Waste Wise Farmers' Market

HANDBOOK

Center for Urban Education about Sustainable Agriculture
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Be Waste Wise: print only those pages you really need!

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INTRODUCTION

The Center for Urban Education about Sustainable Agriculture (CUESA) is a San Francisco nonprofit, founded in 1994, whose mission is to promote a sustainable food system through the operation of the Ferry Plaza Farmers Market and its educational programs. As defined in CUESA's Sustainable Agriculture Framework, a sustainable food system uses practices that are environmentally sound, economically viable, humane, and socially just. CUESA works to educate consumers about these practices and their food choices, and to encourage farmers and vendors to become more sustainable. Despite our mission, CUESA has not always operated the market itself in the most sustainable way possible. For example, waste audits conducted in October, 2007, and March, 2008, estimated that CUESA's markets generated over 35 tons of waste were being sent from CUESA's markets to the local landfill every year.

To rectify this situation, CUESA initiated efforts to more responsibly manage materials generated by and discarded at its programs and markets. Dubbed the Waste Wise Farmers' Market program, and launched on Earth Day, 2008, these new and still evolving policies and procedures have already reaped significant positive results.

The goals of the Waste Wise Farmers' Market program are as follows:

- **Diversion — to divert all the organic waste and recyclable materials discarded at the market away from landfills.**
- **Waste Reduction — to significantly reduce the amount of waste generated by the market, including plastic bags dispensed by market sellers.**
- **Education — to encourage shoppers and market sellers to reduce, reuse and recycle both at the market and beyond.**
- **Closing the Loop — to promote the use of post-consumer recycled products and compost by farmers and market shoppers.**

This handbook describes the planning process and implementation of CUESA's Waste Wise Farmers' Market program. In particular, this handbook focuses on the creation and management of Waste Wise Stations and efforts to reduce and ultimately eliminate the use of plastic bags and non-recyclable or non-compostable packaging in our markets.

It is our hope that other markets, community events and public venues will be able to learn from our efforts. We encourage others to adopt, adapt and refine this program, and share their results so that we all may continue to improve.

If you would like further details about any of our efforts, please contact us at **info@cuesa.org**.

CUESA
the Center for Urban Education about Sustainable Agriculture

FERRY PLAZA FARMERS MARKET

BACKGROUND INFORMATION

CUESA Markets & Programs

The Ferry Plaza Farmers Market (FPFM) operates at the historic Ferry Building in downtown San Francisco year-round on Tuesdays from 10 a.m. to 2 p.m., and Saturdays from 8 a.m. to 2 p.m. The markets range from as few as 20 sellers on a mid-winter Tuesday to over 100 sellers on a summer Saturday. Each market vendor creates a temporary booth for the day from which to sell their goods, and then breaks down their tents and tables to leave the area empty the rest of the week. Although it is difficult to take an exact count, it is estimated that over 25,000 visitors attend the markets weekly during peak season.

The FPFM also provides a venue for both active and passive education. The CUESA staff coordinates cooking demonstrations, market seller interviews, and other programs during most Saturday markets, and occasionally during Tuesday markets. Educational signage is provided for each seller's booth. CUESA also operates an Information Booth where staff and volunteers answer shoppers' questions, and distribute educational materials, and an Education Booth for produce tastings, educational exhibits and displays, and other special events. The staff also coordinates a wide variety of programs outside of the market, including farm tours, lectures and panel discussions, a weekly electronic newsletter, and a comprehensive website.

In addition, the market offers other services to customers. Parking validation, WIC & EBT (food stamp) services, and water are available at the Information Booth. From an adjacent booth, the staff operates a Veggie Valet service for shoppers, where they may store their purchases while they retrieve their cars from area lots. CUESA's Chef Pass program provides reserved adjacent street parking and the use of large rolling carts to chefs who purchase large volumes of produce for their businesses.

Ferry Building Operations & Services

CUESA and its FPFM operate at the Ferry Building, which is on Port of San Francisco (city) property and is managed by Equity Office (a private property management company). The interior ground floor of the building operates as the Ferry Building MarketPlace, where over 40 small food shops and restaurants are open daily year-round. Although the MarketPlace is managed separately from the FPFM, there is a natural affinity for shoppers and opportunities for a variety of partnerships. CUESA is fortunate that there is a good waste management infrastructure in place at the building; the building installed compost and recycling compactors in 2007. However, audits have shown that until recently, recyclable and compostable materials were not being fully diverted and there was significant contamination in the compost and recycling waste streams.

City Policies & Services

CUESA and the FPFM are fortunate to operate in a city like San Francisco, which is working hard to advance more responsible waste management practices. The City's Department of the Environment has taken a leadership role in developing, promoting and supporting greening initiatives and waste management ordinances.

The City promotes a color-coded bin system to collect and divert materials. Green bins are used to collect compostable materials, blue bins for recyclables, and black bins for other waste. Green bin waste is delivered to the Jepson Prairie composting facility outside the city (Vacaville), and the finished compost is then sold in bulk. Recyclables (blue bins) are sent to a local transfer station where they are sorted and then sent on to various (national and international) processing facilities for remanufacturing. Waste (black bins) is sent to the landfill. There are financial incentives for businesses that adopt and use this colored-coded three-bin system. Beginning on Earth Day (April 22), 2008, the city further simplified its recycling collection system. Because they have identified companies capable of repurposing a wider range of materials, they now accept more materials in the blue bins, including all non-compostable rigid plastics (such as coffee cup lids, clamshells, straws). This new system simplifies educational messages that explain what items are recyclable.

