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Environmental Protection  
Agency

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Alaska  
Idaho  
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Office of Waste & Chemical Management

May 2001

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# Region 10: Inventory of Persistent, Bioaccumulative, and Toxic (PBT) Chemicals Reported to the Toxic Release Inventory 1991-1998



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## EXECUTIVE SUMMARY

Under the Government Performance and Results Act (GPRA), the Environmental Protection Agency is required to meet the following goal: ***By 2005, reduce the most persistent, bioaccumulative, and toxic chemicals in our nation's hazardous waste streams by 50% as compared with a baseline year of 1991.*** Region 10 selected thirty chemical groups from the November 9, 1998 draft list of persistent, bioaccumulative, and toxic chemicals for further measurement and examination. This report shows progress towards the 50% reduction goal, using publically available Toxic Release Inventory (TRI) data.

Of the thirty persistent, bioaccumulative, and toxic (PBT) chemicals selected by Region 10, twelve are not reported in the Toxic Release Inventory database as of the most recent available reporting year, 1998. These chemicals are:

- 1,2,4,5-TETRACHLOROBENZENE
- 4-BROMOPHENYL PHENYL ETHER
- ACENAPHTHENE
- ACENAPHTHYLENE
- BENZO(G,H,I)PERYLENE
- DIOXINS/FURANS
- ENDOSUFAN, BETA-/ENDOSULFAN ALPHA-
- FLUORENE
- HEXACHLOROCYCLOHEXANE, GAMMA-
- PENTACHLOROBENZENE
- PENTACHLORONITROBENZENE
- PYRENE

Beginning in the 2000 reporting year, EPA added dioxins, dioxin-like compounds, and benzo(g,h,i)perylene to Toxic Release Inventory reporting and lowered the reporting threshold for several other PBT chemicals.

Region 10 supports this action and other actions by EPA Headquarters to continually improve the quality and accuracy of the TRI database.

An additional seven chemicals are included in the Toxic Release Inventory, however no Region 10 facilities in Alaska, Idaho, Oregon, or Washington report use or release of these chemicals. These seven chemicals are:

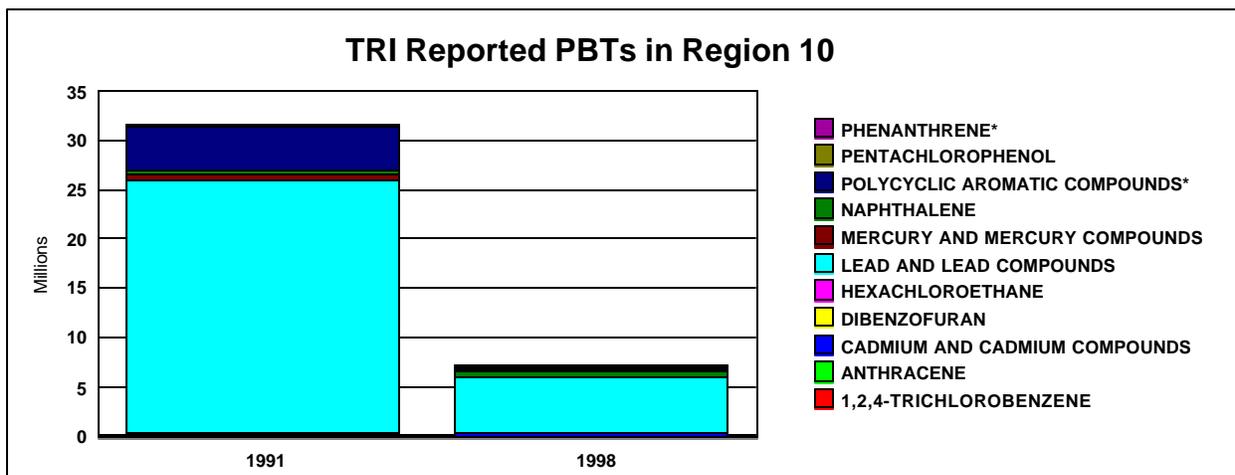
- 2,4,5-TRICHLOROPHENOL
- HEPTACHLOR / HEPTACHLOR EPOXIDE
- HEXACHLOROBENZENE
- HEXACHLORO-1,3-BUTADIENE
- METHOXYCHLOR
- PENDIMETHALIN
- TRIFLURALIN

On October 29, 1999 (64 FR 58666), EPA lowered the reporting threshold for all of these chemicals except 2,4,5-trichlorophenol and hexachloro-1,3-butadiene. Therefore, in the 2000 reporting year, Region 10 facilities may begin reporting use or release of these chemicals.

Eleven chemicals are reported in TRI by Region 10 facilities and are measurable using the Toxic Release Inventory data. The chart on the following page shows the percentage change in total waste reported to TRI between 1991 and 1998. (Note: in the 1998 reporting year, EPA added several new industrial classes to TRI reporting including mining, electric utilities, and commercial hazardous waste landfills. For the purpose of calculating the 50% PBT chemical reduction goal, this report excludes quantities from the 1998 newly reporting industries.)

Total Waste Quantity Reported to TRI (pounds)				
Chemical	1991*	1998	% Change	GPRA
1,2,4-TRICHLOROBENZENE	55,500	0	-100%	/
ANTHRACENE	5,885	580	-90%	/
CADMIUM AND CADMIUM COMPOUNDS	361,825	472,817	30%	
DIBENZOFURAN	0	3,094	--	
HEXACHLOROETHANE	14,342	0	-100%	/
LEAD AND LEAD COMPOUNDS	25,812,127	5,748,926	-78%	/
MERCURY AND MERCURY COMPOUNDS	511,435	4,472	-99%	/
NAPHTHALENE	493,988	476,407	-4%	
POLYCYCLIC AROMATIC COMPOUNDS*	4,410,367	269,167	-94%	/
PENTACHLOROPHENOL	6,777	232,132	3325%	
PHENANTHRENE*	51,042	2,939	-94%	/
<b>TOTAL</b>	<b>31,723,288</b>	<b>7,210,534</b>	<b>-77%</b>	<b>/</b>

\* EPA added the chemical group polycyclic aromatic compounds and phenanthrene in the 1995 reporting year, therefore 1995 TRI data is used as the baseline for measuring GPRA progress for these chemicals.



As shown on the chart and graph on the preceding page, Region 10 facilities reduced the reported quantity of persistent, bioaccumulative, and toxic chemicals by 77% between 1991 and 1998. Furthermore, facilities in Region 10 achieved a 50% reduction of waste for seven of the eleven PBT chemical groups measurable with TRI data. Region 10 commends state personnel and facilities in Alaska, Idaho, Oregon, and Washington for accomplishing this success. Region 10 invites partnership with states, industry, and public citizens to further reduce PBT chemicals, particularly the four chemicals for which Region 10 has not met the 50% reduction target: cadmium, dibenzofuran, naphthalene, and pentachlorophenol. For more information please contact Jeff Hunt, EPA Region 10, Office of Waste and Chemicals, 206-553-0256, [hunt.jeff@epa.gov](mailto:hunt.jeff@epa.gov).

## BACKGROUND

On November 9, 1998 the EPA Office of Solid Waste published the *Notice of Availability of Draft RCRA Waste Minimization PBT Chemical List* (63 FR 60332). Currently, the EPA Office of Solid Waste is revising and finalizing this list based on comments received from the November 9, 1998 Federal Register notice. Since a final comprehensive PBT list is not available, Region 10 selected a subset of chemicals on the November 9, 1998 list for further Regional investigation.

Under the Government Performance and Results Act (GPRA), the Environmental Protection Agency (EPA) committed to the following goal: ***GPRA Subobjective 4a: By 2005, reduce the most persistent, bioaccumulative, and toxic chemicals in our nation's hazardous waste streams by 50% as compared with a baseline year of 1991.*** This report is an attempt to quantify Region 10 progress towards the GPRA goal. This report uses EPA Toxic Release Inventory data to measure chemical releases. For more information about the Toxic Release Inventory system and database, please refer to the EPA internet site at <http://www.epa.gov/tri/>. EPA Region 10 obtained all data used in this report using publically available information from the EPA Envirofacts database <http://www.epa.gov/enviro/html/qmr.html> and the Right to Know Network (RTK) TRI database <http://www.rtknet.org/>.

This report defines environmental release as the sum total of reported releases to air, water, land, and transfers to publicly owned treatment works. The total waste definition is the sum total of environmental releases and offsite disposal, plus offsite and onsite recycling and treatment. In some cases, this report calculates an alternative measurement for GPRA reporting which accounts for, and subtracts, the amount of material recycled. However, since source reduction is generally preferable to recycling, this alternative measurement is for additional information only. At this time, Region 10 is not certain how EPA Headquarters will account for recycled quantities in GPRA goal progress measurement.

This report is the third in a series of Region 10 publications examining PBT chemical use and release in Alaska, Idaho, Oregon, and Washington. The other reports can be found at the following internet address:

<http://yosemite.epa.gov/R10/OWCM.NSF/0d511e619f047e0d88256500005bec99/6ad9c10eb8a06bc288256506007def78?OpenDocument>

Region 10 welcomes continued public, industry, and local government input on these reports. If you have comments or questions about any of these reports please contact Jeff Hunt, EPA Region 10, Office of Waste and Chemicals, 206-553-0256, [hunt.jeff@epa.gov](mailto:hunt.jeff@epa.gov). The following pages list the thirty PBT chemicals selected by Region 10, for GPRA goal progress measurement, and the use and release information for each of these chemicals as reported in the Toxic Release Inventory.

