2006 Electronic Waste Recycling Collection Event for Gallatin County, Montana

FINAL REPORT

Gallatin Local Water Quality District
Bozeman, Montana

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I. INTRODUCTION

The mission of the Gallatin Local Water Quality District (GLWQD) is to "…protect, preserve and improve the quality of surface water and ground water." Created in 1995 by the Gallatin County Commission (Resolution No. 1995-55), and approved by the Montana Board of Environmental Review in 1997, the GLWQD operates as a non-regulatory department of Gallatin County.

Responsibilities of the GLWQD are to develop preventative measures needed to ensure a continued supply of clean water. Emphasis is placed on the development, facilitation and implementation of voluntary preventative measures and management practices to meet the organization's mission. This is accomplished through a focus on monitoring/research, education/outreach and dissemination of information essential for making sound decisions in preventing water pollution. The GLWQD 5-year Work Plan contains several goals and objectives related to this. One of the objectives is to assist individuals and businesses in managing and disposing of hazardous materials and wastes.

II. BACKGROUND

Technological advances in computers and other electronic devices have been occurring at a rapid pace for many years. Our appetite for wanting to keep pace with technology has lead to an excess of outdated and/or unwanted computers and other technology equipment known as e-waste (electronic waste). Electronic equipment contains heavy metals (mercury, lead, etc.) and other types of hazardous materials. So when e-waste is disposed of improperly, it can contaminate our environment.

Across the country, solid waste facilities realize the hazardous nature of e-waste and many have banned their disposal. Some manufacturers and retailers are now offering take-back programs for proper recycling. The public is also becoming increasingly more aware that e-waste should not just be thrown away in the trash. As a result, e-waste collection events are becoming more common across the country, providing households and businesses with a convenient way to properly dispose of their unwanted electronic equipment.

The first e-waste event in Montana was conducted as part of the Gallatin Household Hazardous Waste Collection Event conducted in partnership between the City of Bozeman and GLWQD in May 2003. One roll-off trailer was filled at this event. In 2004, both entities partnered again to hold an Automotive and E-waste Collection Event. Since then, the GLWQD has hosted two e-waste recycling collection events in Gallatin County: November 2004 and October 2006.

One roll-off trailer of e-waste was collected in 2003 at the Gallatin County HHW Collection Event.

Preparing to transport e-waste collected at the 2004 Automotive and E-waste Event.

Through a competitive grant process, the GLWQD was selected as one of twenty organizations from across the country by Dell, Inc. to receive a $10,000 grant to organize, promote and conduct a free, one-day "No Computer Should Go To Waste" recycling collection event. This was held in November 2004. A satellite event was conducted in West Yellowstone, Montana on November 6th, and the main collection event was held in Bozeman, Montana on November 20th. Our goal was to collect 15 tons of computer equipment. We surpassed this goal and collected a total of 44.4 tons of e-waste.

Some of the palletized computers collected for recycling at the 2004 "No Computer Should go to Waste" recycling event sponsored in part by a grant from Dell, Inc.

Loading 4 of the 6 semi-trailers used to transport the palletized computers to UNICOR in Atwater, CA at the 2004 collection event.

Early in 2006, the decision was made to hold another e-waste event. Our goal was to maximize participation by the public and reduce the amount of e-waste entering the local landfills. This report contains a summary of event planning activities, event outcomes, and project expenses for the GLWQD's 2006 E-waste Recycling Collection Event.

III. SUMMARY OF THE EVENT PLANNING PROCESS

The GLWQD's E-waste Recycling Collection Event was conducted in October 2006. A satellite event was held in West Yellowstone on October 14th. A business only event was held in Bozeman on October 20th and a residential household event was held in Bozeman on October 21st. Detailed information on event planning and coordination is provided in this section.

A. Planning Committee

The following individuals served on the Planning Committee:

- Tammy Crone – GLWQD
- Alan English – GLWQD
- Brad Garnick – Information Technology Center, Montana State University (MSU)
- Carla Wiedeman – Property Management, MSU
- Steve Johnson – Solid Waste Division, City of Bozeman
- Dustin Johnson – Engineering Department, City of Bozeman
- Shad Bare – Solid Waste Division, City of Bozeman
- Sandra Boggs – Montana Department of Environmental Quality (DEQ)
- David Leverett – Full Circle/Four Corners Recycling
- Laurie Bachar – Safety and Risk Management, MSU
- Kathy O'Hern – West Yellowstone Compost and Transfer Facility

The planning committee met three times and had numerous communications via email. The committee reviewed expenditures for the 2004 event, which was partially covered by a grant the

GLWQD received from Dell, Inc., and discussed options for funding this event. These included charging residents a flat fee per vehicle and/or soliciting potential donors to sponsor part of the event. Since our overall goal was to maximize participation by the public and reduce the amount of e-waste entering local landfills, the decision was made to keep the event free. To help cover expenses, the committee decided to solicit sponsors for cash and in-kind services and request donations from both residents and businesses at the event.

The Planning Committee also reviewed a new e-waste fact sheet developed by the GLWQD titled, "The Real Cost of E-Waste" which included a focus on the cost of e-waste disposal in Gallatin County.

B. Target Audience

The event was open to all residential households and businesses in Gallatin County. Understanding that businesses tend to generate larger volumes of e-waste than households, a separate day was set aside for business e-waste drop-off (Friday, October 20th). This also minimized the amount of time participants had to wait in line for their vehicles to be unloaded. Businesses were required to contact the GLWQD to schedule an appointment to drop-off their e-waste and to provide an estimate on the amount of e-waste they would be discarding.