In November, 2006, the City enacted a Food Service Ware Ordinance requiring that all take-away food packaging be either compostable or recyclable. The ordinance took effect on June 1, 2007. The City provides businesses an extensive list of acceptable packaging options. In spring 2008, the City banned chain supermarkets and pharmacies from distributing plastic bags at the checkout line (plastic produce bags are still allowed). Although this ban does not yet apply to business like CUESA and its market sellers, CUESA plans to voluntarily comply with the ordinance and take it one step further by eliminating all plastic bags from its markets.

FPFM Waste Management History

Prior to developing this Waste Wise Farmers' Market initiative, CUESA managed its on-site waste collection in the simplest manner possible. Staff placed up to twenty-four 45-gallon trash cans throughout the market, which were collected and emptied into the Ferry Building's larger

waste bins. Historically, FPFM sellers have been responsible for removing all their own trash from the site at the end of the day.



Prior to this initiative, 100% of the waste collected at the FPFM was being sent to the landfill; independent audits estimated this to be over 35 tons each year. In 2006, CUESA staff briefly attempted to collect waste, compost and recyclable materials in separate bins. Without signage, monitoring, and training, the containers were highly contaminated and staff had to sort through them at the end of the market. This time-consuming and unpleasant effort was soon abandoned.

Until the aforementioned Food Service Ware Ordinance was enacted, the majority of sellers offering meals on site (with a few sustainably-minded exceptions) had been using traditional plastic utensils and plastic or paper containers or plates. In 2007, CUESA worked with its prepared food sellers to make sure they were aware of the ordinance and to help them identify appropriate alternatives. Now all market sellers and CUESA programs are in compliance.

Most market sellers dispense plastic bags for customer use, although one or two offer alternatives such as compostable or paper bags. Sellers with pre-packaged items generally use plastic packaging.

Making the Commitment, Obtaining Funding & Hiring a Coordinator

CUESA first expressed its commitment to creating a more waste wise market in its 2007 Education Plan, acknowledging that this effort would be as much about staff, market seller and market customer education as about developing a new operational approach.

Although CUESA would be able to include ongoing operational costs into its future annual budgets, it was recognized early on that the research, program development, initial supplies and implementation of this initiative would require significant start-up funds. CUESA received start-up grant funding from the Richard and Rhoda Goldman Fund and a sponsorship donation from Google, Inc. We also received in-kind donations of bins, planning advice and waste auditing services from Norcal Waste Systems, Inc., and construction help from Sign*A*Rama, plus planning advice from staff at the City of San Francisco Department of the Environment.

A potion of the grant funds were used to hire a Project Coordinator. Janice Sitton of Good Green Graces was hired to coordinate the development and implementation of this project, concluding with the kick-off celebration on Earth Day, 2008. CUESA education and operations staff also devoted many hours towards the planning and implementation of this project, but these efforts (and costs) were considered part of regular staff duties.

CREATING & OPERATING WASTE WISE STATIONS

CUESA recognized that the biggest step in becoming more waste wise was to recycle and compost as much of the materials discarded onsite as possible. Research revealed that a growing number of public event venues around the country, and particularly in the Bay Area, had begun using a waste station model to collect and divert waste. A few other farmers' markets around the country (such as Boulder, CO, Ithaca, NY, and Santa Monica, CA) also use this approach. The waste station model typically includes separate bins for garbage, compost and/or recyclables, along with signage and in most instances, staffing.

CUESA decided that the waste station model (sometimes called recycling stations, eco stations, or in our case, the Waste Wise Stations) would be the best solution for the FPFM, and gathered feedback and suggestions from those around the country already implementing this concept. We also consulted with the City of San Francisco's Department of the Environment and our building's waste management company, Norcal Waste Systems, Inc. We recognized that creating an appropriate infrastructure would be critical and learned from our peers that public and seller education would be essential. We also believed that we had an opportunity to refine and add to the strategies used by these pioneers.

After much research, and trial and error, what follows is our recommended process for creating and operating Waste Wise Stations (WWS). We have included many of the important lessons we learned in this process, plus a few suggested alternatives, since we recognize that some of the services and resources we can access may not be available in other communities.

FIRST STEPS

What are we collecting? How much will we collect? How many stations will we need? Where should they be located? These are some of the many questions to consider prior to developing a system of Waste Wise Stations.

Determine the volume of materials to be collected for each separate stream: compostables, recyclables, and garbage.

- Conduct an audit of materials currently collected and estimate the percentages that could be separated as compost, recycling and waste.
    - An audit conducted by Norcal Waste Systems**,** our municpal waste management contractor, estimated that 80-90% of the materials being thrown away at our market could be composted; another 5-10% was recyclable, leaving less than 5% as true waste.
    - If such auditing services are not available through your own local hauler or government, you will need to conduct your own visual audit.

Secure recycling and composting services for the materials to be collected.

- CUESA worked with Equity Office, our building management company, to ensure the use of their on-site compost and recycling compactors.
    - If no on-site services are available, seek these services directly from your local hauler or recycling center.

- If commercial composting is not available in your area, locate one or more farms willing to accept materials for composting and work with them to determine what materials they will accept.

