



COUNTY COMMISSIONERS

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**DEVELOPMENT SERVICES DEPARTMENT**

Michael Welter  
Director

**MEMORANDUM**

TO: Thurston County Board of County Commissioners  
FROM: The Pest and Vegetation Management Advisory Committee (PVMAC)  
DATE: January 7, 2005  
SUBJECT: 2004 Annual Report

The Board of County Commissioners adopted the Thurston County Pesticide Use Policy in 1989 and the revised Pest and Vegetation Management Policy in 1993. The Board adopted these policies after significant public involvement and input from the Pesticide Use Study Committee. These policies established a mandate for all county departments using pesticides to adopt Integrated Pest Management (IPM) programs and prescriptions. Additionally, it created the Pest and Vegetation Management Advisory Committee (PVMAC).

In 1990, the Thurston County Board of County Commissioners appointed nine citizens to the PVMAC. The Committee has been directed to assist in the implementation of the Pest and Vegetation Management Policy. This Policy emphasizes development and implementation of IPM programs that provide effective pest and vegetation management with minimal environmental and public health impacts. Often, a direct result of IPM is a reduction in pesticide use.

No pesticides were used from 1990 until 1996 when the first IPM programs were approved. Figure 1 shows the total amount of pesticides used by the County over the past nine years. The "Pounds of Pesticide Products" is the total amount of pesticide product used (not amount of pesticide mixed with a carrier, usually water). The graph clearly shows variability in the amount of pesticides applied from year to year. The reason for the sharp increase in 2002 is due to weed problems on additional lands the Parks Department is responsible for maintaining. These include the Thurston County Waste and Recovery Center (Figure 2), Glacial Heritage Nature Preserve (Figure 3), Thurston County Emergency Management Center, the employee leased parking lot, and the Juvenile Detention Center. Weed control is necessary due to a variety of site-specific goals identified in their IPM Program.

