

Public Space and Events Recycling

Jack DeBell

University of Colorado Recycling Services

Disclaimer Notice: This presentation has been provided as part of the U.S. Environmental Protection Agency Resource Conservation Challenge Web Academy Recycling and Solid Waste Management Educational Series. This document does not constitute EPA policy. Mention of trade names or commercial products does not constitute endorsement or recommendation for use. Links to non-EPA web sites do not imply any official EPA endorsement of or a responsibility for the opinions, ideas, data or products presented at those locations or guarantee the validity of the information provided. Links to non-EPA servers are provided solely as a pointer to information that might be useful to EPA staff and the public.

Outline

- Public Space

container siting

- Events

building standards

- Zero Waste

LEED certification

Public Space Container Basics

- siting essentials
- placement parity
- strategic coverage



Campus Building Standards: “recycling by design”

Recycling container space provided in:

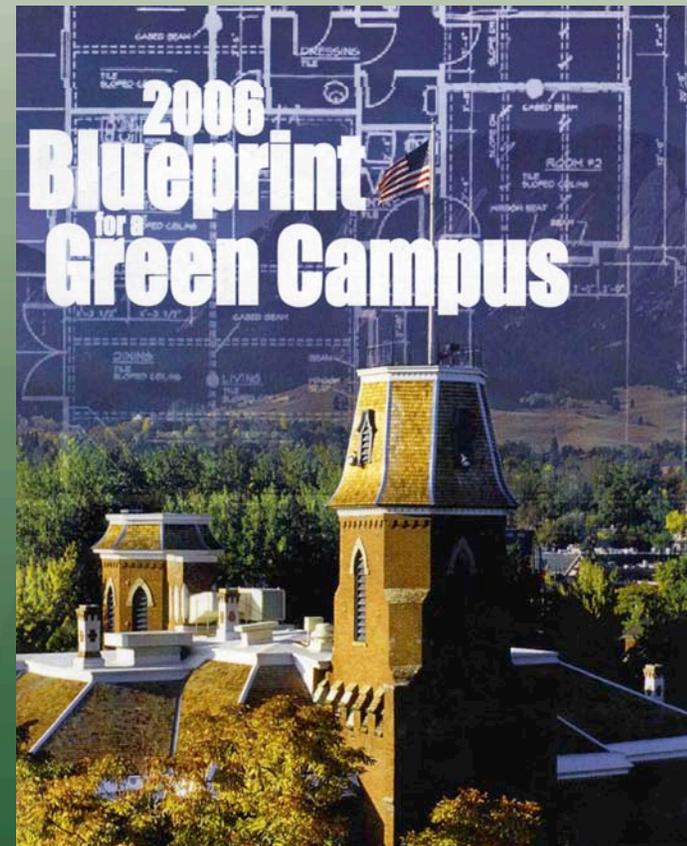
- offices
- copy/computer rooms
- vending areas, lounges
- classrooms
- storage rooms
- loading areas/outdoor storage

Combination of litter & recycling receptacles

- secured to the ground with a removable liner or bin
- available at convenient points on campus

Floor plans reviewed by Recycling Office

- prior to approval of plans



<http://fm.colorado.edu/construction/standards/v2007/arch/documents/appendix-7.pdf>



Student Union building, 2006



ATLAS building, 2006



CU Law school, 2007

LEED for New Construction Rating System

Materials and Resources Prerequisite : Storage & Collection of Recyclables (version 2.2)

- Provide an easily accessible, dedicated area that serves the entire building

- Coordinate the size and functionality of the recycling areas with the anticipated collection

- Consider employing cardboard balers, aluminum can crushers, recycling chutes and collection bins at individual workstations to further enhance the recycling program



