

THE CLOSED-LOOP SCOOP



WASHINGTON DEPARTMENT OF ECOLOGY, WASTE 2 RESOURCES PROGRAM NEWSLETTER

CHARACTERIZING WASTE IN WASHINGTON

As the economy changes, our purchasing decisions change. It is essential that we have current data on impacts these changes have on the waste stream so we can make good decisions. Waste characterization data shows how purchasing and disposal decisions are changing. This provides information to track progress on existing or planned programs to reduce and manage wastes.

Washington law requires the Washington State Department of Ecology (Ecology) to conduct periodic characterizations of the state's municipal solid waste. This includes determining solid waste generation rates and recycling rates for each waste category. We must also keep the data current and available to local governments and the waste management industry for planning and measuring progress.

The latest of these studies is the recently completed 2009 Washington Statewide Waste Characterization Study. This study helps measure progress toward Beyond Waste goals (the statewide solid and hazardous waste plan) by estimating



amounts of 130 different materials going to landfills.

The study reveals that organic materials make up the largest



percentage of the overall statewide disposed waste stream composition, at 27.2 percent. Construction materials follow, with 12.8 percent of the overall waste stream, then paper products at 9.8 percent. Food scraps make up 18.3 percent of the overall waste stream, making it the largest single material disposed in landfills.

The study divided the overall waste stream into four waste generator sectors: residential, commercial, self-hauled construction and demolition, and self-hauled other. The commercial sector makes up the biggest percentage of the waste stream, at 43.7 percent. The residential sector is close behind at 36.7 percent. The combined self-hauled sector makes up 19.6 percent of the waste stream.

Ecology separated the state into six

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CHARACTERIZING WASTE IN WASHINGTON (CONTINUED.)

waste generation areas, based on the geographic and economic variation found throughout the state, as well as waste transport systems. Ecology selected the ten counties within those areas where waste sampling and sorting took place.

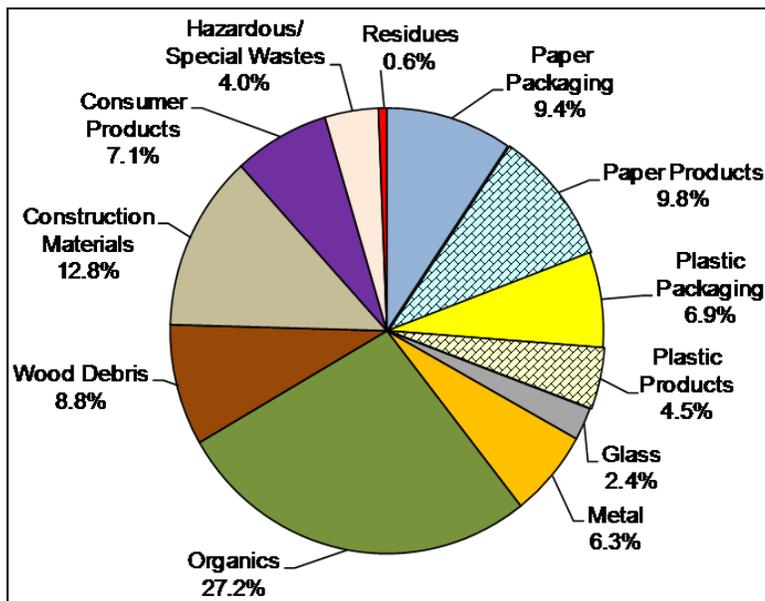
One unique element of this study was the detailed look at packaging versus products in the waste stream. This analysis is important in light of existing and planned statewide product stewardship efforts and packaging waste prevention initiatives.

Three counties contributed their data to the statewide study. King, Snohomish, and Thurston counties recently completed their own waste audits. Their findings were combined with the statewide findings in a supplemental section of the study report.

The full report is available at <http://www.ecy.wa.gov/programs/swfa/solidwastedata/>.

For more information and data contact Gretchen Newman with the Department of Ecology Waste 2 Resources Program at gretchen.newman@ecy.wa.gov.

