



Preliminary Review of National Tank Cleanup Trends

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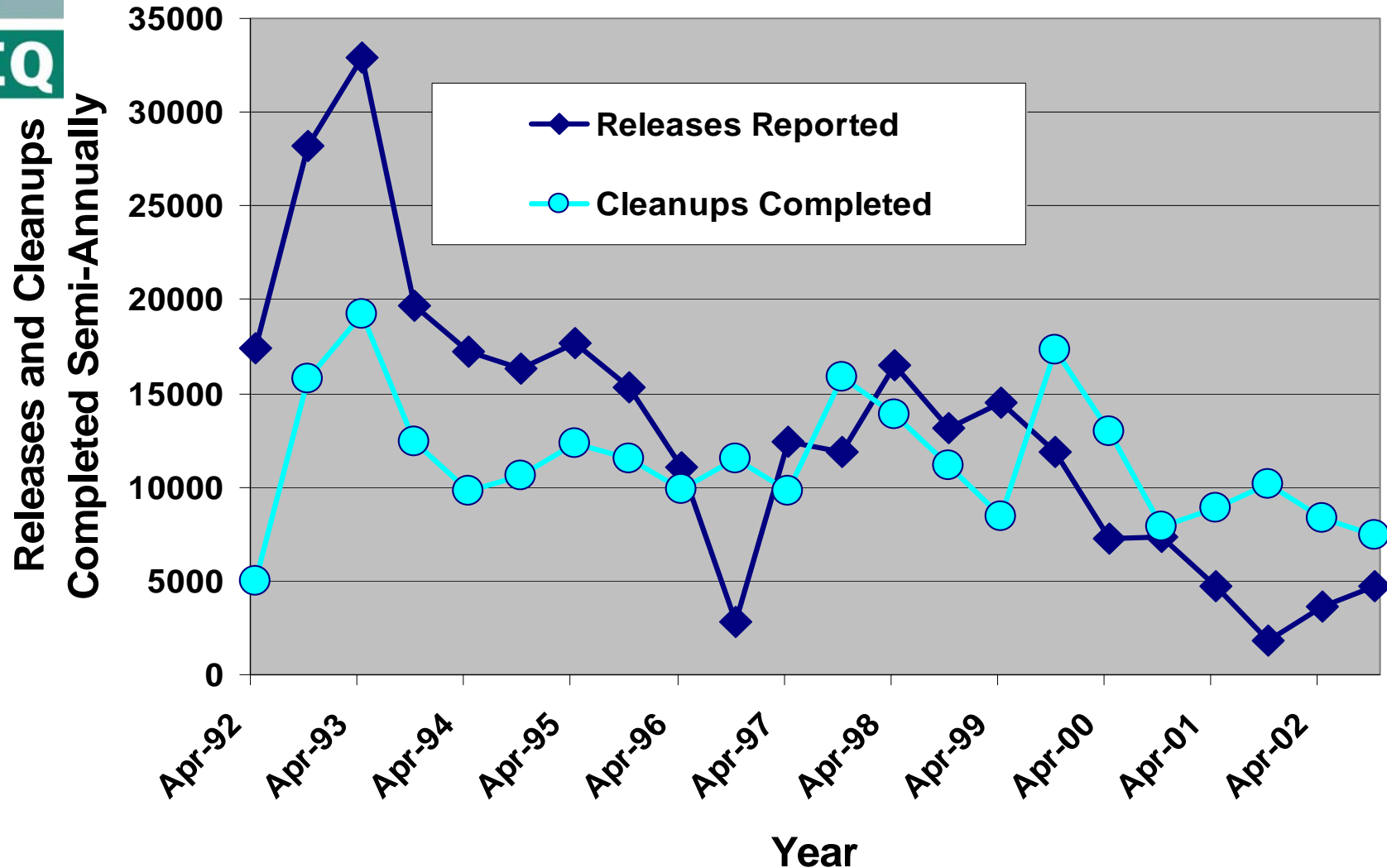
For ASTSWMO LUST Task Force