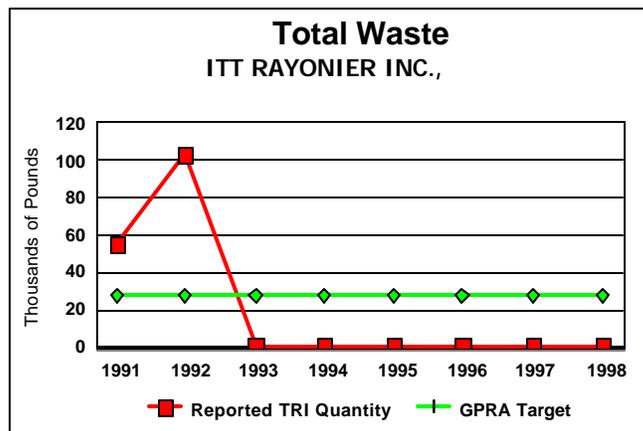
## 1.) 1,2,4 TRICHLOROBENZENE

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- CHEVRON PRODS. CO., RICHMOND BEACH ASPHALT REFY., 20555 RICHMOND BEACH DR. N.W., SEATTLE, WA 98177, (WAD000064568)
- ITT RAYONIER INC., GRAYS HARBOR DIV., 803 23RD ST., HOQUIAM, WA 98550, (WAD009249806)

### TRI Data Results:

- In the 1998 reporting year, Chevron Products filed a TRI Form A which certified that the annual release of 1,2,4-Trichlorobenzene did not exceed 500 pounds in 1998 and was not manufactured, processed, or otherwise used in an amount exceeding 1 million pounds in 1998.
- ITT Rayonier ended all TRI reporting in 1992. Shown below is a graph listing total 1,2,4-Trichlorobenzene waste reported to TRI and the 50% GPRA goal reduction target.



### Regional Progress towards GPRA Goal:

- Based on available TRI data, Region 10 has met the 50% reduction target set for 1,2,4-Trichlorobenzene.

## **2.) 1,2,4,5-TETRACHLOROBENZENE**

- Chemical not included in TRI as of reporting year 1998.

## **3.) 2,4,5-TRICHLOROPHENOL**

- Chemical included in TRI reporting since 1987, however no Region 10 facilities report use or release during the 1991-1998 reporting years.

## **4.) 4-BROMOPHENYL PHENYL ETHER**

- Chemical not included in TRI as of reporting year 1998.

## **5.) ACENAPHTHENE**

- Chemical not included in TRI as of reporting year 1998.

## **6.) ACENAPHTHYLENE**

- Chemical not included in TRI as of reporting year 1998.

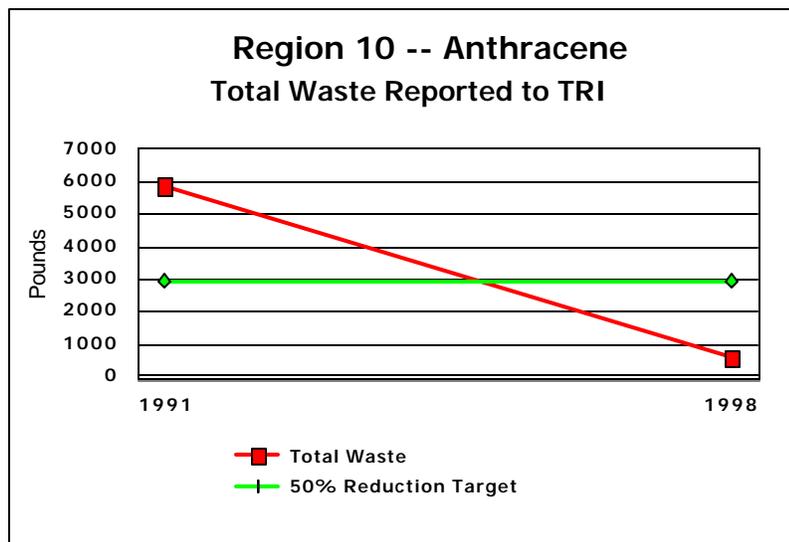
## 7.) ANTHRACENE

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- KOPPERS INDS. INC. PORTLAND TAR PLANT, 7540 N.W. ST. HELENS RD., PORTLAND, OR 972103663, (ORD027734359)
- REYNOLDS METALS CO. - TROUTDALE REDUCTION PLANT, 5100 N.E. SUNDIAL RD., TROUTDALE, OR 970609499, (ORD009412677)
- INTALCO ALUMINUM CORP., P.O. BOX 937, FERNDALE WA 982480937, (WAD009488131)
- REYNOLDS METALS CO., LONGVIEW REDUCTION PLANT, P.O. BOX 999, LONGVIEW WA 986327598, (WAD057068561)
- TOSCO REFINING CO., FERNDALE REFY., P.O. BOX 8, FERNDALE WA 98248 (WAD009250366)

### TRI Data Results:

- In the period 1991-1998, reported anthracene environmental release in Region 10 declined from 5405 pounds to 205 pounds, a 96% reduction. Total anthracene waste reported to TRI declined from 5885 pounds to 580 pounds, a 90% reduction.
- Four of the five facilities listed above did not report anthracene as of the 1998 reporting year. Koppers Industries was the only remaining Region 10 facility to report Anthracene to TRI in 1998.



Regional Progress towards GPRA Goal:

- Based on available TRI data, Region 10 has met the 50% reduction target for Anthracene.

**8.) BENZO(G,H,I)PERYLENE**

- Chemical not included in TRI as of reporting year 1998. On October 29, 1999 (64 FR 58666), EPA added Benzo(g,h,i)perylene to TRI reporting beginning with the 2000 reporting year.

## 9.) CADMIUM AND CADMIUM COMPOUNDS

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- FMC CORP., P.O. BOX 4111, POCA TELLO ID 83205, IDD070929518
- P4 PRODUCTION L.L.C., P.O. BOX 816, SODA SPRINGS ID 832760816, IDD081830994
- ECS COMPOSITES, P.O. BOX 188, GRANTS PASS OR 97526, ORD059497768
- ACHILLES USA INC., P.O. BOX 2287, EVERETT WA 98203, WAD988477022
- BIRMINGHAM STEEL CORP. - SEATTLE WA. STEEL DIV., 2424 S.W. ANDOVER, SEATTLE WA 981061100, WAD988487583
- BOC GASES GROUP, 4715 N.E. 78TH ST., VANCOUVER WA 986650905, WAD041268947
- BOEING COMMERCIAL AIRPLANE GROUP - EVERETT, P.O. BOX 3707, M/S 0H-00, SEATTLE WA 981242207, WAD041585464
- PACIFIC PROPELLER INC., 5802 S. 228TH ST., KENT WA 98032, WAD002788412
- SALMON BAY STEEL CORP., KENT DIV., 22011 84TH S., KENT WA 98032, WAD042480210
- SPECTRUM GLASS CO. INC., P.O. BOX 646, WOODINVILLE WA 980720646, WAD086248978

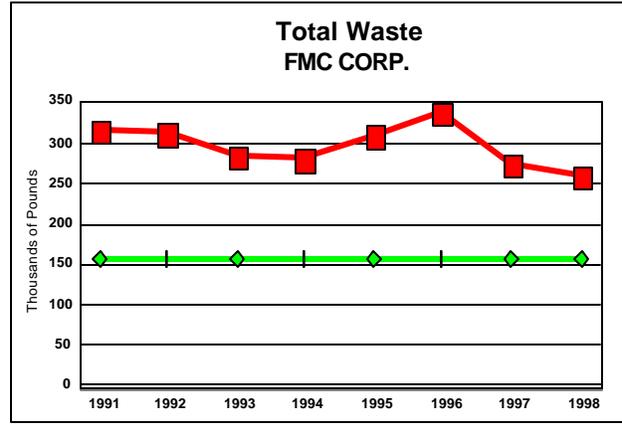
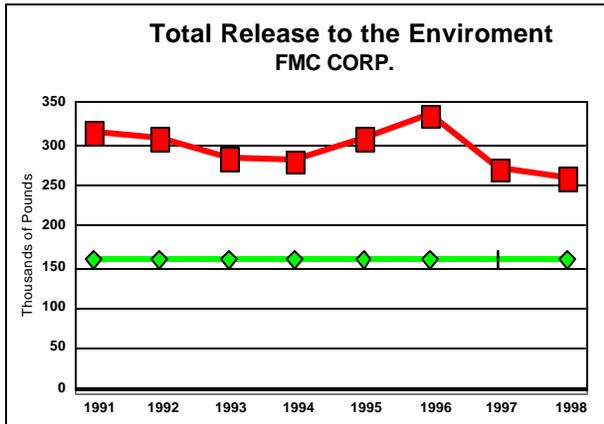
### Facilities added to TRI reporting in 1998:

- FORT KNOX MINE, P.O. BOX 73726, FAIRBANKS AK 997073726, AK0002281376
- KENNECOTT GREENS CREEK MINING CO., P.O. BOX 32199, JUNEAU AK 99801, AK0008923090
- RED DOG OPS., P.O. BOX 1230, KOTZEBUE AK 99752, AKD983067091
- ENVIROSAFE SERVICES OF IDAHO INC., P.O. BOX 400, GRAND VIEW ID 836240400, IDD073114654
- HECLA MINING CO. LUCKY FRIDAY MINE, P.O. BOX 31, MULLAN ID 838460031, IDD009424862
- CHEMICAL WASTE MANAGEMENT OF THE NORTHWEST INC., 17629 CEDAR SPRINGS LN., ARLINGTON, OR 97812, ORD089452353