Determine the number and placement of Waste Wise Stations (WWS) needed.

- Based on the estimated volumes of materials to be collected, compute the number of WWS needed to handle that volume by material type.
  - CUESA determined it would need 5-7 Waste Wise Stations during its largest markets, and that there would be significantly more compost collected than other waste.
  - Because of staffing concerns, CUESA decided to begin with two stations on Tuesdays and five stations on Saturdays.
- Before deciding where to place the stations, we asked these questions: Where are the highest traffic areas? Where do shoppers sit down to eat prepared food at the market? Where were the highest volume waste bins located previously? Where are the fire lanes and what other safety or access requirements need to be accommodated? How can we place stations so that one is (ideally) visible from most areas of the market?
  - Based on this information, CUESA elected to locate two WWS in the front of the Ferry Building (on Tuesdays and Saturdays), and three WWS in the back of the Ferry Building along the side of the market where most of the prepared food stands are located. (on Saturdays only).
  - CUESA also decided to create A-frame signs with arrows directing customers to the nearest WWS in areas where stations were not clearly visible.



Decide what types of bins to use.

- CUESA received a donation of wheeled and lidded bins from its local trash hauler that corresponded with the City's color-coded recycling, composting and waste program: green bins for compostables, blue for recycling, and black for waste. For consistency, it is recommended that you adopt the same color system used by your community.
  - If your community does not use a color-coded bin system, it is highly recommended you adopt your own color-coding system to visually reinforce the differences in the waste streams being collected.
  - Bins with closed lids require users to stop and make a decision prior to disposing of their waste versus open containers where waste can be thrown in indiscriminately by passersby.
- CUESA's bin sizes were based on estimated volumes to be collected, visually reinforcing the relative amounts anticipated to be collected.
  - CUESA selected 64-gallon green compost bins to correspond to the much larger percentage of those materials expected to be collected.

    - 32-gallon blue recycling bins and black waste bins were chosen to correspond to the lower volume of these materials expected to be collected.
- There are multiple factors to consider when deciding whether to use bags to line the containers. Unlined collection bins require tipping (they must be emptied into another container without the use of bags) and they typically need to be rinsed after use. Filled bags can be very heavy, and tipping heavy bags can potentially cause spillage or worker injury. However, bags for lining bins are costly (specifically, the compostable biobags needed for compost bins), especially when analyzed against the cost of labor for rinsing bins. Furthermore, reducing the use of bags is a more waste wise practice.
    - CUESA decided to use unlined bins for compost and recycling collection, since the building's compactors had a lift for the containers. The trash bins were lined with turquoise bags, so they would be easily identified for auditing purposes.

SIGNAGE FOR THE WASTE WISE STATIONS

We were advised that signage is a key element in waste diversion programs. Our research showed that there is currently a wide array of signage being used by other markets, event venues and municipalities promoting waste diversion. We evaluated many examples and decided that most were either too general for our use, too wordy, too small, or too visually confusing. We also noted that signage was not always conveniently located at the collection bins, being too low, too high, or even in the way. CUESA worked with a local graphic designer (Charlie Walter of Modern States Design) and a local sign manufacturer (Sam Goldsmith of Sign*A*Rama) to design more effective WWS signage. Our goal was to create signs and a sign mounting system that would be highly visible, easy to read and understand, and could be quickly and cheaply adapted as changes occurred.

The following goals and criteria were used to develop our Waste Wise Station signage:

- **Create a sign color scheme reflecting the City of San Francisco bin system that would be used in the market: green signs for compost, blue signs for recycling, black signs for waste.**
    - Using signs that match the colors of the corresponding collection bins visually reinforces the differences between the waste streams being collected.

- **Graphically represent the percentage of materials going into each stream.**
    - With a majority of our waste anticipated to be compostable items (our green bins), we wanted the green portion of the signage to dominate, again reinforcing the anticipated diversion rates.

- **Use action verbs whenever possible.**
    - We wanted to use phrases like "Compost It" instead of just "Compost" to reinforce that it is an active process.
    - Other markets prefer labels based on destinations, like "recycling" and "compost" and "landfill"

- **Use clear fonts and minimal text.**

- **Create a large permanent banner above each WWS that is visible from a distance.**
    - Because the stations are not at every turn in the market, and the site can be crowded, it was important to make the stations visible from a distance, with banners placed at least 8' high.

- **Create additional directional signs.**
    - Because of our limited number of stations, additional signage was needed to increase their visibility within the market.
    - Signs were made by reusing older A-frame signs and applying laminated paper arrows with Velcro (allowing flexibility in sign placement). These were strategically located to help shoppers find the nearest Waste Wise Station.

- **Create separate signs for compost, recycling and waste that can be adhered to the larger banner and updated/replaced easily and inexpensively as needed.**
    - We decided it was critical to include images of actual items from our markets to help customers choose the correct bin without having to read too much text. This also makes it easier for non-English speakers to learn how to sort items properly.
    - We wanted signs that would be easily adaptable for other sites by simply inserting different photos.
    - It was important that signs should be easy to update; they can be reprinted cheaply on site, laminated at a nearby copy center, and attached with commercial grade Velcro onto the permanent banners.
    - Signs are placed behind each container, affixed to the larger banners, and placed near average eye height.
        - The CUESA staff now believes it may also be necessary to place duplicate laminated signs on top of each closed bin to further reinforce the instructions.

