

Grant Funded Compost Projects Information Sheets

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**Solid Waste and Financial Assistance Program
Jim Pendowski, Program Manager**

Grant Funded Compost Projects
Information Sheets
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Abstract: This publication provides information on 34 grant-funded composting projects throughout Washington, including contact names and telephone numbers.

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Thank you to our reviewers:

Maggie Bell-McKinnon, Chris Chapman, Diane Christel, Pat Dice, Mike Drumright, Brian Farmer, Melissa Gildersleeve, Peter Haskin, Mike Hibbler, Dan Koroma, Allen Robbins and Cullen Stephenson

If you have a comment or question about a project covered in this document, please call the Ecology or local government contact people listed for that project.

If you have a comment or question about this document itself, please call Mariann Cook Andrews in the Solid Waste and Financial Assistance Program, (360) 407-6065.

Note: Ecology developed this publication primarily for **electronic distribution**, as a companion piece to the booklet *Making Compost Happen: Grant-Funded Projects*, (Publication #96-501). The **booklet** is available from the **Publications Distribution Office**, (360) 407-7472. Paper copies of individual projects shown in this **electronic document** are available upon request from Ecology's **Regional Offices**. Paper copies or a Microsoft Word file of the entire publication are available upon request from the Solid Waste and Financial Assistance Program at Ecology **Headquarters**, (360) 407-6065.

Ecology is an equal opportunity agency. If you have special accommodation needs, contact Mariann Cook Andrews at (360) 407-6065 (Voice) or (360) 407-6006 (TDD).

**Airway Heights Yard Waste Collection
(Spokane Regional)**
Grant #9400172

Purpose: Divert yard waste from incineration system.

Targeted waste stream: Yard debris

Targeted audience: City residents

Description and status: Purchased a used truck and trailer devoted to yard waste recycling; stationed at a convenient location for yard waste drop-off. The loaded trailer has access to any permitted yard waste collection facility or the Waste-to-Energy plant for transfer to the Central Compost facility.

Project cost: \$30,000

Project timespan: January 1994 to December 1995

Local contact: Jessie Lang, City of Spokane Regional Solid Waste System
(206) 456-7403.

Ecology contacts: Mike Drumright, grant officer, (360) 407-6059
Brian Farmer, Regional contact, (509) 456-6386

Clark County Master Composter/Recycler Education

Grant #9400115

Purpose: Encourage backyard composting (part of the Clark County Solid Waste Management Plan).

Targeted waste stream: Food and yard wastes

Targeted audience: Yard service and landscape professionals and the public

Description and status: Recruited and trained 30 Master Composter/Recyclers; worked 2,800 volunteer hours; contacted approximately 17,178 people. Conducted 21 composting and Away With Waste workshops. Built 4 composting demonstration sites.

(Clark County also continued a Yard Debris Collection Program, serving 54,000 households and collecting 10,470 tons of yard waste.)

Lessons learned:

- Demonstration site construction best handled by person hired for that task; Master Composter/Recycler volunteers are educators, not landscape contractors
- Interest is high for price-reduced compost bins; first day sales were so heavy they disrupted the WSU Cooperative Extension Service office so bin sales had to be handled differently in 1995
- City of Vancouver began providing carts for yard waste collection and saw a 6% increase in subscribers to the service

Products: *Home Composting Guide*, packet with education pieces on composting, pet waste disposal, bin construction

Project cost: Not specified. This project is one element of a \$109,188 grant

Project timespan: January 1994 - December 1995

Local contact: Brian Carlson, Clark County Public Works, (360) 699-2375

Ecology contacts: Mike Drumright, grant officer, (360) 407-6059
Scott Carlson, Regional contact, (360)407-6392

Chelan Yard Waste Composting Analysis

Grant #9400178

Purpose: Develop composting programs for yard, garden, orchard and food wastes.

Targeted waste stream: Compostable materials

Targeted audience: Homeowners, agriculturists, county officials

Description and status: Originally designed as a joint project with five cities* of Chelan County, the project planned to analyze options for an effective and economical composting program. Included: limited waste stream analysis; site identification, evaluation and selection; collection/storage system evaluations; review of requirements and protocols for composting regulatory approval; market analysis for compost products; cost estimates; and, recommendations for implementation. Another element of the coordinated grant could provide \$75,000 to acquire and prepare a site.

*Cashmere, Chelan, Entiat, Leavenworth, Wenatchee

Lessons learned:

- Limited stream analysis concluded that the project lacked dry compostable waste as bulking materials. For this project, it is cost prohibitive to transport material more than 30 miles. Each of the five cities involved had different jurisdictional needs and transportation aspects. One city did not have enough compostables to continue with the project.
- Market analysis concluded that demand for compost is high, and much is imported into the area. Nurseries and other organizations are willing to buy all compost that is produced. Many people are receptive to composting. Composting is more cost efficient than landfilling.
- Considered centralized vs. decentralized site. Selected aerated windrow system. Considered private operation contracting.
- Project players recommended that the City of Cashmere implement a program with Leavenworth, and Tree-Top until 1997. Will identify cost efficiency. Feasibility study is complete.

Products: Feasibility study, market analysis, and waste analysis.

Project cost: \$61,670

Project timespan: January 1994 - December 1995

Local contact: Brenda Harn, Chelan County Public Works, (509) 664-5415.

Ecology contacts: Pat Dice, grant officer, (360) 407-6053

Melissa Gildersleeve, Regional contact, (509) 454-7297.

Community Services Work Group
Bi-lingual Waste Reduction Campaign
Grant #9200230

Purpose: Improve soil, reduce air pollution from burning, and decrease solid waste stream by an additional 30 - 40 percent, through an English/Spanish campaign promoting composting.

Targeted waste stream: Yard and orchard organic waste

Targeted audience: English and Spanish speaking residents and orchardists

Description and status: This Public Participation Grant project used a bi-lingual campaign to educate people in the Chelan Valley about the benefits of composting (as opposed to burning) yard and orchard debris. Trained 17 Master Composters; produced organic waste reduction video in English and Spanish, providing copies to school libraries, the public library, and local video stores (Summit Cable of Chelan and Wenatchee Community Channel of Wenatchee, which reaches much of north central Washington, also ran the video); and placed signs promoting waste reduction at the transfer station entrance on US 97A.

Lessons learned: Summit Cable and Wenatchee Community Channel welcomed the bi-lingual composting program, as it helped them meet their public service requirements.

Products: Bi-lingual education and media materials, clip-out brochure for newspapers; waste reduction video; waste reduction signs.

Project cost: \$8,750

Project timespan: January 1992 to December 1993

Local contact: Louise Manson, Community Services Work Group, (509) 687-9674

Ecology contacts: Kathy Seel, grant officer, (360) 407-6061

Rod Hankinson, Regional contact, (509) 454-7209

Enumclaw Composting Project

Grant #9300108

This was a coordinated grant to determine the feasibility of a composting facility and to begin public information and assistance for a yard waste collection program.