<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220>

Indoor Recycling



Loading Areas



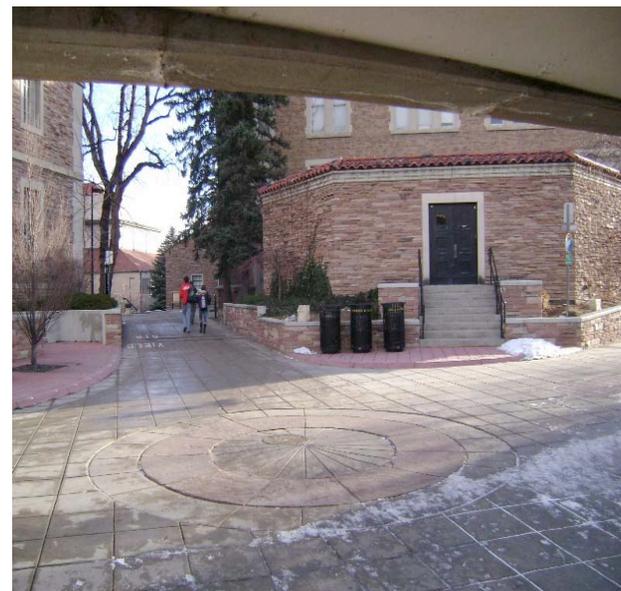
Outdoor Enclosures



Outdoor Event Venue



Transit points and Pedestrianways



Outline

- Public Space

operations

- Events

contracting

- Zero Waste

promotion

Stadium Events



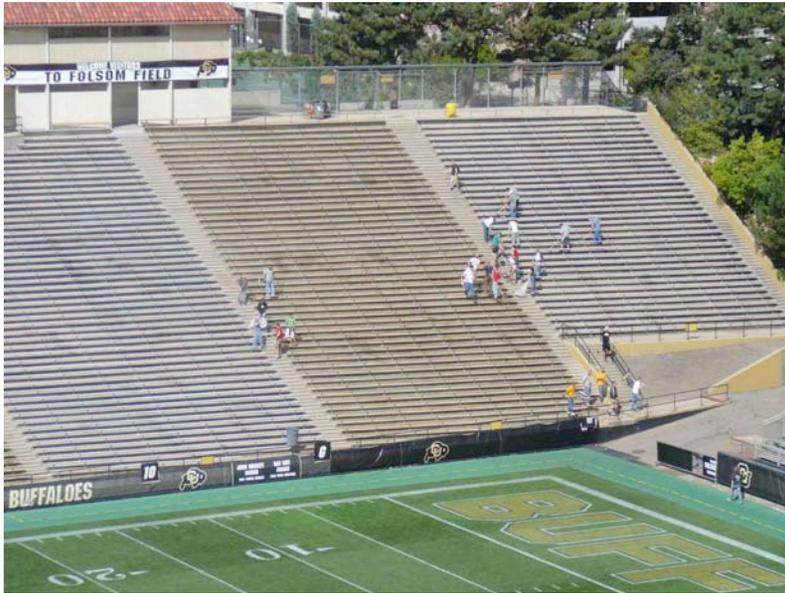
Staffing



Collection / Transportation



ROTC assistance



Cooking Oil to Biodiesel



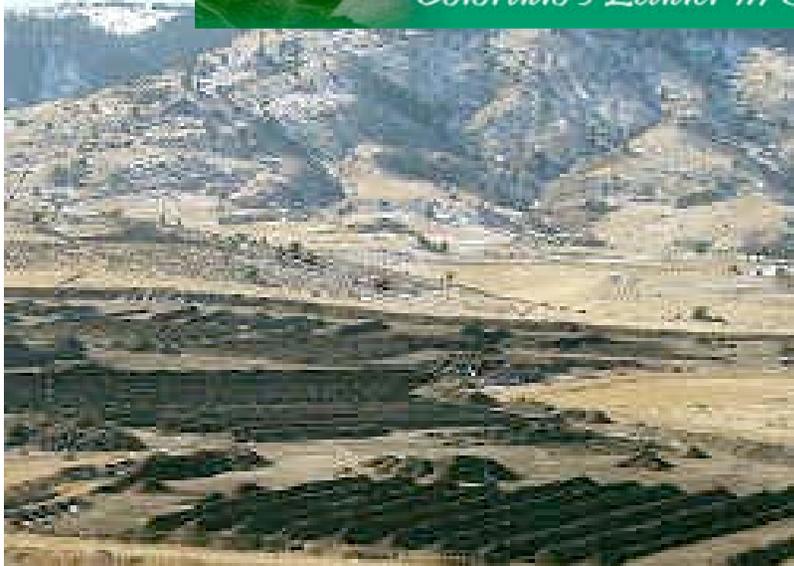
Composting





A1 Organics

Colorado's Leader in Organic Recycling



Bolder Boulder



**Soft Drink Vending Contracts
And
Recycling:**

Toolkit for Change

Prepared by the

College and University Recycling Council

**A Technical Council of the National Recycling
Coalition**



August, 2000



Principle Findings and Recommendations

- ❖ Products and packaging associated with the vending of soft drinks, teas, lemonades, and juices have direct financial and environmental impacts to the campus.
- ❖ Campus vending machine contracts are lucrative to vendors because they are often multi-year and exclusive, they substitute more profitable plastic containers for aluminum cans, and they reach a highly desirable audience of young adults.
- ❖ The conversion from aluminum cans to plastic bottles will likely place additional collection, processing, and transportation costs on the campus recycling programs while lowering revenues earned from the sale of recyclable materials.
- ❖ Increasingly, vendors have recognized the need to assist campus recycling programs and have provided a wide range of support- ranging from funding assistance and collection of recyclables, to donated equipment and promotional materials.
- ❖ Schools receiving the highest levels of support for recycling have included support provisions into their vending contracts.
- ❖ Vendors are more likely to provide support when schools acknowledge their involvement and provide positive publicity for vendors' efforts.
- ❖ Support for recycling can be affected by lower-than-expected sales goals or contracted quotas. Projecting realistic sales volumes is recommended.
- ❖ Campus recycling representatives ought to be involved in the planning process for vending contracts as early as possible.
- ❖ A menu of requirements along with options that vendors can choose from helps assure the greatest levels of support for the campus recycling program while providing flexibility to vendors. This menu should be included in your Request for Bids document.
- ❖ A reporting requirement allows the vendor to document its contribution to an institution's efforts.

Objectives

- ✓ Decrease the generation of vending related solid waste on campus.