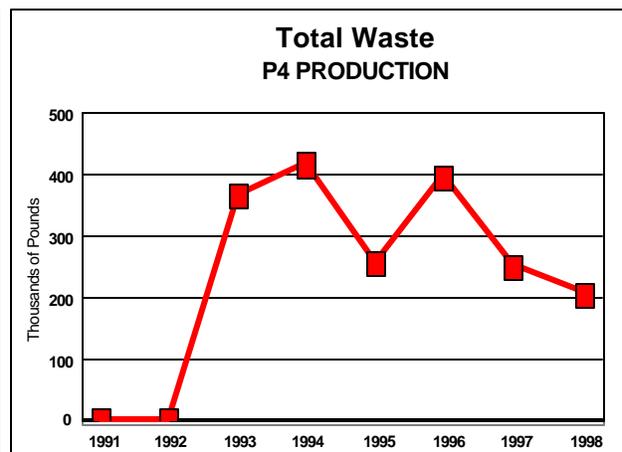
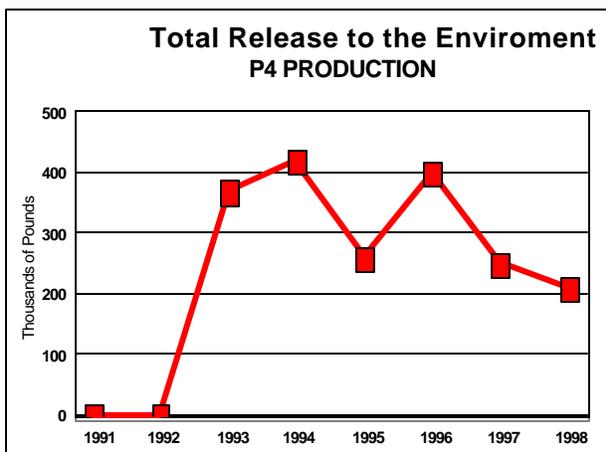
### TRI Data Results:

- In 1991, six Region 10 facilities reported cadmium or cadmium compound use or release to TRI. Five of the six facilities (ACHILLES USA INC, BIRMINGHAM STEEL CORP, BOEING COMMERCIAL AIRPLANE GROUP - EVERETT, PACIFIC PROPELLER INC, AND SALMON BAY STEEL CORP) no longer report cadmium use or release to TRI. The remaining facility (FMC CORP)

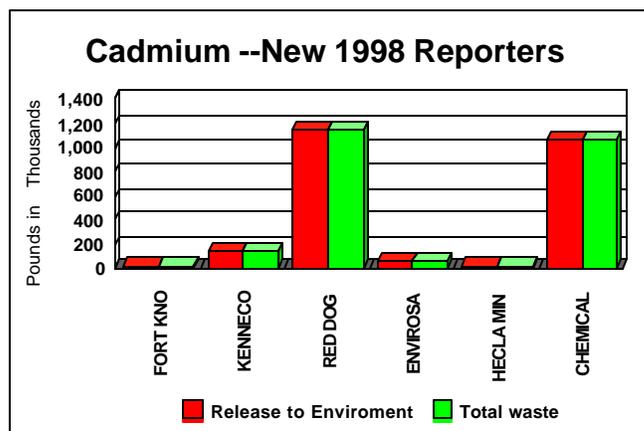
continues to report large volumes of cadmium to TRI.



- In the period 1992-1997, four additional facilities reported cadmium to TRI. Two of the facilities (ECS COMPOSITES AND BOC GASES GROUP) had one time only cadmium releases reported to TRI. Two other facilities (SPECTRUM GLASS CO. INC AND P4 PRODUCTION L.L.C.) show ongoing production-related use or release of cadmium beginning with reporting years 1996 and 1993, respectively. The P4 Production facility experienced TRI reporting error problems in the past, so the lack of cadmium data for the years 1991 and 1992 may be the result of reporting error. According to available RCRA permit information, there were no major process changes that would account for the spike in TRI reported cadmium beginning in 1993. The graph below shows TRI cadmium information for the P4 Production facility.

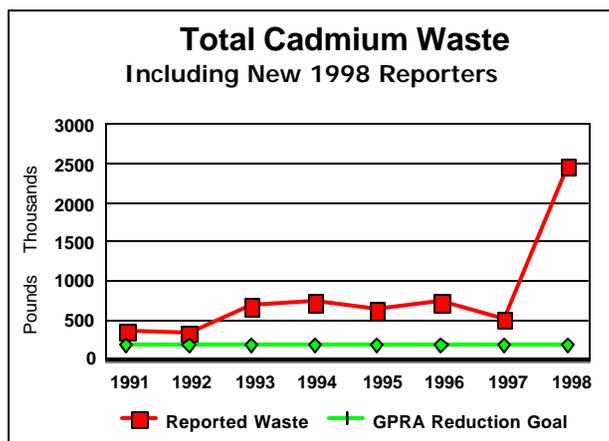


- Beginning in reporting year 1998, EPA required a number of new industry classes to report to TRI, including mining operations and commercial hazardous waste disposal facilities. The graph below shows cadmium information for the Region 10 facilities added to TRI reporting in 1998.

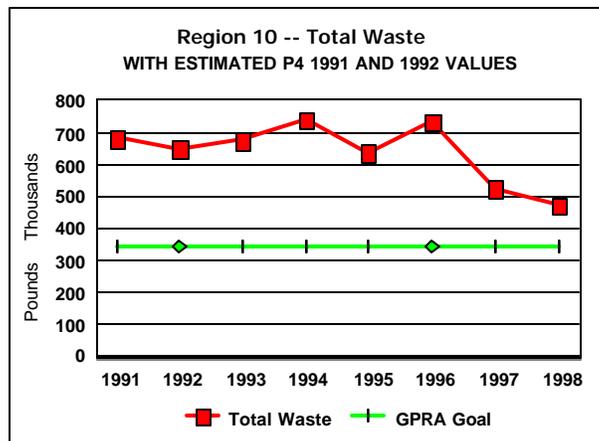
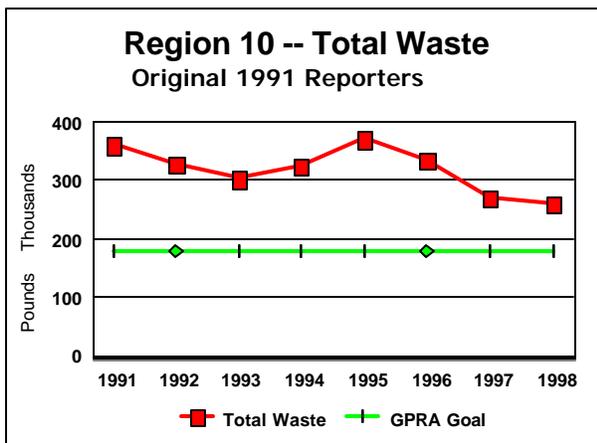


Regional Progress towards GPRA Goal:

- With the addition of new industrial classes added to TRI in 1998, the quantity of cadmium and cadmium compounds reported in Region 10 increased dramatically. The graph below shows GPRA goal progress with these facilities included in the measurement. In the graphs on the following page, measurement of GPRA goal progress excludes the quantity of cadmium and cadmium compounds reported by these industrial classes, since there is no 1991 baseline to evaluate waste minimization progress at these facilities.



- The three graphs shown below all exclude the quantity of cadmium and cadmium compounds reported by industrial classes newly added to TRI in 1998. The first graph shows cadmium reduction at the six facilities that originally reported to TRI in 1991. The second graph shows cadmium reduction using the original 1991 baseline, however it adds the quantity of cadmium reported by the four facilities that began reporting after 1991. The third graph is identical to the second graph, however it shows adjusted 1991 and 1992 data to reflect the likely reporting error by P4 PRODUCTION L.L.C.. The adjustment was made by substituting the 1993-1998 average quantity of cadmium reported at P4 PRODUCTION L.L.C. for the unreported 1991 and 1992 TRI reporting years.



- Based on available TRI data, Region 10 has not met the GPRA 50% reduction target for cadmium and cadmium compounds.

## 10.) DIBENZOFURAN

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- KOPPERS INDS. INC. PORTLAND TAR PLANT, 7540 N.W. ST. HELENS RD., PORTLAND OR 972103663, (ORD027734359)

### TRI Data Results:

- In the 1997 reporting year, Koppers Industries Inc. filed a TRI Form A which certified that the annual release of dibenzofuran did not exceed 500 pounds in 1997 and was not manufactured, processed, or otherwise used in an amount exceeding 1 million pounds in 1997.
- In the 1998 reporting year, Koppers Industries Inc. reported environmental releases of 2,741 pounds of dibenzofuran through stack air emissions, 3 pounds of releases through landfill/disposal surface impoundment, and 350 pounds of on-site recycling.

### Regional Progress towards the GPRA Goal:

- In the period 1991-1998, Koppers Industries was the only Region 10 facility to report dibenzofuran to TRI. Since Koppers Industries did not begin reporting dibenzofuran until 1997, the 1991 baseline amount is zero. Therefore, based on available TRI data, Region 10 has not met the GPRA 50% reduction target for dibenzofuran.

## 11.) DIOXINS/FURANS

- Chemical not included in TRI as of reporting year 1998. On October 29, 1999 (64 FR 58666), EPA added dioxin and dioxin-like compounds to TRI reporting beginning with the 2000 reporting year.

## 12.) ENDOSUFAN, BETA-/ENDOSULFAN ALPHA-

- Chemical not included in TRI as of reporting year 1998.

### **13.) FLUORENE**

- Chemical not included in TRI as of reporting year 1998.

### **14.) HEPTACHLOR / HEPTACHLOR EPOXIDE**

- Chemical included in TRI reporting since 1987, however no facilities reported use or release in Region 10 during 1991-1998. On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for heptachlor to 10 pounds beginning with the 2000 reporting year.

### **15.) HEXACHLOROBENZENE**

- Chemical included in TRI reporting since 1987, however no facilities reported use or release in Region 10 during 1991-1998. On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for hexachlorobenzene to 10 pounds beginning with the 2000 reporting year.

### **16.) HEXACHLORO-1,3-BUTADIENE**

- Chemical included in TRI reporting since 1987, however no facilities report use or release in Region 10 during 1991-1998.

### **17.) HEXACHLOROCYCLOHEXANE, GAMMA-**

- Chemical not included in TRI as of reporting year 1998.

## 18.) HEXACHLOROETHANE

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- NORTHWEST ALUMINUM CO. INC., 3313 W. SECOND ST., THE DALLES OR 97058, (ORD052221025)

### TRI Data Results:

- In the 1991, Northwest Aluminum Co. reported 14,342 pounds of Hexachloroethane stack air emissions to the environment. In 1992, this amount decreased to 12,480 pounds.
- In the period 1993-1998, no Region 10 facilities reported Hexachloroethane to the Toxic Release Inventory.