Targeted waste stream: Yard debris, bark dust and sewage sludge

Targeted audience: City officials and the public

Facility Feasibility Element

Purpose: Determine the economic feasibility of a location for source separating and composting of organic wastes, to include yard waste, bark dust and sewage sludge.

Description and status: Hired a contractor to: estimate material recovery; assess a pre-determined local site for suitability; develop a conceptual site plan; finalize design and cost estimates; produce a feasibility report; and assist in project permits and project management.

Lessons learned: The site assessment determined that the particular site under consideration was inappropriate, and the study was terminated. Another potential site is being reviewed. In the meantime, yard waste, which is restricted from the landfill, is being collected at curbside and taken to a private composting facility.

Element cost: \$3,345 (Element originally budgeted for \$15,000)

Yard Waste Collection Element

Purpose: Prepare for a yard waste collection program.

Description and status: Bought 90-gallon totes and distributed to approximately 100 low-income, senior, and disabled individuals. A low-income, elderly, and disabled discount for all solid waste services was also included in a city ordinance.

Lessons learned: Public interest in recycling in general is high, partly due part to the promotional work done throughout King County by county agencies.

Products: Educational and informational brochure and mailer regarding recyclables collection, including yard waste. Ordinance defining credits to low-income, elderly and disabled residents.

Element cost: \$8,000

Project timespan: September 1993 - April 1994

Local contact: Michael Quinn, City of Enumclaw, (206) 825-3591

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact (206) 649-7076

Island County Yard Waste Project

Grant #9400143

Coordinated grant to comprehensively target yard debris, through a public education and information campaign, developing a volunteer educational organization, and developing a yard waste facility. This grant also supported yard waste collection activities in Oak Harbor and the purchase of yard waste chipping equipment in Langley.

Targeted waste stream: Yard and garden waste

Targeted audience: All county residents

Backyard Composting Element

Purpose: Encourage residents to compost as a part of their routine gardening activities.

Description and status: Distributed backyard composting bins to approximately five percent of Island County households (1,000 bins). Focused on higher density areas where larger quantities of yard waste and smaller lot sizes require more intensive management practices. Provided instructions and a composting bin to residents who agreed to participate in the program. Also made financial assistance for bins available to between 300 and 400 county residents.

Lessons learned:

- Follow-up survey showed that 86 percent of people receiving bins continue to actively use them.
- Total diversion estimate ranges between .06 to .08 percent of MSW stream. Estimated diversion per participating household is 500 to 630 pounds per year.
- Program costs after three years is \$47 per diverted ton. Cost savings to residential MSW rate payers over a three year period is \$89,500, which is almost a 200 percent return on the program investment.

Products: Two flyers and one brochure advertising compost bins at 50 percent of cost. Development of “Waste Warriors” volunteer group.

Element cost: \$32,000

Yard Waste Receiving Facility Element

Purpose: Provide a way to consolidate individual loads of yard and garden waste into a larger vehicle for cost-effective transport over longer distances.

Description and status: Planned to build a receiving and storage facility for yard and garden waste near the transfer station and to improve an abandoned gravel loading station to facilitate the unloading of yard and garden waste from vehicles into transport containers. The project leased a local grinder on a trial basis and drafted operational plans. Obtained a favorable price quote from a regional topsoil company for processing and planned transport of collected yard waste from the solid waste complex at Coupeville.

Lessons learned:

- The grinder was unsatisfactory because of insufficient capacity.
- Analysis in the 1994 Amendments to the Comprehensive Solid Waste Management Plan indicated that use of a regional facility is the optimal approach to yard waste.

Element cost: \$28,000

Waste Warrior Program Element

Purpose: Promote composting and educate the public through trained volunteers.

Description and status: Helped distribute backyard composting bins and provided composting assistance to residents. (Cooperative program with the Washington State University Cooperative Extension Service.)

Trained 14 new Waste Warrior volunteers. Waste Warriors reported working 2,659 volunteer hours, from November 1992 through December 1994.

Worked with staff at Admiralty Head Lighthouse, Fort Casey State Park. Continued dialogue with park rangers for additional projects in the park. Ideas for a compost demonstration site were met positively by park officials. Planned permanent educational displays on composting and waste reduction for second floor of lighthouse. Provided composting handouts to lighthouse visitors.

Helped with 4 backyard composting workshops. Volunteers will help with follow-up assessment in 1995. Recruited volunteers to assist with the county's Christmas tree chipping program.

Products: Workshops; two flyers and one brochure advertising compost bins at 50 percent of cost; display for compost demonstration site; permanent educational display; a monthly newsletter; and a resource library.

Element cost: \$44,970

Project timespan: January 1994 to December 1995

Local contact: Jerry Mingo, Island County Solid Waste Department, (206) 679-7386.

Ecology contacts: Allen Robbins, grant officer, (360) 407-6074
Peter Christiansen, Regional contact, (206) 649-7076

Kent Yard Waste Project

Grant # 9200185

Purpose To design and implement a yard waste collection program, conduct special composting events and provide public information and education regarding solid waste services in the City of Kent.

Targeted waste stream: Yard waste

Targeted audience: Kent residents

Description and status: An ordinance requiring participation in a residential yard waste collection program was passed in April of 1992. When designs for a yard waste facility and a proposal for implementation were rejected by the Public Works Committee, two special collection events for yard debris were held, and a chipper-composting event was held, in which more than seven tons of waste were collected. Master composters demonstrated techniques.

Products: Yard waste ordinance, newsletter articles, flyers, and brochure on backyard composting.

Project cost: Approximately \$17,000; originally allotted \$58,500.

Project timespan: January 1992 - December 1993

Local contact: Don E. Wickstrom, City of Kent, (206) 859-3383

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

King County Recycled Yard Waste Debris Compost Testing and Marketing Project

Grant # 9200049

Purpose: Determine the value of recycled yard waste compost and develop marketing strategies for its use by a variety of people.

Targeted waste stream: Recycled yard waste

Targeted audience: County staff and scientific professionals

Description and status: Recycled yard waste compost was tested through laboratory analysis and field growth observations, determining the quality and value of materials produced through the composting process. A grant extension was awarded to further develop the market through education programs and develop a strategic marketing approach.

Lessons learned:

- Market assessment concluded that the primary marketing restraint was manufacturing capacity, and a stronger supply of feedstock was necessary.
- That the vision of 1991, when the grant was developed, was incomplete for the world of 1995. Flexibility is necessary.

Products: Market Assessment Report

Project cost: \$275,110

Project timespan: July 1991 - August 1995

Local contact: Jaily Brown, King County Commission for Marketing Recyclables,
(206) 296-4439

Ecology contacts: Peter Haskin, grant officer, (360) 407-6063
Peter Christiansen, Regional contact, (206) 649-7076

**King County Food Waste Collection,
Processing and Testing Project**
Grant # 9200143

Purpose: To find the best solution for handling food and yard wastes in King County (joint project with the City of Seattle Solid Waste Utility, Grant # 9200147).

Targeted waste stream: Commercial and residential food waste

Targeted audience: City and county agencies, local haulers and the public.

Description and status: Set of three, inter-related projects designed to test the characteristics of compost made from various food wastes and determine the feasibility of long-term countywide food waste collection and composting.