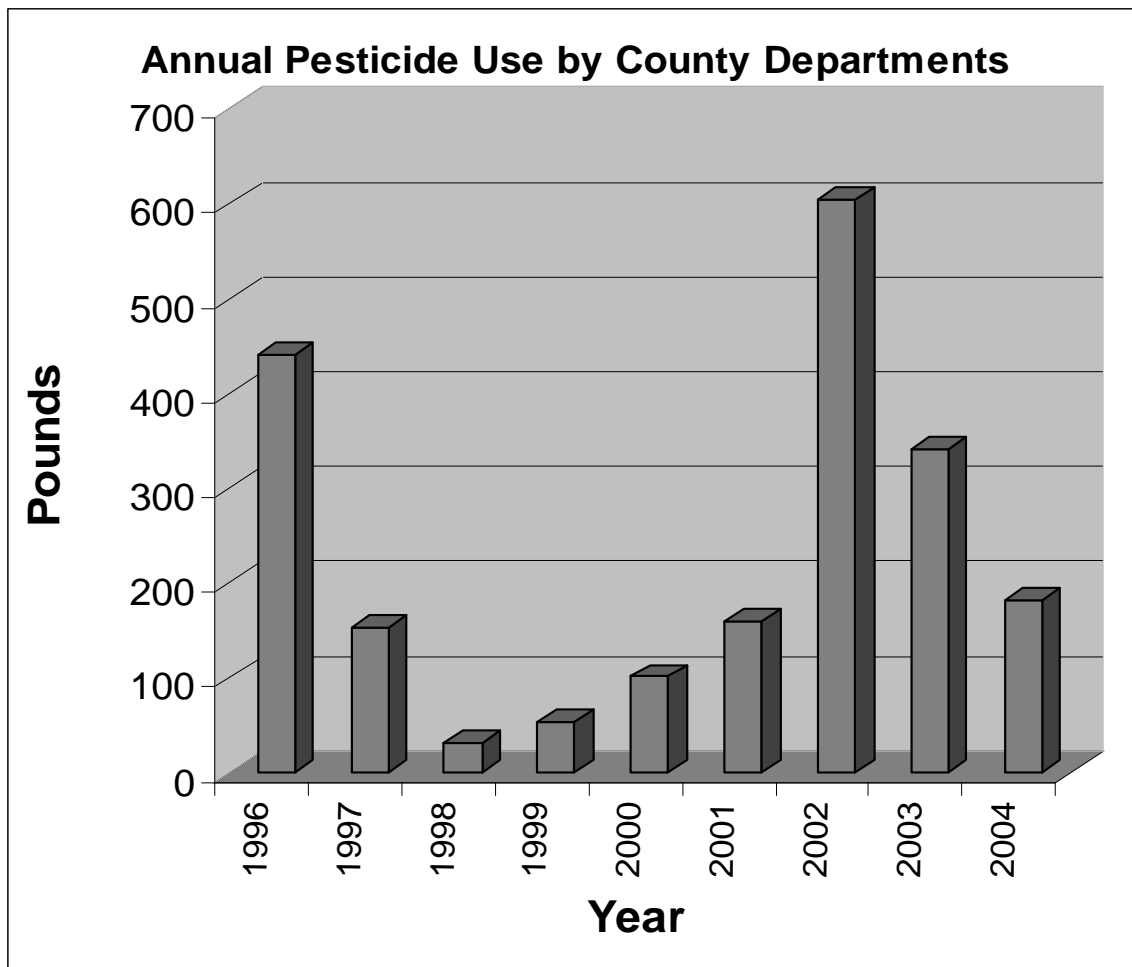


Figure 1 – Total amount of pesticides used by Thurston County Departments

The landscape at the Waste and Recovery Center, which is the County’s sanitary landfill, is a very challenging site to manage for weeds. The landscape is about eleven acres of various species of hardy ornamental shrubs. It was planted in 1991; it included an irrigation system and two feet of topsoil on top of an impervious synthetic membrane. After hand weeding, open ground between the shrubs was covered with mulch (bark). The irrigation system was designed to last about five years and would not be needed once the plants were established. The IPM Plan projected that the canopy of the shrubs would fill in and shade out competing vegetation thereby requiring only hand weeding and mulch for maintenance of the site.

Many of the shrubs have died due to the thin layer of topsoil, the heat generated by the underlying landfill material, problems with the irrigation system, and subsequent damage to the shrubs from rabbits, and construction of a gas line. Most of the shrubs will be replaced in the next two years. While mulch is continuously being added the result is the canopy cover is not helping reduce the weed growth as planned hence the continued use of herbicides. Figure 2 shows the amount of herbicides used on this site.

