

These materials were developed under the auspices of CalRecycle for specific technical training presentations and are posted as reference documents for the local government and CalRecycle staff who attended this technical training series. They are not intended to stand alone as informational or training materials.

If you require assistance in obtaining access to the presentations, call the Public Affairs Office at (916) 341-6300 or Dennis Corcoran at (916) 341-6395.

Food Waste

**12th Annual LEA, Tire Enforcement &
CIWMB Training & Technical Course
Series**

Sacramento, CA

October 20, 2009

Diana Rivera
www.ciwmb.ca.gov

Food Waste Diversion

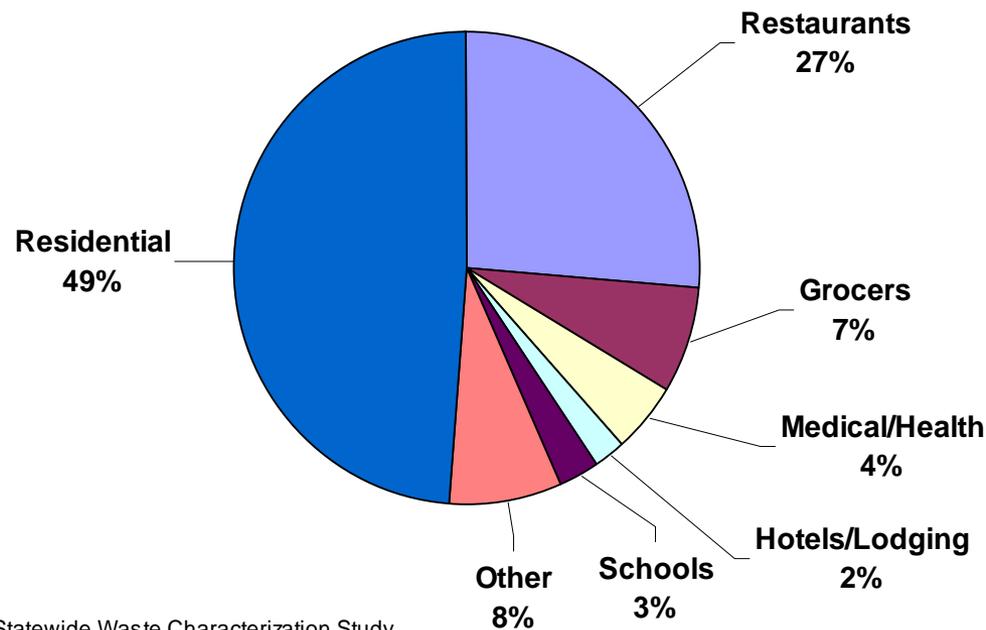


Why Divert Food Waste?

- **To help meet AB 939 requirements.**
- **Food is a valuable resource intensive material.**
- **Help those in need with community food projects.**
- **Food conservation is a vital component of a sustainable society.**

Where Food Scraps Come From?

5.6 Million Tons Disposed Annually



US EPA estimates that nearly 96 billion pounds, almost 27%, of the U.S. food supply is wasted.

In some California counties, food waste is over 25% of the waste stream.

Food Production Requires Transportation

- **On the Farm - transport of:**
 - Seed, fertilizer, pesticides, herbicides, fungicides, farm equipment, and labor**
- **To the Processors**
- **To the Store**
- **To the Consumer**
- **To the Landfill**

Food Processing Applies More Resources

- **Energy**
- **Water**
- **Labor**
- **Equipment**
- **Residual material
disposal**

Food Waste - Issues

- **Odors**
- **Plastic containers**
- **Home/backyard composting**
- **Attracts vectors**

Food Waste Projects

- **Cambridge, Massachusetts**
- **NASA Ames Research**
- **California State Teachers' Retirement System**

