Common locations include "My Documents", "My Pictures", and on the Desktop.

Eastern Charlotte Waterways

SOUTH WEST SOLID WASTE COMMISSION

New Brunswick
Your Environmental Trust Fund at Work
Votre Fonds en fiducie pour l'environnement au travail