- ✓ Increase materials recycled on campus.
- ✓ Offset expenses for recycling or disposing of materials generated from vending machines on campus
- ✓ Establish new mechanisms for promoting campus waste reduction and recycling.
- ✓ Promote companies who support the school's recycling effort.

Concession Vendor Involvement

Financial / Operational Support for Recycling

Options :

- deliver approved materials for recycling to designated recycling stations at campus venues
- provide containers for cardboard collection at special events/and other campus functions
- provide containers for collection of bottles and cans at special events/ and other campus functions
- compost food waste
- recover used cooking oil for biodiesel refining

Waste Reduction

Options :

- offer refillable, (dishwasher-safe) plastic cups
- use button-activated dispensers (rather than paddle activated) so cups can be refilled
- use in-line flow meters and other inventory control methods so cups can be refilled
- return wooden pallets or reusable plastic pallets (HDPE, nylon/fiberglass options)
- reduce transportation packaging (e.g. take-back pallets, substitute shipping crates for boxes, etc)
- Use unbleached, recycled napkins
- Leftover food saved for food programs for disadvantaged populations
- use bulk condiment dispensers instead of single serving packages in dining operations

Recycled Products

Options :

- provide paper cups made which are made with post-consumer fiber
- provide plastic bottles which are made with post-consumer resin
- provide compostable cups and service ware
- use post-consumer materials for carrier stock, pallets; strapping
- use post-consumer content paper for office needs and promotional printing

Concession Vendor Involvement - continued

Promotional Support

Options :

- instruct employees in proper recycling procedures at CU-Boulder
- donate containers and recycling collection equipment
- provide promotional items like signs and banners

Reciprocal Promotional Support (provided from Campus department)

Options :

- provide logo space on vendor-supplied equipment
- issue press releases and reports that highlight vendor/campus accomplishments

Financial / Administrative / Training Support

Options :

- create accrual mechanisms to use savings in disposal costs to fund further waste reduction initiatives
- create and promote a system to report wasteful practices and offer suggestions for waste reduction
- incorporate materials management information into new employee and/or new student orientation programs;
- recognize materials management roles in relevant staff job descriptions
- track and report annual progress

Other activities?