Residential households in Gallatin County were encouraged to bring their e-waste for drop-off anytime between 8:00 a.m. and 3:00 p.m. on Saturday, October 21st. The satellite event in West Yellowstone combined both business and residential into one day and was open from 10:00 a.m. to 2:00 p.m. on Saturday, October 14th.

C. Event Locations

The Gallatin County Fairgrounds in Bozeman was selected for the two-day event site. This location was optimal because of the availability of an indoor facility to sort, palletize and stage the e-waste for loading onto semi-trailers, it is a centralized location, and the layout was conducive to handling a large volume of traffic. Participants were able to drive their vehicle to one entrance for e-waste drop-off and then leave without having to get out of their cars. The other entrance was available for a forklift to load the pallets into waiting trailers. This minimized cross-traffic and the potential for vehicle versus pedestrian conflicts. In addition, storage was provided for the palletized e-waste from West Yellowstone in advance of the Bozeman event.

The West Yellowstone event was held at the West Yellowstone Compost Facility and Transfer Station. This location also provided an indoor facility for sorting, palletizing and loading e-waste into a truck for transport to Bozeman.

E-waste satellite event at the West Yellowstone Compost Facility and Transfer Station.

Sorting and palletizing inside the Gallatin County Fairgrounds building at the Bozeman event.

The Blue Water Task Force, a local watershed group, expressed interest in holding a satellite event in Big Sky. Unfortunately, this request came too late in the planning process to be accommodated this year. In the future, satellite events could be held in Big Sky and West Yellowstone on the same date so that transportation of the materials could be coordinated for delivery to Bozeman.

D. Recycler and Freight Hauler Selection

Our previous experience with Dell, Inc. and their grant program for our 2004 e-waste event was a benefit to us in selecting a recycling facility and a transportation contractor. For this event we again followed Dell's *Recycler Selection Criteria* to ensure a reputable contractor that follows environmental guidelines was identified and selected. It was important that the ultimate destination for the computer equipment remain within the U.S. and that none of the equipment would be destined for a landfill. Many of the individuals and businesses that inquired about the event and the final destination of the materials echoed these concerns.

We selected UNICOR in Atwater, California as the recycler. UNICOR offered to give us a one-time waiver of their $0.10/pound recycling fee. The transportation company selected was USF Reddaway; the same company used for our 2004 event. We initially reserved 6 pup trailers. This was based on the number of trailers filled at our 2004 event. However, due to the anticipated volume of e-waste expected from MSU and other businesses, we increased the number of pup trailers in reserve to 12. This was the maximum number of trailers USF could provide to us from their fleet.

E. Advertising, Outreach and Education Efforts

Advertisement for the event began in late August. Below is a listing of the advertising and outreach methods used. See Appendix A for examples of the advertisement and education materials.

- Press releases sent and newspaper display advertisements run in all local newspapers.
- Message inserts in local municipal water/sewer bills.
- Advertisement flyers posted at local businesses, MSU campus, and on event partner websites.
- Announcements/flyer included in local newsletters (Gallatin County Scoop, Bozeman Neighborhood News, Bozeman Area Chamber of Commerce, etc.).
- Email and listserve announcements (MSU internal listserve, Gallatin County employee listserve).
- Public service announcements (PSAs) & radio ads on local radio stations.
- Press release and Media alert provided to local television stations and newspapers. Unfortunately, no reporters covered this year's event even though these materials were provided with one month advance notice.
- Fact sheet containing information on hazardous materials found in computers, impacts to natural resources, recycling options, benefits of computer recycling, and the real cost of e-waste disposal was developed by the GLWQD and distributed by event partners, placed on the GLWQD, event partners and DEQ websites. It was also handed out to participants at the collection events.
- Information packet containing the e-waste fact sheet, a sponsor recognition sheet, and information on mercury was distributed to event participants.

F. Event Sponsors

The following organizations provided cash and/or in-kind contributions of services and materials to insure the success of the e-waste event:

- Allied Waste Management, Inc.
- City of Bozeman – Solid Waste Management Division
- Full Circle/Four Corners Recycling
- Gallatin County Fairgrounds
- Montana DEQ
- MSU – Information Technology Center
- MSU – Property Management
- West Yellowstone Compost Facility and Transfer Station

G. Donations

A total of 50 businesses made appointments to drop-off e-waste and were asked to consider making a donation to cover the cost of their e-waste disposal when they called to schedule their appointment. An additional 10-15 participated in the West Yellowstone event and the Bozeman residential event and these organizations were asked to consider a donation as well. Contributions from local businesses totaled $1,795. Business contributors were acknowledged and thanked in a display ad run in the Bozeman Daily Chronicle. Donations received from residents totaled $363 between the West Yellowstone and Bozeman events. All cash donors were provided with a receipt acknowledging their contribution.

H. Volunteer Recruitment

E-waste collection events are labor-intensive and require heavy volunteer recruitment and/or paid staff for the event to run smoothly. Overall, recruitment efforts for volunteers were a success yielding 40 volunteers. The GLWQD and members of the Planning Committee put out requests at their workplace for volunteers to staff the event. Volunteers from past e-waste events were contacted and asked to assist. The Gallatin County Jail Worker Program and the Gallatin County Community Service Worker Programs both provided manpower. In addition, we were contacted by two organizations asking if they could provide volunteers: Montana Conservation Corps and the MSU Environmental Resource Club. The volunteers were thanked for their participation in a display ad placed in the Bozeman Daily Chronicle.

Volunteers sorting, stacking and palletizing at the 2006 Bozeman e-waste collection event.

Volunteers at the satellite West Yellowstone event.

I. Gallatin County Surplus Sale

Gallatin County held a surplus computer and electronic equipment sale, conducted by the County Auditor's Office, on the morning of the Bozeman residential e-waste event. All equipment not sold was then palletized and added to the e-waste shipped to UNICOR for recycling.

