



# The Closed-Loop Scoop

Washington State Department of Ecology, Solid Waste & Financial Assistance Program

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## Governor Issues Award to Solar Fishing

*Co-op aims for fleet that sails on sunlight*

Amid growing concerns about the health of our oceans and returning wild salmon populations, a small group of environmentally conscious fishermen are now finishing their season with the first solar-powered fishing vessel in the world. Not to be confused with salmon farming, these fishermen are out there working the waters of north Puget Sound with the Lummi Island Wild Co-op reefnet fleet. The solar upgrade as well as other innovations that lower by-catch (other species accidentally caught) to near zero levels, placed the Co-op front and center at the State Capitol October 9, 2007, to receive the Washington State Governor's Award for Sustainability.

The commercial fishing business is among 11 companies and agencies Washington is recognizing this year for their success in moving the state towards a more sustainable future. (To read about the other winners, visit <http://www.ecy.wa.gov/programs/hwtr/GovAward/winners07.html>.)

"We are showing that with a little extra effort, fishing doesn't have to be a burden on the environment," said Co-op member Ian Kirouac. "Lummi Island Wild now operates three of the most selective and sustainable vessels on the planet—one of which is fully solar-powered." The Co-op hopes to build on its successful solar season by converting its entire reefnet fleet to solar power within the next year.

A partnership with Alpha Energy made the solar upgrade possible. Alpha Energy is a full-service engineering and project development company that develops turnkey photovoltaic systems for commercial, residential, institutional and remote (off-grid) applications.

"Going solar has helped Lummi Island Wild distinguish itself as the model for sustainable fishing," said Paul Humphreys, VP Marketing for Alpha Technologies. "And in their success, other businesses should be inspired to learn how to incorporate renewable energy systems into everyday operations. Being a good environmental steward is getting easier and more profitable to do."

Reefnet Salmon are some of the highest quality wild salmon available anywhere. These Fraser River fish are caught 1500 miles from their spawning grounds, making them high in healthy omega-3 fats. Each fish is individually handled, protecting their high quality all the way to seafood cases and dinner plates across the country.

The indigenous peoples of Puget Sound invented reefnetting technique. They made underwater reefs out of cedar bark ropes and marsh grass to funnel migrating salmon into a small net. Although the boats have gotten a little bigger and use winches to pull up the nets, the fishing method remains fundamentally the same to this day.

A small group of reefnet owners formed **Lummi Island Wild Coop** when they began to reorganize the nearly extinct fishery.

For more information about Lummi Island Wild, visit [www.LummiislandWild.com](http://www.LummiislandWild.com).

### Correction:

In the August issue, we incorrectly identified the location of Edison Elementary School. Edison, which won a Terry Husseman Sustainable School Award, is in Skagit County.

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# Leaders in Sustainability Recognized with 2007 Brilliant Awards

*Seattle conference first of its kind in the Pacific Northwest*

Fourteen leaders in sustainability received "The 2007 Brilliant Awards" at a conference in Seattle this September. The awards celebrate innovative solutions that go beyond "green" to generate real economic value while mitigating negative environmental impact. The Brilliant Awards at The Green Tie Gala during the Discover Brilliant 2007 International Conference and Expo ([www.discoverbrilliant.com](http://www.discoverbrilliant.com)).

"In a world driven by economics, it is not enough to be considered 'green'," said P.S. Reilly, Conference Chair of Discover Brilliant 2007.

"Mainstreaming sustainability requires approaches that bring more value as well as lower impact. As consumers, businesses and communities it is time to demand more from our investment decisions."

Discover Brilliant 2007 is an international conference focused on approaches that generate more value, while reducing waste and environmental impacts within five of the most rapidly moving market sectors: business, buildings, utilities, transportation, and communities.

Hand-blown glass awards designed by Canlis Glass were presented by student winners of the "BE" Brilliant Essay Contest, which asked students from grade 6 through college seniors to write letters to today's leaders with advice on how to build a legacy for the next generation.