In other regions

The screenshot shows the City of Toronto website's Green Bin Program page. At the top, there is a navigation bar with links for HOME, CONTACT US, HOW DO I...?, and a search box with a GO button. Below this is a secondary navigation bar with categories: DOING BUSINESS, VISITING TORONTO (highlighted), and ACCESSING CITY HALL. The main content area features a large heading for the Green Bin Program, accompanied by a photo of a woman holding a green bin. Text describes the program's collection of organic waste and its conversion to compost. A sidebar on the left contains links for garbage & recycling, Green Bin collection schedules, and frequently asked questions. A right sidebar includes sections for 'Using the Green Bin is easy!', 'Green Bin containers', 'Siting new organic processing facilities', and 'Resident news'. A 'Learn more' section at the bottom right lists several articles related to the program.

Toronto HOME CONTACT US HOW DO I...? SEARCH: GO

DOING BUSINESS VISITING TORONTO ACCESSING CITY HALL

Green Bin Program



The Green Bin Program collects organic waste (fruit and vegetables scraps, paper towels, coffee grinds, etc.) and turns it into compost.

The Green Bin Program currently services 510,000 single-family households. After a successful pilot program in 30 multi-unit residential buildings, the Green Bin Program is now being rolled out to 5,000 apartments, condos and co-op buildings.

Green Bins and kitchen containers can be purchased at any one of 33 Home Hardware stores in the City of Toronto, at City of Toronto Container Pick-up Locations or at a Community Environment Day.

What's new

Green Bin is a success: The facts about the program

Toronto's Green Bin Program is one of the most successful waste diversion programs in North America. Our unique composting technology allows

Using the Green Bin is easy!

Watch our video and slide show

Green Bin containers

Learn more ...

Siting new organic processing facilities

Learn more...

Resident news

Home Composting program

Learn more

- Green Bin goes full circle
- Green Bin Information Card
- Organics processing - "From curb to compost"
- Think your green bin material is mixed with garbage on collection day?

In other regions

MEMBER, SHAREDHARVEST NETWORK

Food Trader Biomass Trader

NEW YORK FOOD TRADER

BUY SELL TRADE LOCALLY GROWN FOOD



post listing my listings create account contact us help tell a friend

September 29, 2009

Sign In

Email

Password

Remember Me
[Don't have a Password?](#)

News and Info

[Conservation Stewardship Program](#)
Sign Up August 10 through September 30

[State Enables Farm Stands to Accept Food Stamps](#)
News Article from NYS Ag & Markets

[Listings Glossary of Terms](#)
Reading a listing? Wondering, "What does that mean?" Read our glossary of terms to find out.

[~About Us & Instructions for Use~](#)
What is NYFoodTrader? How do I use this website?

Exchange Info

Your exchange administrator is:
NYFoodTrader.org

Our Exchange has:
217 Members

Site Sponsors



Environmental Finance Center
Syracuse University

Navigate

- Home

Listings

- Categories
- All
- Wanted
- Available
- Free
- Newest Listings
- Events

Sections

- News and Info

Browse Listings

[Advanced Search >](#)

Search For
(optional)

Type

Site

In other regions

The screenshot displays the Maryland Agriculture Exchange website. At the top, there are two website URLs: www.agtrader.org and www.foodtrader.org. The main header features the text "MARYLAND AGRICULTURE EXCHANGE" and "BUY SELL TRADE • MANURE & MORE" next to a photograph of a farm scene with a cow and corn. Below the header is a green navigation bar with links for "Tell a Friend", "Contact Us", and "Help".

The left sidebar contains three main sections:

- Navigate**: Home, Browse Listings, Events, News and Info, Links, Agribusiness, Maryland Farms.
- Members**: Post a Listing, My Listings, Report an Exchange, Login, Create an Account.
- Exchange Info**: Your exchange administrator is: [Joanne Throwe](#).