September 25, 2003

Analysis of Tank Cleanup Trends



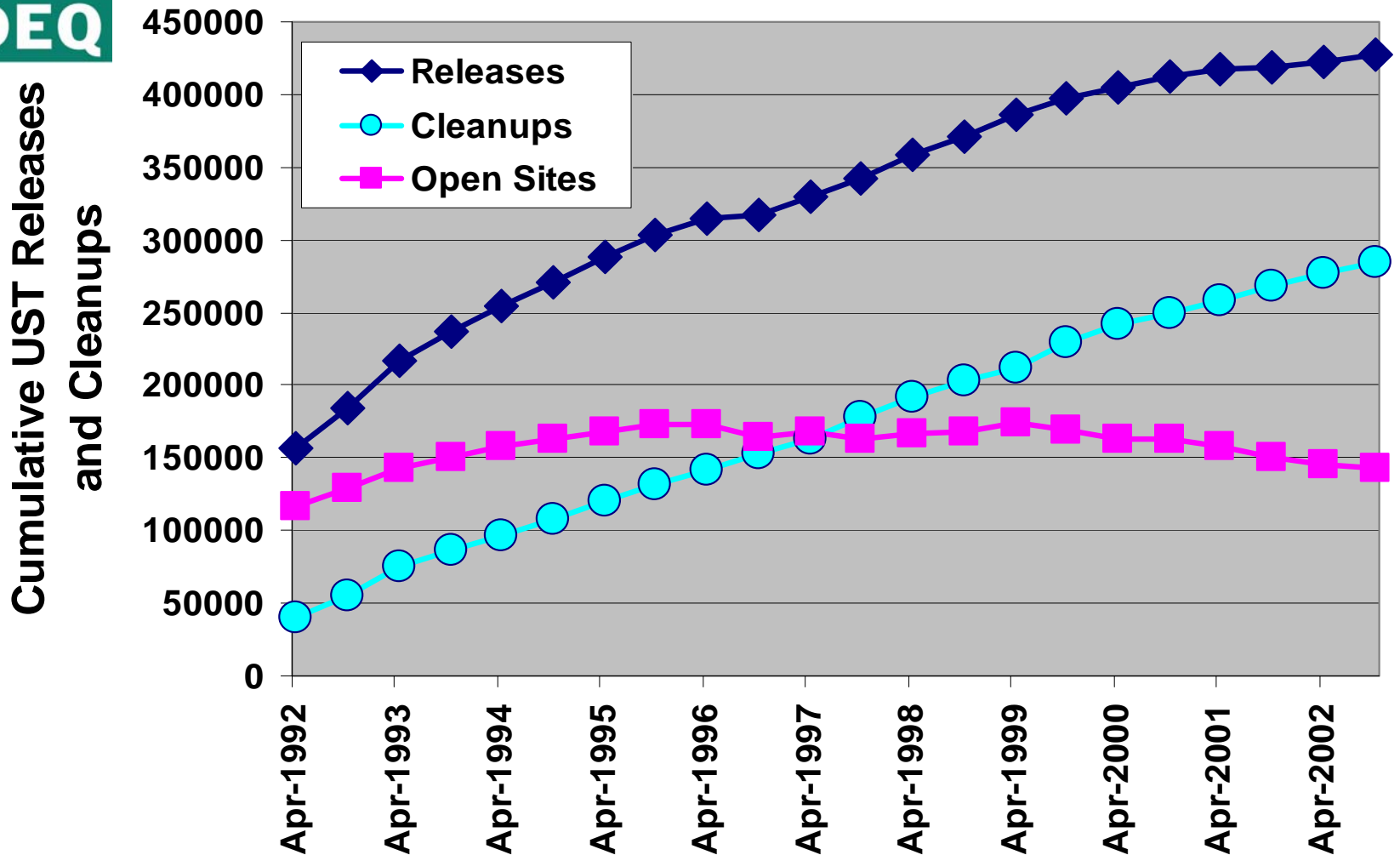
Purposes: 1) Evaluate the underlying trends of cleanups completed; and 2) Forecast future years.



