



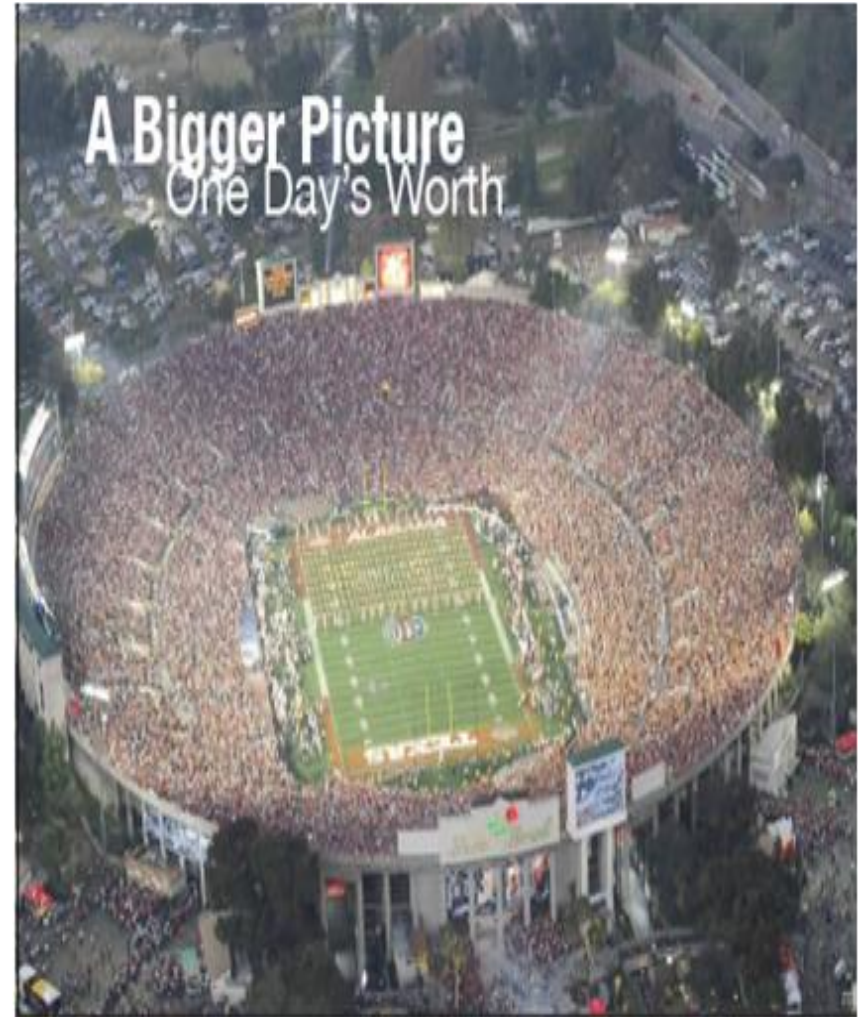
Food: Too Good to Waste Pilot Toolkit

EPA's Sustainable Materials Management Webinar

November 15, 2012

The Food Waste Problem

- Americans waste enough food to fill the Rose Bowl every day (Bloom 2010).
- 44% of all food produced or imported for consumption in the U.S. ended up in the landfill or compost pile (USDA, ERS 2010).
- Americans throw away \$124 billion each year in food purchases.