IV. EVENT STATISTICS

The level of participation and the volume of computer equipment collected far exceeded our expectations. Especially since we had conducted an event two years prior that collected 44.4 tons of e-waste. Because of the volume of e-waste received, and the limited number of pup trailers we had available to us from the transportation company, we were forced to make the difficult decision to shut-down the event one hour early. Our estimation turned out to be accurate, completely filling all 12 trailers with no residual e-waste remaining that could not be transported.

Twelve semi-trailers were used to transport the computer equipment from the collection events to the recycler. **The volume of e-waste collected for recycling was 118 tons**. ***This exceeded our 2004 collection event of 44.4 tons***. The estimated population of Gallatin County on July 1, 2005, totaled 78,210 (source: www.ceic.commerce.state.mt.us) for an estimated 3.02 pounds/capita of computer equipment collected. Table 1 provides a quick reference to the event statistics.

Table 1. Computer Recycling Collection Event Statistics for October 14, 20 & 21, 2004.

DESCRIPTION	TOTAL #'s
Volunteers	40
Volunteer & in-kind hours	596
Residential participants	~500
Businesses	60-65
Total tons	118
Pounds collected per capita (Gallatin Co. population July 1, 2005 = 78,210)*	3.02

*Source: www.ceic.commerce.state.mt.us

V. SURVEY RESULTS

Overall, comments from the public and businesses about the event were very positive. A survey was conducted at the West Yellowstone and Bozeman residential events. Unfortunately, inclement weather prevented volunteers from completing surveys with all participants at the Bozeman event. Yet, enough data was obtained to provide us with valuable information about the public's opinion and type of e-waste collected.

Conducting a survey at the Bozeman e-waste event.

The seven questions asked and results from that survey are:

1) How did you learn about this event?

Newspaper	TV	Radio	Flyer	Friend/Word of Mouth	Website/Email	Other*

2) Where do you live? (Outside city limits = Gallatin County)

Bozeman	Belgrade	Manhattan	Three Forks	Amsterdam/ Churchill	West Yellowstone	Gallatin County	Other*

3) What items did you bring in today?

CPU/ Hard Drive	Monitor	Keyboard, Mouse Speakers	Laptop Computer	Printer, Scanner, Fax Machine	TV	Gaming System	Stereo, radio, CD/VCR player	Cell Phone, PDA, Telephone

4) What is the most convenient way for you to recycle your electronic products? (Check all that apply)

Take to electronics retailer	Take to a collection event like this one	Ship back to the electronics manufacturer	Take to a local charity	Other*

VI.

5) Who do you think should pay for the safe recycling and disposal of these electronic products?

Customer/User	Electronics manufacturer	Retail store	Local government	Other*

6) Would you be willing to pay for the safe recycling and disposal of these electronic products?

Yes	No

6a) If yes, how much?

$5-10	$15-25	More than $25

7) Were you aware that electronic equipment containing circuit boards and rechargeable batteries as well as units such as TV's and computer monitors contain hazardous materials? And if these materials are disposed of incorrectly they can be harmful to our ground water and surface water drinking sources?

Yes	No

Survey results indicated the overwhelming majority of participants believe recycling their computer and electronic equipment at a collection event is the most convenient way to properly dispose of their e-waste. When asked who they think should pay for the proper disposal of e-waste, participant responses were fairly evenly divided between the customer/user, the electronics manufacturer, and local government. Almost all participants indicated they would be willing to pay for the safe disposal and recycling of their e-waste, but no more than $10. The majority of participants were very aware that electronic equipment contain hazardous materials and that if not properly disposed of, can be harmful to our water resources. The majority of e-waste collected consisted of CPUs, monitors, computer peripherals (keyboard, speakers, mouse), printers and televisions.

VII. BUDGET AND EXPENSES

All events were free to households and businesses of Gallatin County. Funding for the events was provided through sponsors, in-kind donations of services and materials, cash contributions from business and residential participants and the resources of the GLWQD. Event expenses totaled $28,094.68. Revenue from sponsors and event participant donations totaled

$13,642.07. In-kind services and materials totaled $14,452.61. Freight costs totaled $11,685.40. Recycling costs of $0.10 per pound were waived by UNICOR for this one event. Cash expenses for the GLWQD (advertising, refreshments, supplies and materials, freight) totaled $3,984.07. Appendix B contains the complete budget information.

VIII. LESSONS LEARNED

There are several lessons the GLWQD learned from this e-waste event that we will definitely apply to future events in order to improve the planning process, customer service, and logistics.

Issue #1
Unfortunately, several of the trailer loads arrived at the recycling facility in disarray. That is, equipment was not secured and/or stacked properly on the pallets to prevent movement during transportation.

Suggested Solutions

- Provide explicit instructions to volunteers on how to palletize monitors and CPUs. Conduct a demonstration prior to the event and provide diligent supervision of the palletization process throughout the entire event.
    - Change the event time to 9:00 a.m. – 3:00 p.m. Have volunteers arrive at 8:00 a.m. to participate in a palletizing demonstration prior to the start of the event.
- Have a GLWQD staff member on hand at all satellite/off-site loading locations who can supervise the palletizing process.

Issue #2
Due to the overwhelming volume of e-waste received, GLWQD staff made the decision to shut-down the event one hour early to insure all materials received would be able to fit on the limited number of reserved semi-trailers provided. During that remaining hour, individuals continued to show-up planning to drop-off their e-waste. Many were upset because we could not take their e-waste. There were also misprints on the hours for the event at a few sources (a 2:00 p.m. versus 3:00 p.m. and closing time).