Analysis of Tank Cleanup Trends



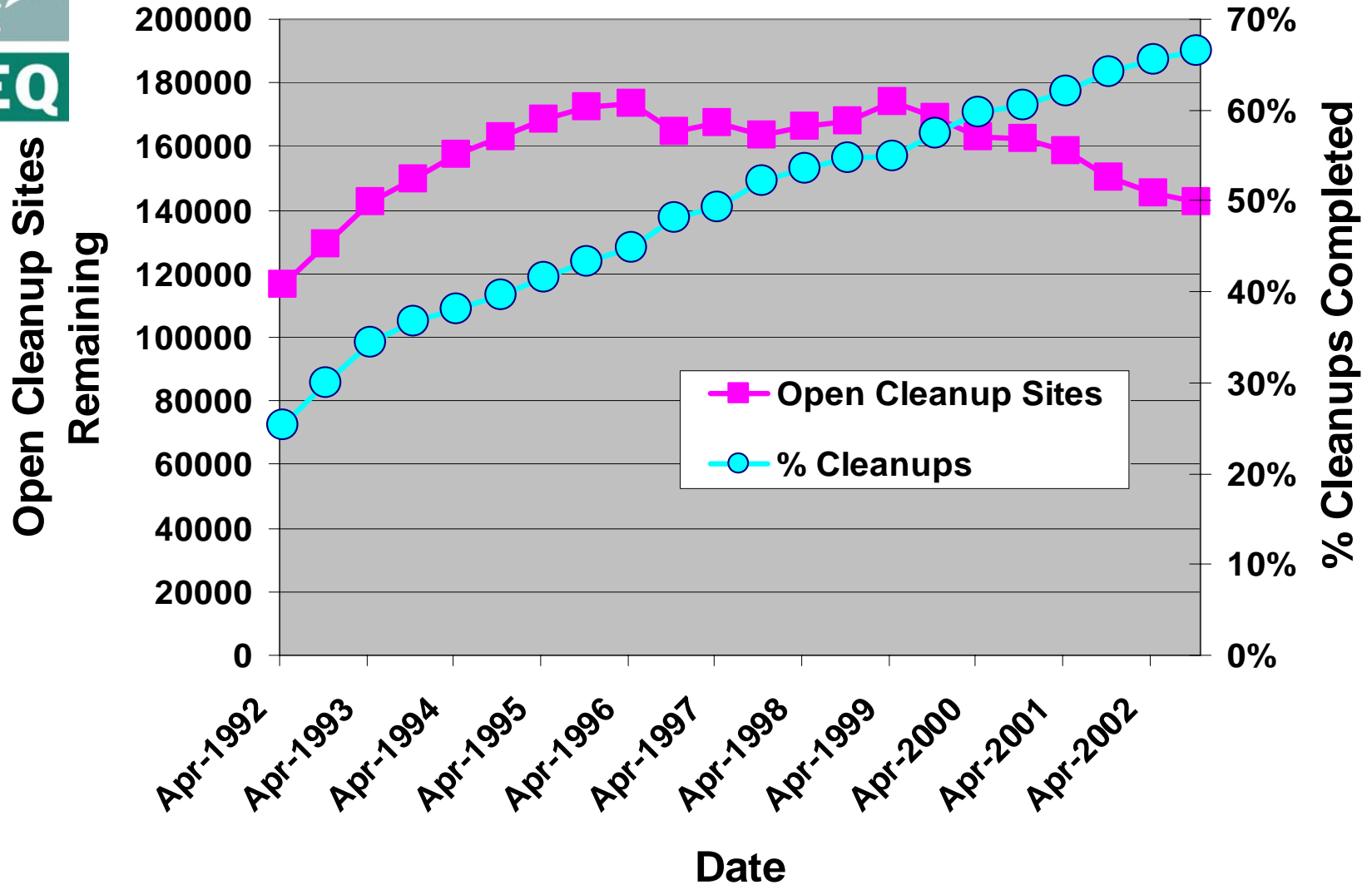
Historical data presented as cumulative totals:



Analysis of Tank Cleanup Trends



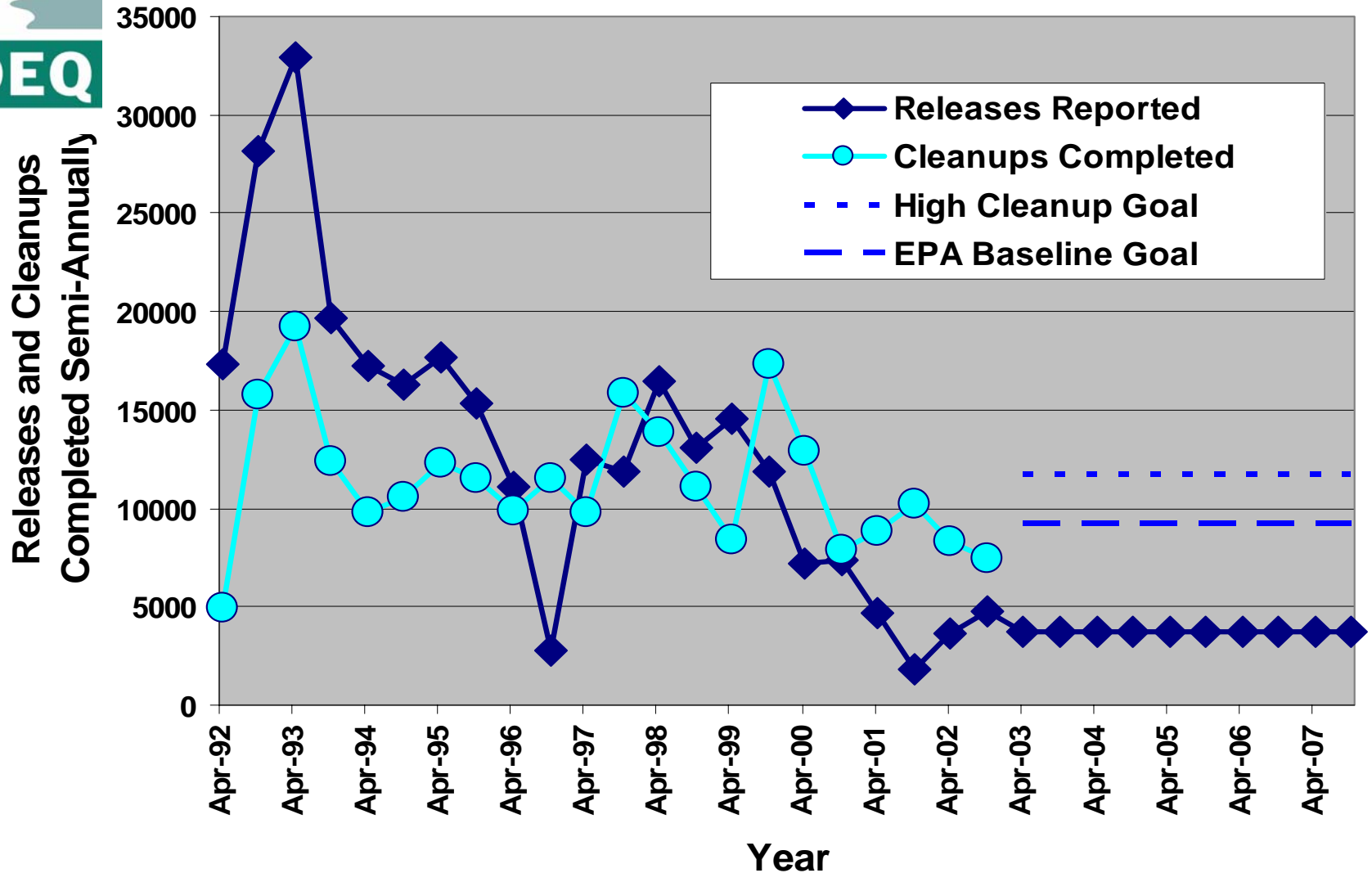
**The national average is approaching
70% cleanups completed:**