Commercial Food Waste Compost Study

Tested compost quality, ran growth trials over two growing seasons to evaluate the effects of project composts on plant growth, and conducted public demonstrations of composts. Information gathered is being used to assess the technical and economical feasibility of commercial food waste source separation, collection and composting.

Nonresidential On-Site Food Waste Composting

Assessed the technical and economical feasibility of composting food wastes on-site at commercial businesses. Reviewed regulatory requirements, identified and evaluated systems that could be used, analyzed composting at five sites, and conducted demonstration project.

Residential Food Waste Collection Pilot

Collecting food waste from residents in selected areas of the county. Investigating if providing collection services will increase residential sector recycling. Evaluating diversion potential, collection issues (will existing hauler equipment and systems work?, what collection containers will work best and be most acceptable to customers?, to what degree will the food waste be contaminated?, how much will it cost to provide this service?), Health Department concerns (odors, pests), and public attitudes toward separating food waste and making this a continuing service.

Have completed the feasibility study for commercial on-site composting. The report on the sampling analysis and growth trials is anticipated for June of 1995. The residential program is to begin in the fall of 1995.

Lessons learned:

- Found great interest in food waste diversion.
- King County currently lacks facilities to handle post-consumer food waste.

Products: Publications and reports — *Executive Summary; Commercial Food Waste Generation and Source Separation Feasibility Study; Commercial Food Waste Collection*

and Composting Demonstration, and Technical Feasibility Study; Compost Quality Testing; Full Scale Implementation Feasibility Analysis; Growth Trials and Demonstration Plots

Project cost: \$285,000

Project timespan: December 1991 - June 1996

Local contact: Karen May, King County Solid Waste Division, (206) 296-4353

Ecology contacts: Peter Haskin, grant officer, (360) 407-6063

Peter Christiansen, Regional contact, (206) 649-7076

King County Composting Projects

Grant # 9300104

Purpose: Encourage waste reduction through composting of yard debris and food wastes, through disbursements of funds to various entities in the county government for composting projects. Three elements of the grant dealt with composting.

Targeted waste stream: Food waste and yard waste

Targeted audience: School children throughout the King County districts, and the public

Recycling and Composting at Schools Element

Purpose Encourage composting of food wastes and yard debris through the schools

Description and status: Purchased and distributed compost bins and recycling bins to 18 King County school district offices. Developed a waste reduction and recycling education program for elementary schools.

Products: Unspecified -- through individual school districts

Element cost: \$302,564

Backyard Composting and Master Recycler/Composter Elements

Purpose Encourage food waste and yard debris composting among county residents.

Description and status: Management of an existing consultant contract, to develop and implement a program of special events for distribution of compost bins and educational seminars regarding their use. Trained Master Composters in exchange for community volunteer service.

Products: Promotional materials, brochure, class materials

Element cost: \$579,870 (includes costs for household hazardous waste elements)

Project timespan: July 1992 - December 1993

Local contact: Shawn Northrup, King County Solid Waste, (206) 296-4473

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

King County Master Recycler/Composter Program

Grant # 9400211

Purpose: Encourage resource conservation and promote community education and involvement.

Targeted waste stream: Residential waste, especially food and yard waste

Targeted audience: General public

Description and status: In first year of project, trained and equipped 43 new volunteers in waste reduction, recycling, household hazardous waste management, water conservation, and outreach. Each volunteer to give 40 hours of community outreach; during 1994 volunteers provided 1,874 hours in 283 outreach activities.

Maintained compost demonstration sites in Redmond, Bellevue, Kent and Woodinville, and composting displays at seven nurseries.

Products: Three 45-hour courses, with classroom and field training; slide show, training manual, training materials, compost bin, worm bin, garden tools, books, and other outreach tools for each volunteer; four compost demonstration sites; seven composting demonstration displays; volunteer recruitment materials

Project cost: \$333,333

Project timespan: January 1994 to December 1995

Local contact: Fredericka Merrill, King County (Solid Waste Division),
(206) 296-4473

Ecology contacts: Diane Christel, grant officer, (360) 407-6062
Peter Christiansen, Regional contact, (206) 649-7076

Kitsap County Neighborhood Composting Project

Grant # 9200338

Purpose Prevent or reduce burning of organic wastes by providing a low-tech, inexpensive way to recycle yard and garden wastes.

Targeted waste stream: Residential yard and wood wastes

Targeted audience: All county residents

Description and status: Bought a mobile chipper, to provide chipping service to groups and neighborhoods throughout the county. Chipper also handles organic waste jobs for other county departments. Chipped material can be used on-site as compost or mulch. Developed a county compost demonstration facility and demonstration sites at seven other locations. (The demonstration sites were established with the assistance of a Waste Reduction and Recycling Public Information and Education grant, # TAX91154). Produced public education and information materials.

Products: Eight compost demonstration sites, class curricula through Community Schools Program, and worm bin composting materials.

Project cost: \$31,980

Project timespan: August 1993 - December 1993

Local contact: Annie Bringloe, Kitsap County Solid Waste, (360) 895-3931

Ecology contacts: Grant officer, Diane Christel, (360) 407-6062
Regional contact, Scott Carlson, (360) 407-6392

Lewis County Backyard Compost Education Project

Grant #9200228

Purpose: Educate the public on the methods and values of backyard composting as a means of reducing organic wastes going to the landfill

Targeted waste stream: Food and yard wastes

Targeted audience: Lewis County residents

Description and status: Designed and implemented a backyard composting education project, including developing educational materials and a demonstration site. Project done in coordination with the WSU Lewis County Cooperative Extension Office. Held workshops, and distributed worm bins to local schools.

Products: County-specific curriculum for Master Recycler-Composter course; educational materials for use in displays at local fairs and libraries; a “trash pizza;” worm-culture; widely publicized and well-attended workshops.

Project cost: \$93,763 (allotted to a larger task, of which this was one element)

Project timespan: January 1993 - December 1993

Local contact: Ellen Jordan, WSU Cooperative Extension of Lewis County,(360) 740-1217

Ecology contacts: Pat Dice, grant officer, (360) 407-6053
Scott Carlson, Regional contact, (360) 407-6392

Moses Lake Feasibility Study

Grant #9300078

Purpose: Study the feasibility of a compost facility and design and construct one if feasible. Part of the county goal to reduce 10 - 20 percent of materials going into the landfill.

Targeted waste stream: Food and yard wastes

Targeted audience: Local government officials

Description and status: Conduct feasibility study for a county compost facility

Lessons learned: Final report from Parametrix in June of 1993 concluded a cost of approximately \$6.00/cy to cover the costs of design and construction. Project not deemed to be economically feasible at this time, but the county commits to eventual construction if costs reduced or more funding becomes available.