- **Construct signage that is lightweight enough to move around easily, yet sturdy enough to withstand strong winds.**
    - We selected a meshed vinyl banner material that allows some wind passage.
    - The semicircular banners have a 2' sleeve around the arc through which 1" PVC pipe is inserted (like a tent pole). PVC was selected because it is strong but much lighter weight than metal and more flexible in the wind than wood.
        - Initially, the PVC frames were constructed in sections; however, several joints failed and broke in the strong winds that are common on our waterfront site. We replaced these with single pipes that now hold up to our site conditions.
    - Banner frames were initially inserted into metal pipe stands (pipe welded to a flat metal foot), which were weighted down with sand bags. However, they were still not heavy enough to avoid tipping over on our windy site.
    - Our final solution was to mount the metal pipe stands directly onto rolling carts, on which we can place the three collection bins. The carts and bins together provide the weight needed to prevent tipping.

- **Storing and Transporting the Signage and Collections Bins.**
    - As noted above, the banner frames are now mounted directly on rolling carts, into which we can place the three collection bins.
        - This also creates a whole self-contained Waste Wise Station system that can be easily wheeled into position. This system saves staff time and effort in placing and retrieving the stations across our large and sometimes difficult-to-access site.
    - A down side to these self-contained stations is that they require more than double the storage space than simply stacking round waste cans.

Appendix 1 provides examples of the banners, signage, and cart system developed for the Waste Wise Stations, plus budget information, sources, and instructions for using or adapting our signs.

STAFFING THE WASTE WISE STATIONS

When we ask people to sort their materials into three separate bins instead of just tossing everything into one bin, we are asking them to change their habits. Habits are hard to break and color-coded bins and signage may not be enough. Customers are often in a hurry and don't read or even notice signage. Every market or event organizer we spoke with already using the waste station concept emphasized that it would not work well without monitors in place at each station. Here are some tips and the lessons we learned about staffing the stations.

- **Determine the number of monitors needed.**
    - Our original goal was to have at least one and ideally two volunteer monitors at each Waste Wise Station. Although our large Saturday footprint could have used more stations, we opted for five because we did not believe we could recruit enough volunteers to staff more stations than that on a continuing basis.
        - Managers of one or two-day special events often have an easier time recruiting sufficient numbers of volunteers (and volunteer rewards may include free admission to the event or event merchandise). However, we recognized early on that we faced a daunting task: needing at least two volunteer monitors on Tuesdays and five on Saturdays, every week for years and years to come.

- **Have a lead monitor.**
    - Our market operations staff does not have the time to recruit, train or supervise the ever-changing team of volunteer monitors, so it was important to create a new position (one we assigned the title of Waste Wise Coordinator) for this role.
    - Grant funding supported this new position initially, but CUESA made the commitment to provide ongoing funding for the position after recognizing its importance.
        - It may be possible to assign the lead role to a volunteer for a short-term event, but for ongoing activities like a weekly market, consistency of

leadership is needed. We decided that relying on pre-existing staff to train and coordinate ever-changing volunteers on an ongoing basis would ultimately not be as time or cost-effective as hiring a coordinator.

- **Recruiting volunteer monitors.**
  - CUESA is fortunate to have a part-time Volunteer Coordinator who has taken the lead in recruiting monitors for this program.
    - In lieu of having this position, or in place of this person when they are away, the Waste Wise Coordinator can assume this role instead.
  - We recruit volunteers and interns through our own website, weekly e-letter, fliers posted around town, and through postings on a variety of community and volunteer websites.
    - Postings on Craigslist (craigslist.com) have been our most successful means of recruiting new volunteers.
    - Other sources include: The Volunteer Center (thevolunteercenter.net); Volunteer Match (volunteermatch.org); Barefoot Student (barefootstudent.com); Do Something (dosomething.org); UC Davis (humancorps.ucdavis.edu/volunteers/); and the Northern California Recycling Association (ncrarecycles.org).
    - Volunteer recruitment was easier at the beginning of this new initiative, because of the excitement surrounding the program, but became more challenging as time passed.
  - Longer term, we will be expanding our relationship with New Door Ventures (NDV), a San Francisco nonprofit that provides job skills training and funds work experiences for at risk young adults. NDV has previously placed clients with us to work in other areas of market operations.
    - NDV clients will now also help when needed as Waste Station Monitors.
  - Our volunteers work the entire market day (six hours on Saturdays, four on Tuesdays) with a 30-minute lunch break and restroom or market shopping breaks as needed. We would probably be able to recruit more volunteers if shifts were shorter, but we would then need to recruit twice as many volunteers. We may experiment with different shift lengths in the future.

- **Provide sufficient training & support.**
  - As mentioned above, a primary duty of our Waste Wise Coordinator is to provide the ever-changing mix of volunteer monitors an overview of the program goals and their duties. Don't assume that your volunteers, no matter how interested they are in the issues, know how to properly distinguish compost and/or recyclables from other waste correctly.
    - CUESA asks first-time monitors to arrive 30 minutes before their shift so that there is time to be trained by the Waste Wise Coordinator.
  - Training is generally conducted at a Waste Wise Station, but a quiet indoor location may be preferred for more in-depth training. Be sure to also provide a secured place for volunteers to store their personal belongings.
  - Keep a variety of containers, bottles, plates and other materials from the market to use as examples when teaching new volunteers how to properly sort materials.