Suggested Solutions

- In future advertisements post clearly under the event times the following statement: “May close earlier”. This will, hopefully, encourage residents to come earlier in the day versus later and alert them to the potential that the event may shut-down earlier than anticipated.

Issue #3
Volunteers conducted surveys with event participants using clipboards and pens. Snow and rain dominated the weather for the day causing surveys to get wet and making it difficult for the pens to write on the paper. Because of this, we had to discontinue conducting surveys with a little over two hours remaining.

Suggested Solution

- Photocopy surveys onto “Write in the Rain” paper and provide pencils as well as pens.
- Discontinue the survey process since this has been conducted for several events already and we have a pretty good idea of the public’s opinions and type of e-waste collected each time.

Issue #4
Traffic flow was regulated by the use of traffic cones, portable stop signs and event signage that pointed out the entrance. However, some vehicles entered through the exit area.

Suggested Solutions
- Get some exit only signs to post as well.
- Consider reconfiguring traffic flow path for future events to alleviate this confusion.

Issue #5
The Blue Water Task Force (BWTF), a local watershed group, expressed interest in holding a satellite event in Big Sky. Unfortunately, this request came too late in the planning process to be accommodated the request this year.

Suggested Solution
- Contact the BWTF to determine interest when planning a future event. Satellite events could be held in Big Sky and West Yellowstone on the same date so that transportation of the materials could be coordinated for delivery to Bozeman.

Issue #6
Donations by residents on the day of the event (both in Bozeman and West Yellowstone) were not as large as could have been expected given the volume of e-waste received. Many residents didn't know that donations were being solicited.

Suggested Solution
- Include a statement that "donations appreciated" or "donations gladly accepted", on all advertisements (flyers, display ads, public service announcements, etc.).

IX. CONCLUSION

The event was successful and public participation and acknowledgement was positive. Sponsorships and in-kind contributions were key to making this event financially feasible for the GLWQD to host. The costs for any future events will increase substantially due to the requirement to pay a recycling fee per pound (minimum of $0.10/pound) to the recycling facility. For the GLWQD to continue conducting e-waste events, outside funding sources must be secured to help cover the costs. These include sources such as grant programs (local, state and/or federal); corporate, county and municipal sponsors; and charging a fee to residents and businesses that participate. Conducting the event annually should also be considered to keep the volume of e-waste collected to a manageable level.

E-waste collection events provide a much-needed service to our community, protect our water resources, and extend the life of our local landfills. Public awareness about e-waste and the continued growth of Gallatin County suggests that e-waste events are a vital need to our community and should be continued.

E-waste pallets everywhere!

Bozeman "E-waste Gang" among the pallets.

APPENDIX A

Advertisement and Education Materials

Page A2 Flyer
Page A3 Newspaper display advertisement
Page A4 Thank you newspaper display advertisement
Page A5 Press Release
Page A6 Media Alert for newspapers and TV stations
Page A7 Donation thank you letter/receipt
Page A8-A11 Information packet distributed to event participants
- Sponsor recognition page
- Mercury awareness fact sheet (provided by Women's Voices for the Earth)
- E-waste fact sheet (developed by the GLWQD)

Electronic Waste Collection Event

Protect our land & water resources!
Properly dispose of your e-waste!

FREE to all households of Gallatin County

Call 582-3145 for more info.

Businesses by appointment only!
Friday, Oct. 20
Call 582-3145 to schedule.

Saturday, October 21, 2006
8:00 AM - 3:00 PM
Gallatin County Fairgrounds, Bldg. #3

ACCEPTABLE ITEMS: COMPUTERS & RELATED EQUIPMENT, CELL PHONEs, TELEVISIONS (19" or smaller only), FAX MACHINES, CAMERAS, CALCULATORS, HOME ENTERTAINMENT ELECTRONICS, A/V EQUIPMENT.

Remove personal and confidential information from equipment prior to drop-off at event!

WE CANNOT ACCEPT: KITCHEN OR BATHROOM ELECTRONICS OR APPLIANCES.

Hosted by the Gallatin Local Water Quality District

Event Partners and Sponsors:

Gallatin Local Water Quality District

Montana State University Information Technology Center

Montana State University Property Management

Allied Waste Services

Montana Department of Environmental Quality

West Yellowstone Compost Facility

Gallatin County Fairgrounds

City of Bozeman Department of Public Works

Full Circle Recycling

Advertising flyer posted on web sites and various locations around the community.

Electronic Waste Collection Event

Protect our land & water resources!
Properly dispose of your e-waste!

Saturday, October 21, 2006
8:00 AM - 3:00 PM
Gallatin County Fairgrounds, Building #3

FREE to all households of Gallatin County

Questions? 582-3145

Businesses by appointment only! Friday, Oct. 20th Call 582-3145 to schedule.

ACCEPTABLE ITEMS: COMPUTERS & RELATED EQUIPMENT, CELL PHONEs, TELEVISIONS (19" or smaller only), FAX MACHINES, CAMERAS, HOME ENTERTAINMENT ELECTRONICS, CALCULATORS, A/V EQUIPMENT.

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Event Partners and Sponsors:

Gallatin Local Water Quality District

MONTANA STATE UNIVERSITY Information Technology Center

MONTANA STATE UNIVERSITY Property Management

ALLIED WASTE SERVICES

Montana Department of Environmental Quality

West Yellowstone Cowboy Country Pride

Full Circle Recycling

CITY OF BOZEMAN

GALLATIN COUNTY FAIRGROUNDS

Display advertisement placed in all the local newspapers.

THANK YOU!