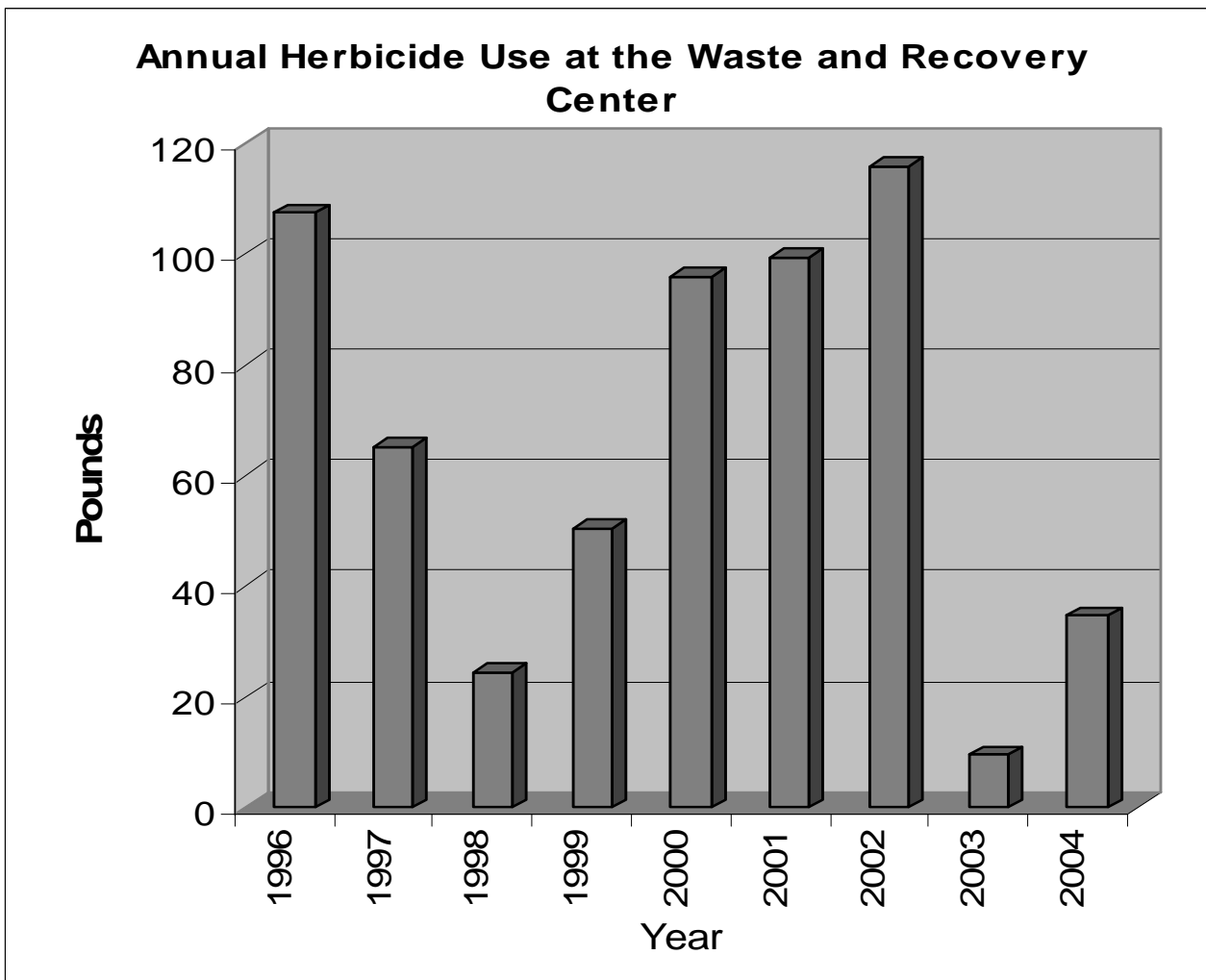


Figure 2 – Total herbicide use at the Waste and Recovery Center

The Glacial Heritage Nature Preserve is a 1,020-acre site located in a unique area that was once dominated by prairie vegetation. The County owns the land but the Nature Conservancy manages it. The site is wholly inundated with Scotch broom, a non-native shrub. The management goal of the Preserve is to restore it to native prairie. The first step has been to rid the site of Scotch broom. The Nature Conservancy has developed an integrated program to control Scotch broom using mowing, tilling, burning, hand pulling, and herbicides as control methods. Herbicides are only used in conjunction with mechanical controls when there are moderate infestations with a significant under-story of desirable native plants. The County approved herbicides are applied with a WeedSweep system (wiper) in the fall to prevent damage to the under-story of desirable plants. Experiments have been performed to determine the lowest rate of pesticide use to attain the targeted 90% control. Figure 3 shows the amount of herbicide use at the Glacial Heritage Nature Preserve. The amount of herbicide used has decreased since 2002 due to effective control in the area being restored.