The main content area is titled "News and Info" and includes:

- [Wanted - Maryland Meat and Poultry Producers](#): The University of Maryland Extension Ag Marketing program is organizing a Maryland niche meats and poultry marketing initiative.
- [Want to submit a newsworthy item, event, or unique farmer invention?](#)
- [Want to be listed in the directory?](#) Farmers, business, haulers, and others, please read.
- [Welcome to the Maryland Agriculture Exchange!](#)

Below the news is a pagination control: "[Result Page]: << << [1] [2] >> >>". To the right, it says "Item (1...4) of 5".

The "Browse Listings" section features a search form with the following elements:

- Search For: (optional)
- Type: All (dropdown menu)
- Search:
- Site: Maryland Agriculture Exchange (dropdown menu)
- Advanced Search > [Advanced Search >](#)
- Category: -- All Categories: (dropdown menu) County: -- All Counties: (dropdown menu)

At the bottom of the page, a browser status bar shows "Internet Explorer Protected Mode: On".

Food Banks

- **One in six people in California (5 million people) live in poverty.**
- **28.6 percent of California's youngest children live in poverty.**

California Integrated Waste Management Board

The screenshot shows the website for the California Integrated Waste Management Board. At the top left is the logo with 'CA .GOV' and the board's name. To the right is a search bar and navigation links for 'Content', 'Footer', and 'Accessibility'. Below the header is a main navigation bar with buttons for 'Home', 'Reduce Waste', 'Recycle', 'Buy Recycled', 'Enforcement', 'Local Partners', 'Education', and 'About Us'. A secondary navigation bar includes 'Reduce', 'Reuse', 'Zero Waste', 'Producer Responsibility', 'Schools/Districts', and 'Businesses'. The main content area is titled 'Food Scrap Management' and 'Food Banks and Food Rescue Organizations'. A left sidebar contains a menu with items like 'Food Scrap Home', 'FAQs', 'Food Banks & Food Rescue', 'Composting', 'Compostable Products', 'Compost Technologies', 'Events', 'Case Studies', 'Funding', and 'Resources & Links'. The main text includes a list of links: 'Food banks and food rescue programs', 'How do I Contact a food bank or rescue program in my area?', 'Typical food donors', 'How does the law protect businesses from liability?', 'Tax benefits for donating food', and 'More information'. Below this is a section titled 'Food banks and food rescue programs--what are they and how do they operate?' with two paragraphs explaining the roles of food banks and food rescue programs. The page ends with the heading 'How do I contact a food bank or rescue program in my area?'.

CA .GOV California Integrated Waste Management Board

Skip to: [Content](#) | [Footer](#) | [Accessibility](#) Search

Home Reduce Waste Recycle Buy Recycled Enforcement Local Partners Education About Us

Reduce Reuse Zero Waste Producer Responsibility Schools/Districts Businesses

Food Scrap Management
Food Banks and Food Rescue Organizations

Food Scrap Home
FAQs
Food Banks & Food Rescue
Composting
Compostable Products
Compost Technologies
Events
Case Studies
Funding
Resources & Links

- [Food banks and food rescue programs](#)
- [How do I Contact a food bank or rescue program in my area?](#)
- [Typical food donors](#)
- [How does the law protect businesses from liability?](#)
- [Tax benefits for donating food](#)
- [More information](#)

Food banks and food rescue programs--what are they and how do they operate?

→ **Food banks** are community-based, professional organizations that collect food from a variety of sources warehouse, then distribute it to hungry families and individuals through local human service agencies. Most collect less perishable foods such as canned goods because they can be stored for a longer time.

→ **Food rescue** programs take excess perishable and prepared food and distribute it to agencies that serve

Agencies served by food banks and rescue programs include community centers, soup kitchens, food pantry programs, and childcare centers. Many of these agencies visit the food bank each week to select fresh products for their meal programs or food pantries.

How do I contact a food bank or rescue program in my area?