E-WASTE COLLECTION EVENT VOLUNTEERS

*Your help in unloading, sorting, and palletizing over **100 Tons** of e-waste at our October event was greatly appreciated!*

Adam Armstrong	Karen Filipovich	Bunny Keirk	Mariah Schmidt
Peter Bennett	Bobbi Geise	Alan Lamb	Janalee Singer
Jennifer Blossom	Ray Harrison	Cari Mickolio	Tom Stonoha
Sandra Boggs	Emily Hanray	Brian Oevermann	Kai Strehlow
Tyler Brimmer	Sue Higgins	Kathy O'Hern	Neil W. Watercottor
Jakob Brown	Kelley House	Eric Owens	Michelle Wohl
Mary Cavalier	Blair Howze	Hannah Payne	
David Clark	Evan Johnson	Dan Rycenz	
Victoria Drummond	Nick Johnson	Leslie Schmidt	

Thanks to the following businesses for their donations:

Bozeman Deaconess Hospital	Simms Fishing Products	Four Corners Hardware
Bozeman School District #7	J&H Office Equipment	Riverside Country Club
Manhattan Christian School	eWranglers, LLC	WTC, Inc.
Women's Voices for the Earth	Prugh & Lenon Architects	ThinkOne
Craighead Environmental Institute	Security Title Company	Insty-Prints

Our mission is to protect, preserve and improve the water resources in the District.

Gallatin Local Water Quality District

Gallatin Local Water Quality District
215 W. Mendenhall
Courthouse Annex, Suite E
Bozeman, MT 59715 Ph 582-3148
www.gallatin.mt.gov/GLWQD

Volunteer and donor recognition display advertisement.

NEWS RELEASE

September 15, 2006

Attention: Karin Ronnow

CONTACT INFORMATION:
Tammy Crone (582-3145 tammy.crone@gallatin.mt.gov)
Gallatin Local Water Quality District
215 W. Mendenhall St., Suite E
Bozeman, MT 59715

FOR IMMEDIATE RELEASE – feature article request (we can provide photos from past events to accompany article)
Got Computers and Home Electronics? Take to the Free E-Waste Recycling Collection Event!

Gallatin County residents are invited to empty their garages, basements and closets of unwanted computers and computer-related equipment as well as cell phones, PDAs, and other unwanted home entertainment electronics. Residents can then bring this equipment to the Gallatin County Fairgrounds, Building #3, on Saturday, October 21, between 8:00 a.m. and 2:00 p.m. Drop-off is free. Businesses are welcome to bring in their unwanted electronics on Friday, October 20, by appointment only. Call 582-3145 to schedule. A satellite event is scheduled for residents in the West Yellowstone area on Saturday, October 14, between 10:00 a.m. and 1:00 p.m. at the West Yellowstone Transfer and Compost Facility.

Any brand of electronic equipment will be accepted. Only 19" or smaller televisions can be dropped-off. Kitchen and bathroom-related electronics including appliances will not be accepted. All electronic equipment collected will be transported to a federally certified facility with a zero landfill policy. The computers and related equipment will be recycled and demanufactured in the U.S. in an environmentally safe manner.

The goal of this event is to make donation and recycling of electronic equipment easy and affordable for consumers while keeping the metals and other hazardous materials associated with electronics out of our local landfills and protect ground water. It also reduces the need for the use of virgin materials in the computer and electronics manufacturing process.

One of the more serious environmental contaminants is lead found in computer monitors. One monitor can contain up to 8 pounds of lead. The principal pathway of concern is lead leaching from landfills and contaminating drinking water supplies.

The Gallatin Local Water Quality District hosted a similar event in 2004. "The turnout for our computer recycling event was phenomenal," said Tammy Crone, Water Quality Specialist, "We took in over 44 tons of computers and related equipment. That equates to 44 tons of hazardous waste that did not make it into our local landfills."

The Gallatin Local Water Quality District is partnering with other organizations in our community to make this event possible. Partners in this effort include Montana State University, Allied Waste Management, Montana Department of Environmental Quality, Full Circle Recycling, West Yellowstone Compost and Transfer Facility, City of Bozeman Solid Waste Division, and the Gallatin County Fairgrounds.

-end-

MEDIA ALERT *** GREAT VISUALS *** MEDIA ALERT

ELECTRONIC WASTE RECYCLING COLLECTION EVENT IN BOZEMAN

-- Saturday, October 21 at the Gallatin County Fairgrounds, Building #3 --

What: The Gallatin Local Water Quality District, is offering a free electronic waste (e-waste) recycling day, Saturday, October 21 at the Gallatin County Fairgrounds, Building #3. Event partners and sponsors include the Montana State University, Allied Waste Management, Montana Department of Environmental Quality, Full Circle Recycling, City of Bozeman Solid Waste Division, West Yellowstone Compost and Transfer Facility, and the Gallatin County Fairgrounds.

Gallatin County residents are invited to empty their garages, basements and closets of unwanted computers and related equipment, home entertainment electronics, cell phones and PDAs. Kitchen appliances as well as electronic kitchen and bathroom equipment will not be accepted. Televisions smaller than 19" only will be allowed. The goal of the event is to make donation and recycling of electronic equipment easy and affordable for consumers while keeping the metals and other hazardous materials in these electronics out of our local landfills.

Drop-off for Gallatin County residents is free. Businesses may participate on Friday, October 20th by calling 582-3145 to schedule a drop-off appointment. All equipment will be transported to a federally certified facility with a zero landfill policy. All eletronics collected will be recycled and demanufactured in the United States.

Visuals:

- Volunteers from the above-mentioned organizations unloading unwanted electronic equipment from consumers cars.
- Volunteers packaging the computer equipment onto pallets and loading pallets for transport.

When: Saturday, October 21, 2006
8:00 a.m. to 2:00 p.m.

