STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

2001 Washington State Recycling Survey

January 7, 2002

Dear Survey Recipient:

Accurate, reliable data from the recycling survey benefits all of us in the industry. The only way to get this information in Washington State is through the annual recycling survey completed by companies and agencies like yours.

The information generated from the annual survey is valuable in maintaining support for recycling, in demonstrating the progress and success of recycling in Washington's homes and businesses and in planning solid waste and recycling services in local jurisdictions.

Ecology is continuing to collect information on materials outside the scope of traditional Municipal Solid Waste (such as Construction and Demolition materials) or materials managed in a manner that does not meet the state's definition of recycling (such as the burning of used oil for energy recovery or heat). This tonnage will not be included in the state's recycling rate but will be reported as a separate diverted tonnage. If you collected these types of materials, and they did not go to disposal, please report them. Write the name of the material and include a description if necessary along with the county of origin and how many tons were collected.

Enclosed is a complete set of forms for the annual recycling survey. Please complete and return them to Ecology by March 29, 2002. On the back of each form is a business reply mailer for your convenience.

The instructions and forms for the recycling survey are also available on the World Wide Web, at http://www.ecy.wa.gov/biblio/0107052.html. You may save the form to your computer, complete it electronically and return it by electronic mail to the address below, or print a paper copy and return it to Ecology through the U.S. postal service. **When completing the form in either format, please be sure to include your company's ID number,** available on your original mailing label or by contacting Gretchen Newman at the phone number or e-mail below.

If have any questions please call the recycling survey coordinator, **Gretchen Newman, at (360) 407-6097,** or e-mail **gnew461@ecy.wa.gov.**

Sincerely,

Cullen D. Stephenson, Manager
Solid Waste & Financial Assistance Program

Who should fill out the recycling survey form?

You are requested to complete the 2001 recycling survey if you collected recyclable material from the state of Washington anytime during the calendar year 2001. This applies to material handled at the initial collection point. **If you have *not* handled material at the initial collection point, please indicate that on the survey form and return it to us.**

The list of possible survey respondents includes but is not limited to: curbside collectors, buy back centers, drop off boxes, county and city utilities, scrap metal collectors, brokers, commercial/industrial collectors, yard composting facilities, battery collectors and recyclers, oil collectors and processors and tire retreaders. Should you report? You will if your business activity falls under the following definition.

"*The person, company, or facility that first touches the material from a residential or commercial generator."*

Examples

Who does report	Who does not report
recycling haulers	recycling center (for brokered material)
buy back centers (for their walk-in customers and small haulers)	county with drop-off program (if vendor contracts for collection)
Vendors (contracting with jurisdictions for drop-off programs)	groups holding paper drives and other non-business volunteer efforts
manufacturers who buy directly from the public or businesses that would not receive a survey	schools with recycling programs (they are the generator)
warehouses receiving Corrugated Cardboard (OCC), etc. from multiple stores in their chain	recycling haulers who are subcontractors for another hauler or broker

The completed forms should be returned to the Department of Ecology by **March 29, 2002**. You may call or e-mail **Gretchen Newman at (360) 407-6097, e-mail gnew461@ecy.wa.gov** if you need any assistance in preparing your 2001 recycling form.

Please put your form(s) with the signature page and send them to:

Solid Waste & Financial Assistance Program
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Confidentiality

The primary proprietary data collected for the recycling survey is confidential information. The confidential information includes any data that relates specifically the transactions between individual firms, (i.e., recyclers, brokers processors/end users), as well as any information that could be used to identify an individual employer. A "Request for Confidentiality" is included on the signature page.

Several existing laws, policies and rules emphasize the responsibility of each state employee to prevent the misuse and compromise of protected information held by the Department of Ecology. Foremost among the laws, policies, and rules are Chapter 42.17 RCW, RCW 43.21A.160, and Ecology Administrative Policy 10-30. (These documents are available upon request). The disclosure of survey data that could result in private gain and/or public loss is strictly forbidden. No individual survey forms will be disclosed. If you want to request confidentiality, please indicate below before returning the forms to the department of Ecology.

Request for Confidentiality

By my signature, I certify that public disclosure of the information included in this report may adversely affect the competitive position of this reporting entity. I understand that Ecology will honor this request for confidentiality to the extent that refusal to release this information will not be detrimental to the public interest and is other wise in accord with the policies and purpose of RCW 70.95.10. I hereby request that the information in this report remain confidential. Such confidentiality extends only to the association of identity to the reported information.