Products: *Compost Feasibility Study for Moses Lake*, Parametrix, June 1993

Project cost: \$18,680 (additional funding of \$170,000 would have been available for design and construction of the facility)

Project timespan: August 1992 - November 1993

Local contact: Russell Brown, City of Moses Lake, (509) 766-9216

Ecology contacts: Maggie Bell-McKinnon, grant officer, (360) 407-6058
Brian Farmer, Regional contact, (509) 456-6386

Redmond Distribution of Compost Bins

Grant #9200297

Purpose: Support residential composting of yard debris

Targeted waste stream: Yard debris

Targeted audience: Homeowners and tenants

Description and status: Bought and distributed 365 compost bins to residents requesting them.

Project cost: \$9,821

Project timespan: May 1992 - December 1993

Local contact: Karen Chuse, City of Redmond, (206) 556-2832

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Redmond Composting Feasibility Study

Grant # 9400169

Purpose: Extend the useful life of a landfill and return organic resources to the environment.

Targeted waste stream: Landscape debris collected from street and parks maintenance

Targeted audience: City officials and staff.

Description and status: Consultant to study the feasibility of a composting facility for the city of Redmond, versus using the services of a private, commercial composter. Also to research a range of options for operating and maintaining the facility. Facility originally planned for site in Watershed Park, but the project was delayed due to a citizen challenge to the SEPA report for the park's master plan. The feasibility study will review several possible sites, since the original site may not be available. This grant also supported composting projects at area schools, under the School Education Programs subtask..

Lessons learned: Past study found city departments collect approximately 3,800 tons of yard waste each year. By composting this material, the city thinks it can save approximately \$29,250 annually on disposal costs, generate compost for use in city landscaping, and reduce the costs of soil amendments.

Products: Feasibility study report, including site design and budget

Project cost: \$30,000

Project timespan: January 1994 to December 1995

Local contact: Karen Chuse, City of Redmond, (206) 556-2832

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Renton Residential Yard Waste Project

Grant # G9400213

Purpose: Increase participation in the yard waste collection system and divert yard waste from the landfill. Two elements addressed a regulatory approach and a residential participation approach.

Targeted waste stream: Yard waste

Targeted audience: City residents

Disposal Ban Element

Description and status: A regulatory approach to encourage residents to recycle or compost their yard waste. City's solid waste utility will not collect yard waste in garbage cans at single family dwellings and duplexes. All residents to be affected by the ban have access to curbside yard waste collection at no extra charge.

Lessons learned:

- A past study found that only 58 percent of residents use the curbside yard waste collection service in the peak growing months of the year.
- Action to be delayed until the Solid Waste Utility studies the possibility of implementing a multifamily yard waste collection program.

Element cost: \$13,200 budgeted for completion of project.

Residential Worm Bin Composting Element

Purpose: Reduce waste by diverting food waste from the waste stream into composting, encourage composting, and try out backyard food waste composting.

Description and status: Held three workshops on food waste composting in 1994, with 122 people applying for 50 available slots. Provided participants with worm bin and worms, reference materials, and food waste collection bucket. Compostable food weighed one week each month for 12 months (with 88 percent weighing participation by end of first quarter; 75 percent by end of fourth quarter). Participants completed several knowledge and attitudinal surveys to determine their awareness and attitudes about reducing waste by composting food waste. More workshops planned for 1995.

Lessons learned:

- Worm bin composting could reduce household waste by 10 percent, a total of about 30,000 pounds. Food waste averages 6.25 pounds per week per household and 2.5 pounds per week per person.
- Participants have more education and income than average Renton residents, as shown by census data. Majority of participants are women. These people are really excited about food waste composting.
- Food waste composting is not as easy as it first appears. Need to research alternative and least-cumbersome techniques of food waste composting.

Products: Workshops, with reference materials, including *Worms Eat My Garbage*; brochure; label for waste collection bucket, with “do’s and don’ts”; “how-to” flyer and weighing schedule; promotional insert in utility bills; articles in city newsletter; promotional brochure; artwork for bins.

Element cost: \$46,942

Project timespan: January 1994 to December 1995

Local contact: Linda Knight, City of Renton, (206) 277-6197
Ecology contacts: Diane Christel, grant officer (360) 407-6062
Peter Christiansen, Regional contact, (206) 649-7076

SeaTac Compost Education and Bin Distribution Project

Grant # G9400157

Purpose: Reduce waste being sent to the landfill by educating the public about and promoting home composting

Targeted waste stream: Residential yard and garden waste

Targeted audience: SeaTac residents

Description and status: Held classes on backyard composting, with the King County Master Recycler/Composter Program, which drew 30 people. Attendees received free compost bins and were encouraged to visit the Kent Compost Demonstration Site. Free follow-up home visits were offered to ensure successful composting. Provided educational materials.

Lessons learned: Program evaluations by attendees indicated a high level of satisfaction and willingness to carry on the program.

Project cost: \$5,000.

Project timespan: January 1995 to December 1995.

Local contact: Soraya Chang, City of SeaTac, (206) 241-1189

Ecology contacts: Diane Christel, grant officer, (206) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Seattle Food Waste Generation, Collection and Composting Trials

Grant #9200147

Purpose: Determine the overall composition of food waste disposed of in King County and conduct trials of various composting methods and their resultant products. This grant was coordinated with King County Grant # 9200143, and included a portion of a cooperative element to build a compost facility and assess its performance.

Targeted waste stream: Food waste

Targeted audience: County and city agency officials and the public.

Description and status: Determining the composition of food waste being disposed of in King County, evaluating generator collection and separation issues, designing, permitting, and building a temporary facility, collecting samples and conducting composting trials, and evaluating different composting methodologies, and making recommendations.

The grant was closed in December 1994. Since then, Seattle has begun a residential food waste study, and is experimenting with de-watering at a transfer station drop-off site. It is felt a new facility is needed.

Lessons learned:

- Food waste estimates for the City of Seattle and King County were almost twice the estimates from previous waste characterization studies.
- Business is willing to participate in reduction of disposal, in favor of composting, if there are sufficient financial incentives. Separation of food is felt to be much more difficult in the food service provider group than for wholesale or retail groups.
- All strategies investigated to improve compostable collection and processing were adequate, though certain systems are better for certain products. (See reports)

Products: Final report: *Commercial Food Waste Collection and Composting Demonstration Project* -Vol. I - In development, Vol. II - *Assessment of Commercial Food Waste Generation and Source Separation Feasibility Study*, Vol. III - *Food Waste Collection and Composting Facility Implementation Results*, Vol. IV - *Compost Quality Testing*; articles in July, August and October 1995 issues of *Biocycle* magazine

Project cost: \$397,000

Project timespan: January 1992 - December 1994

Local contact: Chris Luboff, City of Seattle Solid Waste, (206) 684-7644

Ecology contacts: Peter Haskin, grant officer, (360) 407-6063

Peter Christiansen, Regional contact, (206) 649-7076

Seattle Backyard Composting and Compost Quality Assurance/Control

Grant #9300086

Purpose: Increase backyard composting and increase knowledge of compost contaminants by investigating source of heavy metals currently found in yard waste compost.

Targeted waste stream: Yard waste

Targeted audience: City residents, government officials and those interested in compost contamination.

Backyard composting element

Description and status: Purchased 5,200 yard waste composting bins and distributed to households, with follow-up visits to 30 percent of those households. Purchased and distributed 1,400 food waste composters. Recruited and trained 50+ Master Composters, who made over 11,000 contacts. Developed and distributed education materials. Staffed hotline and responded to over 4,700 phone queries.