The inaugural awards focus on examples of buildings, utilities, transportation systems, and communities as well as some of the innovations that help make them more sustainable. Specifically, award categories include Brilliant Building, Brilliant Utility, Brilliant Community, Brilliant Transportation and several Brilliant Innovation Categories.

Nominees were evaluated for their positive demonstration of economic value, environmental soundness, and security across a number of key criteria specific to each particular category. In the case of Brilliant Innovation categories, the value of the individual innovation to an adopter was assessed, and nominees were also evaluated based on their ability to affect their larger industry category as well.

The following Washington organizations were among the 2007 Brilliant Awards recipients:

**Brilliant Transportation Approach:** Flexcar Car Sharing ([www.flexcar.com](http://www.flexcar.com)) charted new territory in transportation solutions by changing people's transportation habits with a national car sharing program that allows members to reserve and drive by the hour, with a simple fee covering all costs.

**Brilliant Innovations- Business Operations:** Earth Class Mail ([www.earthclassmail.com](http://www.earthclassmail.com)) is revolutionizing the way individuals and businesses access snail mail by creating a high-efficiency/low waste system that allows individuals to access postal mail online from anywhere in the world.

**Brilliant Innovations- Residential Solution:** In a marriage of clean and green, Greenwood Technologies ([www.greenwoodfurnace.com](http://www.greenwoodfurnace.com)) has created a residential furnace that burns wood up to 85 percent more efficiently than traditional furnaces with no smoke, creosote, or ash.

**Brilliant Innovations- Waste to Energy-** The Western Washington University Vehicle Research Institute (<http://vri.etec.wvu.edu/>) is changing how we view manure by creating a facility that converts fecal coliform into renewable fuel and fundamentally changes the economics of waste to energy plants.

## Calendar of Events

**November 9-11, 2007, Tilth Producers Conference** will be held in Yakima. To learn more, call 206-442-7620, or visit the conference Web site at <http://www.tilthproducers.org/conference.htm>.

**November 28-29, 2007, Canadian Waste & Recycling Expo**, Vancouver, B.C. For more information, visit the Web site at <http://www.cwre.ca/> or call 1-877-534-7285.

**December 6-7, 2007, Northwest Environmental Conference & Trade Show**. Portland. For details, visit the Web site at <http://www.nwec.org/>.

**February 9-12, 2008, U.S. Composting Council 16<sup>th</sup> Annual Conference & Trade Show**, Oakland, Calif. For details, call 631-737-4931 or visit the Web site at <http://www.compostingcouncil.org/index.cfm>.

# Study Itemizes Washington's Garbage Bill

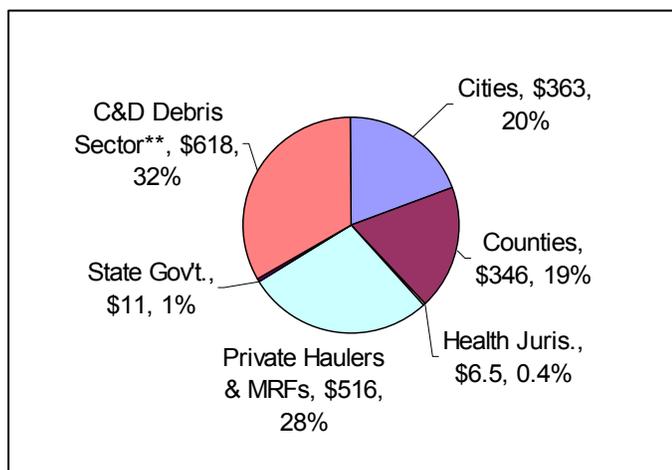
*How much do we spend in Washington to manage solid waste?*

Thanks to a recently completed study, we can now estimate that we spent about \$1.8 billion to manage solid waste in 2005. It costs big bucks to collect, transport, recycle, divert, compost, and dispose of municipal solid waste (MSW), moderate risk waste (MRW), and construction and demolition (C&D) debris. Most of the money spent came from payments for service (user fees), rates, and taxes.