Comments?

Suggestions?

Participate in survey for upcoming Toolkit for Vendor
Contracts

Visit www.colorado.edu/recycle

Thank You!



CU-BOULDER EMBARKS ON AMBITIOUS PLAN TO REDUCE WASTE AND GREENHOUSE GAS EMISSIONS



<http://ecenter.colorado.edu/energy/stopwaste/>

Environmental Impact Report

From 2004 To 2005

University of Colorado Recycled:

1,981,400 pounds of Paper 307,400 pounds of Co-mingled Containers

By Recycling, you helped save...

270,101	gallons of gasoline.	
1,493	metric tons of air emissions and waterborne waste.	
6,934,900	millions gallons of water.	
14,348	fully grown trees.	
3,435	cubic yards of landfill space.	
24,599	million BTU in energy savings.	
234	houses powered per year.	
973	metric tons of greenhouse gas emissions.	
1,001	cars off the road per year.	

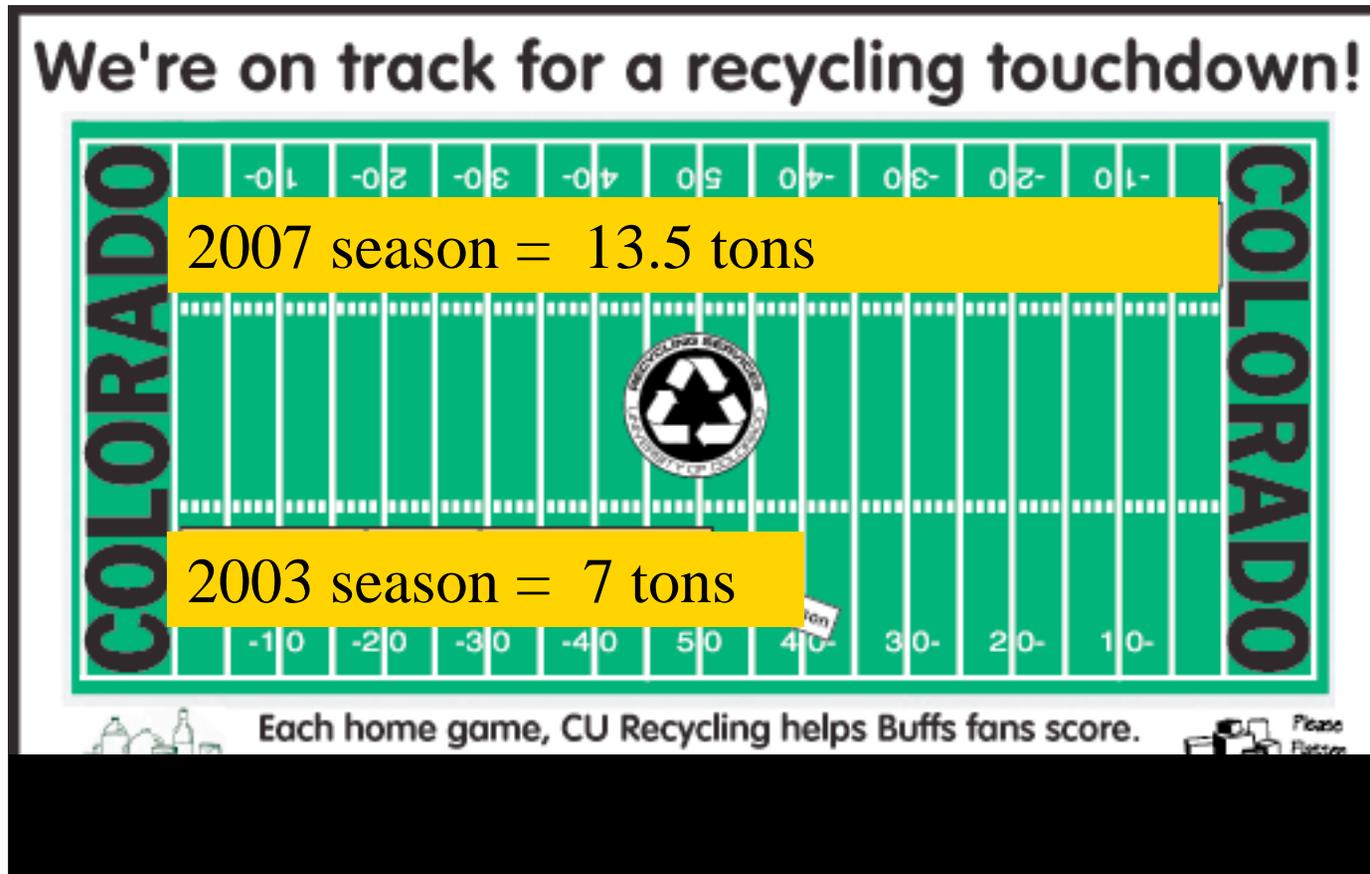
Thanks for making a difference.