Food Diversion Hierarchy

- **Waste Prevention**
- **Human Consumption**
- **Animal Feed**
- **Composting/Vermicomposting**
- **Safe Disposal**

Food Diversion

- **Model programs and contacts**
- **Case studies**
- **Suggested outreach methods and materials for food diversion education**
- **Best management practices for food generators**
- **Cost reducing measures**

Food Diversion

- **Food diversion facility lists**
- **Biodegradable product vendors**
- **Food diversion equipment vendors and testimonials**

CIWMB.CA.GOV/Organics

The screenshot shows the CIWMB website's Organics page. At the top left is the CA.GOV logo and the text "California Integrated Waste Management Board". To the right is a search bar with "California" selected and a "GO" button. Below the search bar is a navigation menu with tabs for "Home", "Reduce Waste", "Recycle", "Buy Recycled", "Enforcement", "Local Partners", "Education", and "About Us". Under "Reduce Waste", there are sub-links for "Reduce", "Reuse", "Zero Waste", "Producer Responsibility", "Schools/Districts", and "Businesses".

The main content area is titled "Organic Materials Management". It includes a sidebar on the left with links to "Organics Home", "Compost & Mulch", "Biosolids", "Sustainable Landscaping", "Home Gardening", "Food Scrap Management", "Conversion Technologies", "Events", "Publications", "Organics Site Index", "External Links", and "Contacts".

The main text area contains the following sections:

- Organic Materials Management**: A paragraph stating that users will find information on [compost](#), [mulch](#), [biosolids](#), [farming](#), [sustainable landscaping](#), [home gardening](#), [food scrap](#), and [conversion technology](#), and other topics relating to the management and use of organic resources.
- What are "Organics"?**: A paragraph explaining that "organics" means material that was once living, such as leaves, grass, agricultural crop residues, and food scraps. It also notes that organics include materials like wood waste, manure, or biosolids, and that the decomposition process is called composting.
- Site Highlights**: A list of four highlights:
 - » [Organics Toolbox and Compost/Mulch Use Survey](#). The Toolbox includes model tools related to compost and mulch use from cities throughout California, the Board, and other sources, as well as a Compost/Mulch Use Survey.
 - » [Water Cross Media Coordination for Compost Use and Production Workshop](#). August 17, 2009, public workshop on Regulation of Composting Facilities--Conditional Waiver of Waste Discharge Requirements.
 - » [Air Emissions Reduction from Composting and Related Facilities](#). Information on California local air pollution districts' operational rules and limitations for business that emit significant amounts of "criteria pollutants."
 - » [2008-2009 Workshop series on Using Compost for Landscape and Environmental Enhancement](#)

On the right side, there is a "Program News..." section with three items:

- » [Jurisdictions--Take the Compost/Mulch Use Survey located on the new Organics Toolbox page!](#)
- » [Presentations, the Q&A Transcript, and other information from the June 2009 Economic Incentives Workshop are available!](#)
- » [Information on the Public Workshop on Regulation of Composting Facilities--Conditional Waiver of Waste Discharge Requirements is available!](#)

At the bottom of the page, there is a footer with the text "Home | About Us | Contact Us | Privacy Policy | Terms of Use | Site Map | RSS Feeds | Facebook | Twitter | YouTube | LinkedIn | Instagram | Pinterest | Google+ | 1-800-452-4333".

California Integrated Waste Management Board

The screenshot shows a web browser window with the address bar displaying "Food Scrap Management Home Page". The website header includes the CA.GOV logo and the text "California Integrated Waste Management Board". Navigation links include "Home", "Reduce Waste", "Recycle", "Buy Recycled", "Enforcement", "Local Partners", "Education", and "About Us". A search bar is located in the top right corner with the text "Search" and "GO" button, and radio buttons for "California" and "CIWMB".

The main content area is titled "Food Scrap Management" and contains the following text:

Californians throw away more than 5 million tons of food scraps each year. That's 16 percent of all disposed materials going into landfills from businesses, residents, and institutions such as schools and prisons. Although green material collection programs have been implemented in many cities and counties, management of food scraps provides additional opportunities to help meet the State's diversion goals as well as provide greater uses for this resource. A suggested order for food scrap management is to (1) [prevent food waste](#), (2) [feed people](#), (3) [convert to animal feed](#) and/or [rendering](#), and (4) [compost](#).