Where: Gallatin County Fairgrounds, Building #3
Bozeman, MT

Contact: Tammy Crone (582-3145) or Alan English (582-3148)

Background: The Gallatin Local Water Quality District held a similar event in 2004 where only computer equipment was collected. **Over 44 tons** of computers were collected for recycling at that time. The goal of this event is to make donation and recycling of electronic equipment easy and affordable for consumers while keeping the metals and other hazardous materials associated with electronics out of our local landfills and protect ground water. It also reduces the need for the use of virgin materials in the computer and electronics manufacturing process. One of the more serious environmental contaminants is lead found in computer monitors. One monitor can contain up to 8 pounds of lead. The principal pathway of concern is lead leaching from landfills and contaminating drinking water supplies.

Gallatin Local Water Quality District
215 W. Mendenhall, Courthouse Annex, Suite E • Bozeman, MT 59715
(406) 582-3148 • (406) 582-3145
www.gallatin.mt.gov/GLWQD

October 20, 2006

Dear _____:

Thank you for your donation of $_____ to the 2006 Gallatin County Electronic Waste Recycling Collection Event!

Your contribution will help defray the transportation and recycling costs for properly disposing of unwanted/unusable electronic equipment. This will not only keep these materials out of the local landfill, saving valuable space, but will also help to protect our local water resources.

Thank You!

Tammera Crone

Tammera Crone
Water Quality Specialist
E-Waste Collection Event Coordinator

Our mission is to protect, preserve and improve the quality of surface water and ground water.

Sponsor recognition, e-waste and mercury education packet distributed to event participants.

Thanks for participating in the 2006 Electronic Waste Collection and Recycling Event!

HOSTED BY:

The Gallatin Local Water Quality District

Gallatin Local Water Quality District

Thank you to our Sponsors and Contributors!

MONTANA STATE UNIVERSITY Property Management

MONTANA STATE UNIVERSITY Information Technology Center

ALLIED WASTE SERVICES

Montana Department of ENVIRONMENTAL QUALITY

GALLATIN COUNTY FAIRGROUNDS

Full Circle Recycling

WEST YELLOWSTONE COMPOST FACILITY

Four Corners Recycling

CITY OF BOZEMAN DEPARTMENT OF PUBLIC WORKS 582-3200 SOLID WASTE DIVISION Excellence in Public Service

And our hard-working VOLUNTEERS!!

Mercury-Containing Products: Recycle for a Healthy Future

Mercury products represent more than **2,000 tons of mercury in the environment** or 25 percent of the total national mercury reservoir! The EPA estimates that coal combustion is the most significant contributor to air emissions of mercury at 48 tons per year, and products containing mercury contribute 22-29 tons per year, and products containing mercury contribute 22-29 tons to air! (Source: U.S. Environmental Protection Agency, 2002). use and Release of Mercury in the United States. EPA/600/R-02/104. Dec. 2002. **http://www.epa.gov/ORD/NRMRL/pubs/600r02104/600402104.htm**)

What Products Contain Mercury?
Household products that may contain mercury include round thermostats, thermometers, blood pressure gauges, even your child's shoes with the blinking lights! Unsafe handling and improper disposal of these products has the potential to contaminate water quality and the fish that inhabit those waters. Humans eat the fish that absorb mercury, so we too a re at risk—especially women.

Why Should I be Concerned about Mercury?
Mercury is a dangerous neurotoxoin that has been linked to learning disabilities and developmental delays in children and can damage the heart, nervous system, or kidneys of adults. Mercury transfer from women to fetuses across the placenta and to infancts through breastfeeding. According to the U.S. Centers for Disease Control, **6 percent of women of childbearing age already have mercury in their bodies at levels of concern for a developing baby.**

What can I do?
You can help prevent mercury pollution by starting right at home!

- Avoid using products that contain mercury whenever possible
- Recycle products that you can't avoid using

RECYCLE YOUR MERCURY PRODUCTS -- BOZEMAN AREA

Thermostats. Those round thermostats contain mercury! Don't throw them away!

- *Alternative to Use:* Digital Programmable, or non-programmable thermostats do notcontain mercury and cost the same!
- *Recycle Existing:* Drop the entire unit off in a sealed plastic ziplock bag at the Gallatin City-County Health Dept, Environmental Health Services, Courthouse, 311 W Main Rm 108, 406-582-3120.

Thermometers. Thermometers with the silver tip contain mercury!

- *Alternatives to Use:* Digital thermometers or red-tipped alcohol thermometers
- *Recycle Existing:* Drop the entire unit off in a sealed plastic ziplock bag at the Gallatin City-County Health Dept, Environmental Health Services, Courthouse, 311 W Main Rm 108, 406-582-3120.

Light Bulbs. Compact Florescent Light bulbs (CFL's) contain mercury, but are better for the environment because they burn less energy, thus reducing overall mercury emissions. Keep using CFL's, but be sure to recycle them!

- *Alternatives to Use:* None recommended
- *Recycle Existing:* ***a.*** Contact Crescent Electric Supply Company, 1701 Evergeen Drive, Bozeman, 586-4545 for proper disposal information. ***b.*** City of Bozeman residents may have the opportunity to recycle at the City's planned household hazardous waste facility at the City Landfill. Call 582-3200 for more information.

Computers & Electronics. Computers contain many hazardous wastes, including mercury & lead. Try to reuse parts whenever possible, and donate working computers instead of throwing them away.