Food Recovery Hierarchy

www.epa.gov/foodscraps

Source Reduction

Reduce the volume of surplus food generated

Feed Hungry People

Donate extra food to food banks, soup kitchens and shelters

Feed Animals

Divert food scraps to animal feed

Industrial Uses

Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy

Composting

Create a nutrient-rich soil amendment

Landfill/ Incineration

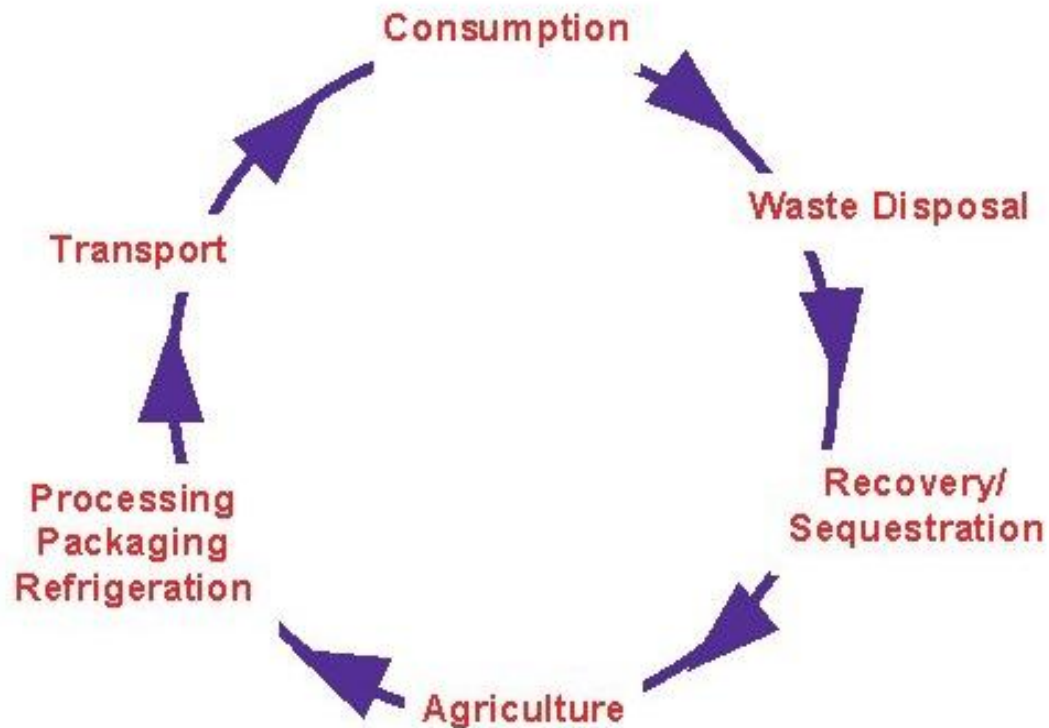
Last resort to disposal

Community Food Waste Prevention Pilot

Purpose

- To reduce wasteful household food consumption by focusing on social marketing incentives and messages directed at individuals within targeted communities to consume less by wasting less food.

The Food Cycle



Community Food Waste Prevention Pilot

Focus

- Remain focused on households and individual behavior. There are already numerous programs tailored for the business community

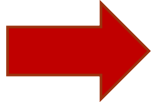
Target Audiences

- Families with young children
- Young full-time workers

Strategy

Develop and test scalable model featuring a Community-based Social Marketing (CBSM) approach to foster food consumption behaviors that reduce wasted food

Where Are We?

- Step 1: Identify and Select Behaviors for Change
- Step 2: Identify Barriers and Benefits of Selected Behaviors
- Step 3: Design Pilot
 - Pilot Interviews
 - Social-psychological Tools
 - Objectives
 - Communication/Messaging
 - Data Collection Methods
 - Pilot Design
-  Step 4: Pilot Implementation and Evaluation (Q4 2012)



How Did We Get Here?

- Started in late 2010: EPA (OSWER) Innovations Workgroup Grant

- Thanks to Our Planning Team!

Tetra Tech and Subcontractors – Viki Sonntag , Tommie Jean Valmassey, Joanna Canepa, Amanda Godwin and Julie Colehour

EPA HQ – John Cross, Amy Lile, Jean Schwab

EPA R9 – Shannon Davis, Olof Hansen

EPA R10 – Ashley Zanolli, Vicky Salazar, Theresa Blaine, Daniel Brody, Dore Mangan

Over 20 State and Local Government Partners from:

CA – San Benito County, Oakland, San Francisco, Chula Vista, Cupertino

WA – Seattle, King County, WA Ecology, Tacoma, Redmond, Bellevue. Clark County, Snohomish County. Thurston County

OR – Dept. of Env. Quality, Portland, Oregon Metro, Gresham, Eugene, Washington County