Lessons learned: A direct mail piece to households in the four zip codes with the lowest participation in the backyard composting program yielded a very high sign-up response rate of almost 18 percent.

Products: Brochures: *Easy Composting of Yard Waste, Easy Composting of Food Waste, The Scoop on Pet Poop, Grasscycling, Mulch for Easier Gardening and Happier Plants, Trouble Free Plants, Ten 'Most Wanted' Pests*; Booklets: *Alternative Pest & Disease Controls, Six Steps to a Healthy, Pesticide-Free Garden*; Open Garden Tour Weekend map; multi-lingual promotional mailer for workshops/bins.

Element cost: \$1,242,121. This element continues in Grant # 9400153.

Compost quality assurance/control element

Description and Status: Studied metals in urban vegetation and soils to track the contributions of lead in yard waste setouts to the lead levels found in a final compost product produced by such setouts. Sampled 120+ yard waste setouts, analyzed for eight metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc).

Lessons learned:

- During the summer, grass was the dominant yard waste component (approx. 39% by presort weight) followed by loose and root soils (26%), woody plants (26%) and broadleaf plants (12%).
- The relative contribution of lead in yard waste is highest for loose soils (49.2%) followed by grass (33.3%), root soils (9.6%), broadleaf plants (4.7%) and woody plants (3.3%).
- A compost product derived from setouts was predicted to have a lead concentration of 122 mg/kg. If all soils were removed from these setouts the resulting lead concentration in the final compost product would be 70 mg/kg.

- The primary sources of lead in urban area soils are historical leaded gas emissions from vehicles and the removal or weathering of lead-based paint on buildings or other structures.
- Emphasize that loose soils (including street sweepings) should not go into the Clean Green Program.
- Inform homeowners of the types of inorganic fertilizers which are high in lead.

Products: *Sampling and Analysis of Selected Metals in Urban Vegetation and Soils*, July 1994 (Final report and executive summary)

Element cost: \$30,000

Project timespan: January 1992 to December 1993

Local contact: Ray Hoffman, Seattle Solid Waste Utility, (206) 684-7655

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Seattle Backyard Composting Program

Grant #9400153

Purpose: Reduce yard and food waste in the waste stream through citizen education and promotion of backyard composting. Encourage participation by providing the tools to carry out the labor, knowledge of the composting process, and an understanding of the benefits of composting. A continuation of tasks from the previous biennium's grant.

Targeted waste stream: Residential food and yard waste

Targeted audience: Seattle residents

Description and status: Provided 5,517 composting bins, 586 food waste composters, and conducted over 1,248 home visits. Master composter volunteers provided 655 volunteer hours at 116 activities. Notified 19,000 households of the free food waste composters and required people receiving the composters to attend a short workshop. Negotiated with Rubbermaid of Canada for 11,000 Green Cones.

Conducted "grasscycling" trials at the Center for Urban Horticulture. Bought three commercial-grade mulching mowers for city departments, who will report on their use.

Surveyed food waste digester recipients about their use of and satisfaction with the Green Cones. Surveyed 600 residents about food waste composting and other organics-related services of the Solid Waste Utility.

Maintained compost demonstration sites at the Seattle Tilth Garden, El Centro de la Raza, South Seattle Community College Arboretum, and the North Transfer Station.

Lessons learned:

- Past study indicates that bin distribution should result in the diversion of approximately 1,315 tons of waste per year.
- Grasscycling trials compared dedicated grasscycling mowers, mower blade retrofits, standard mower blade with bagging the clippings, and standard blade with no bagging. Found that grasscycling can be successful during Seattle's wet springs if proper equipment is used or if mowing is more frequent with conventional equipment. Grasscycling retrofit kits for mowers give only marginal improvement over conventional mowers with a standard blade. A rechargeable electric mower was found to mow very well, have less impact on local air and water quality, and to operate much more quietly. Reported on findings at the Washington State Recycling Association 1995 Convention and in magazine articles.
- Green Cone user survey found 70 percent currently using cone, 22 percent more plan to begin using it in the spring; 76 percent "very satisfied" with cone, and 20 percent more "satisfied" with it; 71 percent found the food waste workshop "very useful" and 24 percent more found it "good." 93 percent said they would not be interested in curbside collection of food waste for a small monthly fee, because they like having the compost and do not want to pay any additional costs for solid waste disposal.

Products: Home visits; workshops; article on grass cycling project for regional horticultural publication; brochure reprints of *Easy Food Waste Composting* and *The Scoop on Pet Poop*;

brochures (new) on *Green Cone Assembly Instructions and Guideline* and *Managing Food Waste Indoors*; demonstration sites; Hotline; flyer announcing program.

Project cost: \$1,190,000

Project timespan: January 1994 to December 1995

Local contact: Melina Thung, City of Seattle Solid Waste Utility, (206) 684-4643

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Skagit County Waste Reduction Program

Grant # 9200268

Purpose: Reduce the amount of waste generated through improved organics recycling and composting rates. Three elements of this grant dealt directly with composting.

Targeted waste stream: Organics

Targeted audience: Skagit County residents

Composting Feasibility Element

Purpose Determine the feasibility of establishing a central composting facility or several smaller facilities to handle source separated organics in the Skagit/Whatcom region.

Description and status: Drew up RFP to solicit a contractor to perform the study, but the county commissioners withdrew support for this project. County public works and health staff then turned attention to providing technical support and advice to local commercial composting operations in the Whatcom/Skagit region.

Element cost: \$39,017 allocated

Master Composter and Other Community Programs Element

Purpose As a part of general waste reduction and recycling efforts, to encourage the composting of organic wastes.

Description and status: Seminars trained Master Composters in exchange for volunteer time with the public; developed composting demonstration sites and conducted public workshops each quarter with the Master Composters; developed and hosted displays on composting at various public events; and used the broadcast media to promote and advertise workshops.

Project cost: \$85,500 budgeted, \$74,300 spent as of January 1994 (for entire grant).

Project timespan: October 1993 - December 1994

Local contact: Ric Boge, Skagit County Public Works, (206) 336-9333

Ecology contacts: Allen Robbins, grant officer, (360) 407-6074

Peter Christiansen, Regional contact, (206) 649-7076

Snohomish Compost Market Development Project

Grant #9200043

Purpose: Increase community awareness of the techniques and values of composting, encouraging the development of decentralized markets for yard debris compost

Targeted waste stream: Yard debris

Targeted audience: Landscape professionals, horticulture students, public agency personnel and the general public

Description and status: Provided workshops and courses, including: composting techniques, use of compost, consumer education; etc. Promoted using materials developed by this project in other areas.

Products: Curricula for college level study; programs for courses and workshops for students at the community college, the general public, and for professionals; four demonstration sites; program promotion materials, including brochures and handouts.