Overall Statewide Disposed Waste Stream Composition by Material Class, 2009



CLARK COUNTY'S SOLAR PILOT PROJECT IS FIRST IN STATE

ADAPTED AND PUBLISHED WITH PERMISSION FROM GEOFF KNAPP, CLARK COUNTY

Clark County's weatherization program was recently selected as one of five programs in the state to participate in a solar hot water retrofit pilot project. The county completed its first installation. They are first in the state to complete the project.

The project entailed installing a solar panel at a house in Vancouver. A solar heat collector with evacuated tubes was mounted on the roof and connected to pipes leading to the water heater. A closed loop system filled with propylene glycol (anti-freeze) was also used. Installations can also

be used to maintain the temperature in the water heater.



A metal frame is attached to the roof prior to installation.

The solar pilot project is funded by the Washington State Department of Commerce, in partnership with the Building Performance Center of the Opportunity Council and A World Institute for a Sustainable Humanity (A W.I.S.H). The goal is to help move the state's weatherization programs into the fore-

front in retrofitting renewable energy while rejuvenating the network, reducing carbon, and creating "green jobs."

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CLARK COUNTY'S SOLAR PILOT PROJECT IS FIRST IN STATE (CONTINUED.)

Benefits of the project include:

- Domestic hot water represents 40 percent of residential energy use. The program helps low-income households save money on energy bills and become more energy self-reliant.
- This is a step toward livable wage jobs for low-income households in an exciting, new, long-term field - green jobs.
- There are great possibilities of leveraging additional funds from utilities and other sources.
- The project creates a national model for other jurisdictions to emulate.

Timing of the successful project puts Clark County in a good position to receive part of a new U.S. Department of Energy (DOE) grant for more projects.

The state of Washington was awarded two weatherization grants totaling \$10 million.

About 120 organizations across the country will receive nearly \$120 million to drive innovation under the Department of Energy's Weatherization Assistance Program. The funding will enable successful weatherization agencies to expand their programs. It will also help them support new pilot projects to



Byron Odion from Whidbey Sun and Wind joins Judith Darst from the Department of Commerce in holding a control panel expansion tank, part of the solar hot water retro fit.

demonstrate innovative weatherization delivery, financial models and new technologies.

The amount of Clark County's grant allotment has not been announced. It is estimated it will bring hundreds of thousands of dollars to the county's weatherization efforts.

For more information contact Tif Rock, tif.rock@clark.wa.gov, or Geoff Knapp, geoff.knapp@clark.wa.gov, with Clark County Community Services at (360) 397-2130.

CALENDAR OF EVENTS

-November 4-5, 2010, 4th Annual International Conference on Business & Sustainability will be held in Portland, OR. To learn more, or visit the website at www.sba.pdx.edu/sustainabilityconference10/.

-November 8-10, 2010, Bioenergy Research Symposium & Future Energy Conference will be held in Seattle, WA. To learn more, visit the website at <http://futureenergyconference.com>.

-November 9-12, 2010, Paper Stock Industries Fall Conference will be held in Palm Beach, FL. To learn more, visit the website at www.paperstockindustries.org.

-November 9-13, 2010, Resources Recycling Industry Exhibition will be held in Shanghai, China. To learn more, visit the website at <http://cirr.cbichina.com>.

-December 6-7, 2010, Northwest Environmental Conference will be held in Portland, OR. To learn more, visit the website at <http://www.nwec.org/>.

-December 7-9, 2010, The Inaugural Southeast Construction & Demolition Recycling Conference will be held in Charlotte, NC. To learn more, visit the website at www.cdrecyclingconference.com.

-January 11-13, 2011, 2011 North American Environmental Field Conference & Expo will be held in San Diego, CA. To learn more, visit the website at www.envirofieldconference.com.

-January 20, 2011, Sustainable Industries Economic Forum will be held in Santa Monica, CA. To learn more, visit the website at www.sustainableforums.com.

LAKELAND VILLAGE REMEDIATION PROJECT

In 2008, Martyn Quinn of Washington Department of Ecology's (Ecology) Waste 2 Resources Program engaged Gayle Bonnet from Department of Social and Health Services (DSHS), to address a biosolids issue at Lakeland Village - a DSHS nursing facility near Medical Lake, Washington. Martyn and others worked with Gayle to brainstorm ideas that would turn a biosolids removal project into a full scale facility redesign, site remediation, and wetlands restoration project.