MN State pollution Control Authority

ICLEI, Green Cities CA

Overarching Measurement Objectives

Develop and test scalable model featuring a Community-based Social Marketing (CBSM) approach to foster food consumption behaviors that reduce wasted food

- Measure impact of CBSM campaign on behaviors (intermediate result)
- Measure impact on food waste reduction (outcome)
- Calculate cost effectiveness and environmental and economic benefits of pilot
- Identify fit with current strategic plans and programs

Community-Based Social Marketing

- Step 1: Identify and Select Behaviors for Change
Deliverables: Background Research Report
- Step 2: Identify Barriers and Benefits of Selected Behaviors
 - Background Research
 - Focus GroupsDeliverables: Strategies and Messaging
- Step 3: Design Pilot
 - Pilot Interviews
 - Social-psychological Tools
 - Data Collection MethodsDeliverables: Pilot toolkit for Food: Too Good To Waste

Summary: Steps 1 and 2

Behavior	Benefit	Barrier
1. Make a shopping list with meals in mind	Waste aversion Saving money	Dynamic lifestyle Time Automatic behavior
2. Eat older stuff first	Waste aversion	Gratification Convenience
3. Prepare items sooner	Convenience Saving money Health	Skills Knowledge
4. Buy less at a time	Waste aversion Saving money	Automatic behavior Dynamic lifestyle Packaging Time (if increased need to shop more often)
5. Keep Fruits and Vegetables Fresh	Waste aversion Health Saving money	Knowledge Time Not enough room in fridge

The Toolkit Includes:

- **Research Report** which provides an analysis of food loss research, the selection of key waste prevention behaviors, and an analysis of focus group results to determine barriers and benefits to key waste prevention behaviors.
- **Message Map** with messaging for all 5 key waste prevention behaviors selected;
- **Implementation Guide** designed for a local government or other implementing organization;
- **Behavior Change Tools** including a storage guide, shopping template, poster and workshop presentation; and
- **Measurement Tools** including food waste measurement bag design, photo diary template, and centralized data collection system. Through the measurement tools, households can see the impact of their actions immediately; and

All files are available for download from our FTP site at:

Implementation Guide

- This guide provides a comprehensive description of the purpose of the Pilot, the toolkit, and how your organization might launch a new food waste prevention challenge or incorporate this campaign into existing programs



Before implementing the pilot, consider the following questions:

- **Objectives:** What are the implementing organization's objectives for the pilot?
- **Target Population and Sample Size:** Who is the target population for the pilot? What sample size will provide sufficient data to model desired outcomes?
- **Behaviors to Target:** Will the pilot focus on one or more of the five selected behaviors?
- **Tools to Use:** Which tools will be used?
- **Community Partners:** Who are the community partners that the implementing organization will engage in the pilot?
- **Cost:** What resources are available to implement the pilot?

Messaging



**TOO GOOD
TO WASTE**

- Note: Implementing organizations may choose to focus on one or more of the behaviors in the pilot along with the corresponding tools. In general, selecting fewer behaviors to focus on simplifies the outreach messaging and data collection
- Message Map (English and Spanish versions):
ftp://ftp.epa.gov/reg10ftp/Food_Too_Good_To_Waste/Messaging/04_Message_Map_08_18_12.pdf

Behavior Change Tools



- **Fruit and Vegetable Storage Guide**
 - Spanish version available
- **Shopping list template with meals in mind**
 - Spanish version available
- **Infographic/Poster**
- **Workshop Presentation for Community Participants**

Fruit and Vegetable Storage Guide

SMART STRATEGY:

Know which fruits and vegetables stay fresh longer inside or outside the fridge.

By storing them for maximum freshness, they will taste better and last longer.