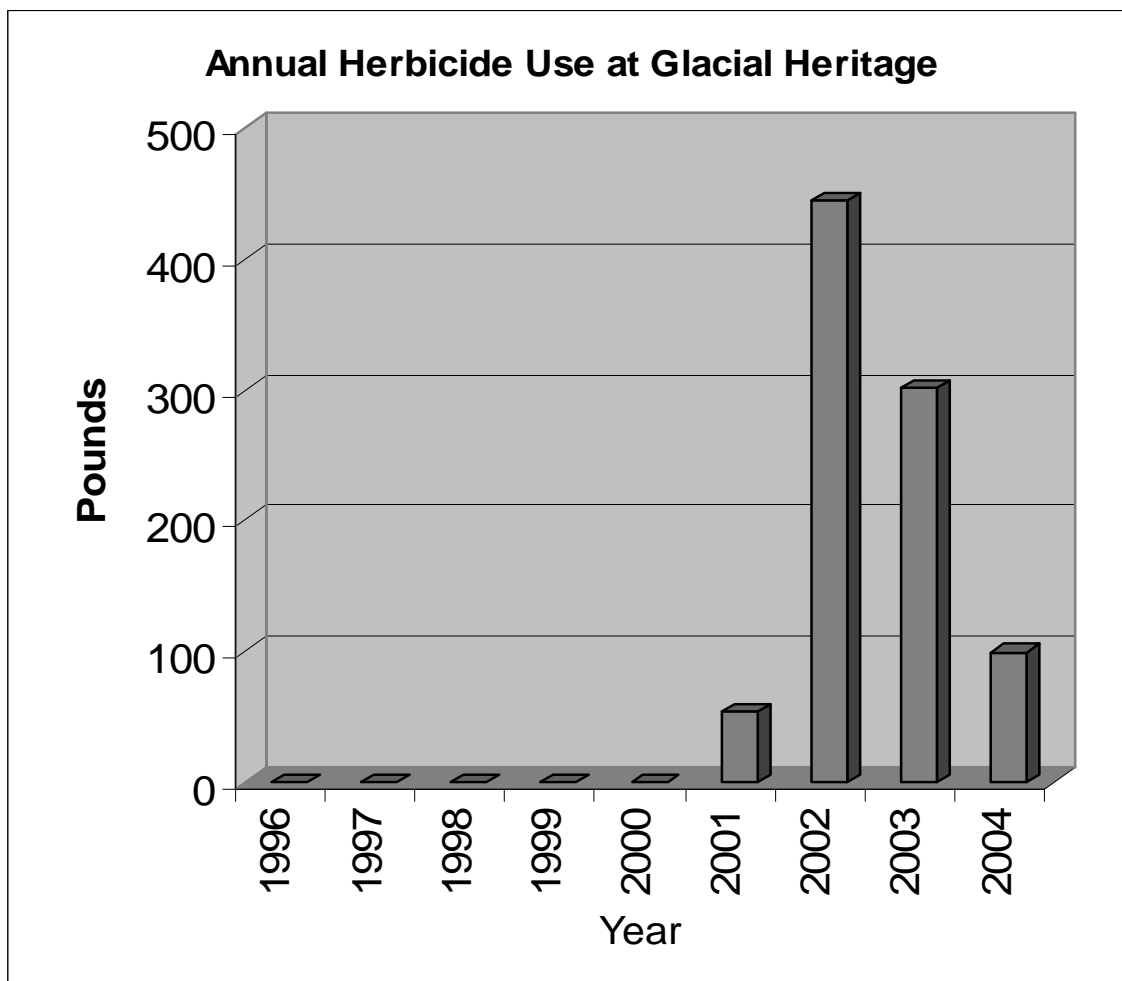


Figure 3 – Total herbicide use at the Glacial Heritage Nature Preserve

As IPM principles are applied to these two troublesome sites, and new ones that the County may be required to manage, it is expected the total herbicide use will decrease at each site. IPM provides a more permanent solution to pest problems, thus resulting in a decreased dependency on pesticides. Lower pest management costs often accompany IPM programs.

**2004 PVMAC Activities:**

In 2004, the PVMAC did not need to meet as a result of a 2000 decision not to meet unless there was a specific need. On April 20, 2004 Dr. Dan Suomi and Dr. Jean MacGregor met with the Board of County Commissioners and briefed them on the history and current status of the County’s IPM Program.

**Conclusions:**

The Committee is concerned with the increased pesticide (primarily herbicide) use since 1998. The Committee will look to staff to evaluate the weed control program of the Parks Department due to the increasing land base they are responsible to maintain. In this time of budget reductions it is imperative that the county’s use of pesticides is done in a cost effective yet environmentally safe manner.

This Citizen's Committee continues to be grateful for the opportunity to help implement IPM in Thurston County. We encourage continued public input at our future meetings. Attached is a detailed 2004 report of pesticide usage by County Departments and a summary from 1996 through 2004.

The Committee again wishes to thank Mark Swartout, the Natural Resource Program Manager, for his timely and consistent support of PVMAC activities.