Earlier this year, when the state Solid Waste Advisory Committee (SWAC) and the Department of Ecology looked for this information, they couldn't find it anywhere. So, they set out on a quest to follow—and measure—the money.

You see, the SWAC and Ecology are charged with looking into how Washington pays for solid waste management. Beyond Waste Plan Recommendation SW14 calls for an evaluation of the extent to which current financing methods are adequate to meet both today's solid waste management needs and tomorrow's identifiable costs for running a Beyond Waste closed-loop recycling system. Ultimately, this effort could lead to some recommendations for making solid waste financing more sustainable.

The first step was an accounting of costs related to solid waste management for calendar year 2005. A project team began working with a pair of contractors (Cascadia Consulting Group and Industrial Economics, Inc.) to develop and send detailed surveys to each county, each local health jurisdiction, and a sampling of 62 cities. The contractors also reviewed data from 60 annual reports that waste management companies sent to the state Utilities and Transportation Commission. Several other state agencies also submitted 2005 data to the contractors.



The figure above shows a breakdown of expenditures by solid waste activity.

\*\* This study did not identify all the parties in this sector.

## Other key findings of the cost accounting project for 2005 include:

- MSW disposal accounted for almost 40% of total expenditures.
- Recycling, composting, and waste reduction of MSW accounted for about 15% of total expenditures.
- Construction and demolition debris was about one-third of the total expenditures.
- State funding to local government totaled \$14 million.

Thanks to a strong survey response from counties, cities, and environmental health directors, the cost-accounting project was able to estimate revenues and expenditures for 2005. A huge "Thank you!" goes to the 34 counties, 29 health jurisdictions, and 49 (of 62) cities that sent in survey responses. Ecology and the State SWAC appreciate your efforts!

Time, resource, and data limitations restricted the study's scope to MSW, MRW, C&D debris, and standard recyclables. So, the \$1.8 billion estimate is probably conservative, as it does not include a number of related waste flows, such as industrial solid wastes, agricultural flows, biosolids, and petroleum-contaminated soils.

Ecology now has the data management tool used for this project, which will allow future updating and expanding of the data. It will also allow Ecology to run additional queries.

Project team members are:

- Steve Wamback, Pierce County and State SWAC Chair
- Dan Cantrell, Washington State Recycling Association and State SWAC member
- Jerry Smedes, Smedes and Associates and State SWAC member
- Wendy Mifflin, Yakima County and Solid Waste Policy Forum
- Gretchen Newman, Ecology
- Jim Bill, Ecology
- Cheryl Smith, Ecology

A SWAC subcommittee (including project team members) will recommend next steps to the SWAC and Ecology. To see more detailed data, visit <http://www.ecy.wa.gov/programs/swfa/swac/docs/SWAC2007SeptemberCostSynopsis.pdf>.

# Washington Schools Go Green

*Washington's Sustainable Schools Protocol inspires high-performance*

Many kids across Washington returned to a “green” classroom this fall. Under Washington’s green-building legislation, all new schools and major school renovations must meet one or the other of two building standards. The schools must meet either the Leadership in Energy and Environmental Design (LEED) Silver Standard or the Washington Sustainable Schools Protocol (WSSP) high-performance standard for ecological and energy efficient school design.

Schools built under the WSSP high-performance standard must use methods that increase energy efficiency and water conservation. They must also use materials that have low toxicity and contain recycled materials. The schools must provide natural light and fresh air for the students and minimize waste during construction.

Although prescriptive, the protocol is also flexible, providing districts with choices for energy saving strategies and environmental building techniques that make sense in their communities.