- Create additional materials that describe how compost and recycling are processed. Ask monitors to share this information; the more information customers are given, the more likely they are to become engaged in the program.
- Provide gloves and/or Pikstiks (long handled grabbers), so monitors can remove and transfer materials that are disposed of incorrectly.
- Reinforce that monitors need to stay at their assigned stations and be alert.
    - It only takes a moment for compost or recycling bins to be contaminated.
- Be sure to provide restroom and other breaks.
- We provide each volunteer a name tag, and loan them a Ferry Plaza Farmers Market apron to wear during their shift, both for protection, and to further identify them as authorized workers.
- Our Waste Wise Coordinator rotates among our stations to distribute snacks, provide breaks, answer questions and boost morale.
- We learned quickly that many visitors were interested in learning more about composting and recycling. Monitors now have small cards to hand out that list contact information for residential and commercial recycling and composting programs in San Francisco and other nearby communities.

- **Maintaining adequate WWS staffing — and what happens when you don't.**
    - As noted above, recruiting volunteer monitors has and will remain a difficult task, given the number of monitors needed to keep our stations staffed.
    - The first time that there were not enough volunteers to staff every WWS, we were forced into a new strategy. By accident, we discovered that we could adequately manage the stations without full staffing.
    - When there were unstaffed stations, our Waste Wise Coordinator began to cycle more frequently through the circuit of unstaffed stations. At each stop, the Waste Wise Coordinator would use a Pikstik to do a quick resorting of the bins to redeposit the waste properly.
    - A staffed station is the best way to keep waste sorted. However, we learned that, if checked frequently enough, it was possible to keep the waste properly sorted with a rotating monitor when full staffing was unavailable.
        - We believe this is due in part to the fact that our regular shoppers/visitors have become more aware of how to sort their waste in our three-bin system, and so there are fewer users needing reinforcement or help.
        - This reduced staffing approach will most likely not be successful at larger venues (where roaming staff may not be able to access heavily-used containers often enough), or at one-time or short term events where guests are not used to sorting their waste.

Appendix 2 includes examples of the volunteer and market seller training materials, plus the Waste Wise Coordinator job description.

OPERATING THE WASTE WISE STATIONS

Here is the system CUESA has developed for operating the stations:

- **The CUESA Market Operations staff rolls the Waste Wise Station carts into their predetermined places in the market at the start of each day.**

- **The Waste Wise Coordinator greets and trains volunteer monitors prior to the start of each market, and they keep the stations staffed during the day.**

- **The Market Operations staff cycle through the stations regularly with extra empty bins and replace those that have filled up. They return the full bins to the collection site (in our case, the building's trash compactor room) and empty them into the proper compactor inside the building.**
    - Having extra bins is crucial to keeping the stations operating smoothly.
    - The Waste Wise Coordinator and monitors stay at the stations to help assist customers, rather than leaving their stations to empty bins.

- **If bins are filling up before the Market Operations staff makes their regularly scheduled rounds, the Waste Wise Coordinator contacts them by radio to note where pickup is needed.**
    - Each station is given a number, so that replacement needs can be quickly communicated: for example, "green bin for Station 1" or "blue and green bins for Station 3" can be called on the radio.

- **The Market Operations staff empties the bins one final time at the end of market. They then rinse out the unlined containers and roll the stations back into the designated storage area.**
    - One station is briefly relocated outside the building's trash room at the end of the market to allow market sellers a chance to dispose of waste they have collected at their stands before they leave for the day. The Waste Wise Coordinator staffs this last station to ensure that sellers sort their materials properly, while the Market Operations staff empties and cleans the other stations.

- **The Waste Wise Coordinator is responsible for quarterly audits of the waste streams so we can track our diversion volumes and rates.**
    - When audits are conducted, operations staff does not pick up bins on a regular basis. Instead, the Waste Wise Coordinator radios for pick up when it is needed, so that the volume of each bin can be recorded before it is replaced.

RESULTS OF USING THE WASTE WISE STATIONS

The best way to measure the impact of our efforts is to compare waste audits from before and after the introduction of the Waste Wise Stations. Our goal was to divert at least 90% of the materials collected on site from our local landfill, a result we achieved. It is possible this rate may even increase slightly in the future as we work to eliminate non-compostable or recyclable packaging (as discussed in the next section). What we didn't anticipate was that total materials collected would also decrease.

There are likely several reasons why overall weights dropped after the introduction of the Waste Wise Stations. Our initial visual audits may have been off. Some site visitors may be using bins inside the building or on immediately adjacent properties rather than using our stations. There may be fewer shoppers on site because of the recent economic downturn. Some market sellers have recently changed, reduced or eliminated some packaging or to go containers. Educational efforts may be having a positive effect in encouraging shoppers to reduce and reuse rather than discard certain items.