PARTNER
LOGO HERE



**TOO GOOD
TO WASTE**



FRUIT AND VEGETABLE STORAGE GUIDE



INSIDE THE FRIDGE

- Apples, berries, and cherries
- Grapes, kiwi, lemons, and oranges
- Melons, nectarines, apricots, peaches, and plums (after ripening at room temperature)
- Avocados, pears, tomatoes (after ripening at room temperature)
- Almost all vegetables and herbs

OUTSIDE THE FRIDGE

- Bananas, mangos, papayas, and pineapples: store in a cool place
- Potatoes / onions: store in a cool, dark place
- Basil and winter squashes: store at room temperature—once cut, store squashes in fridge

MORE STORAGE TIPS

- If you like your fruit at room temperature, take what you will eat for the day out of the fridge in the morning.
- Many fruits give off natural gases that hasten the spoilage of other nearby produce. Store bananas, apples, and tomatoes by themselves and store fruits and vegetables in different bins.
- Consider storage bags and containers designed to help extend the life of your produce.
- To prevent mold, wash berries just before eating.

FOR MORE TIPS VISIT: <http://makedirtnotwaste.org/prevent-wasted-food>
LEARN HOW TO STORE WITHOUT PLASTIC: <http://ecologycenter.org/factsheets/veggie-storage.pdf>

SMART STRATEGY:

Make a Shopping List with Meals in Mind



**TOO GOOD
TO WASTE**

- Think about how many meals you'll eat at home this week and how long before your next shopping trip.
- Next to fresh items on the list, note the quantity you need or number of meals you're buying for.
- Shop your kitchen first and note items you already have.



FOOD ITEM

AMOUNT NEEDED

ALREADY HAVE

Salad greens

Lunch for a week

Enough for one lunch

2% milk

Gallon

None

WHAT'S UP WITH ALL THE FOOD WASTE?

Infographic/ Poster

- Can be used online, or as a poster or handout
At community events and venues

CONSIDER THE TOMATO...

31% of fresh tomatoes bought by U.S. households are thrown out—that's 21 tomatoes a year per person!



Throwing out that many tomatoes costs us a bundle—**over \$2.3 billion a year.**

If only it was just tomatoes... the cost of all U.S. household food waste = \$166 BILLION!



WASTED FOOD = WASTED RESOURCES

U.S. FOOD WASTE ACCOUNTS FOR:



By making small shifts in how we shop, store, and prepare food, we can keep the valuable resources used to produce and distribute food from going to waste.

Sources: USDA Economic Research Service(ERS) Total and Per Capita Value of Food Loss in the United State (2012); USDA ERS , The Value of Retail- and Consumer-Level Fruit and Vegetable Losses in the United States (2011); Venkat, The Climate Change and Economic Impacts of Food Waste in the United States (2012); Hall et al. The Progressive Increase of Food Waste in America and Its Environmental Impacts (2009)



**TOO GOOD
TO WASTE**

Workshop Presentation for Participants

Workshop Purpose

Examine the problem of food waste including:

- **How much goes to waste**
- **Why waste happens**
- **Why waste matters**
- **Strategies to reduce waste**



Measurement Tools

- **Measurement Bag (waste/impact)**
- **Photo Diary**



The *Food: Too Good to Waste Challenge* tools are intended to help collect data during the pilot to answer these research questions:

- Did the pilot reach the intended audience?
- Did pilot change behaviors? How often and by how much?
- What was the impact of changed behaviors on reducing food waste?



What's Next?

- EPA will support an evaluation of this pilot and provide an updated report in 2013
 - Projected annual cost savings for a family of four: \$1600
 - Per capita food waste reduction potential will be evaluated after initial pilots and used to set goals for 2013 implementation and measurement studies
- Contact Ashley (zanolli.ashley@epa.gov) if:
 1. You are interested in implementing this pilot program, OR
 2. If you are already implementing this pilot program and would like to voluntarily share your results and anecdotal feedback from participants

Thank You!

Questions?

Comments

Contact:

Ashley Zanolli

206-553-4425

Zanolli.ashley@epa.gov

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Seattle's Residential Food Waste Weighing Study

Carl Woestwin

Seattle Public Utilities

November 15, 2012

Available Data

- U.S. data
- U.K. data?
- Seattle's residential waste sorts
- Other solid waste sorts?
- Backyard food waste composting weighing study

What would we like to know?