Signature: _____

Print Your Name: _____

Title: _____

Handler Identification

Please change information that is outdated, incorrect, or incomplete.

Business Name	Agency ID Number	
Contact person	Title	
Telephone	FAX	
Mailing Address	Location Address	
City	State	ZIP+4

2001 Washington State Recycling Survey

Material Type Definitions

1. Newspaper	Black and white newspaper, shredded newsprint, and including other paper normally distributed inside a newspaper such as colored advertisements, comics, flyers, tabloids.
2. Corrugated Paper	Brown uncoated "cardboard" boxes with a wavy core and uncontaminated (no plastic liners or wax coating), brown paper bags.
3. High Grade Paper	Continuous form computer paper. White bond, Xerox, or notebook paper. Colored 8½ × 11 sheets (flyers).
4. Mixed Waste Paper	All other potentially recyclable paper, such as envelopes, telephone books, paperback books, cereal boxes, laundry soap boxes; all magazines.
5. Aluminum Cans	Aluminum beverage cans.
6. Tin Cans	Tin-plated steel cans, usually food containers.
7. Ferrous Metals	Magnetic metal items such as steel clothes hangers, sheet metal products, pipes, some automobile repair parts, auto bodies, and other miscellaneous, magnetic metal scraps.
8. Non-Ferrous Metals	Copper tubing, brass fixtures, insulated wire, small auto repair parts such as generators, water pumps. Aluminum other than beverage cans.
9. Appliances(White Goods)	Appliances, hot water heaters, microwave ovens.
10. Electronics	Small electronic items, including computers.
11. Container Glass	Food, beverage, and other glass containers; excluding refillable bottles.
12. PET Plastics (#1)	Polyethylene terephthalate–clear and colored beverage containers made from PET; coded (#1).
13. HDPE Plastics (#2)	High-density polyethylene–clear and colored beverage containers made from PET; coded (#1)
14. LDPE Plastics (#4)	Low-density polyethylene–includes mustard and some other squeezable containers; coded (#4). Also includes plastic bags and wrap.
15. Other Recyclable Plastics	All other plastics; recyclable plastics not included above.
16. Vehicle Batteries	Automobile, truck, boat, motorcycle batteries; excludes industrial batteries.
17. Household Batteries	Ni-cad, flashlight, button batteries.
18. Tires (re-treads)	Automobile, truck, and bicycle tires destined for re-treading/reuse.
Tires (recycled)	Automobile, truck, and bicycle tires destined for shredding and recycling; other than re-treading/reuse.
19. Used Oil	Automotive oil destined for recycling. Excludes oil recovered for energy.
Used Oil for Energy Recovery	Automotive oil which is destined for burning for energy recovery or heat.
20. Yard Waste	Grass clippings, leaves, tree prunings, weeds.
21. Food Waste	Food preparation wastes, food scraps, spoiled food.
22. Wood Waste	Pallets, scrap lumber, wood toys, fencing, crates.
23. Construction or Demolition Debris	Material generated as a result of a construction or demolition operation, including toilets, sinks, rock, brick, fiberglass insulation and roofing waste; excluding asphalt, concrete, wood, carpet and gypsum.
24. Land Clearing Debris	Stumps, brush, and limbs from non-residential locations.
25. Asphalt	Asphalt paving material.
Concrete	Cement, concrete blocks, and similar wastes.
26. Textiles	Clothing and apparel, shop rags, blankets.
27. Other Wastes	Please specify under material description or in the space at the bottom of the form, using as much detail as possible.
Gypsum Drywall	All gypsum drywall (wallboard). Include under "Other Wastes" with description.
Carpet and padding	Include under "Other Wastes" with description.
Antifreeze	Vehicle antifreeze. Include under "Other Wastes" with description.
Oil Filters	Include under "Other Wastes" with description.
Rubber Materials	Includes shoes. Include under "Other Wastes" with description.
Aseptic Packaging	Include under "Other Wastes" with description.
Fluorescent light bulbs	Include under "Other Wastes" with description.
Photographic Films	Include under "Other Wastes" with description.
Rendering	Include under "Other Wastes" with description.