Collection and Diversion Rates

Pre-Waste Wise Stations*

Category	*Lbs/wk*	*Tons/yr*	*% of Total*
Waste	1,404.0	36.5	100.0%
% Diverted from Landfill		0.0	**0.0%**

Post-Waste Wise Stations**

Category	*Lbs/wk*	*Tons/yr*	*% of Total*
Compost	**697.0**	**18.1**	77.0%
Recycling	**118.2**	**3.1**	13.1%
Waste	89.4	2.3	9.9%
Total	904.6	23.5	100.0%
% Diverted from Landfill		21.2	**90.1%**

* = Estimate based on a visual audit conducted by Norcal Waste Systems staff in March, 2008

** = Estimate based on a weight audit conducted by CUESA staff in August, 2008

REDUCING WASTE GENERATED BY THE MARKET

In order to ensure the highest diversion rate possible, both at our Waste Wise Stations and by consumers after they leave our site, we plan to reduce and ultimately eliminate the non-compostable or non-recyclable bags and packaging used throughout our markets. We will also simultaneously encourage shoppers to bring and reuse their own bags.

CHANGING FOOD SERVICE WARE AND TO-GO PACKAGING

As noted in the previous section, a recent San Francisco ordinance now requires that all take-away food packaging be either compostable or recyclable.

CUESA responded to this ordinance by including the following seller requirement beginning with our 2008 Market Rules & Policies (rules are updated annually):

> "All market sellers must comply with the San Francisco Food Service Ware Law to use compostable or recyclable food service ware, including containers, plates or trays, cups, cutlery, wraps, napkins, straws & stirrers. A city-provided list of acceptable materials and sources is attached, including permissible exemptions."

Because our market sellers and culinary programs are in compliance with this law, we have already been able to reduce the amount of garbage generated by the market.

Appendix 3 contains the San Francisco Food Service Ware Law, and the City's list of acceptable or recommended materials and sources.

CHANGING OTHER PRODUCT PACKAGING

Beyond the food service ware now covered under the ordinance cited above, many FPFM sellers offer other pre-packaged items for sale, such as sealed bags of nuts or dried fruits. A future goal is to ensure that this packaging is also either returnable, recyclable or compostable.

The City's list referenced above also includes appropriate options for most of these other products. We would like to have all our sellers use these alternative packaging materials. However, we believe it is important to provide plenty of time for market sellers to select and trial alternatives before committing to new packaging systems (especially ones that may be more expensive). We also recognize that some products (like raw meats) may still require plastic wrap for health and safety reasons. CUESA staff holds quarterly market seller meetings to give updates and gather feedback. A recent seller meeting provided an opportunity to start showing examples of the currently available alternative packaging options and to gather feedback regarding anticipated problems in switching over. Sellers were generally very supportive of our goals, but also wanted help in making the transition.

We are requesting voluntary change initially before eventually requiring compliance, and so are including the following statement in our 2009 Market Rules & Policies (which go into effect February, 2009):

> "Sellers who use plastic packaging will be encouraged to reduce or minimize this use in 2009 and explore alternative packaging. CUESA will actively promote at its Information Booth and through its e-letter those sellers who are voluntarily complying with this transition. CUESA may consider introducing a ban on plastic packaging beginning in the 2010 season with exceptions as needed to comply with health and food safety laws."

Finally, in assessing our market operations we quickly recognized that plastic water bottles were a significant part of our on-site waste stream, but one that could be easily reduced. Previously, CUESA staff distributed water in plastic bottles from the Information Booth. Now we keep a picnic-style water dispenser at the booth. Customers may refill their own bottles or take one of our compostable paper cups free of charge. Plastic drink bottles still enter the market, but our markets are no longer contributing to the nationwide overabundance of single-use disposable plastic bottles.

ELIMINATING PLASTIC BAGS

Plastic bags are convenient, inexpensive and well-suited for weighing and storing produce, especially leafy vegetables. However, they are not recyclable within the City of San Francisco's program, and so must be discarded as waste. The recent city ordinance banning the use of plastic bags does not currently extend to small businesses or operations such as our farmers' markets. However, our goal is to voluntarily comply with this ban.

By taking a poll of the market sellers, CUESA estimated that more than 1,100,000 plastic bags were dispensed from its markets during 2007. Plastic bags were everywhere, and some shoppers would end up with as many as 10 to 15 bags each week after a visit to the market. According to national statistics, only 1% of these plastic bags will ever be recycled. Some might be used again during a subsequent market visit or to clean up after a pet, but most either end up in a landfill or wreak havoc on the Bay Area's waterways and marine wildlife. Furthermore, if they get erroneously tossed into the recycling or compost bin, they can interfere with the recycling process or contaminate organic compost.

CHANGING THE MARKET RULES

Recognizing that it will take time and coordination to make the switch from dispensing plastic bags, during the first year of our new Waste Wise Farmers Market program we encouraged sellers to not use plastic bags and encouraged customers to bring their own. For the second year of the program, we will be requiring it.

From our 2008 Market Rules & Policies:

> "All market sellers are encouraged to dispense compostable or recyclable bags in 2008; a CUESA-researched list of biodegradable bag sources will be provided on request. CUESA will promote at its Information Booth those sellers who are voluntarily complying with this transition. Please note that market sellers will be required to use compostable or recyclable bags beginning in 2009. CUESA is currently actively negotiating on group purchasing and/or subsidized access to these alternative bags."

From our 2009 Market Rules & Policies:

> "Beginning February 1, 2009, all market sellers are required to dispense only bags that are fully compostable or recyclable within the City of San Francisco waste collection program. Examples include bio-bags, which are compostable, and paper bags, which are recyclable; however, plastic bags are not recyclable within the city system. Sellers may also distribute reusable fiber bags, and are encouraged to create incentives for shoppers to bring their own bags or containers. A CUESA-researched list of biodegradable and recyclable bag sources is being provided in your application packages or is available anytime upon request."