This site provides information and resources to help reduce food waste and save money on disposal costs. Resources include food scrap prevention tips, lists of local food banks and food rescue programs and on-site and off-site composting options. Regional compost workshops and special event information is also available.

Not sure where to start? Try [Frequently Asked Questions](#) (FAQ).

For more information on organic materials management, please visit our [Organic Materials Management](#) Web site.

Last updated: August 31, 2009
Food Waste <http://www.ciwmb.ca.gov/FoodWaste/>
Contact: <http://www.ciwmb.ca.gov/Organics/Contacts.htm>

The left sidebar contains a list of links: Food Scrap Home, FAQs, Food Banks & Food Rescue, Composting, Compostable Products, Compost Technologies, Events, Case Studies, Funding, and Resources & Links.

California Integrated Waste Management Board



California
Integrated Waste
Management Board

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

[Home](#) | [Reduce Waste](#) | [Recycle](#) | [Buy Recycled](#) | [Enforcement](#) | [Local Partners](#) | [Education](#) | [About Us](#)

[Reduce](#) | [Reuse](#) | [Zero Waste](#) | [Producer Responsibility](#) | [Schools/Districts](#) | [Businesses](#)

[Food Scrap Home](#)

[FAQs](#)

[Food Banks & Food
Rescue](#)

[Composting](#)

[Compostable
Products](#)

[Compost
Technologies](#)

[Events](#)

[Case Studies](#)

[Funding](#)

[Resources & Links](#)

Food Scrap Management Frequently Asked Questions

- » [How can I prevent food waste?](#)
- » [Where can I donate food?](#)
- » [Am I liable if someone gets sick from food I've donated?](#)
- » [Where can I compost food scraps?](#)
- » [Should I compost on site?](#)
- » [Do I need a permit to compost food scraps?](#)
- » [How can I set up a compost system for special events?](#)
- » [Where can I find biodegradable kitchenware and collection bags?](#)
- » [How will diverting my food scraps save me money?](#)