- *Alternatives to Use:* None recommended
- *Recycle Existing:* ***a.*** Arrange drop off of late model computers (Pentium II and faster) to Re-Compute, located at 411 W Main St. Pick up possible depending on quantity. Working and non-working accepted. They reuse, resell, recycle parts, accept CPUs, monitors (15 in min), keyboards, mouse, printers, and cartridges. Call 522-9049 for more info. ***b.*** Contact the Gallatin Local Water Quality District to find out when the next County-wide e-waste collection event will be held at 582-3148.

For more information:

- Women's Voices for the Earth, www.womenandenvironment.org

The Montana Department of Environmental Quality, www.deq.state.mt.us/Recycle/index.asp

The Real Co$t of E-Waste

What is Electronic Recycling?

Outdated, unwanted and broken electronic equipment are known as e-waste (electronic waste).

E-waste that is not disposed of properly is considered hazardous because it contains metals and other materials that can harm humans and the environment.

Rapid advances in computer technology have resulted in a ballooning volume of outdated and discarded computers.

Did You Know? –

- The average life span of a personal computer in 1992 was 4.5 years. Today, it's 2-3 years.
- Nearly 250 million computers will become obsolete in the next 5 years.
- About 130 million mobile phone are tossed away each year.
- Electronic equipment makes up 1-4% of what goes into landfills.
- An estimated 40 million units of electronic equipment will be recycled in 2007. The majority will be notebook PCs and desktop CPUs.

Source: U.S. EPA, The National Safety Council

The average life span of a Pentium-class computer is 2-3 years. Items that break are usually discarded rather than repaired due to the relatively low price of replacement equipment.

Electronics recycling is complex. Here is the process a typical electronic component may under go at a recycling facility:

Circuit Boards. Most circuit boards and some hard drives can be marketed for resale as operational parts. Unusable circuit boards are chopped into a powder and separated into fiberglass, metals and precious metals.

Plastic Housings. These are difficult to recycle because they contain mixed or unmarked resins that cannot be readily identified or separated, as well as some additives such as flame retardants that complicate recycling. The housings are separated from the electronics and many times they are processed at a smelter to separate the metals from the plastics.

Small Plastic Components. These are removed then ground and processed.

Screws, Clips, Small Metal Parts. Screws, clips, and small metal components are sorted and separated magnetically into ferrous and nonferrous groups. The metals are sold as scrap.

Monitors. The plastic housing, metal supports, and circuit boards are removed. The cathode ray tube (CRT) is crushed and the leaded glass and metal are separated. The glass is screened, processed, and inspected for contaminants. Much of it can be sold to CRT manufacturers for use in new CRT glass. The metal is sold for its scrap value.

Computers being palletized for transport to recycling facility at the 2004 computer recycling event.

Adapted from: WasteWise Update-Electronics Reuse and Recycling. U.S. EPA, Solid Waste and Emergency Response. October 2000. EPA530-N-00-007. www.epa.gov/wasteWise.

Contaminants Found in E-Waste

These otherwise useful materials become contaminants when released into the environment polluting our water, air and food resources. Recycling insures the materials remain bound in useful products.

Cadmium - *Chip resistors, infrared detectors, and semiconductors.* Cadmium is persistent, bioaccumulative, and toxic.

Lead - *Glass panels in monitors and in lead soldering of printed circuit boards.* Lead can accumulate in the environment and have a detrimental effect on plants, animals, humans and water resources. **One computer monitor can contain up to 8 pounds of lead. Consumer electronics may be responsible for 40% of the lead found in landfills.** The principal pathway of concern is lead leaching from landfills and contaminating drinking water supplies.

Mercury - *Sensors, relays, switches and batteries.* When mercury makes its way into waterways, it is transformed into methylated mercury in the sediments. Methylated mercury accumulates in living organisms and travels up the food chain. This is why Montana has fish consumption guidelines: http://www.dphhs.mt.gov/fish.2005.pdf.

Hexavalent Chromium or Chromium VI - *Used to protect against corrosion of untreated and galvanized steel plates.* Major pathways are through landfill leachate or from fly ash generated when materials containing Chromium VI are incinerated.

Brominated Flame Retardants - *Printed circuit boards, components such as plastic covers and cables.* Once released into the environment through landfill leachate and incineration they become concentrated in the food chain. (Source: EPA, The National Safety Council)

Why the Concern with Cell Phones?

Nearly 130 million cell phones are tossed away each year. The circuitry, batteries, and liquid crystal displays in cell phones can contain toxics like arsenic, beryllium, cadmium, copper, and lead. Their plastic casings have also been treated with brominated flame retardants. (Source: EPA)

Cell Phone Disposal Options

Many domestic violence and crisis intervention shelters will accept unwanted cell phones that can then be provided to their clients. Contact a local shelter in your area to see if this option is available to you. Of course, it is a good idea to make sure you remove all the phone book contacts, photos, etc. from your phone prior to donating.

Computer and Electronic Technology Disposal Options

Local -
ReCompute Bozeman, Inc.
411 W. Main Street, Bozeman, MT 59715
(406) 522-9049

Call to arrange drop-off of computers (Pentium II or higher). Will take monitors for a $35 fee. Pick-up possible depending on quantity. Working and non-working accepted. They reuse, re-sell & recycle parts. They accept CPUs, monitors, keyboards, mouse, printers, cartridges.

National -
Many computer manufacturers/retailers (Dell, Gateway, etc.) have recycling programs and will take your old computer system when you purchase a new one. Check out their websites for recycling information and specific details.

GreenDisk — Provides mail-in option for recycling of e-waste. www.greendisk.com

Items Considered to be Consumer Electronics

Televisions and Monitors
Computers
Computer Peripherals
Audio/Stereo Equipment
VCRs
DVD Players
Video Cameras
Telephones
Fax and Copy Machines
Cellular Phones
Wireless Devices
Video Game Consoles

Palletized computers ready for transportation to the recycling facility at the free 2004 Computer Recycling Event for Gallatin County residents.