IMPLEMENTING THE CHANGE

We realize that it may be difficult or time consuming for market sellers to research, compare, and select alternate bags. That's why CUESA is actively working to facilitate and support this transition. First, we are researching the ever-increasing variety of recyclable and compostable options available.

Appendix 4 summarizes some paper and compostable bag options, including costs.

Which bags are best? The CUESA staff conducted a test in which they stored salad greens in the refrigerator in plastic, paper and biodegradable plastic bags. They learned that plastic bags kept the greens fresh for about a week, while the biodegradable bags kept them fresh for only a day. Greens stored in a paper bags wilted in less than a day. Plastic still works best, but is the least environmentally responsible choice. In a separate test, staff learned that salad greens stored in either a plastic salad spinner or sealed large plastic container also stayed fresh for one week.

Our next step (Autumn 2008) in eliminating plastic bags will be to work with market sellers to determine which alternatives will work best for their products. Paper may be a good and less

costly option for many market items, but per our test above, will not suffice for some products. Shoppers will then also need to be advised that some market products may need to be transferred to other containers at home.

Based on seller feedback and experiences with alternative products, we will recommend a few best options, and work with local distributors to ensure that market sellers can access these alternative bags at the best possible price.

But price is still an issue. Plastic bags are cheap, typically costing less than 2 cents per unit for the size of bags most commonly used in our market. Paper bags, which are readily recyclable (or compostable) and sometimes made from recycled materials, cost slightly more. They currently average around eight cents each for the size of bags typically used in our market. Compostable plastic bags are considerably more expensive, currently averaging twelve to sixteen cents for the size of bags used in our markets.

Who would bear the costs of these alternative bags? CUESA believes it should be the customer, not the seller, but that the customer needs to understand there are significant environmental benefits resulting from these additional costs. However, there is no consensus among the few sellers voluntarily using alternative bags as to how to address this issue. One seller using paper bags simply absorbs the cost while another seller using compostable bags charges customers an extra 25 cents per bag. So, how best to address these increased costs?

Here are the options we are currently considering:

- Sellers charge extra for the bags dispensed.
    - Computing extra fees may bog down the sales process, which can be challenging enough during a busy market. Many sellers round prices down to the nearest quarter-dollar, which significantly speeds up the process of giving change in a busy market. Adding in the price of a bag would require a change in their process.
    - Unless bag prices are uniform, customers may take bags from sellers with free or lower priced bag options to use at a seller's booth where the costs are higher; this is an unfortunate outcome we have already witnessed in our market with one seller who is charging for their compostable bags.
    - On the other hand, being charged extra for bags may serve as a strong incentive for customers to bring their own reusable or recycled bags. This would also reinforce the message that bags are a resource that has a value, not just a free, disposable convenience item.

- Sellers incorporate the cost of bags into their unit pricing.
    - This could result in uneven unit prices ($3.15 versus $3 per pound, for example) that would make it harder for those very few sellers who compute total prices manually (most sellers have digital scales).
    - The public may not understand why products cost more unless there is a disclaimer or explanation regarding the costs of the bags, such as "Produce at our

market will appear more expensive when compared to supermarkets that use cheap plastic bags".

- Sellers absorb increased costs of dispensing alternative bags.
    - The sellers typically absorb the costs of plastic bags at two cents each, but it will be a much greater burden to absorb costlier paper or compostable bags.

- CUESA sells bags directly to shoppers so that sellers do not have to dispense them or include those costs in their business planning.
    - This would require CUESA to hire and manage additional staff (we currently do not manage any product sales) and find and secure storage space.
    - If bags are not available at the point of sale, some customers may become frustrated. On a crowded day, it can take several minutes to get from one end of the market to the other.
    - Those vendors selling at other markets may still need to supply their own bags for those other sites, and this would complicate their pricing strategies (and public perceptions of prices) across different markets.
    - If CUESA were selling paper bags and biodegradable bags, we could also sell durable, washable cotton produce bags and canvas shopping bags, helping reduce the number of bags consumed at the market.

CUESA has yet to decide which approach will be most effective, but we anticipate that any new system will include public education regarding the alternative bags and their costs. The next edition of this handbook will include updates as to which strategy or strategies have been adopted, including the effectiveness of and response to these changes.

REDUCING THE NUMBER OF BAGS USED IN THE MARKET

In addition to eliminating the use of plastic bags (discussed in the previous section), we want to simultaneously work to encourage shoppers to think twice before taking any bag, and reuse bags when they can. We also hope they will seek out and shop with durable reusable bags.

Nationwide, inexpensive reusable bags are becoming readily available. CUESA wanted to encourage reuse by providing our regular market shoppers with these. As part of the kick-off celebration launching our Waste Wise Farmers Market program, we received corporate sponsorship that enabled us to distribute 10,000 reusable bags to our regular market shoppers. These bags featured text reinforcing our "reduce, reuse, recycle" messaging on one side, plus the market days and times and a list of reasons to shop at a farmers' market on the other side.

Signage at our Information Booth reminds people to bring their own bags to the market. Several market sellers have similar signs at their stands encouraging customers to BYOB (bring your own bag).

Appendix 5 summarizes a variety of reusable bag options, including costs.