“The protocol was designed to be applied to all schools, regardless of their size or location within the state,” said Patricia Jatczak, High Performance School Program Manager at the Office of the Superintendent of Public Instruction. “New schools have been successfully built to this standard on both sides of the mountains.”

Under a volunteer pilot program, four schools successfully met the building standard. An estimated 19 more that have chosen to build to the standard are currently under construction across Washington. The legislation applies only to state-funded school construction; however, many districts that aren’t required to meet the standard are choosing to build their schools to it anyway.

“This is important, because it tells you that building to this standard makes sense,” Jatczak said. “The economic savings are significant, and it’s good design for student learning.” Preliminary studies are suggesting that green schools improve student test scores, increase student health, and contribute to the improved attitudes of students.



Washington Middle School, Olympia

Through increased use of natural light, windows that can be opened and closed, and less toxic materials (low-VOC paints and carpets), schools built to this standard hold the promise to provide a healthier learning environment for students. “The goal is to use products that don’t release as many toxins, to increase ventilation, and to provide natural lighting so the students will stay alert,” said Jatczak.

In addition to contributing to a healthier learning environment, high-performance schools should reduce energy costs. A school in Spokane built in compliance with the protocol estimates its annual energy savings at approximately \$40,000 a year.

Washington Middle School in Olympia integrated many water-saving technologies into its remodel. These technologies include installing low-flow faucets and collecting rainwater for use in low-flow toilets that have a dual flush option. “A facility administrator told me that the kids love the toilets because they have a button for number one and a button for number two,” Jatczak said. The school predicts a 40 percent reduction in water use.

Washington’s Sustainable Schools Protocol will not only help schools save in utility costs, it will also provide healthier learning environments for students. For more information on Washington’s Sustainable School Protocol, visit <http://www.k12.wa.us/SchFacilities/HighPerformanceSchoolBuildings.aspx>.

For more information on Ecology’s Green Building Program, call Rachael Jamison at 360-407-6352 or visit <http://www.ecy.wa.gov/programs/swfa/greenbuilding>.

# Secure Your Load in Yakima County

*A message from Mikal Heintz, Program Coordinator with Yakima County Solid Waste*

Imagine driving down a busy highway, the pickup truck in front of you stops suddenly. The sudden stop causes their unsecured load, including garbage bags, appliances and wood to shift and fly out of their vehicle and land on the roadway. You swerve to miss the debris and are lucky to escape without incident.

Across North America, over 25,000 accidents are caused each year by litter that is either purposefully dumped by motorists or falls out of vehicles with unsecured loads. Nearly 100 of those accidents are fatal. Even if you are going a short distance and not driving on the highway, you are **required by law** to secure your load. A driver with an unsecured load can be fined \$216; if the unsecured load causes injury, the driver could face a \$5,000 fine plus jail time.

Unfortunately, scenarios like the one played out above occur too often and have the potential to cause serious injuries and damage to motorists. Recognizing these hazards, Yakima County decided to become proactive. In May 2005, the Yakima County Board of Commissioners passed an unsecured load ordinance for all loads going into the solid waste facilities owned and operated by the county. Ordinance 4-2005 is defined as follows:

“Unsecured Load” means a shipment of solid waste in or on a vehicle that is not covered with a tarp, inside an enclosed vehicle or otherwise secured or tied down by safety chains or other fastening devices in a manner that will prevent materials from spilling, escaping, falling or being blown or deposited outside the vehicle while the vehicle is in motion. For the purposes of this definition, solid waste contained in trash bags that are not covered with a tarp, inside an enclosed vehicle or otherwise secured down is an unsecured load.

Once the new ordinance went into effect, a common misconception surfaced: many residents were unaware that their unsecured loads, which sat below the bed line or contained heavy items such as appliances or wood debris, could blow out of a vehicle. While it is generally unlikely a refrigerator or other like appliance could indeed “fly” out of a vehicle, if the vehicle was forced to make a sudden stop, swerve to avoid debris in the roadway, or skid during inclement weather, those heavy, large items could be propelled out of a truck bed.