- What categorization of food would be most useful?
 - Edible & preventable?
 - Animal products, grains, vegetables, fruits, oils?
 - Protein, carbohydrates & fats?
 - By disposal method?

Waste Sort



Recruiting participants

September - October 2012
Seattle Public Utilities
@Your SERVICE

Information about your water, drainage, wastewater and solid waste utility services.



Prevent Flooding Adopt a Drain

Don't let fall rainstorms flood your street. Help clear your local storm drain of leaves and other debris by participating in Fall Clean – part of our year-round Adopt-A-Drain Program.

Every autumn Seattle Public Utilities faces a big job keeping storm drains clear. As a way to involve residents and keep the water flowing, the utility sponsors Fall Clean – a one-month event in November that supports volunteers with free gloves, bags, brooms, rakes, and safety vests, as well as help with leaf disposal.

Go to www.seattle.gov/util/adoptadrain or call 206-233-7187 to get signed up today!



Get a Free Water-saving Toilet

Save even more on your utility bill. Only income-qualified customers are eligible. For example, if you're a family of four, making less than \$4,819 a month, you may qualify. Properties must also be located within Seattle Public Utilities' service area and must have existing toilets installed before 1994. Installation and recycling of your old toilet are also provided free of charge. For more information, visit www.seattle.gov/util and search "low income toilet" or call 206-448-5751.



Get Help with Your Bill

Did you know that you could get 50 percent off your Seattle Public Utilities bills for the next 18 months? Only income-qualified customers are eligible. For example, if you're a family of four, making less than \$4,819 a month, you may qualify. Go to www.seattle.gov/mybill to get started, or call 206-684-0268.

Residents living in federally subsidized housing, including SHHA (Seattle Housing Authority), Section 8, and KCHA (King County Housing Authority) are not eligible.



100 Free Electronic Kitchen Scales!

If you are willing to weigh and categorize your food waste for 3 months (January – March, 2013), Seattle Public Utilities will give you a free electronic kitchen scale. 100 kitchen scales are available for participants in this study! We want to find out what kinds of food people are disposing, and in what quantities. Interested? Call 206-233-7198 and leave your name, phone number and e-mail address. We'll notify selected participants by November 15.



TAKE WINTER BY STORM

TakeWinterByStorm.org

Did you know that during intense rain, flooding may occur without warning? Here are a few steps you can take to keep your family and property safe.

Clear leaves and debris away from street drains in your neighborhood with a rake or broom (only if it's safe). Don't put grass clippings, leaves, or other debris into drains, ditches, creeks, culverts, gutters or ravines. If a storm drain appears blocked below the street surface, call 206-386-1800.

- Collect fallen leaves and deposit them in your food and yard waste container or compost them.
- Clean gutters and downspouts twice a year.
- Build a family emergency kit. Keep enough water, food and other supplies (flashlights, crank or battery-operated radio, blankets) in your home to meet your needs for at least three days.
- Have a family disaster plan.
- Stay out of flooding basements.
- Protect water pipes from freezing in exposed or unheated areas (attics, basements and garages) by wrapping with tape and insulating materials.

For more tips on how to prepare for winter storms, visit www.takewinterbystorm.org.

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Handling the Response

- Over 500 households volunteered, based on advertisement
- Sending e-mail with details of pilot; need to reduce participants to about 250
- Screen for Seattle residency and willingness to follow through
- Setting up online system for tracking results on a weekly or monthly basis
- Distribute scales/reinforce reporting commitment

What's expected of participants?