In 2006, Lakeland Village closed its small wastewater treatment plant (WWTP) and hooked up to the new, community wide sewer system. While minimal maintenance continued at the old WWTP to keep the existing digester and clarifier useful as emergency backup systems, the buildings and grounds around the Lakeland Village site fell victim to invasive weeds and vandalism. And the biggest problem was to address the over 600 tons of biosolids and soil in the WWTP lagoon.

Before deconstructing old buildings, moving biosolids, or upgrading remaining facilities staff from Ecology's Shorelands and Environmental Assessment needed to conduct a State Environmental Protection Act (SEPA) review. Then staff from several Ecology programs, including Water Quality, came up with innovative solutions to deal with potential

runoff issues from demolition work. Ecology provided technical assistance to ensure the required upgrades to the old clarifier and digester met design requirements. These upgrades were essential to protect on-site wetlands.

One of the major steps in site remediation involved removing approximately 600 tons of biosolids still lurking in the lagoon. Instead of moving the material offsite, Ecology staff worked to get approval to land-apply the biosolids at the newly cleared treatment plant site. This served a number of purposes including eliminating the fuel costs and the carbon emissions of transporting the biosolids off site. In turn, the biosolids became a key ingredient for remediating the grounds after buildings and other structures were removed. Fortified with biosolids, the soil health at the site improved dramatically and now supports native plants.

Mindful of cost and carbon footprint, a team of people from Ecology and DSHS transformed the old Lakeland Village WWTP in just 12 months. Instead of an eyesore, it is now a site for sore eyes, sporting a lush carpet of native grasses and a restored wetland.

For more information contact Martyn Quinn with the Department of Ecology Waste 2 Resources Program at martyn.quinn@ecy.wa.gov.



Lakeland Village WWTP before remediation.



Lakeland Village WWTP after remediation.

RULE UPDATE: WAC173-350, SOLID WASTE HANDLING STANDARDS

The Washington State Department of Ecology is beginning a process to update WAC 173-350, Solid Waste Handling Standards. The rule was last updated in 2005. Some requirements are outdated and need more clarification, such as organics manage-

ment and the composting section. Examples of other areas that may need revision include:

- Add new soils/earthen material section to clarify when a material is a solid waste.

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RULE UPDATE: WAC 173-350, SOLID WASTE HANDLING STANDARDS (CONTINUED.)

- Clarify definitions.
- Revisit exemptions.
- Clarify processing or performance standards for solid waste facilities.
- Streamline administrative requirements.

The purpose of this rule is to set minimum functional performance standards for proper handling and disposal of solid waste originating from residences, commercial, agricultural and industrial operations and other sources.

You are invited to participate in the first stage of this process by submitting your ideas on issues with the current rule you would like Ecology to address. More information about the rule is available at <http://www.ecy.wa.gov/programs/swfa/rules/ruleDev.html>.

To receive email updates on how you can participate in the process, sign up for the WAC 173-350 rule email notification **LISTSERV** at <http://listserv.wa.gov/cgi-bin/wa?SUBED1=ECY-SW-HANDLING-STANDARDS&A=1>. All future correspondence about the rule will be sent by the **LISTSERV** and posted online.

Comments on issues with the current rule are due to Ecology by November 15, 2010. Submit your comments using the online comment form at <http://www.ecy.wa.gov/programs/swfa/rules/comment.html>. You can also email your comments to Kathleen Scanlan at kathleen.scanlan@ecy.wa.gov, or mail them to PO Box 47600, Olympia, WA 98504.

If you have any questions about this rule update, please contact Kathleen Scanlan at 360-407-6559 or kathleen.scanlan@ecy.wa.gov. We look forward to your participation in this process.

Got Funds?

The Department of Ecology's Public Participation Grant Program is seeking applications from not-for-profit organizations to perform environmental education and outreach projects. The application period opens November 1, 2010 and closes January 6, 2011. For more information, visit <http://www.ecy.wa.gov/pubs/1007022.pdf>.