### Regional Progress towards the GPRA Goal:

- Based on available 1998 TRI data, Region 10 has met the GPRA 50% reduction target for the chemical Hexachloroethane.

## 19.) LEAD AND LEAD COMPOUNDS

### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- BLOUNT INC., CCI OPS., P.O. BOX 856, LEWISTON, ID 83501, (IDD009066481)
- BLOUNT INC., SOUTHPORT OPS., P.O. BOX 856, LEWISTON, ID 83501, (IDD984669424)
- BLOUNT INC., SPEER OPS, P.O. BOX 856, LEWISTON, ID 83501, (IDD984666669)
- COMPUTROL INC., 499 E. CORPORATE DR., MERIDIAN, ID 83642, (NA)
- HEWLETT-PACKARD CO., P.O. BOX 15, BOISE, ID 83707, (IDD990727471)
- MCMS INC., 16399 FRANKLIN RD., NAMPA, ID 836879393, (IDR000001727)
- P4 PRODUCTION L.L.C., P.O. BOX 816, SODA SPRINGS, ID 832760816, (IDD081830994)
- U.S. DOE IDAHO NATL. ENG. & ENV. LAB, 850 ENERGY DR., MS 1146, IDAHO FALLS, ID 834011562, (ID4890008952)
- ALLEN FRUIT CO. INC., 500 E. ILLINOIS ST., NEWBERG, OR 97132, (NA)
- CASCADE STEEL ROLLING MILLS, INC., 3200 N. HWY. 99W, MC MINNVILLE, OR 97128, (ORD045776432)
- JOHNSON CONTROLS BATTERY, GROUP INC., 800 N.W. 3RD AVE., CANBY, OR 97013, (ORD010746402)
- MERIX CORP., P.O. BOX 3000, M/S F4-196, FOREST GROVE, OR 971160300, (ORD980725592)
- MORTON INTL. INC., NORRIS PAINTS/TMT, 1675 COMMERCIAL ST. N.E., SALEM, OR 97303, (ORD009047754)
- NOSLER INC., P.O. BOX 671, BEND, OR 97709, (ORD980834642)
- OREGON STEEL MILLS INC., P.O. BOX 2760, PORTLAND, OR 97208, (ORD009106055)
- STANLEY HYDRAULIC TOOLS, 3810 S.E. NAEF RD., MILWAUKIE, OR 97267, (ORD009056904)
- SULZER BINGHAM PUMPS INC., 2800 N.W. FRONT AVE., PORTLAND, OR 97210, (ORD009024605)
- BULLSEYE GLASS CO., 3722 S.E. 21ST AVE., PORTLAND, OR 97202, (NA)
- FREIGHTLINER CORP.(PMP), 5400 N. BASIN AVE., PORTLAND, OR 972177608, (ORD003991478)
- GALVANIZERS CO., 2406 N.W. 30TH AVE., PORTLAND, OR 97210, (ORD009021239)
- PRAEGITZER IND. INC., 1270 S.E. MONMOUTH CUT-OFF RD, DALLAS, OR 97338, (ORD049376189)
- SMURFIT NEWSPRINT CORP., NEWBERG MILL, P.O. BOX 70, NEWBERG, OR 97132, (ORD009620378)

- VALMONT COATINGS - PACIFIC STATES GALVANIZING, P.O BOX 2060, TUALATIN, OR 97062 (OR0000935874)
- ARCO CHERRY POINT REFINERY, 4519 GRANDVIEW RD., FERNDALE, WA 982481127, (WAD069548154)
- BARDAHL MFG. CORP., P.O. BOX 70607, SEATTLE, WA 981070607, (NA)
- BAY ZINC CO. INC., P.O. BOX 167, MOXEE CITY, WA 98936, (WAD027530526)
- BOEING COMMERCIAL AIRPLANE, GROUP EVERETT DIV, P.O. BOX 3707 MS OH-00, SEATTLE, WA 981242207, (WAD041585464)
- BP OIL CO., FERNDALE REFINERY, 3901 UNICK RD., FERNDALE, WA 982480008, (WAD009250366)
- DYNO BATTERY INC., 4248 23RD AVE. W., SEATTLE, WA 98199, (NA)
- GO/DAN INDUSTRIES, 7951 2ND AVE. S., SEATTLE, WA 981084204, (WAD980982540)
- JOHNSON MATTHEY ELECTRONICS, INC., 15128 E. EUCLID AVE., SPOKANE, WA 992161801, (WAD000064642)
- NELSON IRRIGATION CORP., P.O. BOX 169, WALLA WALLA, WA 99362, (WAD059949362)
- SALMON BAY STEEL CORP., 2424 S.W. ANDOVER, SEATTLE, WA 981061100, (WAD988487583)
- SALMON BAY STEEL CORP., KENT DIV., 22011 84TH S., KENT, WA 98032, (WAD042480210)
- SAMSON OCEAN SYS. INC., 2090 THORNTON RD., FERNDALE, WA 98248, (WAD081487753)
- SEAFAB METAL CORP., 2700 16TH AVE. S.W., SEATTLE, WA 98134, (WAD048681316)
- SHELL OIL CO., ANACORTES REFINERY, W. MARCH POINT RD., ANACORTES, WA 98221, (WAD009275082)
- TEXACO, PUGET SOUND PLANT, P.O. BOX 622, ANACORTES, WA 982210622, (WAD009276197)
- VIOX CORP, 6701 6TH AVE. S., SEATTLE, WA 981083438, (WAD053814091)
- ALADDIN HEARTH PRODS., 401 N. WYNNE, COLVILLE, WA 99114, (WAD988481925)
- BIRMINGHAM STEEL CORP. SEATTLE WA. STEEL DIV, 2424 S.W. ANDOVER, SEATTLE, WA 981061100, (WAD988487583)
- CANAM STEEL CORP., SUNNYSIDE WA PLANT, 2002 MORGAN RD., SUNNYSIDE, WA 98944, (WAH000001495)
- DAVIS WIRE CORP., 19411 80TH AVE. S., KENT, WA 980321190, (WAD051247716)

- FABRICATED PRODS. INC. DBA SEAFAB METALS CO., BLDG. 2575 W. WING #7, 3201 LOWER RIVER RD, VANCOUVER, WA 98660, (WAH000007476)
- JORGENSEN FORGE CORP, 8531 E. MARGINAL WAY S., TUKWILA, WA 98108, (WAD000602813)
- NON-FERROUS METALS INC., 230 S. CHICAGO ST., SEATTLE, WA 981084366, (NA)
- U.S. NAVY PUGET SOUND, NAVAL SHIPYARD, 1400 FARRAGUT AVE., BREMERTON, WA 983145001, (WA2170023418)

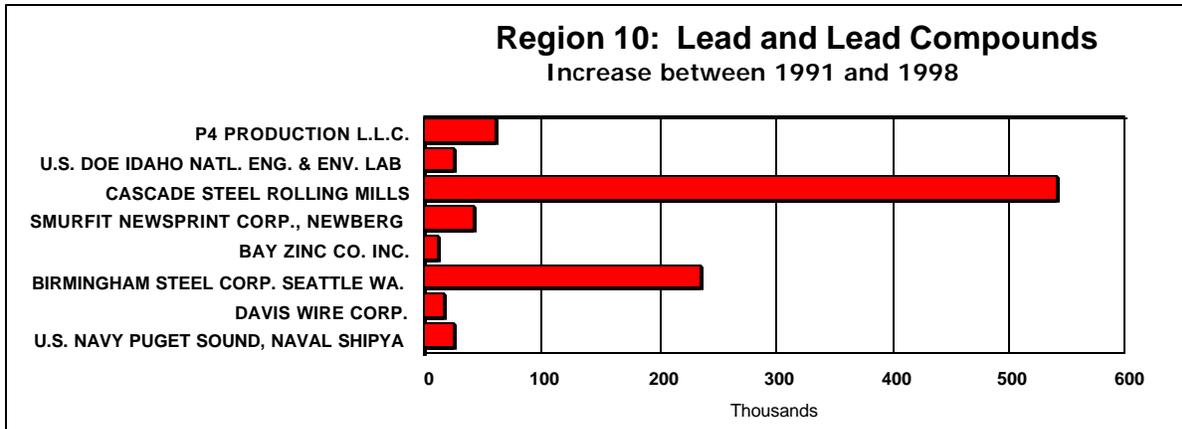
Facilities added to TRI reporting in 1998:

- KENNECOTT GREENS CREEK MINING CO., P.O. BOX 32199, JUNEAU, AK 99801, (AKD983067307)
- RED DOG OPS., P.O. BOX 1230, KOTZEBUE, AK 99752, (AKD983073388)
- ENVIROSAFE SERVICES OF IDAHO INC., P.O. BOX 400, GRAND VIEW, ID 836240400 (IDD073114654)
- HECLA MINING CO. LUCKY FRIDAY MINE, P.O. BOX 31, MULLAN, ID 838460031, (IDD009424862)
- SILVER VALLEY RESOURCES, P.O. BOX 440, WALLACE, ID 838730440, (IDD043345776)
- SUNSHINE MINE, P.O. BOX 1080, KELLOGG, ID 83837, (NA)
- CHEMICAL WASTE MANAGEMENT OF THE NORTHWEST INC., 17629 CEDAR SPRINGS LN., ARLINGTON, OR 97812, (ORD089452353)
- KINROSS DELAMAR MINE, P.O. BOX 52, JORDAN VALLEY, OR 97910, (IDD980722359)
- BURLINGTON ENVIRONMENTAL INC, 734 S. LUCILE ST., SEATTLE, WA 98108, (WAD000812909)
- BURLINGTON ENVIRONMENTAL INC, 20245 77TH AVE. S, KENT, WA 98032, (WAD991281767)
- CENTRALIA POWER PLANT, 913 BIG HANAFORD RD., CENTRALIA, WA 985319111, (WAD000643494)
- CITY OF TACOMA STEAM PLANT NO 2, 1171 TAYLOR WAY, TACOMA, WA 98421, (WAD980383442)
- KETTLE RIVER OPS. MILL, 363 FISH HATCHERY RD., REPUBLIC, WA 99166, (WAD988471967)