- Separate into non-edible and everything else
- Weigh both
- Record daily January - March
- Send in results weekly electronically
- Tell us fate of food waste (curbside collection, home compost, disposal or garbage)

Post Study Work

- Hopefully, gather media attention as springboard
- Use Seattle stats and *Food: Too Good to Waste* materials for education
- Integrate with Seattle's other food efforts: commercial FW reduction, food recovery, FW packaging reduction, FW collection, EOW collection & backyard FW composting
- Integrate with City-wide food systems work

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PILOT PROJECT: FALL CITY ELEMENTARY SCHOOL



Key messages

- **Food scrap recycling is great, but go to the next level: reduce the amount of food wasted.**
- **Food waste = wasted resources used to produce, package and transport food.**
- **Wasting less food can also help you save time, money and even eat healthier at home.**
- **Can reduce food waste by making small shifts in how we shop, prepare and store food.**

recyclefood.com



Pilot Details

- **110 4th grade students/families invited to measure, track, learn new strategies**
- **Kickoff: presentation, distributed bags and weekly worksheets**
- **Teachers incorporated new messages into curricula each week, PowerPoint with daily tips/facts**
- **Throughout pilot: tools provided to parents**
- **Developed blog to keep pilot families informed and motivated**
- **Drawing for 5 grocery certificates to keep families engaged**

Measurement

- **Measure changes in amount of food wasted with weekly collection bags**
- **Via weekly worksheets , track families' perceptions, attitudes and behaviors relative to reducing wasted food**
- **Gauge impact of the campaign based on above**

TAKE THE FOOD WASTE CHALLENGE!

WHAT COUNTS AS “FOOD WASTE”?

Please put all your food scraps in the provided bag, whether they were once edible or not.

THE TYPES OF FOOD WASTE THAT GO IN THE BAG, INCLUDE:

- **Non-edible food waste:** Items such as banana peels, egg shells, apple cores, chicken bones—items that are typically thrown out during food prep or after eating.
 - **Avoidable food waste:** Food that you bought to eat but that has since spoiled or food that was prepared but not eaten and thrown away. For example, old leftovers, rotten fruit or vegetables, moldy cheese or bread.
-

**A family of four tosses \$1600 in
wasted food every year.
(enough money for 10 new bikes!)**



Big portions can lead to big waste.
Serve up less and go back for seconds
if you're still hungry.



Have a kitchen adventure!



Explore what's already in your fridge, cupboards or pantry to plan meals.

Scribble off items on the shopping list that you already have.

Next steps

Thank you plans: pizza, drawing, certificates, share results, ask for feedback

Meet with teachers: what worked in the classroom, most useful messages, student feedback

Gather feedback, review results

Shape 2013 county-wide outreach campaign

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SAN BENITO COUNTY, CA



Population: 56,072

2 Incorporated Cities: Hollister & San Juan Bautista

Demographics: 65.7% Hispanic or Latino

English as second language: 36.0%

% below poverty level: 11.7%

FOOD WASTE PILOT STUDY

Study Group Participants:

- Senior Center clients
- Community Food Bank clients
- International Moms Club of Hollister

Demographics of Pilot Study Group:

Low Income with children

Senior Citizens

Parents with young children

Measurement Tool Used for Pilot Study: Food & Photo Diary
Worksheet

- Strategies Presented: 1) **KEEP FRUITS AND VEGETABLES FRESH**
(used Fruit and Vegetable Storage Guide)
- 2) **MAKE A LIST WITH MEALS IN MIND**
(used Make a Shopping List with Meals in Mind)

Sample Food & Photo Diary Worksheet

Name:

Email:

Date Started:

Date Ended:

Please record the food you threw away for 7 days in the chart below. Fill in the chart for as many meals as you can for 7 days

Photo Diary Worksheet-- Week One

	food description	weight (in oz.)	thoughts on why this food item went to waste	Picture Y/N
<i>Example</i>	<i>moldy bread</i>	<i>8 ounces</i>	<i>Bought more bread because it was on sale</i>	<i>Yes</i>
Day 1 Breakfast				
Day 1 Lunch				
Day 1 Dinner				

Length of Pilot Study: 4 Weeks

Week 1: Journal & Photos of all Food Wasted
w/NO Strategies Presented

Weeks 2 - 4: Journal & Photos of all Food Wasted
w/2 Strategies Presented

Disposable camera provided to 7
clients willing to take photos

Challenges:

- Recruiting study group participants
- Retaining study group participants

- Dynamics of group participants
(seniors, spanish speaking only, no email)

- Spanish Translation needed for Worksheet & Strategies
and to assist with presentations

- Frequent follow up needed

- Choosing type and amount of incentive

Status Update

Approximately 20 participants
(a few have never turned in any worksheets)

15 data worksheets collected to date.