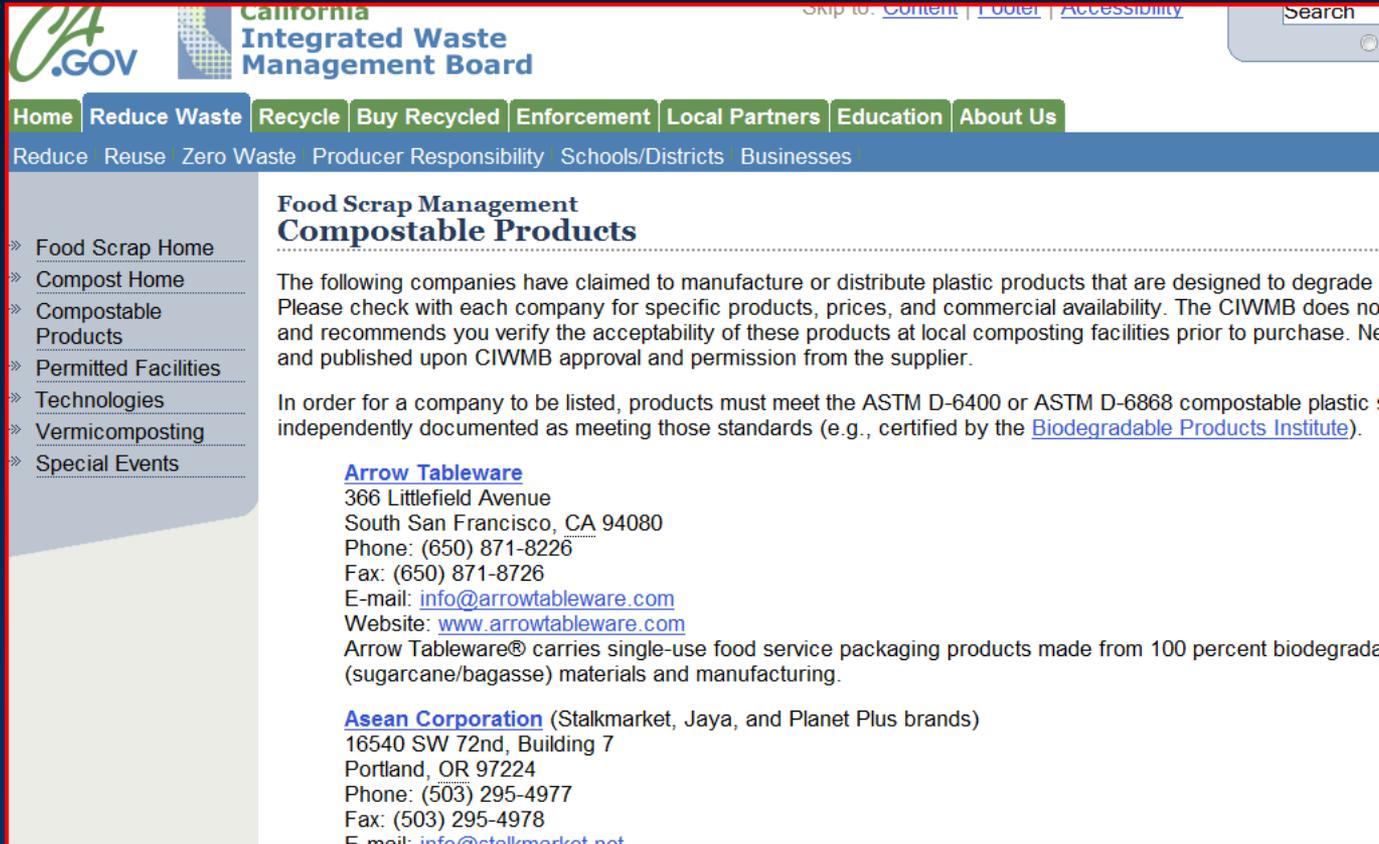
How can I prevent food waste?

The best way to prevent food waste is to not create it. This can be done by streamlining food preparation more efficiently.

Where can I donate edible food?

[Food banks](#) typically accept foods that are packaged or can be stored for a period of time. [Food rescue](#) organizations accept perishable, such as casseroles or other hot meals from caterers, restaurants, delicatessens, and ca

California Integrated Waste Management Board



CA.GOV California Integrated Waste Management Board

Skip to: [Content](#) | [Footer](#) | [Accessibility](#) Search

Home Reduce Waste Recycle Buy Recycled Enforcement Local Partners Education About Us

Reduce Reuse Zero Waste Producer Responsibility Schools/Districts Businesses

- » Food Scrap Home
- » Compost Home
- » Compostable Products
- » Permitted Facilities
- » Technologies
- » Vermicomposting
- » Special Events

Food Scrap Management Compostable Products

The following companies have claimed to manufacture or distribute plastic products that are designed to degrade in soil. Please check with each company for specific products, prices, and commercial availability. The CIWMB does not guarantee and recommends you verify the acceptability of these products at local composting facilities prior to purchase. New products are added and published upon CIWMB approval and permission from the supplier.

In order for a company to be listed, products must meet the ASTM D-6400 or ASTM D-6868 compostable plastic standards, which are independently documented as meeting those standards (e.g., certified by the [Biodegradable Products Institute](#)).

Arrow Tableware
366 Littlefield Avenue
South San Francisco, CA 94080
Phone: (650) 871-8226
Fax: (650) 871-8726
E-mail: info@arrowtableware.com
Website: www.arrowtableware.com
Arrow Tableware® carries single-use food service packaging products made from 100 percent biodegradable (sugarcane/bagasse) materials and manufacturing.