"We need to C.U. Recycling"
www.colorado.edu/recycle
303-492-8307

Sources: Environmental Protection Agency, National Recycling Coalition



Promotions



Promotions





Get in the Game!

Recycle to win. Get involved in RecycleMania,
the ten-week recycling competition.

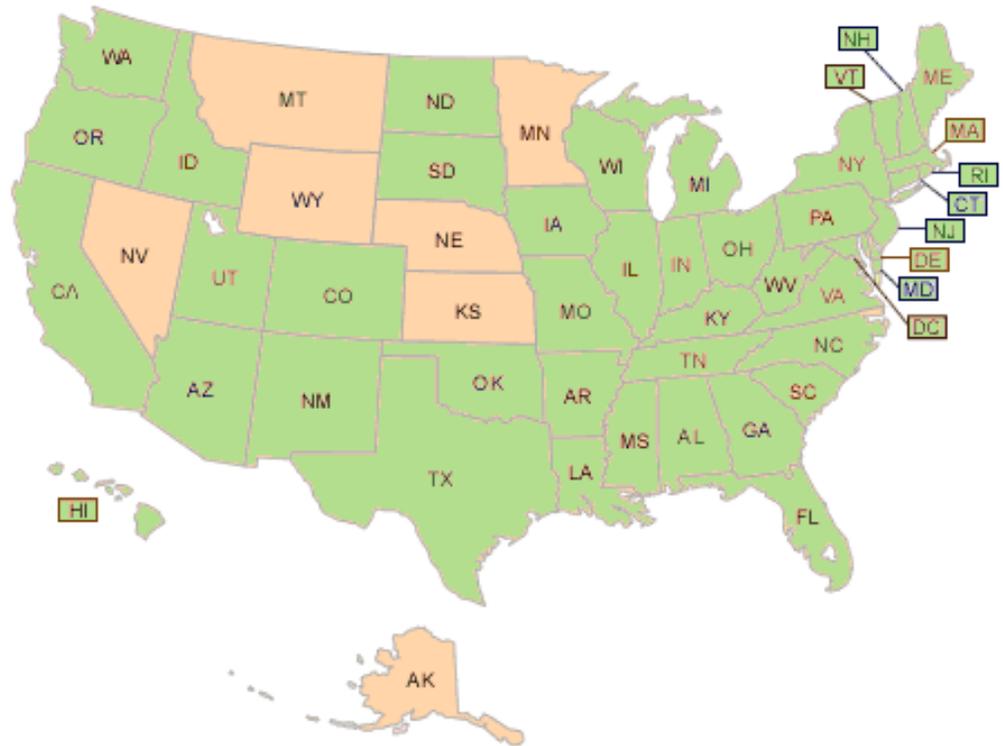
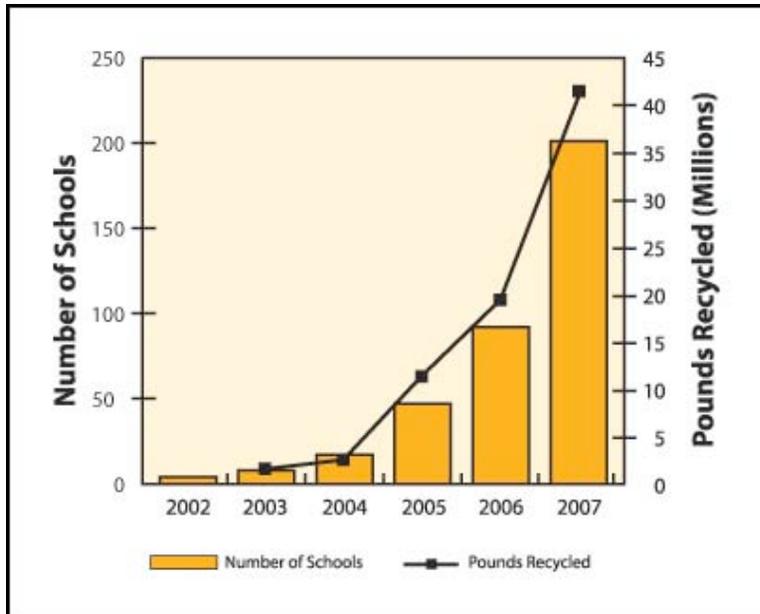