LEAD WEIGHTS - BANNED FOR USE IN WASHINGTON IN 2011

Starting January 1, 2011, Washington's wheel weight law ([RCW 70.270](#)) bans the use of lead wheel weights. The law requires a person who replaces or balances motor vehicle tires in Washington to use environmentally preferred wheel weights. Stockpiling lead weights for use after January 1, 2011 is not permitted.

Ecology's research indicates that about 40 metric tons of lead wheel weights fall off vehicles every year in Washington. This exposes people to lead fragments and dust as traffic crushes and wears down the fallen weights. Lead wheel weights on and alongside roadways can contribute to soil, surface water, and groundwater contamination. They also pose hazards to downstream aquatic life.

The law only pertains to motor vehicles with a wheel diameter of less than 19.5 inches or a gross vehicle weight of 14,000 lbs. While lead wheel weights will remain legal for those larger tires, Ecology encourages

use of alternatives.

An environmentally preferred wheel weight is a wheel weight that does not include more than 0.5 percent by weight of lead or any other chemical on Ecology's [PBT list](#). This means wheel weights must not contain substances like cadmium or mercury. Coated steel, composite, and zinc weights are all legal alternatives to lead as long as they do not contain any of the substances on the PBT list. Ask your supplier for assurance that the weights you buy are legal for use in Washington.

Lead wheel weights that are removed from vehicles must be recycled and should be handled as hazardous waste. If you are unsure where to recycle lead wheel weights, talk to your supplier.

Visit the Department of Ecology's website for details: <http://www.ecy.wa.gov/programs/swfa/pbt/weights.html>.

RE-REFINED MOTOR OIL, THE BETTER FINANCIAL & ENVIRONMENTAL CHOICE



Purchasing re-refined motor oil for agency fleets and heavy-duty vehicles is a responsible choice. The quality of re-refined oil is comparable to virgin oil. It is also at a competitive price.

Motor oil doesn't wear out, so it can be re-refined unlimited times. After it is collected through the recycling system, used motor oil is cleaned of water, dirt and contaminants. Then it is re-refined into a new base oil and performance additives are blended in. Re-refined motor oil must pass the same quality standards as virgin oil for certification by the American Petroleum Institute.

When fleets purchase re-refined oil, there are lots of benefits:

- Less dependence on crude oil production.
- Re-refining uses 50-80 percent less energy than producing virgin motor oil.

- Supports the recycling infrastructure.
- Increased energy security.

According to the U.S. Environmental Protection Agency, it takes 42 gallons of crude oil, but only 1 gallon of used oil, to produce 2 ½ quarts of high-quality motor oil.

Many purchasers can reduce their overall fleet costs by selling used motor oil to re-refiners. For example, in 2009 King County saved an estimated 20 cents a gallon (for a total of \$68,000) by purchasing re-refined oil and then selling the used oil for recycling. See the [2009 King County Environmental Purchasing Annual Report](#) to learn more.

You can purchase re-refined motor oil from Washington State Contract # [09005](#) - Lubricants, Virgin and Re-refined. Otherwise, contact your automotive suppliers or local retailers. Ask for the highest level of recycled content – 70 percent or more is a great target.

To find more environmentally preferable resources, go to <http://www.ecy.wa.gov/beyondwaste/epp.html> or contact Tina Simcich at 360-407-7517.

SOLID WASTE LAWS UPDATE PROCESS

Last year the Department of Ecology's Waste 2 Resources Program started a process to revise the state's solid waste management law (Chapter 70.95 of the Revised Code of Washington - Solid waste management – reduction and recycling). We recognized our law needs to better address current solid waste management challenges and move us "beyond waste."

Where we started

Washington's solid waste law, passed in 1969, changed the way we manage our waste. The 1969 law stopped the common use of open burning dumps and directed our waste into "sanitary landfills."

We've made a lot of progress!