Respectfully submitted by Dr. Daniel A. Suomi, Chair, PVMAC



## Thurston County 2004 Pesticide Applications

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
Roads and Transportation Services	Wild chervil	118 <sup>th</sup> Ave. SW and Endicott	4/15/04	Landscape Solutions	Roundup	5.5 gal mix @ 3 oz/gal = 16.5 oz Product
	Poison Hemlock	Bald Hill Rd. and Morris	4/15/04	Landscape Solutions	Roundup	.5 gal mix @ 3 oz/gal = 1.5 oz Product
	Poison Hemlock	Bald Hill Rd and 110 Ave.	4/15/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz product
	Poison Hemlock	Old Hwy 99	4/15/04	Landscape Solutions	Roundup	2 gal mix @ 3 oz/gal = 6 oz Product
	Wild chervil	Prather and Bicknell Rd	4/15/04	Landscape Solutions	Roundup	2 gal. mix @ 3 oz/gal = 6 oz Product
	Wild chervil	118 <sup>th</sup> Ave. SW and Endicott	4/19/04	Landscape Solutions	Roundup	4 gal mix @ 3 oz/gal = 12 oz product
	Wild chervil	D Millurh Dr and 46 Ave.	4/19/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz product
	Poison Hemlock	Old Pacific Hwy and Nisqually	4/19/04	Landscape Solutions	Roundup	1.5 gal mix @ 3 oz/gal = 4.5 oz product
	Wild chervil	Prather and Bicknell Rd	4/19/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz product
	Wild chervil	Prather and Bicknell Rd	4/19/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz product
	Poison Hemlock	Maytown and Case Rd.	4/19/04	Landscape Solutions	Roundup	3 gal mix @ 3 oz/gal = 9 oz product
	Poison Hemlock	Tilley Shop	4/22/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz product
	Wild chervil	123 Ave. and La France Rd.	4/22/04	Landscape Solutions	Roundup	2.5 gal mix @ 3 oz/gal = 7.5 oz Product
	Wild chervil	123 Ave. and La France Rd	4/22/04	Landscape Solutions	Roundup	2.5 gal mix @ 3 oz/gal = 7.5 oz product
	Wild chervil	123 Ave. and La France Rd	4/22/04	Landscape Solutions	Roundup	2.5 gal mix @ 3 oz/gal = 7.5 oz Product

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
	Wild chervil	123 Ave. and La France Rd	4/22/04	Landscape Solutions	Roundup	2.5 gal mix @ 3 oz/gal = 7.5 oz Product
	Wild chervil	123 Ave. and La France Rd	4/22/04	Landscape Solutions	Roundup	.5 gal mix @ 3 oz/gal = 1.5 oz Product
	Wild chervil	Endicott and 123 Ave.	4/22/04	Landscape Solutions	Roundup	3.5 gal mix @ 3 oz/gal = 10.5 oz Product
	Wild chervil	Endicott and 110 Ave.	4/22/04	Landscape Solutions	Roundup	.5 gal mix @ 3 oz/gal = 1.5 oz Product
	Wild chervil	101 Ave. and Delphi	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Wild chervil	101 Ave. and Mason	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Wild chervil	101 Ave. and Mason	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Wild chervil	101 Ave. and Mason	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Wild chervil	101 Ave. and Delphi	4/22/04	Landscape Solutions	Roundup	.5 gal mix @ 3 oz/gal = 1.5 oz Product
	Wild chervil	Littlerock Rd. and Gifford	4/22/04	Landscape Solutions	Roundup	.25 gal mix @ 3 oz/gal = .75 oz Product
	Wild chervil	Kennedy Creek Rd and SR 008	4/22/04	Landscape Solutions	Roundup	2 gal mix @ 3 oz/gal = 6 oz Product
	Gorse	Martin Way and Dutterow	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Poison Hemlock	Abernathy and 26 Ave	4/22/04	Landscape Solutions	Roundup	.125 gal mix @ 3 oz/gal = .38 oz Product
	Poison Hemlock	Boulevard and Wheeler	4/22/04	Landscape Solutions	Roundup	1 gal mix @ 3 oz/gal = 3 oz Product
	Poison Hemlock	Rainier Pit	5/13/04	Landscape Solutions	Roundup	2.5 gal mix @ 3.8 oz/gal = 9.6 oz Product
	Tansy Ragwort	Rainier Pit	5/13/04	Landscape Solutions	Roundup	2.5 gal mix @ 3.8 oz/gal = 9.6 oz Product