Asean Corporation (Stalkmarket, Jaya, and Planet Plus brands)
16540 SW 72nd, Building 7
Portland, OR 97224
Phone: (503) 295-4977
Fax: (503) 295-4978
E-mail: info@stalkmarket.net

California Integrated Waste Management Board

The screenshot shows a web browser window with the address bar displaying "In-Vessel Compost Technologies: Foo...". The website header includes the CA.GOV logo and the text "California Integrated Waste Management Board". Navigation links include "Skip to: Content | Footer | Accessibility" and a menu with "Home", "Reduce Waste", "Recycle", "Buy Recycled", "Enforcement", "Local Partners", "Education", and "About Us". A secondary menu lists "Reduce", "Reuse", "Zero Waste", "Producer Responsibility", "Schools/Districts", and "Businesses".

Food Scrap Management Compost Technologies

The compost systems below are in-vessel, designed for food scrap generators. This site features intended for on-site use by food generators. If you are a homeowner looking for backyard compost Additional composting resources are available on our [Organic Materials Management](#) web site.

The California Integrated Waste Management Board (Board) does not endorse specific technology published upon Board approval and permission from manufacturer. The following descriptions are manufacturer. The Board has not verified any of the claims in these descriptions. Please contact e information.

Note: All images below are thumbnails. Select the image to see a larger version and use your web browser to view the full image.

- » [Advanced Biotechnology](#)
- » [Augsburger Engineering](#)
- » [Biosystem Solutions](#)
- » [BW Organics](#)
- » [Engineered Compost Systems](#)
- » [EPM Inc.](#)
- » [Environmental Products & Technologies Corporation \(EPTC\)](#)
- » [Covered and Aerated Compost Systems](#)
- » [More Compost Technologies \(G-W\)](#)

Advanced Biotechnology

California Integrated Waste Management Board

From relatively low tech

To relatively high tech



As compost, food scraps can

- **Conserve water**
- **Reduce soil erosion**
- **Improve soil**
- **Reduce chemical use**
- **Improve plant health & soil biology**

California Integrated Waste Management Board



Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Search

California CIWMB

[Home](#) [Reduce Waste](#) [Recycle](#) [Buy Recycled](#) [Enforcement](#) [Local Partners](#) [Education](#) [About Us](#)

[Waste Facilities](#) [Used Oil](#) [Waste Tires](#) [Waste Diversion](#) [Enforcement Orders](#) [Local Enforcement Agencies \(LEA\)](#)

Solid Waste Information System (SWIS)

- » [SWIS Home](#)
- » [Search Facility Database](#)
- » [Download Data File](#)
- » [Facility Database Definitions](#)
- » [Data Entry Form:](#)
 - » [PDF \(186 KB\)](#)
- » [Required Data: New SWIS #](#)
- » [LEA Central](#)
- » [Inventory](#)
- » [Enforcement Orders](#)
- » [Digital Inspections Program](#)

The Solid Waste Information System (SWIS) database contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

For each facility, the database contains information about location, owner, operator, facility type, regulatory and operational status, authorized waste types, local enforcement agency and inspection and enforcement records.

The data in the [facility database](#) is continuously updated and the [downloadable data file](#) is updated every Monday, Wednesday, and Friday at 6:00 a.m. **Inspection and Enforcement Records should be current to the last quarter.**

If you have questions about this page or the SWIS database please contact [Bernie Vlach](#) at (916) 341-6320, or the staff listed below.