What is the Real Co$t of E-waste Disposal?

Luckily, more and more consumers are becoming aware of the problems associated with throwing electronic products away. Communities and businesses are providing opportunities for the public to dispose of their e-waste in a responsible manner.

Collecting and facilitating the proper disposal of e-waste is complex, labor intensive and expensive. But doing nothing at all can be more costly to our environment and our health.

E-waste collection events are a great community service. The computer recycling event held for Gallatin County residents in 2004 took in **44.4 tons** of computers and related peripherals—***all at no direct cost to the 500+ residents who participated***. But what are the real costs?

The contracted recycling companies may charge by the pound or a flat rate per item. For example, the recycling fee to properly dispose of a complete desktop computer system (monitor, CPU, keyboard, mouse, speakers) averages $20-$60/system. Costs for disposal by the pound can range from $0.10-$0.60/pound.

Cost of the 2004 Gallatin Co. Computer Recycling Event

Description	Cash Amount	In-Kind Amount	Total Expense
Advertising	$1,652	$ 270	$1,922
Supplies	$ 989	$1,113	$2,102
Volunteer & Staff Time		$10,265	$10,265
Transportation	$4,800		$4,800
Recycling	$8,880		$8,880
TOTAL COST	$16,321	$11,648	$27,969
Real Cost/Event Participant (547)			$51.13

Source: Gallatin Local Water Quality District.

Then there are the incidental expenses for holding this type of event: advertising to get the word out, packaging supplies (pallets, shrink wrap, gaylord boxes), equipment use/rental (forklift, pallet jack), disposal of trash, and recycling of cardboard that come with the e-waste when dropped-off. Finally, there is the value of the volunteer and staff time to make the event run successfully.

Many e-waste collection events charge participants a fee, ranging from $5-$15. These are minimal when the total cost of holding a collection event are factored in and the pay-offs to safe-guarding our land and water resources is considered.

Gallatin Local Water Quality District - 215 W. Mendenhall Street, Suite E, Bozeman, MT 59715
(406) 582-3148 - www.gallatin.mt.gov/GLWQD

APPENDIX B

BUDGET

DESCRIPTION	EXPENSE Cash	EXPENSE In-Kind	REVENUE
Montana DEQ (earmark for advertising costs)			$ 1,000.00
Gallatin Local Water Quality District			$ 3,984.07
Allied Waste Management			$ 1,500.00
MSU - Property Management			$ 2,500.00
MSU - Information Technology Services			$ 2,500.00
Donations - Businesses			$ 1,795.00
Donations - West Yellowstone Satellite Event			$ 193.00
Donations - Residential			$ 170.00
Revenue Total			**$ 13,642.07**
Advertising			
Newspaper display ads	$ 1,000.34		
RBC radio PSA ads	$ 150.00	$ 150.00	
Photocopies - Insty Prints	$ 81.90		
Signage - Sign-A-Rama	$ 165.17		
Advertising Total	**$ 1,397.41**	**$ 150.00**	**$ 150.00**
Manpower			
GLWQD, City Bozeman, Fairgrounds, Full Circle Reclng, WY Transfer Station		$ 8,142.48	
Volunteers (316 hours @ $12/hour)		$ 3,792.00	
Manpower Total		**$11,934.48**	**$ 11,934.48**
Refreshments for Volunteers			
West Yellowstone Satellite Event, Bozeman Business & Residential Event	$ 347.47		
Refreshments Total	**$ 347.47**		
Supplies & Equipment			
Gaylord boxes (Full Circle Recycling @ $10/ea)		$ 200.00	
Facility rental (Fairgrounds Bldg. #3 for 4 days)		$ 650.00	
Office supplies (clipboards, pens, etc)	$ 20.45	$ 30.00	
Cardboard inserts (Full Circle Recycling & U-Haul)	$ 38.40	$ -	
Work gloves & safety vests (safety vests donated by Allied Waste)	$ 22.94	$ 50.00	
Stop sign (2 @ $25/ea City of Bozeman)		$ 50.00	
Forklift w/ propane bottle (City of Bozeman)		$ 84.38	
Pallets 119 @ $5/ea. (Full Circle Recycling and City of Bozeman)		$ 545.00	
Pallet jack (Thompson's Rental Shop) (Full Circle Recycling donated 5 days)	$ 27.00	$ 135.00	
Garbage dumpster with garbage service (City of Bozeman)		$ 95.00	
Rear load trucks for garbage and cardboard (City of Bozeman)		$ 416.00	
Stretch wrap & packing supplies (2 rolls donated by Full Circle Recycling)	$ 103.00	$ 50.00	
Supplies & Equipment Total	**$ 211.79**	**$ 2,305.38**	**$ 2,305.38**
Freight			
USF Reddaway ($971.70/pup trailer @ 11 trailers + 1 48' trailer @ $996.70)	$ 11,685.40		
Full Circle Recycling (W.Yellowstone - Boz) $0.445/mi @ 141 miles		$ 62.75	
Freight Total	**$ 11,685.40**	**$ 62.75**	**$ 62.75**
Recycling			
UNICOR (Atwater, CA) $0.10/pound – waived **Recycling Total**	**$ -**		
CATEGORY TOTALS	**$ 13,642.07**	**$14,452.61**	**$ 28,094.68**
GRAND TOTALS	**$28,094.68**		**$ 28,094.68**

GLWQD Cash Expenses for Event:	Amount
Advertising	$ 397.41
Refreshments	$ 347.47
Supplies & Equipment	$ 211.79
Freight	$ 3,027.40
GLWQD EXPENSES GRAND TOTAL	**$ 3,984.07**