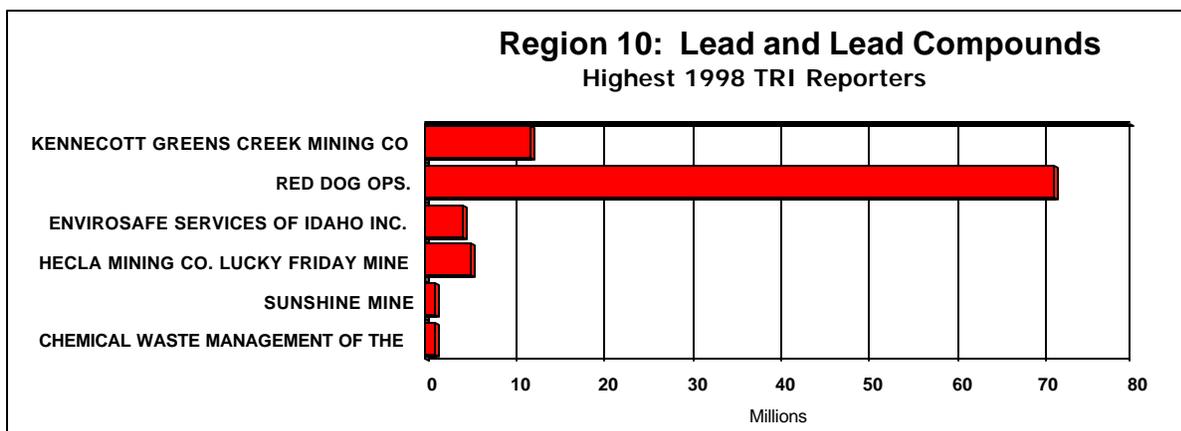
\*\*\* On January 17, 2001 (66 FR 4500), EPA lowered the TRI reporting threshold for lead to 100 pounds, scheduled to begin with the 2001 reporting year.

TRI Data Results:

- The graph below shows the Region 10 facilities with the greatest increase in TRI reported lead or lead compound waste between 1991 and 1998. The waste quantities below exclude waste that is recycled. Note: Federal facilities such as U.S. NAVY PUGET SOUND and U.S. DOE IDAHO NATL. ENG. & ENV. LAB were first required to report to TRI in 1994, therefore there is no comparative 1991 baseline for these facilities.



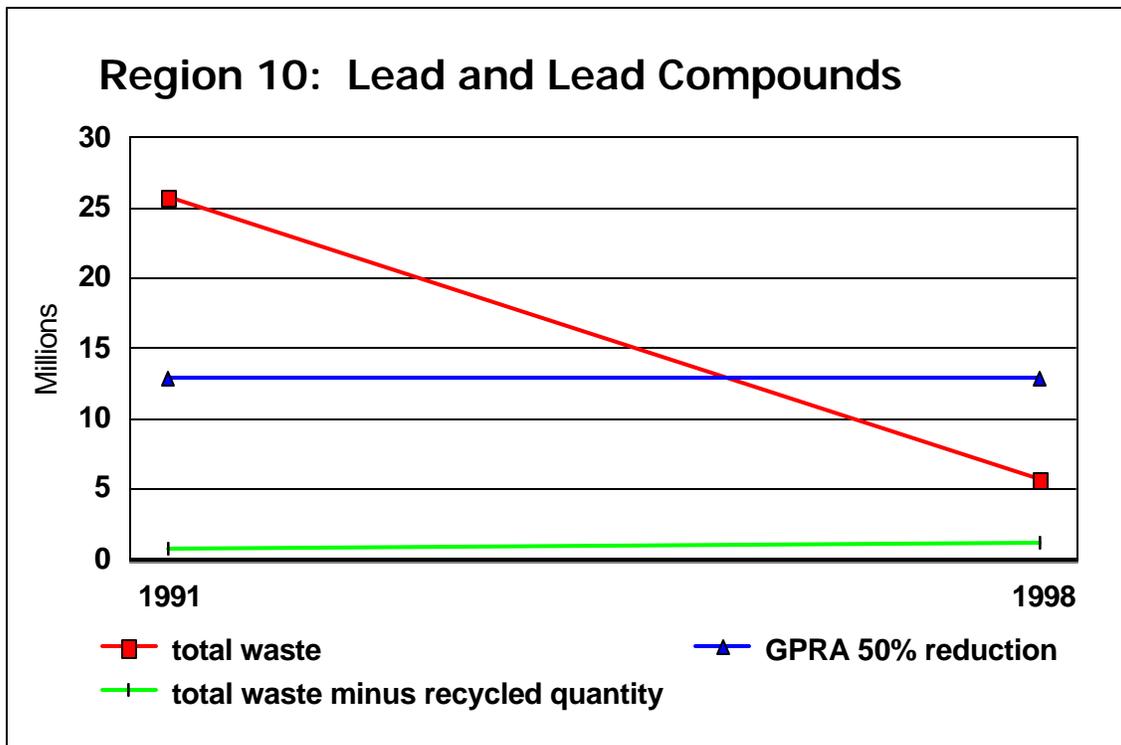
- Beginning in TRI reporting year 1998, a number of industrial classes such as mining, hazardous waste disposal, and electric utilities were required to begin reporting to the Toxic Release Inventory. In 1998, these facilities reported the highest quantities of lead and lead compounds. The graph below shows the six Region 10 facilities that reported over one million pounds of lead or lead compound waste to TRI.





Regional Progress towards the GPRA Goal:

- New EPA reporting requirements caused several Region 10 facilities, including mining, electric utilities, and RCRA hazardous waste landfills to report to TRI for the first time in 1998. These newly added facilities account for 96 million pounds (99%) of the lead or lead compounds reported in Region 10. Since no 1991 baseline exists for these facilities, the graph below excludes newly reporting facilities from calculation of the GPRA 50% reduction target.
- The graph below shows Region 10 progress towards the 50% GPRA reduction target. Excluding the newly reporting industrial classes mentioned above, Region 10 facilities reduced reported lead and lead compound waste from 26 million pounds in 1991 to 6 million pounds in 1998 (78% reduction).
- An alternative measure of the 50% GPRA reduction target is total waste minus the amount recycled. Using this measurement, total waste minus recycling increased from 815,202 pounds in 1991 to 1,254,667 pounds in 1998 (54% increase).



## 20.) MERCURY AND MERCURY COMPOUNDS

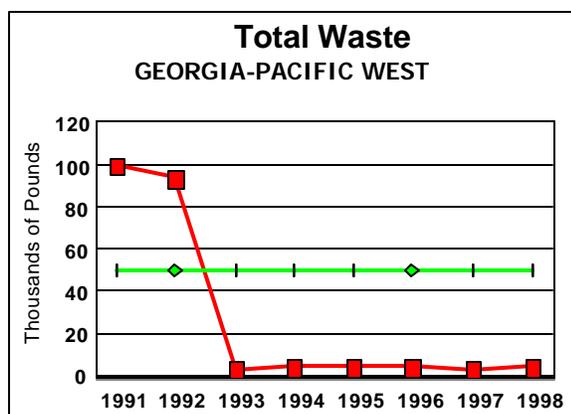
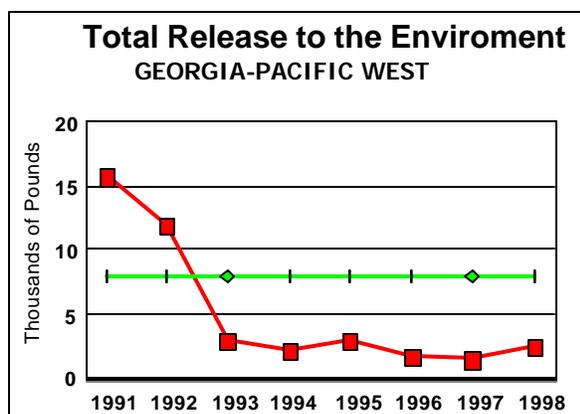
### Facilities reporting use or release of this chemical to TRI during 1991-1998:

- GEORGIA-PACIFIC WEST INC., P.O. BOX 1236, BELLINGHAM WA 982271236, (WAD009252297)
- PCC STRUCTURALS INC. SMALL STRUCTURALS BUSINESS OPERATION, 4600 S.E. HARNEY DR., PORTLAND OR 97206, (ORD000773937)

On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for mercury and mercury compounds to 10 pounds beginning with the 2000 reporting year.

### TRI Data Results:

- In the 1991 reporting year, PCC Structurals reported 411,685 pounds of mercury to TRI. The TRI reported mercury was in the following categories: 250 pounds air stack emissions, 3,860 pounds landfill disposal, and 407,325 pounds off-site recycling. In the period 1992-1998, PCC Structurals reported no mercury emissions or use to TRI.
- In the period 1991-1998, Georgia Pacific decreased both releases to the environment and total mercury waste reported to TRI as shown in the graphs below. The horizontal line represents the 50% Government Performance and Results Act (GPRA) reduction target.



### Regional Progress towards the GPRA Goal:

- Based on available 1998 TRI data, Region 10 has met the GPRA 50% reduction target for Mercury.

## 21.) METHOXYCHLOR

- Chemical included in TRI reporting since 1987, however no facilities report use or release in Region 10 during 1991-1998. On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for methoxychlor to 100 pounds beginning with the 2000 reporting year.