Project cost: \$120,000

Project timespan: September 1991 - February 1994

Local contact: Jim Beglein, Snohomish County Public Works, (360) 288-6487

Ecology contacts: Dan Koroma, grant officer, (360) 407-6067

Peter Christiansen, Regional contact, (206) 649-7076

Spokane Regional Yard Waste Composting Facility

Grant # 9400049

Purpose: Build a regional yard waste composting facility to serve Spokane County and its 11 municipalities. Spokane County generates approximately 60,000 tons of yard and garden waste each year, 16 percent of total waste stream.

Targeted waste stream: Yard waste

Targeted audience: General public

Description and status: Built and equipped an open-air windrow composting facility, processing approximately 25,000 tons per year (permitted up to 70,000 tpy). Owned by the Disposal Project, operated under contract by O.M. Scott Company, a nationally-known soil amendment producer. The 43 acre site is bordered by a municipal solid waste transfer station/recycling center and a state highway. Residences are located 500 feet to the east and 900 feet to the west. Project included building an equipment maintenance shop, and buying trailers and loaders to handle yard waste at transfer stations and Waste to Energy facility.

Lessons learned:

- Site location and characteristics can have the largest impact in determining the success of a program like this. Locating a composting facility from an operations standpoint must often be balanced with its potential for public acceptance. Because a facility conforms to local land use regulations does not make it politically or socially acceptable. The physical characteristics of the site can also affect the success of the operation. Topography can impact odor transport, as can microclimatic conditions.
- Composting facilities can generate odors. This possibility needs to be recognized and discussed with the public and local legislators from project conception. Odor is a subjective characteristic; this means methods for identifying and measuring odors and determining acceptable levels need to be addressed early in the process.
- Contracting with an experienced private party does not ensure that knowledgeable and experienced employees will be used on site. Poor operations can adversely affect a composting facility's performance. This in turn can affect how the public perceives the facility, especially in the startup phase. Contract agreements should stipulate the skill level of operators.

Products: Composting facility

Project cost: \$1,061,333

Project timespan: June 1993 - June 1994

Local contact: Jessie Lang, Spokane Regional Solid Waste Disposal Project,
(509) 456-7403

Ecology contacts: Mike Drumright, grant officer, (360) 407-6059
Brian Farmer, Regional contact, (509) 456-6386

Spokane Compost Testing and Marketing Project

Grant # 9200058

Coordinated project of three elements designed to reduce the yard waste fraction of the waste stream by diverting it into compost that the public perceives as a desirable product. Elements included assessing the quality of compost developed at the Spokane facility, determining a market for the compost, and educating the public concerning compost values and usage.

Targeted waste stream: Yard debris

Targeted audience: Users of compost, government, commercial interests and the public

Testing Element

Purpose: Determine the quality of compost produced at the Spokane facility.

Description and status: Testing recycled yard debris compost through laboratory analysis and greenhouse demonstrations provided information about the characteristics, quality, and consistency of the compost generated from a previous pilot project. (Used three feedstocks: street sweepings, park vegetation debris, and pine needles and recycled yard debris.)

Laboratory tests analyzed physical and nutrient characteristics, pathogens, metals, and undesirable organics (pesticides, PCBs, etc.). Greenhouse tests used several mixes of mature compost in growth trials to determine the suitability of the compost as a component of potting mix.

Lessons learned:

- Spokane final compost products meet or exceed all expectations and are of outstanding quality. Spokane compost is similar to many commercial soil amendments.
- Concerns about street sweepings being contaminated and about the phytotoxicity of pine needles proved to be unfounded. Material from parks did show a higher pathogen count than the other feedstocks, probably because people use the parks for walking dogs.
- The greenhouse trials showed that there are no detrimental constituents in the compost. This compost's performance compares favorably with a soil amendment product that has been used for many years as the potting mix base in the City's park system greenhouses.

Element cost : \$61,910

Public Education and Information Element

Purpose: To educate citizens about the use of compost.

Description and status: Developed and implemented an outreach program informing people about the use of compost, the results of laboratory and greenhouse tests, and provide free samples of the city's compost. Also, designed and built a public demonstration site and designed educational panels for the site and for a trade show booth..

Lessons learned:

- A comprehensive public information program can be developed without funds being spent on media. The Pilot Compost Project staff and Master Gardeners made presentations to interested groups, wrote articles for special interest publications, and appeared on radio talk shows and special television and radio programs. Through these concerted efforts, Spokane citizens have learned a great deal about the value and use of compost.
- Composting is supported because it is seen to help reduce solid waste disposal costs, result in a useful, commercially valuable soil-related resource, and benefit the environment.

Products: Demonstration site developed at Manito Park, one of Spokane's most prestigious and high-visibility parks. Educational and informational materials included signs; newsletter articles; press releases; media kit for public presentations; brochures explaining composting, compost myths and facts, and various composting methods and equipment; 30-second television PSA; television program, produced in-house; photo documentation of demonstration site and greenhouse trials

Element cost: \$31,980

Market Assessment Element

Purpose: Assess local markets for established and new uses for compost from recycled yard debris

Description and status: Determined current and prospective sources of yard debris and animal manure for blending into compost, and the major users of organic products. Estimated existing use of compost and comparable soil products, and public concerns and attitudes towards use of recycled yard debris compost. Evaluated marketability and potential price structure of compost from pilot project. Research and telephone surveys were prime tools in gathering the information.

Lessons learned:

- Highest demand in the next one to four years will be for compost as a soil conditioner by commercial landscapers and homeowners.
- Spokaneites want dark, earthy soil amendments and plant mixes. To succeed, the quality of the compost must be consistently high.
- The public views compost from recycled yard debris to be a safe product.
- Nurseries are also a viable market segment and should be targeted for immediate marketing. Compost may be used as a top dressing, although this usage will take more time to develop.
- Large-scale landscape jobs, in both public and private sectors, can be significant end-use outlets for Spokane compost. Government purchasing agencies are showing interest. Landscape firms frequently pointed out the need for public procurement agencies to specify compost as an approved or preferred material in their bidding documents.
- In the longer term, five years and beyond, use of compost for land reclamation is possibly a new, major use category. Spokane compost is being tested at a northeastern Washington mine site.

Element cost: \$43,500

Project timespan: June 1991 to November 1992

Local contact: Suzanne Tresko (Hoover), City of Spokane, Solid Waste
(509) 625-7878

Ecology contacts: Grant officer, Peter Haskin, (360) 407-6063
Regional contact, Brian Farmer, (509) 456-6386

**Thurston County Centralized Yard Waste
Composting Facility**
Grant # TAX89073

Purpose: Build centralized facility to compost clean yard waste, in order to extend life of landfill, provide landfill cover, and develop a market for the compost.

Targeted waste stream: Yard waste

Targeted audience: General public

Description and status: Built small (less than 12,000 tons per year) facility composed of enclosed, paved area at Hawks Prairie Landfill, where clean yard waste is composted. Self and commercial haulers dump material at a receiving area. Material processed using a tub grinder and trommel screen, and composted in windrows turned by a front-end loader. A small fee is charged for dumping, but people who bring material in are entitled to take two cubic yards of finished compost. County hired contractor to operate facility. Provided final report after first year of operation.