Analysis of Tank Cleanup Trends



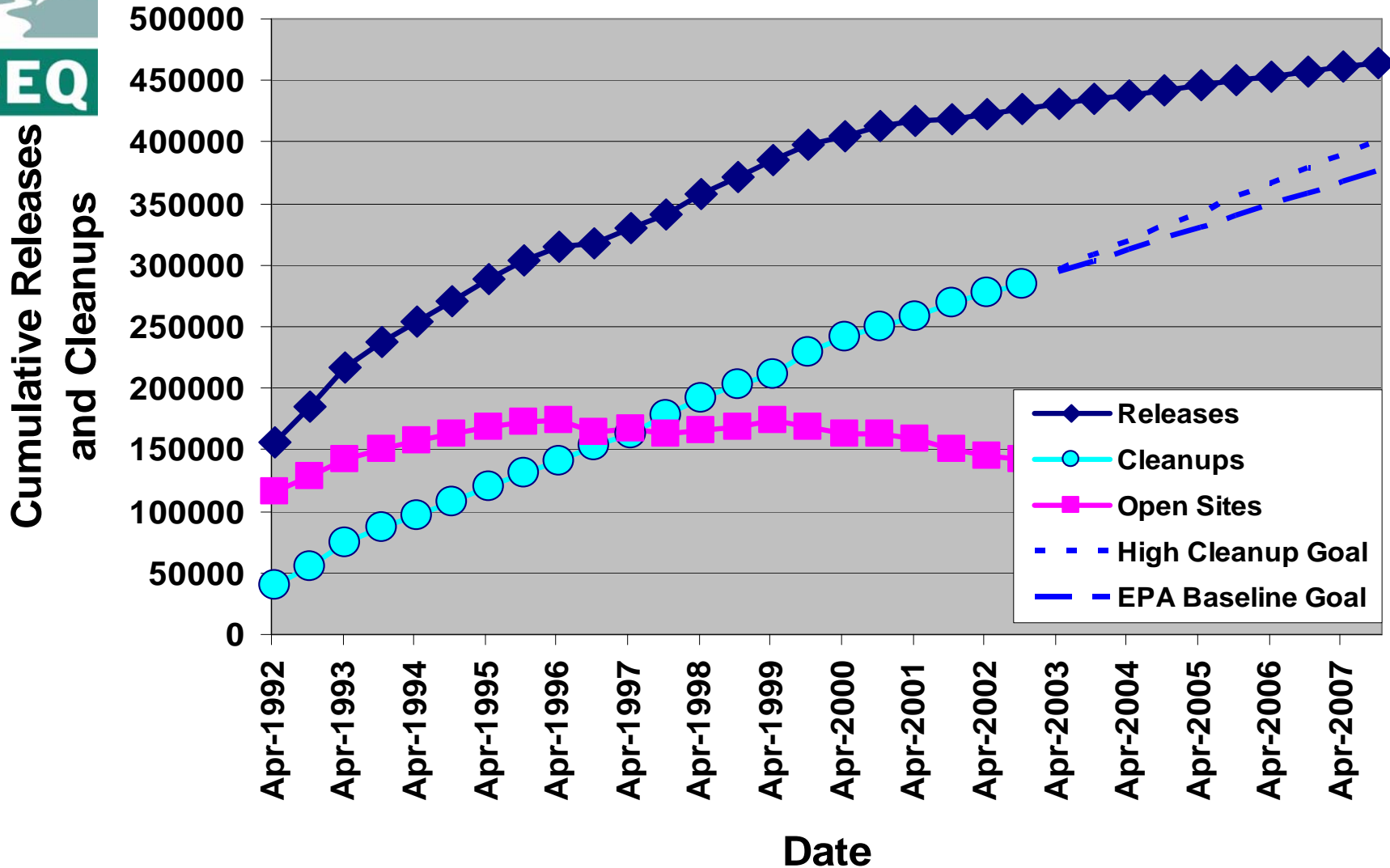
The EPA Office of Underground Storage Tanks has proposed baseline and high cleanup goals:



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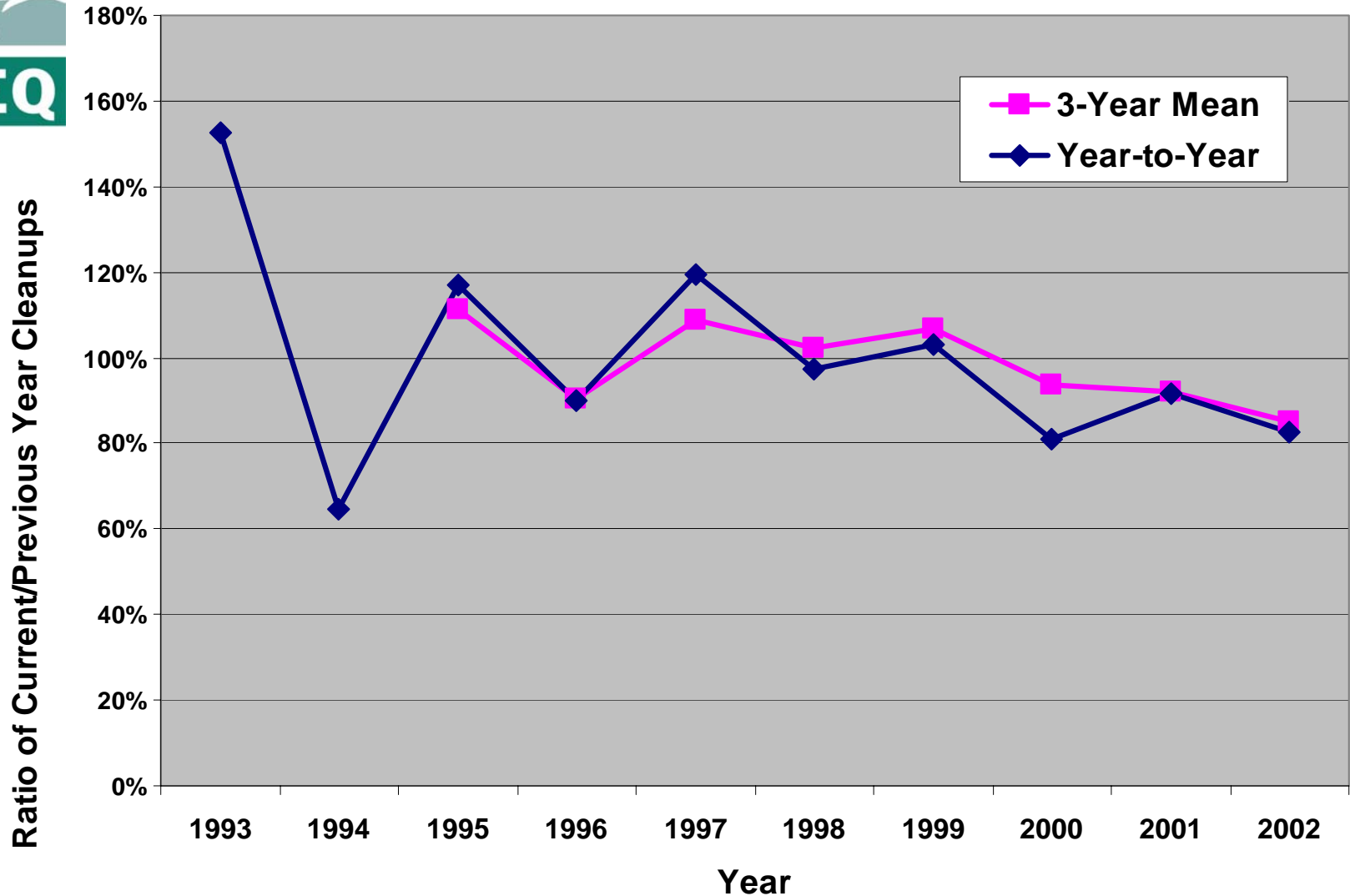
Presented as cumulative totals, the EPA baseline and high cleanup goals would look like this:



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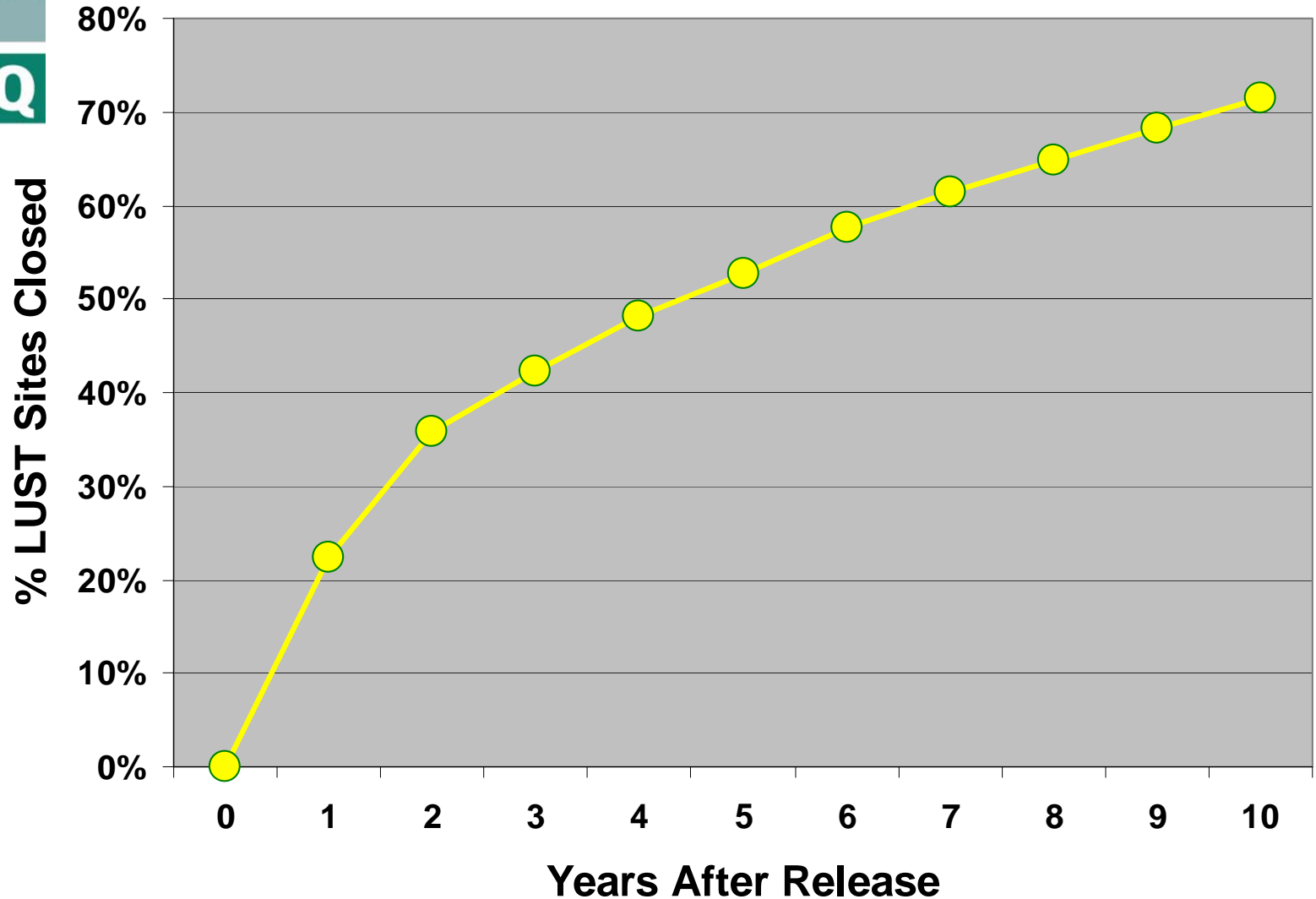
The ratio of cleanups-completed compared to the previous year has declined over the past decade:



Analysis of Tank Cleanup Trends



The key underlying factor for the cleanups-completed rate is the average time-to-closure:



Analysis of Tank Cleanup Trends



State of Michigan

Underground Storage Tank Cleanup Data (as of May 2, 2003)