## 22.) NAPHTHALENE

### Facilities reporting use or release of Naphthalene to TRI in 1991:

- ANODIZING INC., COATINGS DIV., 5325 N.E. SKYPORT WAY, PORTLAND, OR 972181243, (ORD982656076)
- ARCO CHERRY POINT REFINERY, 4519 GRANDVIEW RD., FERNDALE, WA 982481127, (WAD069548154)
- BOEING CO., 7500 E. MARGINAL WAY S., SEATTLE, WA 98108, (WAD980982037)
- BP OIL CO/TOSCO REFINING CO., FERNDALE REFINERY, 3901 UNICK RD., FERNDALE, WA 982480008, (WAD009250366)
- CHEVRON PRODS. CO., RICHMOND BEACH ASPHALT REFY., 20555 RICHMOND BEACH DR. N.W., SEATTLE, WA 98177, (WAD000064568)
- CHEVRON USA INC., ALASKA REFY., MILE 22.5 N. RD., KENAI, AK 99611, (AKD009266149)
- SOLVAY INTEROX INC., LONGVIEW SITE, 3500 INDUSTRIAL WAY, LONGVIEW, WA 986329482, (WAD982654881)

### Facilities that began TRI reporting between 1992-1997:

- ACHILLES USA INC., 1407 80TH ST. S.W., EVERETT, WA 982030287, (NA)
- BETZDEARBORN-WASHOUGAL, P.O. BOX 168, WASHOUGAL, WA 98671, (WAD000711598)
- BHP COATED STEEL CORP., 222 W. KALAMA RIVER RD., KALAMA, WA 98625, (WAH000000455)
- BOEING COMMERCIAL AIRPLANE GROUP - EVERETT, P.O. BOX 3707 MS OH-00, SEATTLE, WA 981242207, (WAD041585464)
- BOEING COMMERCIAL AIRPLANE GROUP - PLANT 2, P. O. BOX 3707, M/S 63-41, SEATTLE, WA 981242207, (WAD009256819)

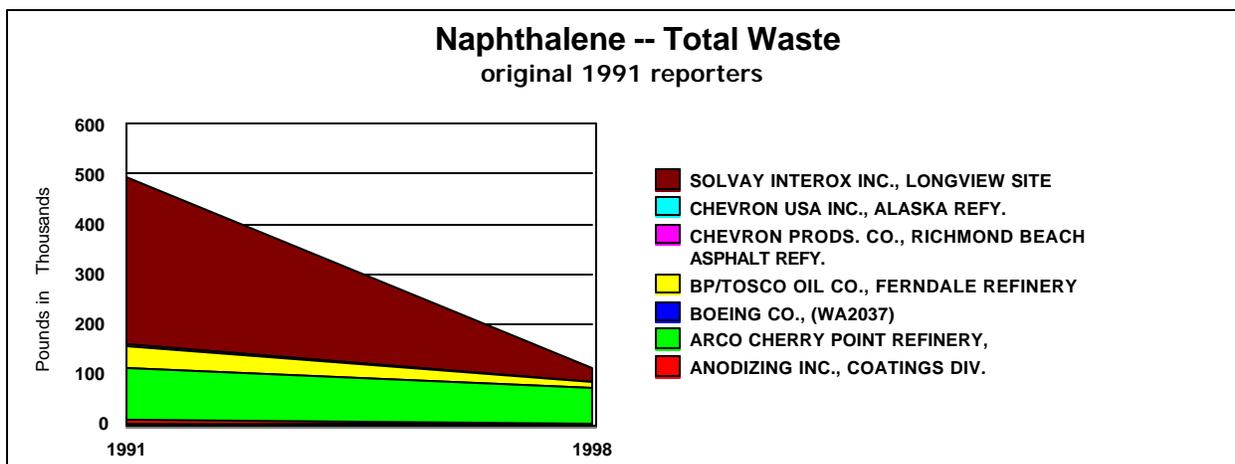
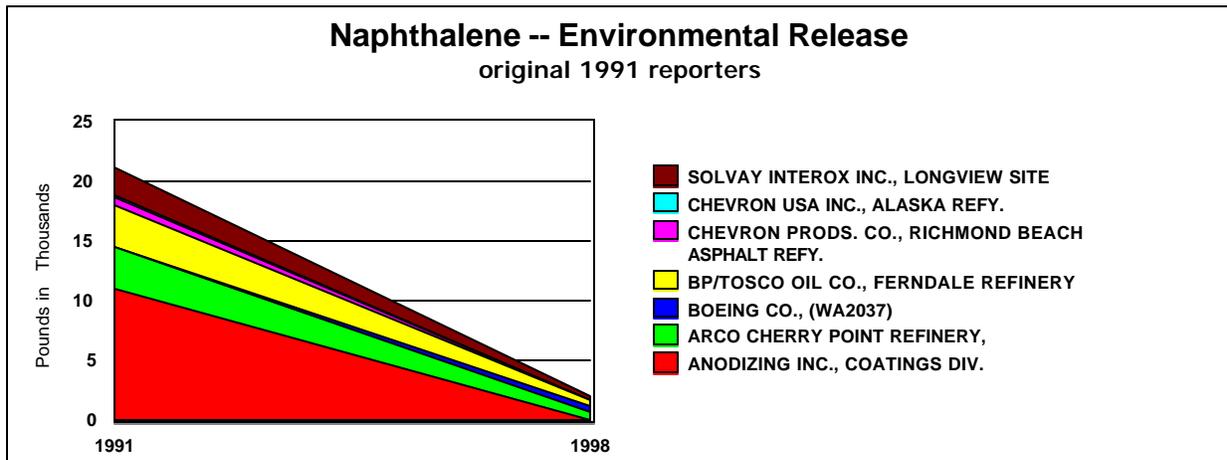
- BOEING COMMERCIAL AIRPLANE GROUP - RENTON, P. O. BOX 3707, M/S 63-41, SEATTLE, WA 981242207, (WAD009262171)
- CHEVRON USA PRODS. CO. WILLBRIDGE ASPHALT REFY., 5501 N.W. FRONT AVE., PORTLAND, OR 97210, (ORD009031873)
- EQUILON PUGET SOUND REFINING CO., P.O. BOX 622, ANACORTES, WA 982210622, (WA0001312750)
- KOPPERS INDS. INC. PORTLAND TAR PLANT, 7540 N.W. ST. HELENS RD., PORTLAND, OR 972103663, (ORD027734359)
- TESORO NORTHWEST CO., P. O. BOX 700, ANACORTES, WA 98221, (WAD009275082)
- U.S. OIL & REFINING CO., P.O. BOX 2255, TACOMA, WA 984012255, (WAD009252719)

Facilities that began TRI reporting in 1998:

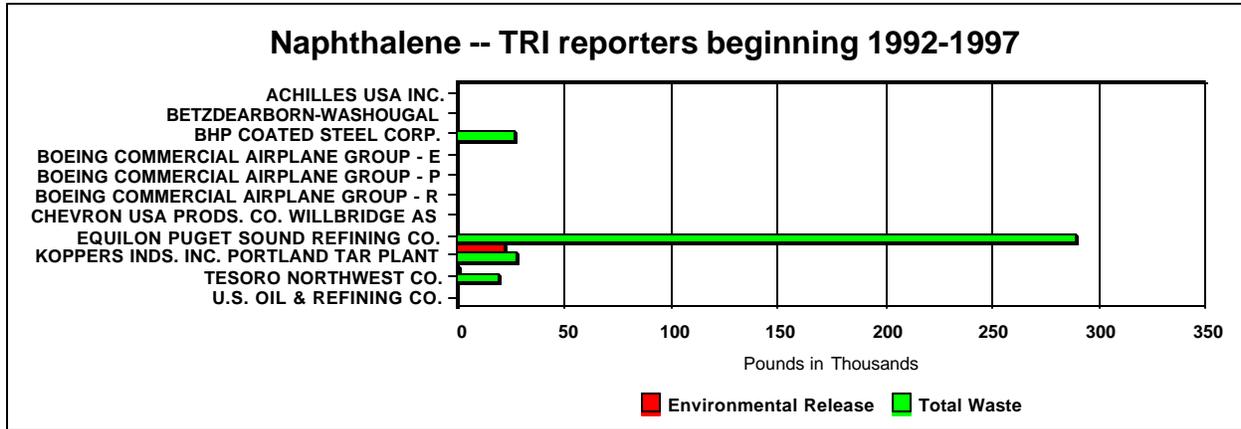
- ARCO PRODS. CO. PORTLAND TERMINAL, P.O. BOX 83409, PORTLAND, OR 97283, (ORD052216603)
- ARCO PRODS. CO. - SEATTLE TERMINAL, P.O. BOX 3926, SEATTLE, WA 98124, (WAD009590779)
- BURLINGTON ENVIRONMENTAL INC., 1701 E. ALEXANDER AVE., TACOMA, WA 98421, (WAD020257945)
- BURLINGTON ENVIRONMENTAL INC., 734 S. LUCILE ST., SEATTLE, WA 98108, (WAD000812909)
- CHEMCENTRAL/PORTLAND, 10821 N. LOMBARD ST., PORTLAND, OR 972030158, (ORD000711671)
- KINROSS DELAMAR MINE, P.O. BOX 52, JORDAN VALLEY, OR 97910, (IDD980722359)
- TOSCO PORTLAND TERMINAL, P.O. BOX 76, PORTLAND, OR 97207, (ORD087458196)
- TOSCO, RENTON TERMINAL, 2423 LIND AVE. S.W., RENTON, WA 98055, (WAD000641530)

TRI Data Results:

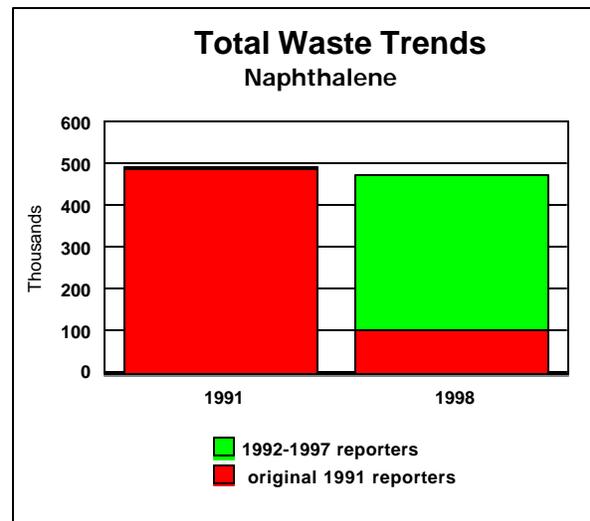
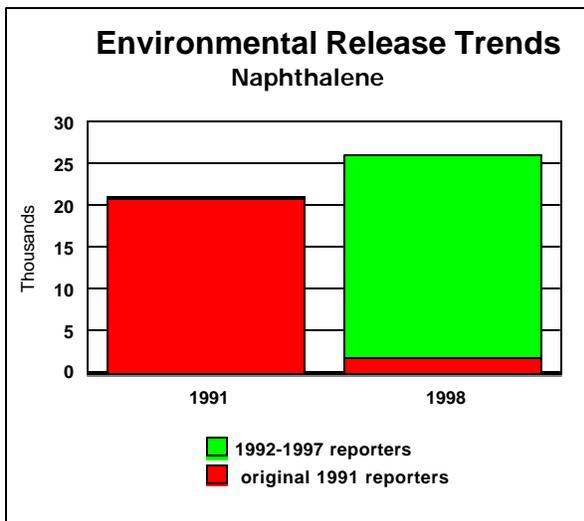
- In 1991, seven Region 10 facilities reported use or release of naphthalene to TRI. By the 1998 TRI reporting cycle, these seven facilities reduced TRI reported environmental release and total waste by 91% and 71%, respectively.