Lessons learned:

- Proper management of runoff from the site required a transmission system, increasing original cost estimate by \$140,392. Runoff had to be handled as leachate until testing showed it could be released into the stormwater system.
- In the first 17 months of operation diverted 7,476 tons of yard debris; provided approximately \$30/ton in space savings at the landfill.
- Chose to contract out operations with county administrative oversight; provides needed flexibility because county found it hard to assess operational parameters without some operational experience. Amended grant agreement so operator could have some input on which equipment to purchase.
- Customer demand increased operations from 5 days/week seasonally, to 7 days/week year round.
- Having a full-time attendant is critical; **vitaly important** to screen yard debris carefully for contaminants.
- Anticipated 6 month composting time; actual curing time between 9 and 12 months. Site is essentially at full capacity with 6,000 tons per year processed.

Products: Design and construction specifications and plans; operations plans; final report

Project cost: \$550,084

Project timespan: March 1989 to August 1994

Local contact: Jeff Sternhagen, Dept. of Public Works, (360) 786-5136

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Scott Carlson, Regional contact, (360) 407-6392

Thurston County Christmas Tree Recycling Project
Grant #9200148

Purpose: Deal with the seasonal glut of a compostable product.

Targeted waste stream: Christmas trees

Targeted audience: General public and county solid waste personnel

Description and status: Project included a publicity program, a collection drive and buying a chipper. The project was completed on schedule; file does not have reports as to success.

Products: Flyers advertising opportunities to recycle trees

Project cost: \$4,000

Project timespan: July 1992 - January 1993

Local contact: Michelle Arnold, Thurston County Public Works, (360) 786-5485

Ecology contacts: Diane Christel, grant officer, (360)407-6062

Scott Carlson, Regional contact, (360)407-6392

Thurston County Composting Program

Grant #9300160

Purpose: This grant contained three elements to expand the existing composting program.

Targeted waste stream: Yard waste

Targeted audience: General public

Composting Education - Classroom Display Element

Description and status: Built “Closed Loop Park,” a park and 2-acre demonstration garden at Hawks Prairie Landfill. Shows how to make and use compost, commercially available bins, integrated pest management, and “common sense” gardening. Used recycled material for structures, gardens and paths whenever possible. Plans have been designed for a classroom facility constructed of straw bales and recycled windows.

Element cost: \$62,250

Composting Equipment Element

Description and status: Purchased and installed an attendant booth/storage shed for composting facility. Grant originally included major equipment purchases, but were able to use funds from grant #TAX89073 for those.

Element cost: \$9,000

Backyard Bins Element

Description and status: Purchase yard trimming and kitchen bins; distribute to county residents who attend composting classes. As of April 1995, had distributed 92 bins during 32 backyard composting workshops. Will continue to hold workshops and distribute bins.

Element cost: \$9,500

Project timespan: January 1993 to December 1995

Local contact: Michelle Arnold, Thurston County Public Works, (360) 357-2491

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Scott Carlson, Regional contact, (360) 407-6392

Tukwila Yard Waste Recycling Project

Grant #9200180

Purpose Encourage composting and the use of composting materials.

Targeted waste stream: Yard debris

Targeted audience: Residents of Tukwila

Description and status: Develop a compost demonstration garden and educational and informational materials for the public. Recruitment of Master Composter graduates to volunteer services to the site.

Products: Demonstration garden completed, educational materials produced.

Project cost: \$20,700

Project timespan: March 1992 - December 1993

Local contact: Rebecca Fox, City of Tukwila, (206) 431-3683

Ecology contacts: Diane Christel, grant officer, (360) 407-6062

Peter Christiansen, Regional contact, (206) 649-7076

Walla Walla Master Composter Program

Grant # 9200290

Purpose: Determine the most effective method of backyard composting for Walla Walla and Columbia Counties

Targeted waste stream: Food and yard debris

Targeted audience: Educators, public officials and the general public

Description and status: With the services of an intern, the project explored composting programs used elsewhere and designed a program for maximum effectiveness in the local climate. Classes and informational materials to the public. Project in coordination with WSU Cooperative Extension.

Products: *Backyard Composter Handbook for Walla Walla and Columbia Counties*; "Troubleshooting Your Compost Pile" workshop; pins, tee-shirts, brochures and flyers to advertise; Master Recycler-Composter course.

Project cost: \$5,000

Project timespan: February 1992 - December 1993

Local contact: Gretchen Lowe, Walla Walla Regional Planning Council,
(509) 527-3282.

Ecology contacts: Peter Haskin, grant officer, (360) 407-6063
Brian Farmer, Regional contact, (509) 456-6386

Whatcom County Yard Waste Management Project

Grant # WFG90019

Purpose: Design a yard waste collection and composting program that will divert approximately 15% of the county's overall waste stream.

Targeted waste stream: Yard waste

Targeted audience: Local government decision-makers

Description and status: Developed six options to deal with yard waste: intensive source reduction; centralized composting – generator hauls to site; centralized composting – generator hauls to depot; centralized composting – residential curbside collection; MSW composting – separate brush processing; and MSW composting – status quo (small organics only, brush incinerated or landfilled). Explored marketing and siting issues.

Final recommendations:

- Pursue source reduction strategies – Master Composter program, home composting bin distribution, chipping/mulching program, yard waste management brochure.
- Monitor MSW composting performance and re-evaluate facility options.
- Monitor yard waste generation by weighing volumes at certified hauler drop sites.

Lessons learned:

- Original project scope adjusted to allow the additional options of blending the yard waste into a municipal solid waste composting program begun by Recomp of Washington.
- Diversion estimates ranged from 250 to 500 tons/year for intensive source reduction to more than 6,000 tons for maximum participation in curbside collection. Cost estimates range from about \$45/ton for maximum participation in source reduction to \$97/ton for maximum participation in curbside collection using least costly centralized processing facility. (Compared to current garbage collection and disposal costs of \$240 to \$320/ton.)
- Collection and processing interact such that providing greater levels of collection increases the costs of collecting each ton, but the added convenience of curbside results in much higher diversion volumes and lowers the unit costs of processing yard waste into compost.
- Strong support found in the county for maximum source reduction efforts.
- Final recommendations limited by the deadline to update the county solid waste management plan and the time needed for the MSW composting effort to prove performance and compost quality.

Products: Whatcom County Yard Waste Management Project Final Report, December 1991

Project cost: \$48,100

Project timespan: March 1990 to June 1993

Local contact: Bob Jurica, Whatcom County Public Works, (360) 676-7695

Ecology contacts: Dan Koroma, grant officer, (360) 407-6067

Peter Christiansen, Regional contact, (206) 649-7076

Whatcom County Waste Reduction and Recycling Demonstration Project

Grant # WFG91006

Purpose: Divert food and yard waste from landfill disposal through home composting and woody debris mulching programs. (Implementing recommendations from Grant #WFG90019.)