For more information please visit:
www.recyclemaniacs.org



These ads were made possible by sponsorship from The Coca-Cola Company™

Size and Scope of RecycleMania





www.recyclemaniacs.org

Outline

- Public Space
- Special Events
- Zero Waste

characteristics

operations

compostable/renewables

alternatives

Characteristics

- high diversion - 90%+ from convenient, easy-to-understand system
- precycling - emphasis placed on waste minimization
- highest and best use - recover the highest value of materials from discarded products and packaging
- shared responsibility - organizer and vendor involvement required
- reused, recycled & renewable products - use environmentally-preferable products in every aspect of operation
- economic incentives – use competitive-bidding, savings accrual, fee-for-service, etc.

Operations



**Welcome to a
Zero Waste Event**



**This is a
No Trash Zone**

**Please follow
compost and recycling
guidelines**

For more information contact: **C.U. Recycling**
303-492-8307 www.colorado.edu/recycle



Operations



Corn Plastic - PLA

What is it?

- Polylactic Acid (technical name)
- Created entirely from 100% US-grown corn
- Sugars/starches are extracted from corn and converted into a polymer
- Polymer is made into a resin that can be converted or thermoformed into usable products

Corn Plastic - PLA

Key Benefits

- Looks & feels like regular plastic
- Compostable
- Made from renewable resources
- Designed for cold food/beverages ONLY
 - Melting point of approximately 115 - 131 degrees (F)



Sugarcane (aka Bagasse)

What is it?

- “leftovers” from processing sugarcane, primarily grown for cane juice
- Previously, stalk was incinerated or thrown away
- Now, stalk is broken down into a pulp that can be molded into products



Sugarcane (aka Bagasse)

Key Benefits

- Compostable
- Renewable and reclaimed
- Grease-resistant
- Microwave-safe, freezer safe
- Feels like paper, but is less expensive



PLA-lined Paperboard

Why PLA-lined Paperboard?

- PLA replaces petroleum based liners -
Able to withstand heat
- Creates a leak-proof lining for hot & soup cups
- Offers a renewable alternative to conventional poly-line products

Vegetable Plastic - PSM

What is it?

- Plant Starch Material (technical name)
- Created from 80% non-GMO corn; 20% other biodegradable fillers
- Previously created from potato starch
- Compostable
- Functional for hot & cold foods (to 220 degrees)

Cold Cups & Lids

Created from PLA aka Corn Plastic

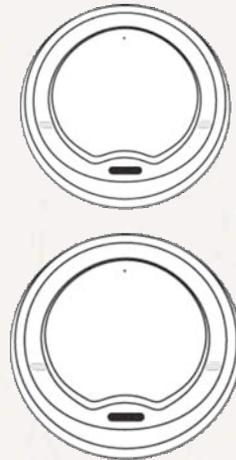


- 12 oz. Green-Stripe Corn Cup
- 16 oz. Green-Stripe Corn Cup
- Universal Flat Lid
- Universal Dome Lid