In the mid 1980s Washington's recycling rate was less than 20 percent. Today, our recycling rate is 45 percent. This improvement is due to significant recycling and waste reduction revisions passed in the 1980s. Local governments implemented programs and policies to achieve higher recycling rates, and

private industry invested in recycling and reuse infrastructure.

Where we are now

Our waste stream has grown and changed. It was once mostly organic materials, but now includes products and packaging made of a variety of materials, including some toxic substances. There are new technologies that can recycle or recover some of this "waste." Open dumps are gone, most local landfills are full and much of our trash now travels to large regional landfills in Eastern Washington and Oregon.

The Legislature amended our main solid waste law 29 times since its inception in 1969. Standalone pieces of legislation were also added to increase recycling and address specific products, such as used oil recycling, mercury containing products, electronics recycling, and children's safe products, to name just a few. But these efforts have not fully kept up with changes in our waste stream.

(Continued on next page.)

ATTEND THE WORC ANNUAL CONFERENCE IN ELLENSBURG!

The December 9 WORC Annual Conference is focused on **Keeping the Green Clean!** WORC's goals are to increase understanding and implementation of existing programs and technologies that can reduce contamination in incoming feedstocks and finished compost.

The December 9 conference is at the Hal Holmes Center. Registration information is at www.compostwashington.org. Look for "Annual Conference" in the Quick Links section on the right side of the web page.

SOLID WASTE LAWS UPDATE PROCESS (CONTINUED.)

Waste reduction is now our highest waste management priority and biggest challenge. How do we not make the "waste" in the first place?

Where do we want to go?

In 2004, Ecology worked with stakeholders to create the Beyond Waste Plan, our state plan for managing solid and hazardous wastes. It set a 30-year vision to eliminate most wastes and toxic substances and use any remaining wastes as resources.

In 2008, the Climate Action Team identified waste reduction and recycling as strategies that greatly reduce greenhouse gas emissions.

We need to increase waste reduction and recycling to reduce greenhouse gasses and achieve the Beyond Waste vision. Our current solid waste laws do not fully support this direction. Updating the solid waste laws can help eliminate waste wherever possible, reduce product toxicity, recycle more materials, and safely dispose of residuals.

Solid waste laws in Washington

More than 80 laws affect solid waste management, reduction, and recycling in some way. Though the main focus of this project is Chapter 70.95 RCW, Solid waste management - reduction and recycling, we must evaluate all related laws to ensure an effective, coordinated statewide solid waste management program.

The process so far

Ecology has proposed a three-step process to update state solid waste laws:

- Identify problems.
- Find solutions.
- Make changes.

Each step involves many smaller steps. We expect this process to take a few years.

Step 1 – Identify Problems

In spring 2010, Ecology met with both public stakeholders and staff to identify problems with the current solid waste management law and understand its scope. Ecology hosted workshops across the state to listen to issues and problems, and gain perspective. The thousands of comments we received are posted on Ecology's website. In fall 2010, Ecology shared summary documents with the public to get feedback on the issues and prioritize them. Using this feedback, we will update the summary documents and propose priority solid waste issues for Step 2 - Find Solutions.

Step 2 – Find Solutions

In spring 2011, Ecology plans to move to the solutions phase. Our focus will be priority issues identified in Step 1 that involve amendments to the law. Rule-related issues will be referred to the rule-making process. We will identify issues not suitable for either law amendments or rule revisions. Ecology and stakeholders will then begin to research solution options for priority issues. We intend to identify a variety of potential solutions for the issues.

Step 3 – Make Changes

When ready, legislative revisions will be drafted to incorporate solutions into law.

Anyone interested in this process should sign up on the RCW 70.95 [listserv](http://listserv.wa.gov/cgi-bin/wa?SUBED1=ECOLOGY-SOLID-WASTE-LAWS-RULES&A=1) to receive email updates (go to <http://listserv.wa.gov/cgi-bin/wa?SUBED1=ECOLOGY-SOLID-WASTE-LAWS-RULES&A=1>).

Information on this process, including meeting notes and summary documents, is available online at <http://www.ecy.wa.gov/programs/swfa/7095/>. You can also contact Janine Bogar at janine.bogar@ecy.wa.gov or 360-407-6654.

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