Targeted waste stream: Food and yard waste

Targeted audience: General public

Home composting demonstration site element

Description and status: In conjunction with the WSU Cooperative Extension - Whatcom County, trained 62 volunteer Master Composters to provide composting information to county residents and demonstrate home composting in neighborhoods. Built composting demonstration sites at Bellingham Community Garden and Hovander Park in Ferndale, to educate the public about home-scale systems and methods known to be successful under maritime Pacific Northwest conditions. Produced training manual and public information handout. Held special two-day workshop given to approximately 25 representatives of other governments and Cooperative Extension Service offices throughout state

Lessons learned:

- Designed Hovander Park demonstration site so it could be broken down seasonally to combat winter flooding.
- Could divert up to 10 - 12 tons per year for every 100 participants.

Products: Demonstration sites completed; workshop manual produced by Cooperative Extension

Element cost: \$68,620

Woody debris mulching element

Description and status: Purchased equipment for woody yard debris mulching for county and Western Washington University. Using mulch as landscape material for county, city and University grounds. Provided coupon voucher system for community use of wood chipping services and chipper rentals. Could divert more than 600 tons per year from disposal or burning. Bought and distributed 1,135 home composting bins, with workshop training assistance of Master Composter program.

Lessons learned:

- Mulching efforts were intended to be a prelude to establishing a composting site at Cedarville landfill, but this proved to be too difficult to implement. (See report from WFG90019 grant project.) Since these grant funds could only be used for capital costs, the remaining monies were used to purchase backyard composting bins.

- Found manufacturer (Recycled Plastics Marketing of Bellevue) who could provide composting bins made of 100% Whatcom County milk jugs.
- Master Composter/bin distribution one of the most successful and popular programs to date; County will continue this after grant; funding also used to buy worm bins for classroom use, augmenting the Waste Reduction and Recycling Public Information and Education grant.

Element cost: \$34,920

Project timespan: October 1990 to June 1993

Local contact: Diane McLeod (initially Jack Weiss), Whatcom County Public Works,
(360) 676-7695

Ecology contacts: Dan Koroma, grant officer, (360) 407-6067
Peter Christiansen, Regional contact, (206) 649-7076

Whatcom County Composting Program

Grant #9200160

Purpose: Encourage home composting and provide a yard waste composting facility for residents of Bellingham and the surrounding area.

Targeted waste stream: Food and yard waste

Targeted audience: General public and professional landscapers and gardeners

Description and status: Contracted with WSU Cooperative Extension to offer courses at least twice to local citizens. In conjunction with the City of Bellingham, built a yard waste composting facility, with the county providing staffing and equipment expenses for approximately eight months of the year.

Products: Adapted materials from the WSU Master Gardeners Program; recycling hotline for backyard composting; school program, "No Waste Lunch Day"; Earth Watch radio spots; news releases and flyers.

Project cost: \$146,000

Project timespan: January 1992 - May 1994

Local contact: Diane McLeod, Whatcom County Public Works, (360) 676-7695

Ecology contacts: Dan Koroma, grant officer, (360) 407-6067

Peter Christiansen, Regional contact, (206) 649-7076

Whatcom County Home Compost Containers

Grant #G9400151

Purpose: Reduce county waste stream by providing home compost containers for county residents' use.

Targeted waste stream: Food and yard waste

Targeted audience: County residents

Description and status Purchase up to 1,500 home compost containers, made from recycled plastic, to distribute in conjunction with Master Recycler/Composter program and to sell at the "ReStore." Should divert up to 2,400 tons of organics from county waste stream over expected 5 year life. (Composting education and information efforts blended in to overall waste reduction and recycling education and information program.)

Project cost: \$40,000

Project timespan: January 1994 to December 1995

Local contact: Diane McLeod, Whatcom County Public Works, (360) 676-7695

Ecology contacts: Dan Koroma, project officer, (360) 407-6067

Peter Christiansen, Regional contact, (206) 649-7076

Cross References By Activity

Bin Purchase and Distribution

Enumclaw #9300108
Clark #9400115
Island #9400143
King #9300104
Lewis #9200228
Redmond #9200297
Renton #9400213
Sea-Tac #9400157
Seattle #s 9300086, 9400153
Thurston #9300160
Whatcom #s WFG91006, 9400151

Capital Purchases/Leases

Airway Heights #9400172
Island #9400143
Kitsap #9200338
Thurston #s TAX89073, 9200148
Whatcom #WFG91006

Collection Events

Island #9400143
Kent #9200185
Thurston #9200148

Demonstration Sites

Clark #9400115
Island #9400143
King #9400211
Kitsap #9200338
Lewis #9200228
Seattle #9400153
Skagit #9200268
Snohomish #9200043
Spokane #9200058
Thurston #9300160
Tukwila #9200180
Whatcom #WFG91006

Displays

Island #9400143
King #9400211
Skagit #9200268
Spokane #9200058

Education Programs

(Most projects included some education)

Clark #9400143

Community Services Work Group #920230

Enumclaw #9300108

Island #9400143

Kent #9200185

King #9300104

Kitsap #9200338

Lewis #9200228

Redmond #9400169

Renton #9400213

Sea-Tac #9400157

Seattle #s 9300086, 9400153

Skagit #9200268

Snohomish #9200043

Spokane #9200058

Thurston #9300160

Tukwila #9200180

Walla Walla #9200290

Whatcom #s 9200160, 9400151

Facility Development

Thurston #s TAX890172, #9300160

Seattle #9200147

Spokane #9400049

Whatcom #9200160

Feasibility Studies

Chelan #9400178

Enumclaw #9300108

Island #9400143

Moses Lake #9300078

Redmond #9400169

Seattle #9200147

Skagit #9200268

Thurston #TAX89073

Whatcom #WFG90019

Hotlines

Seattle #s 9300086, 9400153

Whatcom #9200160

Manuals/Handbooks

King #9400211

Walla Walla #9200290

Whatcom #WFG91006

Master Composters/Volunteers

Clark #9400115
Community Services #920230
Island #9400143
King #s 9300104, 9400211
Lewis #9200228
Sea-Tac #9400157
Seattle #s 9300086, 9400153
Skagit #9200268
Tukwila #9200180
Walla Walla #9200290
Whatcom #s WFG91006, 9200160, 9400151

Marketing

Chelan #9400178
King #9200049
Snohomish #9200043
Spokane #9200058
Walla Walla #9200290

Public Surveys

Renton #9400213
Seattle #9400153
Spokane #9200058

Radio/TV Spots

Spokane #9200058
Whatcom #9200160

Regulation

Enumclaw #9300108
Kent #9200185
Renton #9400213

School Programs/Curricula

King #9300104
Kitsap #9200338
Lewis #9200228
Snohomish #9200043
Whatcom #9200160

Testing

King #9200049
Seattle #9200147
Seattle #s 9300086, 9400153
Spokane #9200058

Videos

Community Services Work Group #9200230
Spokane #9200058

Workshops

Clark #9400115
Island #9400143
King #9300104
Lewis #9200228
Renton #9400213
Sea-Tac #9400157
Seattle #9400153
Skagit #9200268
Snohomish #9200043
Spokane #9200058
Thurston #9200160
Walla Walla #920290
Whatcom #WFG91006

Worm Culture/Bins

Kitsap #9200338
Lewis #9200228
Renton #9400213