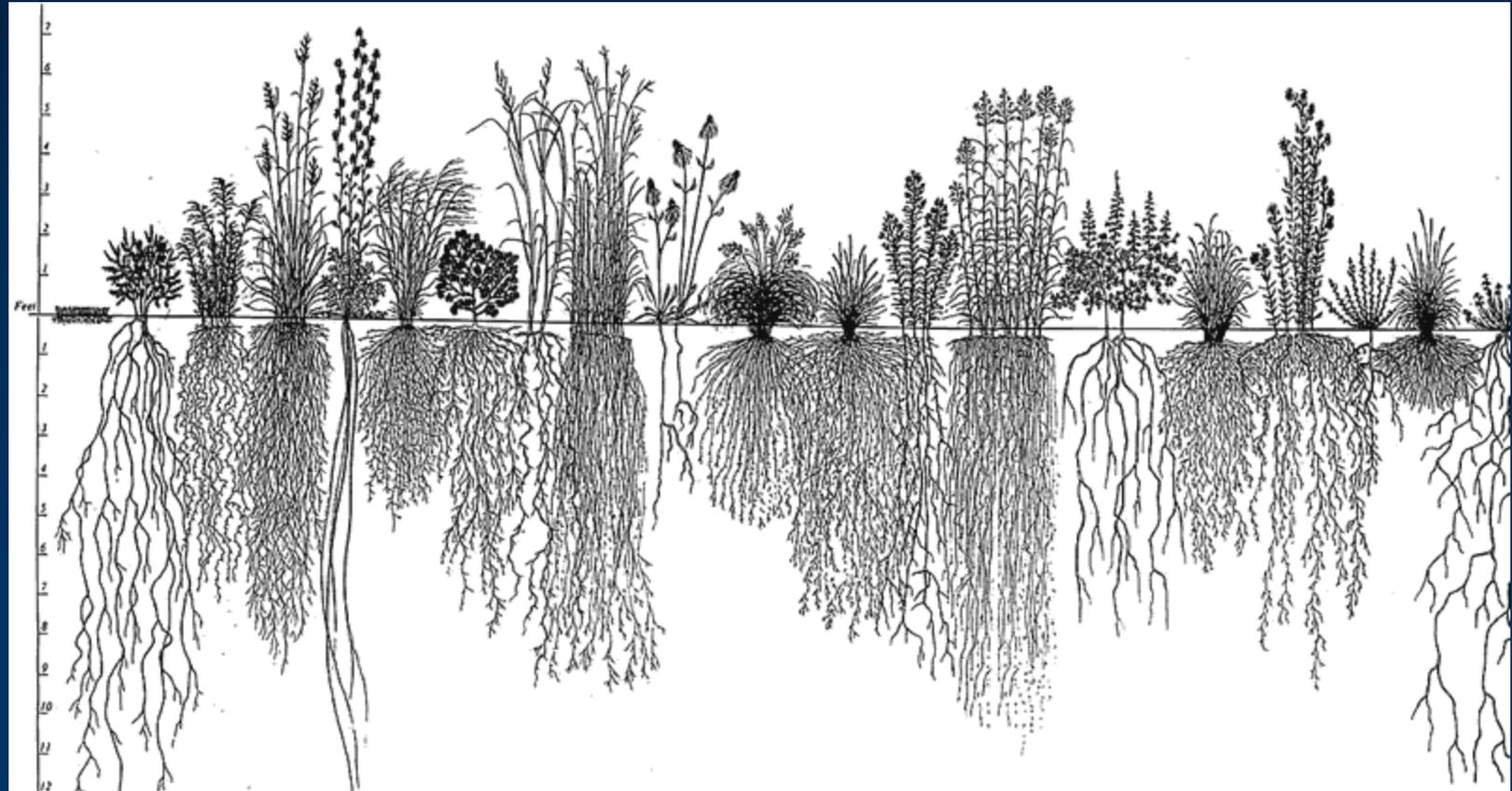
Last updated: July 24, 2006
Solid Waste Information System (SWIS), <http://www.ciwmb.ca.gov/SWIS/>
Skip Amerine, samerine@ciwmb.ca.gov (916) 341-6322

Highlights...

- » [Pilot digital inspection program starts this Fall!](#)

California Integrated Waste Management Board

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www.ciwmb.ca.gov