Most participants are between weeks 1-3

Need additional time for groups to complete 4 weeks

Observations:

Participants said that they did not waste a lot of food (especially Seniors) before they started pilot study. Most wanted to share that they already had ideas to cut back on waste such as freezing, canning, or giving to family or neighbors.

A Participant commented that they don't feel as bad if they compost their food scraps versus throwing them into trash.

Some food bank clients throw out food that is given to them in the weekly brown bag program because they don't like it or it was too much (especially produce).

Confusion on “avoidable” and “unavoidable” food waste (maybe could have addressed that in the worksheet)

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**Food: Too Good
To Waste
Boulder County
Colorado Pilot**



EPA Sustainable Materials Management Webinar

November 15, 2012

Structure of Pilot Program

Young Professionals

- Resource Conservation Staff
- Sustainability Staff

College Community

- Students
- Staff / Administrators
- Alumni



Initial Data

Naropa University

- Presentations
- Materials Distributed
- Weekly email messages

100 Initially Interested – 65 Picked Up Measurement Tools

- Faculty / Administration / Alumni stayed steady
- Student participation diminished



Photo from Naropa University Website

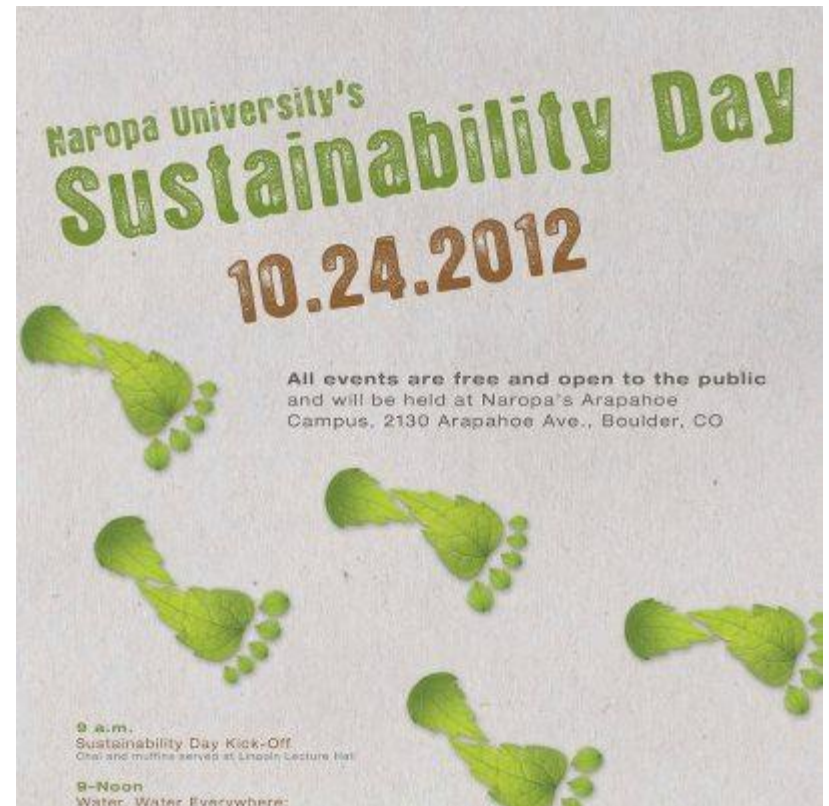
What Worked / Didn't Work

Presentations

- In-person vs. electronic
- Emphasis on embedded energy encourages more robust engagement

Materials

- “Food Waste” defined
- Bags vs. other containers
- PowerPoint somewhat helpful



Graphic from Naropa University

What Might Work

Materials

- “Eat Me First”

Expansion?

- Aging Services
- Wellness Program
- Public Health
- Cooperative Extension and Farmers



Graphic from West Coast Materials Management Forum

Thank You!

Lisa Friend
Sustainability Planner

Boulder County, Colorado
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