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
	Poison Hemlock	Lawrence Rd and Cougar	5/13/04	Landscape Solutions	Roundup	.375 gal mix @ 3.8 oz/gal = 1.44 oz Product
	Meadow Knapweed	Vail Cut Off and Villa Ct.	5/13/04	Landscape Solutions	Roundup	.25 ga. mix @ 3.8 oz/gal = .96 oz Product
	Meadow Knapweed	Vail Cut Off and Villa Ct.	5/13/04	Landscape Solutions	Roundup	.25 gal mix @ 3.8 oz/gal = .96 oz Product
	Meadow Knapweed	Vail Cut Off and Villa Ct.	5/13/04	Landscape Solutions	Roundup	.25 gal mix @ 3.8 oz/gal = .96 oz Product
	Meadow Knapweed	Vail Cut Off and Villa Ct.	5/13/04	Landscape Solutions	Roundup	.25 gal mix @ 3.8 oz/gal = .96 oz Product
	Meadow Knapweed	Crowder and Park	5/13/04	Landscape Solutions	Roundup	.5 ga. mix @ 3.8 oz/gal = 1.92 oz Product
	Wild Chervil	Prather and Bicknel Rd.	5/13/04	Landscape Solutions	Roundup	1 gal mix @ 3.8 oz/gal = 3.84 oz Product
	Wild Chervil	Prather and Bicknel Rd.	5/13/04	Landscape Solutions	Roundup	1 gal mix @ 3.8 oz/gal = 3.84 oz Product
	Japanese Knotweed	Little Rock Rd and 93 Ave.	5/13/04	Landscape Solutions	Roundup	.039 gal mix @ 3.8 oz/gal = .15 oz Product
	Wild Chervil	118 <sup>th</sup> Ave. SW and Endicott	5/13/04	Landscape Solutions	Roundup	2 gal mix @ 3.8 oz/gal = 7.68 oz Product
	Wild Chervil	118 <sup>th</sup> Ave. SW and Endicott	5/13/04	Landscape Solutions	Roundup	2 gal mix @ 3.8 oz/gal = 7.68 oz Product
	Wild Chervil	Endicott and 123 Ave.	5/13/04	Landscape Solutions	Roundup	1 gal mix @ 3.8 oz/gal = 3.84 oz Product
	Wild Chervil	123 Ave. and La France	5/13/04	Landscape Solutions	Roundup	.0625 gal mix @ 3.8 oz/gal = .24 oz Product
	Poison Hemlock	Abernathy and 15 Ave.	5/13/04	Landscape Solutions	Roundup	.125 gal mix @ 3.8 oz/gal = .48 oz Product
	Poison Hemlock	Abernathy and 26 Ave.	5/13/04	Landscape Solutions	Roundup	.5 gal mix @ 3.8 oz/gal = 1.92 oz Product
	Japanese Knotweed	Tilley Shop	6/22/04	Landscape Solutions	Aquamaster	.375 gal mix @ 64 oz/gal = 24 oz Product

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
	Japanese Knotweed	Tilley Shop	6/22/04	Landscape Solutions	Aquamaster	.1875 gal mix @ 128 oz/gal = 24 oz Product
	Japanese Knotweed	La France and 127 Ave.	6/29/04	Landscape Solutions	Aquamaster	.0703 gal mix @ 128 oz/gal = 9 oz Product
	Japanese Knotweed	La France and 127 Ave	6/29/04	Landscape Solutions	Aquamaster	.1718 gal mix @ 128 oz/gal = 22 oz Product
	Japanese Knotweed	Independence Rd. and 201 Ave.	6/29/04	Landscape Solutions	Aquamaster	3 gal mix @ 3 oz/gal = 9 oz Product
	Japanese Knotweed	Independence Rd. and 201 Ave	6/29/04	Landscape Solutions	Aquamaster	.0312 gal mix @ 128 oz/gal = 4 oz Product
	Japanese Knotweed	Prather and 219 Ave.	6/29/04	Landscape Solutions	Aquamaster	.0625 gal mix @ 128 oz/gal = 8 oz Product
	Japanese Knotweed	James and Rose	6/29/04	Landscape Solutions	Aquamaster	.1406 gal mix @ 128 oz/gal = 18 oz Product
	Japanese Knotweed	Littlerock Rd and Sargent	6/29/04	Landscape Solutions	Aquamaster	.414 gal mix @ 128 oz/gal = 53 oz Product
	Japanese Knotweed	Littlerock Rd and Sargent	10/9/04	Landscape Solutions	Aquamaster	.414 gal mix @ 128 oz/gal = 53 oz Product
Roads and Transportation Services Totals				<b>Roundup = 183.6 oz</b> <b>Aquamaster = 224.0 oz</b>		
Parks and Recreation	Rodents	Burfoot Park	4/01/04	Shannon Rone	Fast Trac Blox	2 Blks / bait station = 96 g product
	Nuisance Weeds	EOC	4/05/04	Shannon Rone	Roundup	9 gal mix @ 2.5 oz / gal = 22.5 oz product
	Poison Hemlock	Yelm Trailhead	4/06/04	Chris Gill	Roundup	.25 gal mix @ 2.5 oz / gal = .5 oz product
	Poison Hemlock	Rt. 507	4/06/04	Chris Gill	Roundup	1 gal mix @ 2.5 oz / gal = 2.5 oz product
	Japanese Knotweed	67 <sup>th</sup> Trailhead	4/06/04	Chris Gill	Roundup	.75 gal mix @ 2.5 oz / gal = 2.0 oz product
	Nuisance Weeds	EOC	5/11/04	Dale Moysiuk	Roundup	3 gal mix @ 2.5 oz / gal = 7.5 oz product
	Nuisance Weeds	WRAC	5/20/04	True Green	Roundup Pro	140 gal mix @ 3 oz / gal = 518 oz product
	Scotch Broom	Glacial Heritage	5/17/04	Sanders Freed	Roundup Ultra	100% concentrate = 317.1 oz product
	Scotch Broom	Glacial Heritage	5/18/04	Sanders Freed	Roundup Ultra	100% concentrate = 317.1 oz product