LAUNCHING THE NEW PROGRAM

After months of research and planning, CUESA elected to unveil its new Waste Wise Farmers' Market program during Earth Week (April 22-26), 2008. The kickoff would primarily celebrate the introduction of the Waste Wise Stations, since some service ware changes had occurred previously, and bag and packaging changes would follow much later. Because of our need to practice setting the Waste Wise Stations up, switching them out, cleaning and placing them back into storage, they were actually introduced into the market one week before the launch celebration event.

For weeks preceding this launch date, articles appeared in our weekly e-letter and on our website, and announcements were posted in the markets preparing shoppers for the waste sorting changes that would soon be introduced.

In addition to unveiling our new Waste Wise Stations and giving away 10,000 free reusable shopping bags, CUESA created special educational displays and hosted other activities and partners.

Appendix 6 includes the entire Kickoff Celebration Schedule of activities, plus examples of press releases and eletter articles also used to promote the launch of the Waste Wise Farmers Market program.

EDUCATING MARKET SHOPPERS

Our new Waste Wise Stations have good signage and adequate staffing to help visitors properly sort their waste. Market rules will first require sellers to dispense only compostable or recyclable bags, followed eventually by allowing only compostable or recyclable packaging. In addition to supporting our market sellers in making these changes, CUESA recognizes that we must simultaneously and continuously educate market shoppers. They need to understand why these new efforts are important, and what costs (both economic and environmental) are involved, in order to support our efforts.

CUESA has developed educational pieces, displays, games and articles to help educate shoppers about our Waste Wise Farmers Market program. Many of these were unveiled at the kickoff celebrations held Earth Week (April 22-26), 2008, during which we first began using our Waste Wise Stations. We've been working since to incorporate Waste Wise messaging into all of our education programs.

Here is a summary of the education programs during the first six months of this new initiative:

Education at the farmers' market

- Waste Wise Station signage and monitors.

- Waste Wise discovery station display with interactive game and compost touch box.
- Information booth signage and handouts on the Waste Wise Farmers Market program.
    - Waste Wise Shopping Tips sheet.
    - Recycling Our Food handout.
- Restaurant Signage
    - We created signs specific to each restaurant/prepared food vendor selling in our market to reinforce where waste from their stall should be discarded (paper plates with food scraps in the green bin, glass bottles in the blue bin, etc.).
    - Further work needs to be done to ensure restaurants display these signs consistently.
- The use of compostable service ware is reinforced verbally at our culinary programs. We remind people that the forks, plates and cups all go in the green bins at the adjacent Waste Wise Station.

Waste Wise Farm Tour

- CUESA organized a tour to the Jepson Prairie Organics facility, where organic materials from the green bin are turned into compost, and to a nearby farm that uses that facility's compost in their fields.

Virtual education

- The Waste Wise webpage at www.cuesa.org includes the following:
    - Program overview.
    - Information on recycling and composting.
    - Waste Wise web game (sort materials into the right bin; the answers are revealed when you mouse over each material).
    - Links to community resources.
    - Waste wise tips.
    - Slideshow from Waste Wise Farm Tour.
- CUESA writes and distributes a free weekly electronic newsletter to over 8,000 subscribers
    - Articles on recycling and composting (example articles in Appendix 7) preceded the launch of the program.
    - A new Waste Wise tip is included in the e-letter each week (these are later archived on our webpage).

Appendix 7 provides examples of the educational exhibits, print pieces, activities, and other items used to promote, explain and reinforce our Waste Wise Farmers Market program.

You may reprint or use any of these materials. We only request that you cite CUESA as the source and notify us by email first at info@cuesa.org.

NEXT STEPS

As stated in the Introduction of this Handbook, the goals of this program are:

- Diversion — to divert all the organic waste and recyclable materials discarded at the market away from landfills.
- Waste Reduction — to significantly reduce the amount of waste generated by the market, including plastic bags dispensed by market sellers.
- Education — to encourage shoppers and market sellers to reduce, reuse and recycle both at the market and beyond.
- Closing the Loop — to promote the use of post-consumer recycled products and compost by farmers and market shoppers.

After five months of planning we were able to unveil the first stages of our new Waste Wise Farmers' Market program (the Waste Wise Stations) in late April, 2008. In the following five months we have been able to make refinements to the Waste Wise Stations, and have adopted forthcoming policy changes that will support additional waste wise strategies.

We have been successful in diverting all organic waste and recyclables collected at our Waste Wise Stations. We have also noticed a significant reduction in the weight of materials collected on site, although it is unclear how much of that is specifically due to our efforts. We have created extensive educational signs, articles, displays and other materials to reinforce waste wise strategies both in our markets and beyond.

One of our next steps will be to find suitable alternatives to plastic bags (per our new policy that goes into effect in February, 2009). This effort will also include some strategy to lessen or defer the market seller costs for these alternative products, along with extensive customer education to explain the environmental and economic costs associated with this new policy. This may be followed in 2010 with a new policy introducing a ban on plastic packaging except as needed to comply with health and food safety laws.

Another future step will be to better promote the use of post-consumer products (such as recycled bags) to market shoppers, along with continuing efforts to encourage shoppers to reduce and reuse bags and containers. We will also work to connect more farmers to sources of finished compost. Finally, we will also continue to create articles, fact sheets, displays, and other educational pieces reinforcing ongoing efforts and promoting and supporting future steps in becoming a Waste Wise Farmers' Market.