In 2005, educating county residents on the dangers of an unsecured load became a priority. The county sent press releases to the media, created brochures and distributed them to landfill customers, and ran advertisements on local radio and television stations. These educational messages included information not only about the new ordinance, but also about the dangers of an unsecured load.

In 2006, Yakima County fully implemented the unsecured load ordinance. This meant charging for all unsecured loads at the scalehouses. **NO EXCEPTIONS!** The Solid Waste Division employees did a great job and took the meaning of “customer service” to a new level. The fee for an unsecured load at the solid waste facilities can be \$5 or \$15 depending on the capacity of the vehicle. Since full implementation in 2006, Yakima County has not refunded or written off a single fee charged out of 8,060 fees assessed.

Two years after the unsecured load ordinance went into effect, Yakima County is still working to educate its landfill customers. In 2006, the county spent over \$175,000 picking up roadside litter, of which only a small portion was recovered through unsecured load fees. The remaining portion was paid for with a community litter grant from the Washington State Department of Ecology (Ecology) and through tax dollars. Working in cooperation with Ecology, Yakima County Sheriff's Department, Yakima County Road Division, and the Washington State Patrol, the county is making strides to reduce the amount of unsecured loads it experiences coming to its facilities. This cooperation has also allowed the Solid Waste Division to increase litter cleanup along roadways leading to landfills and the transfer station.

The importance of securing your load goes beyond the fees involved. Just imagine you are driving down that highway again and a pickup truck filled with debris stops suddenly. Would you hold your breath, hoping that the load had been secured?

# Fidalgo Bay Renewal

*Cleanup at Cap Sante Marine*

One priority of the Governor's Puget Sound Initiative is funding for the cleanup of toxic chemicals in the waters of the Puget Sound. In partnership with the Department of Ecology, the Port of Anacortes was the first to put some of this money to work. The project focused on the Cap Sante Marine site located within the Port of Anacortes' Cap Sante Boat Haven on Fidalgo Bay.

On August 31, 2007, Ecology signed a Remedial Action Grant agreement giving the Port \$2.6 million to clean up Cap Sante Marine. The Port contributed another \$2.6 million for the effort.

A groundbreaking ceremony kicked off the cleanup on October 3, 2007. Representatives attended from the Governor's Office, the Port, and Ecology.

This is the first of several cleanups the Port of Anacortes is undertaking in partnership with Ecology as part of its Fidalgo Bay Renewal Project under the Puget Sound Initiative.

This project will integrate cleanup actions with economic and recreation development, and habitat restoration.



*Cutting the ribbon to kick off the cleanup: Ecology's Tim Nord (left) and the Port's Bob Elsner*

Prior to 1947, the site consisted of tide flats. In the late 1940s and early 1950s, the area was filled with dredged material from the adjacent federal waterway. The Port of Anacortes has owned the site since 1956 and has leased it to various businesses over time. The site has served as a boatyard and marina support area, and included a marine fueling facility since approximately 1959.

Since the late 1970s, a marine service facility provided small vessel storage, launch, and minor maintenance services. A float located offshore from the Cap Sante Marine site provided fuel to



*A ceremonial swipe at Cap Sante Marine Services*

vessels. Fuel was supplied to the float via a series of underground pipelines from underground storage tanks located within the Cap Sante Marine site area.

Fuel releases from this system of underground pipes and storage tanks have been recorded at the site since the 1980s. Witnesses saw petroleum fuel seeping into the marine waters at several locations near the fuel float. Petroleum present in the subsurface soil migrated toward the shoreline on top of the water table. In 1984 a petroleum recovery system removed approximately 1,250 gallons of petroleum and the leaking tanks were replaced.

In 2004 and 2005 the Port conducted a series of environmental investigations at the site. Analysis found soil and groundwater samples to be contaminated above Model Toxics Control Act cleanup standards for petroleum, diesel, and benzene.