- The eleven Region 10 facilities shown below did not report naphthalene use or release in the 1991 GPRA baseline reporting year. However, these eleven facilities began reporting naphthalene to TRI between 1992-1997. The graph below shows 1998 total reported environmental release and waste information for these facilities.



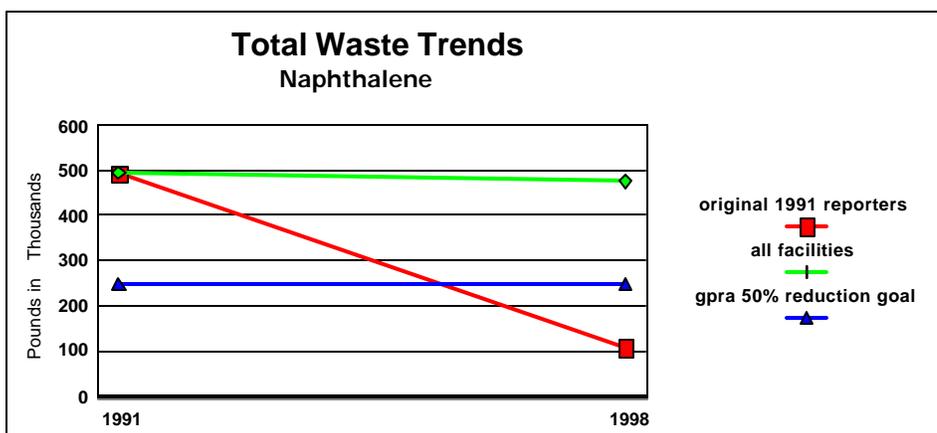
- Due mainly to the 22,099 pounds of reported environmental release of naphthalene by Koppers Ind. Inc, environmental release trends from 1991-1998 show a 26% increase in reported naphthalene. Similarly, 1991-1998 trends show only a 4% reduction in total reported naphthalene waste, due to the 290,127 pounds of naphthalene waste reported by Equilon Puget Sound Refining Company in 1998. However, 99.96% of the naphthalene waste reported by Equilon Puget Sound Refining Company in 1998, was recycled.



- Effective in the 1998 reporting year, EPA added several additional industrial classes to TRI reporting: metal mining (SIC code 10, except for SIC codes 1011,1081, and 1094), coal mining (SIC code 12, except for 1241 and extraction activities), electrical utilities that combust coal and/or oil (SIC codes 4911, 4931, and 4939), Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste treatment and disposal facilities (SIC code 4953), chemicals and allied products wholesale distributors (SIC code 5169), petroleum bulk plants and terminals (SIC code 5171), and solvent recovery services (SIC code 7389). The new reporting requirements resulted in eight additional Region 10 facilities reporting to TRI for naphthalene, however environmental release and total waste reported by these facilities was minimal, 390 lbs. and 674 lbs., respectively.

Regional Progress towards the GPRA Goal:

- The graph below shows aggregate waste reduction trends for Region 10 facilities. The seven Region 10 facilities, which originally reported naphthalene to TRI during the 1991 baseline year, reduced total waste well beyond the GPRA goal (-78%). However, additional naphthalene quantities, from facilities that began TRI reporting after 1991, nearly equal the total reduction from the original 1991 reporting facilities. Due to the 22,099 pounds of environmental release reported by the KOPPERS INDS. INC. PORTLAND TAR PLANT, an alternative measurement of total waste that excludes recycled quantities, increased 84% from 1991 to 1998.



## 23.) POLYCYCLIC AROMATIC COMPOUNDS

### Facilities reporting Polycyclic Aromatic Compounds to TRI in 1995:

- ALCOA, WENATCHEE WORKS, 6200 MALAGA HWY., MALAGA, WA 98828, (WAD009270794)
- KAISER ALUMINUM & CHEM. CORP., MEAD WORKS, 2111 E. HAWTHORNE RD., MEAD, WA 99021, (WAD000065508)
- KAISER ALUMINUM & CHEMICAL, CORP., 3400 TAYLOR WAY, TACOMA, WA 984214396, (WAD001882984)
- REYNOLDS METALS CO., 4029 INDL. WAY, LONGVIEW, WA 98632, (WAD057068561)
- SHELL OIL CO., ANACORTES REFINERY, W. MARCH POINT RD., ANACORTES, WA 98221, (WAD009275082)
- TEXACO, PUGET SOUND PLANT, 600 S. TEXAS RD., ANACORTES, WA 982210622, (WAD009276197)

### Facilities reporting Polycyclic Aromatic Compounds after 1995:

- KOPPERS INDS. INC. PORTLAND TAR PLANT, 7540 N.W. ST. HELENS RD., PORTLAND, OR 972103663, (ORD027734359)
- INTALCO ALUMINUM CORP., P.O. BOX 937, FERNDALE, WA 982480937, (WAD009488131)
- REYNOLDS METALS CO., 5100 N.E. SUNDIAL RD., TROUTDALE, OR 970609499, (ORD009412677)

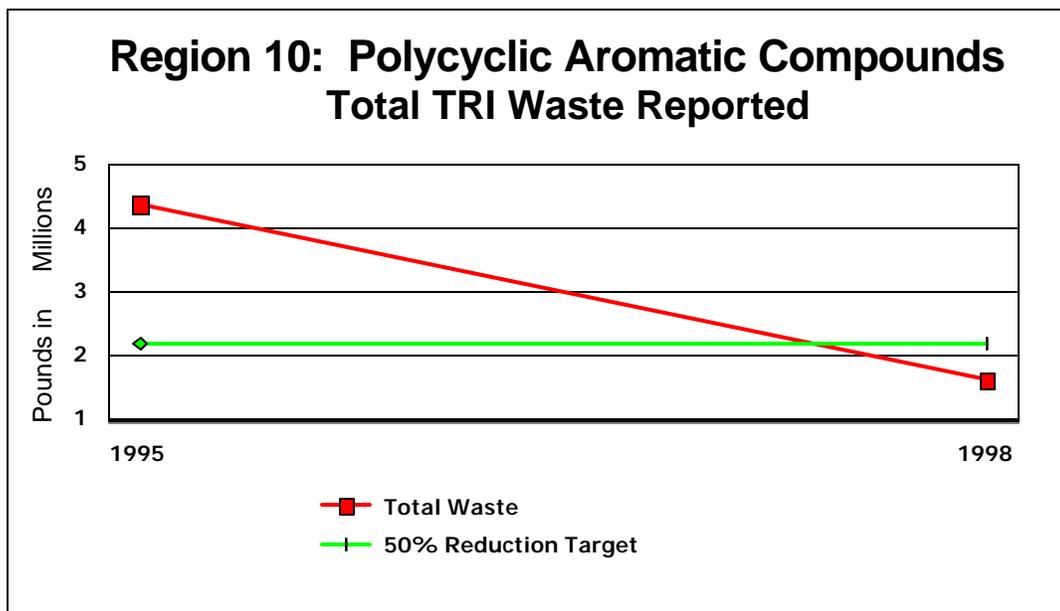
### Facilities added to TRI reporting in 1998:

- ENVIROSAFE SERVICES OF IDAHO INC., P.O. BOX 400, GRAND VIEW, ID 836240400, (IDD073114654)
- CHEMICAL WASTE MANAGEMENT OF THE NORTHWEST INC., 17629 CEDAR SPRINGS LN., ARLINGTON, OR 97812, (ORD089452353)

On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for polycyclic aromatic compounds to 100 pounds beginning with the 2000 reporting year.

TRI Data Results:

- EPA added the Polycyclic Aromatic Compound (PAC) group to TRI reporting in 1995. For the purpose of this report, data for the 1995 TRI reporting year is used as the GPRA baseline, rather than 1991 for this class of chemicals. Polycyclic Aromatic Compounds are also referred to as Polycyclic Aromatic Hydrocarbons (PAHs). For the purpose of this report, these two terms are used interchangeably.
- Between the 1995 and 1998 TRI reporting years, the Alcoa Wenatchee Works facility reduced reported total Polycyclic Aromatic Compound waste from 3,173,832 pounds to 111,281 pounds.
- Due primarily to the large reduction at the Alcoa Wenatchee Works facility, reported TRI Polycyclic Aromatic Compound waste declined 62% between 1995 to 1998 in Region 10.



Regional Progress towards the GPRA Goal:

- Based on available TRI data, Region 10 facilities have met the 50% reduction target for Polycyclic Aromatic Compounds.

## **24.) PENDIMETHALIN**

- Chemical included in TRI reporting since 1995, however no facilities report use or release in Region 10 during 1991-1998. On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for pendimethalin to 100 pounds beginning with the 2000 reporting year.