2001 Washington State Recycling Survey

(Please photocopy or print more copies of this form for multiple counties)

County of Origin:			**Agency ID Code:**	
Material	**Material Description (if needed)**	**Tons or percent Commercial**	**Tons or percent Residential**	**Total Tons from County or Percent of Total Tons**
1. Newspaper				
2. Corrugated Paper				
3. High-Grade Paper				
4. Mixed Waste Paper				
5. Aluminum Cans				
6. Tin Cans				
7. Ferrous Metals (iron, steel)				
8. Nonferrous Metals (excluding aluminum cans)				
9. Appliances (white goods)				
10. Electronics or Computers				
11. Container Glass				
12. PET Plastics				
13. HDPE Plastics				
14. LDPE Plastics				
15. Other Recyclable Plastics: Please Specify				
16. Vehicle Batteries				
17. Household Batteries				
18. Tires				
19. Used Oil				
20. Yard Waste (Destined for centralized composting)				
21. Food Waste				
22. Wood Waste				
23. Construction or Demolition debris				
24. Land clearing debris				
25. Asphalt or Concrete: Please Specify				
26. Textiles (Rags, clothing, etc)				
27. Other Wastes: Please Specify				
Total tons must = Commercial + Residential or 100%				

2001 Washington State Recycling Survey (Please photocopy or print more copies of this form for multiple materials)

Material Handled:		**Material Description:**		**Agency ID Code:**
Total tons received from generators:				
County	Comments	Tons or percent commercial	Tons or percent residential	Total tons from County or Percent of Total Tons
Adams				
Asotin				
Benton				
Chelan				
Clallam				
Clark				
Columbia				
Cowlitz				
Douglas				
Ferry				
Franklin				
Garfield				
Grant				
Grays Harbor				
Island				
Jefferson				
King				
Kitsap				
Kittitas				
Klickitat				
Lewis				
Lincoln				
Mason				
Okanogan				
Pacific				
Pend Oreille				
Pierce				
San Juan				
Skagit				
Skamania				
Snohomish				
Spokane				
Stevens				
Thurston				
Wahkiakum				
Walla Walla				
Whatcom				
Whitman				
Yakima				
Other				
Out of State				
=100% or total tons				
CITY SECTION				
Everett				
Seattle				
=100% or total tons				

General Information about the Recycling Survey

Background

The Washington State Department of Ecology's Solid Waste & Financial Assistance Program has conducted a state recycling survey every year since 1986. The first survey was conducted by a consulting firm, and developed a methodology for collecting data on the quantities of materials being recycled in the state. The survey focused on the residential waste stream and selected commercial categories. In 1987, the second survey was completed in conjunction with a legislative mandate to determine the best management of residential, commercial, manufacturing, and self-hauled waste. The third annual recycling survey was conducted in 1988. In 1989, Ecology decided to conduct the recycling survey with its own staff. This recycling survey marks the fifteenth year that Ecology's Solid Waste & Financial Assistance Program has managed the survey.

Purpose and Objectives

The Solid Waste Management–Reduction and Recycling Act, Chapter 70.95 RCW, set a state goal to achieve a 50 percent recycling rate by 1995. The responsibilities of county and city governments to assume primary responsibility for solid waste management and to develop and implement aggressive and effective waste reduction and source separation strategies were established. Each county in the state, in cooperation with the various cities located within such county, is required to prepare a coordinated, comprehensive, solid waste management plan.

RCW 70.95.280 requires Ecology to monitor the disposed waste stream and the changes in the amount of waste generated. People who collect solid waste report annually to Ecology the types and quantities of solid waste that are collected and where it is delivered. All proprietary information reported to Ecology is kept confidential.

The purpose of the state recycling survey is to design and implement a study describing Washington's disposed waste tonnage, waste generated, and recycled materials; analyze the results; and to provide the state, counties, and selective cities recycling rates. This measurement aids state and local government administrators in evaluating source reduction and recycling programs and in monitoring progress toward achieving the statewide goal.

Specific research objectives, drawn from the primary purpose and goals, are as follows:

1. To fulfill the requirements of Chapter 70.95 RCW, Solid Waste Management, Reduction and Recycling.
2. To determine the types and amounts of recyclable materials received by the handlers from within the state of Washington in 2001.
3. To determine the state's total recycling rate.
4. To determine from which county and from which selective cities (Seattle and Everett) the materials originated in order to obtain county/city recycling rates.

5. To determine from which collection source–residential or commercial/industrial collection–the amount originated.
6. To determine if there was any double–counting of materials and correct for it.
7. To determine the changes in the recycling rate on a per capita basis from 1986 to present.
8. To update and revise the state's list of handlers of recycled/recyclable materials.