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
	Scotch Broom	Glacial Heritage	5/18/04	Sanders Freed	Roundup Ultra	100% concentrate = 317.1 oz product
	Scotch Broom	Glacial Heritage	5/20/04	Sanders Freed	Roundup Ultra	100% concentrate = 317.1 oz product
	Scotch Broom	Glacial Heritage	5/21/04	Sanders Freed	Roundup Ultra	100% concentrate = 317.1 oz product
	Poison Hemlock	Yelm/Tenino Trailhead	6/03/04	Chris Gill	Roundup	3 gal mix @ 2.5 oz / gal = 7.5 oz product
	Poison Hemlock	Yelm/Tenino Trailhead	6/03/04	Chris Gill	Roundup	2 gal mix @ 2.5 oz / gal = 5 oz product
	Horsetail	EOC	6/08/04	Bill Rowlands	Roundup	3 gal @ 2.5 oz / gal = 7.5 oz product
	Poison Hemlock	Yelm/Tenino Trailhead	7/06/04	Chris Gill	Roundup	2 gal mix @ 2.5 oz / gal = 5 oz product
	Poison Hemlock	Yelm/Tenino Trailhead	7/06/04	Chris Gill	Roundup	1 gal mix @ 2.5 oz / gal = 2.5 oz product
	Nuisance Weeds	EOC	7/07/04	Bill Rowlands	Roundup	3 gal @ 2.5 oz / gal = 7.5 oz product
	Nuisance Weeds	WRAC	5/20/04	Chris Gill	Roundup	6 gal mix @ 2.5 oz / gal = 15 oz product
	Nuisance Weeds	WRAC	8/04/04	Chris Gill	Roundup	6 gal mix @ 2.5 oz / gal = 15 oz product
	Nuisance Weeds	EOC	8/10/04	Shannon Rone	Roundup	6 gal @ 2.5 oz / gal = 15 oz product
	Nuisance Weeds	WRAC	9/13/04	Chris Gill	Roundup	3 gal mix @ 2.5 oz / gal = 7.5 oz product
<b>Parks and Recreation - Totals</b>				<b>Roundup = 2226.6 oz / 17.4 gal</b> <b>Fast Trac Blox = 96 g = 3.4 oz</b>		
Water and Waste Management	White Water Lily	Lake Lawrence	7/28/04	Aquatechnex	Rodeo	1.25 gal mix @ 96 oz / gal = 120 oz
			8/11/04			.625 gal @ 96 oz / gal = 60 oz
<b>Water and Waste Management</b>				<b>Rodeo = 180 oz product</b>		
Central Services	Moisture Ants	Bldg. 4	7/24/04	Venables Pest Mgt.	Tempo 20 WP	2 gal mix @ .05% = 12.8 oz product
	Yellow jackets	Elections	9/16/04	Venables Pest Mgt.	Talstar 1	4 oz product
Central Services	Yellow jackets	Elections	9/16/04	Venables Pest Mgt.	Talstar 1	4 oz product