## **25.) PENTACHLOROBENZENE**

- Chemical not included in TRI as of reporting year 1998.

## **26.) PENTACHLORONITROBENZENE**

- Chemical not included in TRI as of reporting year 1998.

## **27.) PENTACHLOROPHENOL**

### Facilities reporting Pentachlorophenol to TRI in 1991:

- L. D. MCFARLAND CO., 975 BALDY MOUNTAIN RD., SANDPOINT, ID 83864, (IDD009062597)
- J. H. BAXTER & CO., P.O. BOX 10797, EUGENE, OR 974402729, (ORD009032400)
- L. D. MCFARLAND CO., 90049 HWY. 99 N., EUGENE, OR 97402, (ORD009026600)
- TAYLOR LUMBER & TREATING INC., P.O. BOX 158, SHERIDAN, OR 97378, (ORD009042532)
- BROOKS MFG. CO., P.O. BOX 7, BELLINGHAM, WA 98227, (WAD009249475)
- CASCADE POLE & LUMBER CO., P. O. BOX 1496, TACOMA, WA 984011496, (WAD008958357)
- J. H. BAXTER & CO., P.O. BOX 305, ARLINGTON, WA 98223, (WAD053823019)
- OESER CO., 730 MARINE VIEW DR., BELLINGHAM, WA 98227, (WAD008957243)
- PACIFIC SOUND RESOURCES, 2801 S.W. FLORIDA ST., SEATTLE, WA 98126, (WAD009248287)
- PACIFIC WOOD TREATING CORP, 111 W. DIV. ST., RIDGEFIELD, WA 986420518, (WAD009422411)

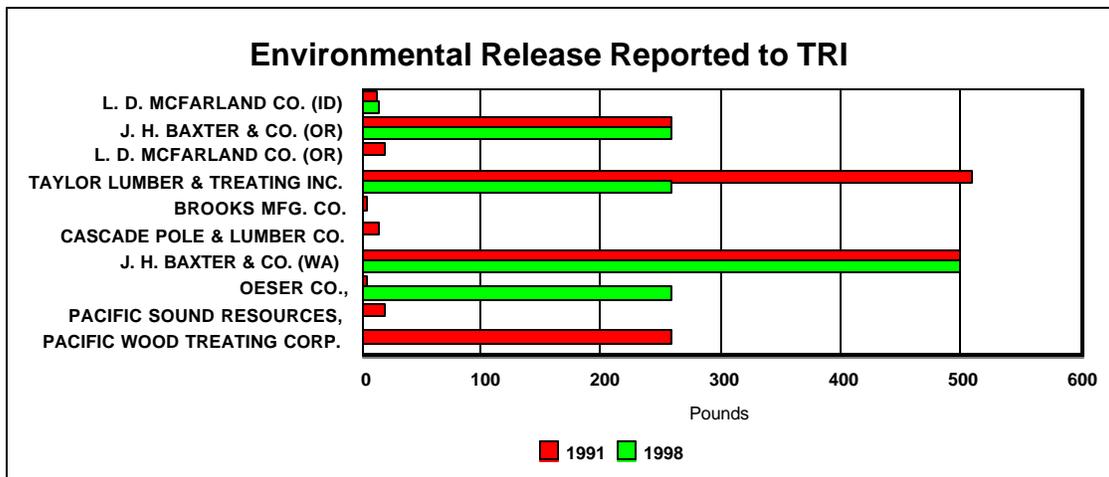
### Facilities added to TRI reporting in 1998:

- ENVIROSAFE SERVICES OF IDAHO INC., P.O. BOX 400, GRAND VIEW, ID 836240400, (IDD073114654)

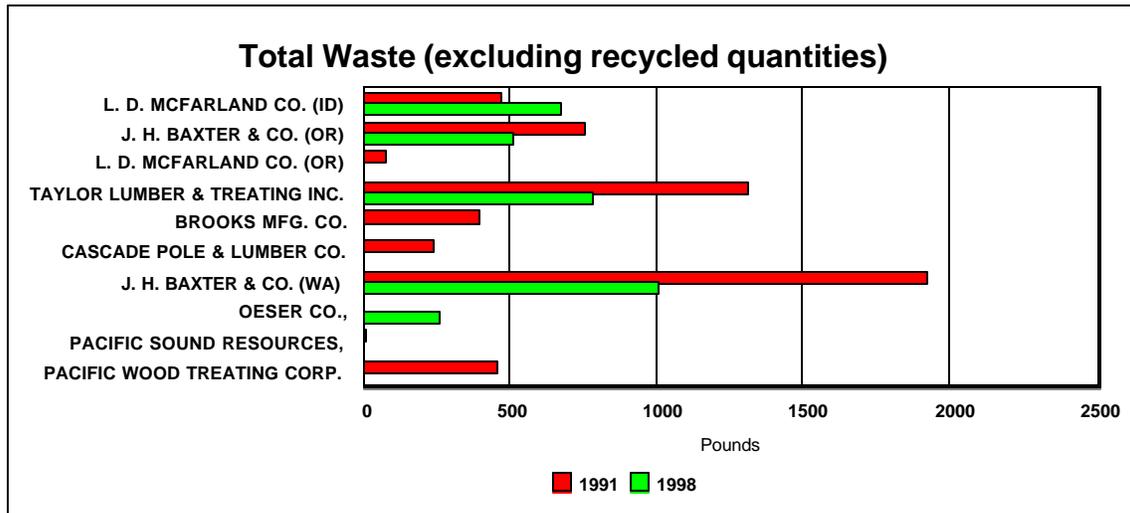
TRI Data Results:

- TRI data, as reported on the Right to Know (RTK) Toxic Release Inventory database ([www.rtk.net](http://www.rtk.net)), contains a number of inconsistencies with respect to facilities reporting Pentachlorophenol. Listed below are three examples of data inconsistency found for the 1998 TRI reporting year.
  - J. H. BAXTER & CO., P.O. BOX 305, ARLINGTON, WA 98223, (WAD053823019). In the 1998 reporting year, the RTK database shows 1,005 pounds of Pentachlorophenol released on-site or transferred off-site. However, total waste for this facility is reported as 421 pounds. Note: no accidental or remedial waste was reported for this facility.
  - J. H. BAXTER & CO., P.O. BOX 10797, EUGENE, OR 974402729, (ORD009032400). In the 1998 reporting year, the RTK database shows 515 pounds of Pentachlorophenol released on-site or transferred off-site. However, total waste for this facility is reported as 87 pounds. Note: no accidental or remedial waste was reported for this facility.
  - OESER CO., 730 MARINE VIEW DR., BELLINGHAM, WA 98227, (WAD008957243). In the 1998 reporting year, the RTK database shows 1,010 pounds of Pentachlorophenol released on-site or transferred off-site. However, in the same report, the RTK database indicates that all 227,808 pounds of waste are recycled.

Both the Right to Know Network and the EPA Region 10 Toxic Release Inventory group are aware of these problems and are exploring the cause of these inconsistencies. The following graphs are based on the highest reported quantity with respect to data inconsistencies.



- The Region 10 facility with the greatest increase in reported pentachlorophenol was OESER CO., with an increase from 6 pounds in 1991 to 228,068 pounds of pentachlorophenol reported to TRI in 1998. This increase makes up 98% of all reported pentachlorophenol in the 1998 TRI reporting year for Region 10. However, 227,808 pounds of this reported pentachlorophenol is recycled (99.89%).



Regional Progress towards the GPRA Goal:

- Total pentachlorophenol waste in Region 10 increased from 6,777 pounds in 1991 to 232,132 pounds in 1998 (3325% increase). The alternative measure of total waste, excluding the quantity recycled, decreased from 5,657 pounds in 1991 to 3,240 pounds in 1998 (43% decrease). It is not certain at this time, how EPA Headquarters will measure recycled quantities with respect to the GPRA PBT reduction goal.

## 28.) PHENANTHRENE

### Facilities reporting Phenanthrene to TRI in 1995-98:

- ACHILLES USA INC., 1407 80TH ST. S.W., EVERETT, WA 982030287, (CRK000022080)
- REYNOLDS METALS CO., 4029 INDL. WAY, LONGVIEW, WA 98632, (WAD057068561)

### TRI Data Results:

- The chemical phenanthrene was added to the Toxic Release Inventory in the 1995 reporting year. Therefore, the baseline used for GPRA goal measurement is 1995 rather than 1991 for phenanthrene.
- In the 1995 and 1996 TRI reporting years, ACHILLES USA INC, filed a Form A for phenanthrene. Form A is a certification that the annual release did not exceed 500 pounds for phenanthrene and that phenanthrene was not manufactured, processed, or otherwise used in an amount exceeding 1 million pounds. After 1997, ACHILLES USA INC did not report Phenanthrene to the Toxic Release Inventory.
- The 1998 TRI report from the Right to Know database contains a data inconsistency for the facility REYNOLDS METALS CO. Total releases and transfers is listed as 2,939 pounds of phenanthrene. However, in the table immediately below, total waste is listed as 1,658 pounds. For the purpose of GPRA goal reporting, the 2,939 pound quantity is used.

### Regional Progress towards the GPRA Goal:

- Both total release to the environment and the total amount of phenanthrene reported to TRI decreased between 1995 and 1998. Release to the environment decreased from 24,297 pounds in 1995 to 1,282 pounds of phenanthrene in 1998 (95% decrease). The total amount of phenanthrene reported to TRI in Region 10 decreased from 51,042 pounds in 1995 to 2,939 pounds in 1998 (94% decrease). Based on this available data, Region 10 has met the 50% reduction target for phenanthrene.

## 29.) PYRENE

- Chemical not included in TRI as of reporting year 1998.

### **30.) TRIFLURALIN**

- Chemical included in TRI reporting since 1987, however no facilities report use or release in Region 10 during 1991-1998. On October 29, 1999 (64 FR 58666), EPA lowered the TRI reporting threshold for trifluralin to 10 pounds beginning with the 2000 reporting year.