The cleanup work includes a remedial investigation and feasibility study to characterize the nature and extent of contamination at the site and the development of a draft cleanup action plan. Interim actions will also occur to remove contaminated soil from the known areas of contamination. A marine services business and a restaurant had to relocate so the buildings could be demolished to reach the contamination underneath. This removal will prevent contamination from migrating offsite or into the Puget Sound. Some of the shoreline will have to be disrupted to remove this contamination, so shoreline restoration will also be conducted, helping to restore this important Puget Sound resource.

# New Rule Amendment

*Changes in landfill regulations coming*

In August 2007, Ecology's Solid Waste and Financial Assistance Program began the process to amend chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills, by filing the CR 101 – Preproposal Statement of Inquiry. The rule making will propose amendments to:

- Adopt new federal regulations and allow for issuance of Research, Development and Demonstration (RD&D) permits.
- Eliminate equivalent and arid liner designs.
- Extend greater flexibility for alternate liner designs consistent with federal regulations.
- Address “general housekeeping” issues such as providing clarifications, making formatting changes, and ensuring that the rule is consistent with WAC 173-350, Solid Waste Handling Standards.

The anticipated revisions will affect all municipal solid waste landfill facilities in the state.

**Background.** The U.S. Environmental Protection Agency (EPA) amended the federal rule (40 CFR Part 258). That rule allows states with approved state programs to provide variance from certain criteria for municipal solid waste landfills (MSWLF). Such variance will enable jurisdictional health departments, with the written concurrence of Ecology, to issue

RD&D permits for new and existing MSWLF units and lateral expansions.

For Washington State to achieve full approval of its solid waste program, Ecology needs to adopt these federal regulations. In addition, Ecology intends to eliminate equivalent and arid liner design criteria from the existing rule. EPA has never approved the equivalent design approach that 351 currently allows because it is based solely on engineering equivalency and does not take into account site-specific conditions.

Also, Ecology has determined that existing arid design criteria found in the rule are not protective of human health and the environment because application of these criteria has, in some cases, resulted in landfill designs that do not adequately control leachate or landfill gas.

**Public Outreach.** Ecology will hold two informal public workshops in the winter of 2008. At these workshops, interested persons can ask questions about the rule revisions and comment on the rule before it is proposed. The public is invited to these workshops. For more information about the upcoming public workshops or the rule proposal, please visit the rule development website at <http://www.ecy.wa.gov/programs/swfa/ruleMSW.html> or contact Michael A. Hibbler at 509-329-3466 or by email at [mhib461@ecy.wa.gov](mailto:mhib461@ecy.wa.gov).

## Litter Reporting Exempt from New Cell Phone Law

Many people have heard that Washington has a new law against people talking on cell phones while driving. The Legislature passed Engrossed Substitute Senate Bill 5037 in the 2007 session, but the law doesn't take effect until July 2008.

The law specifically states, “a person operating a moving motor vehicle while holding a wireless communications device to his or her ear is guilty of a traffic infraction.” The infraction is a “secondary” stop, meaning that a law enforcement officer cannot pull you over just for talking on the phone. If you are stopped for something else and are caught talking on a hand-held cell phone while driving, it will result in a \$101 traffic infraction fine.

The law allows people to use hands-free wireless devices.

Many people have asked us, “How will this affect the litter hotline? Will people stop calling the hotline for fear of getting a ticket?”

We don't have statistics on how many people call the litter hotline from cell phones, but we encourage people to be safe.

However, please don't let the new law deter you from reporting litterers, especially when you see unsecured loads. The law has an exemption that allows people to use cell phones to report illegal activities. Littering and driving with unsecured loads are illegal activities, so calls to the hotline are allowed. You can find a copy of the law at <http://apps.leg.wa.gov/billinfo/summary.aspx?bill=5037&year=2007>.

**Department of Ecology**

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