Hot Cups & Lids

Created with PLA-lined Paperboard

(current lids are plastic; compostable lid available March, 2008)



- 8 oz. World Art Hot Cup
- 12 oz. World Art Hot Cup
- 16 oz. World Art Hot Cup
- White 8 oz. Lid
- White 12/16 oz. Lid

Soup Cups & Lids

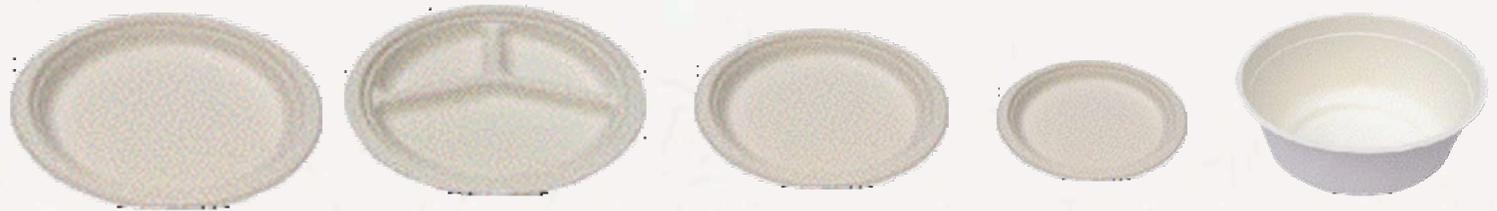
*Created with PLA-lined Paperboard
current lids are plastic; compostable lid available March, 2008)*



- 12 oz. World Art Soup Cup
- 12 oz. Lid

Plates & Bowls

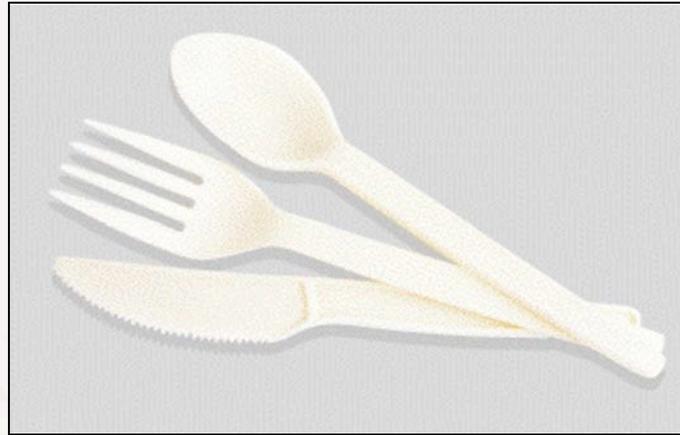
Created from sugarcane



- 10" Sugarcane plate
- 10", 3-compartment Sugarcane plate
- 9" Sugarcane plate
- 6" Sugarcane plate
- 12 oz. Sugarcane bowl

Cutlery, Mediumweight

Created from PSM



- PSM Spoon
- PSM Fork
- PSM Knife

Alternatives



“Zero Waste is no longer just an idealistic vision,
but rather a practical goal and comprehensive
planning framework”

-Gary Liss
Co-founder, National Recycling Coalition



RESOURCES

American College and University President's Climate Commitment

www.aashe.org

College and University Recycling Council

www.nrc-recycle.org/curc

CU's Blueprint for a Green Campus

<http://ecenter.colorado.edu/blueprint06/>

Eco-Products

www.ecoproducts.com

Grassroots Recycling Network: Campus Zero Waste

<http://www.grrn.org/campus/index.html>

Leadership in Energy and Environmental Design (LEED)

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220>

RecycleMania!

www.recyclemaniacs.org/

Toolkit for Soft Drink Contract Revision

<http://www.nrc-recycle.org/curcprojects.aspx#2>

University of Colorado Recycling Services

www.colorado.edu/recycle

Zero Waste Alliance

<http://www.zerowaste.org/>





CU Recycling

303.492.8307

debell@colorado.edu

www.colorado.edu/recycle