Department	Pest Problem	Location	Date	Applicator	Product	Quantity
	Yellow jackets	EOC	6/30/04	Venables Pest Mgt.	Drione Dust	.2 oz product
	Rats	EOC	5/17/04	Venables Pest Mgt.	Contra Blox	10 oz product
	Rats	EOC	4/11/04	Venables Pest Mgt.	Contra Blox	7.5 oz product
	Rats	EOC	4/11/04	Venables Pest Mgt.	Contra Blox	7.5 oz product
	Rats	EOC	2/17/04	Venables Pest Mgt.	Contra Blox	16 oz product
	Rats	EOC	1/16/04	Venables Pest Mgt.	Contra Blox	5 oz product
	Moisture Ants	Bldg. 2	9/08/04	Venables Pest Mgt.	Phantom	23 gal mix @ 7.24 oz/gal = 34.5 oz product
Central Services - Totals				<b>Contra Blox = 46 oz</b> <b>Tempo 20 WP = 12.8 oz</b> <b>Talstar 1 = 8 oz</b> <b>Drione Dust = .2 oz</b> <b>Phantom = 34.5 oz</b>		

Summary of applications from 1996 to 2004 by Department:

	<b>Roads</b>	<b>Parks</b>	<b>Water and Waste Mgt.</b>	<b>Facilities</b>	<b>Health</b>	<b>Total Used</b>
1996	Roundup = 94 oz	Roundup = 1,719 oz or 13.43 gal	Tempo 20 WP = 3 gal mix or 28.5 g / 1 oz product Drione Dust = .25 oz Vengeance = 2 oz Rodeo = 5220 oz	Tempo 20 WP = 11 oz Drione dust = .5 oz	Tempo 20 WP = 1.68 oz Gentrol = 3.5 oz	7,042.04 oz = 440.13 lbs
1997	Roundup = 106.25 oz Manage = 20.25 g / .71 oz Stinger = 2.5 oz	Roundup = 1,044.48 oz or 8.16 gal	Rodeo = 1318 oz	No applications	No applications	2,471.94 oz = 154.50 lbs
1998	Roundup = 42 oz Manage = 10.8 g / .38 oz Stinger = 28.5 oz	Roundup Pro = 392 oz or 3.06 gal	No applications	Tempo 20% WP = 76 g / 2.68 oz Drione Dust = 48 oz	No applications	513.56 oz = 32.10 lbs
1999	Roundup = 61.875 oz Manage = 1.46 g / .05 oz Stinger = 4.7575 oz	Roundup = 793.6 oz or 6.2 gal Enforcer (Wasp) = 12 oz can	No applications	No applications	No applications	872.28 oz = 54.52 lbs
2000	Roundup = 78.29 oz Manage = .05 oz Stinger = .16 oz	Roundup = 1,548 oz or 12.09 gal Fast Trac = .56 oz	No applications	Tempo 20% WP = .84 oz Drione Dust = 1.25 oz	No applications	1,629.15 oz = 101.8 lbs

	<b>Roads</b>	<b>Parks</b>	<b>Water and Waste Mgt.</b>	<b>Facilities</b>	<b>Health</b>	<b>Total Used</b>
2001	Roundup = 16.62 oz Manage = 1.58 g. or .05 oz Transline = .14 oz	Roundup = 2,475 oz or 19.34 gal Spectracide = 40 oz Ortho Hornet & Wasp = 24 oz	No applications	No applications	No applications	2,555.81 oz = 159.7 lbs
2002	Roundup = 20 oz	Roundup = 9,649 oz or 75.38 gal Fastrac = 32 g or 1.13 oz	No applications	Drion = 2 oz Tempo 20 WP = 1 oz	No applications	9,673.13 oz = 604.57 lbs
2003	Roundup = 112.6 oz Transline = 1.98	Roundup = 5,030.33 oz or 39.3 gal	Rodeo = 270 oz	Contrac Blox = 51.25 oz		5,466.16 oz = 341.64 lbs
2004	Roundup = 183.6 oz Aquamaster = 224.0 oz	Roundup = 2226.6 oz / 17.4 gal Fast Trac Blox = 96g = 3.4 oz	Rodeo = 180 oz product	Contrac Blox = 46 oz Tempo 20 WP = 12.8 oz Talstar 1 = 8 oz Drione Dust = .2 oz Phantom = 34.5 oz		2,919.1 oz = 182.44 lbs

MS:ms/PVMAC\_05/spay records 2004