What is defined as recycling?

Several definitions as documented in the "Waste Not Washington" Act of 1989 (Chapter 70.95 RCW) clarify terms useful in describing recycling.

"Solid waste" means all putrescible and nonputresicble solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and recyclable materials.

"Recycling" in general as defined by the Act "means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration."

"Energy recovery means a process operating under federal and state environmental laws and regulations for converting into usable energy and for reducing the volume of solid waste."

"Incineration means a process of reducing the volume of solid waste operating under federal and state environmental laws and regulations by use of an enclosed device using controlled flame combustion."

Practices where selected commodities/materials are collected and processed for energy recovery are not classified strictly as recycling in the state of Washington. The most notable materials are tires being shredded for fuel and used oil being burned as bunker fuel. Please report these tonnages and indicate their use for energy recovery.

General Measurement Standards and Reporting Guidelines*

Volume and Count to Weight Conversion Factors for Recyclables

Material	Volume/Count	Weight in Pounds
Newsprint, loose	one cubic yard	360-800
Newsprint, compacted	one cubic yard	720-1,000
Newsprint	12" stack	35
Corrugated cardboard	one cubic yard	300
Corrugated cardboard, baled	one cubic yard	1,000-1,200
Aluminum cans, whole	one cubic yard	50-74
Aluminum cans, flattened	one cubic yard	250
Aluminum cans	one full grocery bag	1.5
Catalytic converter	one	14
Ferrous cans, whole	one cubic yard	150
Ferrous cans, flattened	one cubic yard	850
Refillable beer bottles	case	11.4
Glass, whole bottles	one cubic yard	600-1,000
Glass, semi crushed	one cubic yard	1,000-1,800
Glass, crushed (mechanically)	one cubic yard	800-2,700
Glass, whole bottles	one full grocery bag	16
Glass, uncrushed to manually broken	55 gallon drum	125-500
PET, soda bottles, whole, loose	one cubic yard	30-40
PET, soda bottles, whole, loose	gaylord[1]	40-53
PET, soda bottles, baled	30" x 62"	500
PET, soda bottles, granulated	gaylord	700-750
PET, soda bottles, granulated	semi-load	30,000
Film, baled	30" x 42" x 48"	1,100
Film, baled	semi-load	44,000
HDPE (dairy only), whole, loose	one cubic yard	24
HDPE (dairy only), baled	32" X 60"	400-500
HDPE (mixed), baled	32" x 60"	900
HDPE (mixed), granulated	gaylord	800-1,000
HDPE (mixed), granulated	semi-load	42,000
Mixed PET & dairy, Whole, loose	one cubic yard	average 32
Mixed PET, dairy and other rigid, whole, loose	one cubic yard	average 38

Material	Volume/Count	Weight in Pounds
Mixed rigid, no film or dairy, whole		
Loose	**one cubic yard**	**average 49**
Mixed rigid, no film, granulated	**gaylord**	**500-1,000**
Mixed rigid & film, densified by mixed plastic mold technology	**one cubic foot**	**average 60**
Leaves, uncompacted[2]	**one cubic yard**	**250-500**
Leaves, compacted	**one cubic yard**	**320-450**
Leaves, vacuumed	**one cubic yard**	**350**
Wood chips	**one cubic yard**	**500**
Grass clippings	**one cubic yard**	**400-1,500**
Battery (auto)	**one**	**35.9**
Used motor oil	**one gallon**	**7.4**
Oil filter drum	**one**	**450**
Gypsum (dry)	**one cubic yard**	**500-670**
Concrete	**one cubic yard**	**2850**
Asphalt	**one cubic yard**	**2850**
Tire – passenger car	**one**	**20**
Tire - truck, light	**one**	**35**
Tire – semi	**one**	**105**
Antifreeze	**gallon**	**8.42**
Food waste, solid and liquid fats	**55 gallon drum**	**412**

***Disclaimer: This table is for general guidance only. Not for contract payment. Source for original table: National Recycling Coalition. Other figures are industry standards obtained from businesses in Washington State.**

1. Gaylord size most commonly used, 40" X 48" X 36."

2. Yard waste densities are especially variable between communities and in different seasons within a community because of differences in types of foliage, moisture, and humidity. The 1,500 density factor for grass is based on program experience in Minnesota.