Department of Environmental Quality

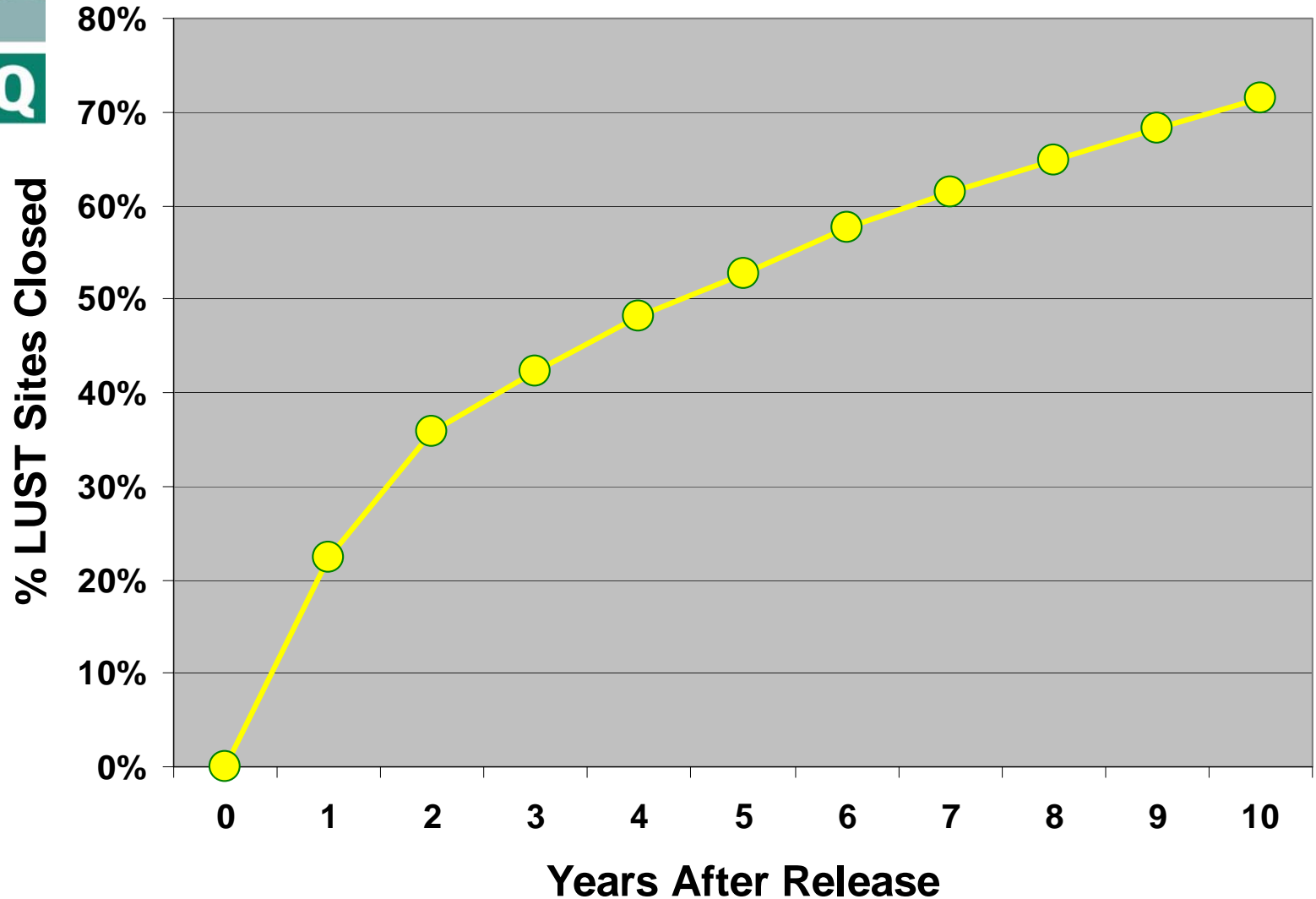
Table 1: Closures per year

Release Year	< 1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
# Releases Discovered	2311	2678	2498	2154	1479	1466	1212	959	1146	1270	1142	639	466	468	87	19975
Closure Year	<i>For each Release Year, the Number of Closures During Each Calendar Year</i>															
< 1990	93															93
1990	78	99														177
1991	33	174	194													401
1992	48	140	228	141												557
1993	89	202	265	377	185											1118
1994	104	138	183	176	230	161										992
1995	99	126	169	194	130	269	205									1192
1996	197	246	238	199	138	174	266	222								1680
1997	89	148	123	95	68	108	89	196	246							1162
1998	107	96	72	67	46	58	46	60	319	273						1144
1999	75	86	54	46	30	40	29	29	46	292	217					944
2000	40	39	33	19	23	18	25	19	29	69	216	83				613
2001	43	53	45	34	23	22	17	21	27	31	58	99	52			525
2002	29	34	28	21	22	17	11	12	12	16	22	24	60	45		353
2003	4	7	6	3	4	3	1	3	5	9	3	1	4	21	1	75

Analysis of Tank Cleanup Trends



The key underlying factor for the cleanups-completed rate is the average time-to-closure:





Many factors influence the overall time-to-closure rate:

- Major factors involve the responsible parties: Known? Willing? Able?
- Other major factors include the severity of the contamination, the sensitivity of the nearby receptors, and the complexity of the cleanup, including groundwater impacts and soil types.



REPAIRS
GREASING

RED CROWN

GARAGE

TAFT GARAGE TAFT GARAGE



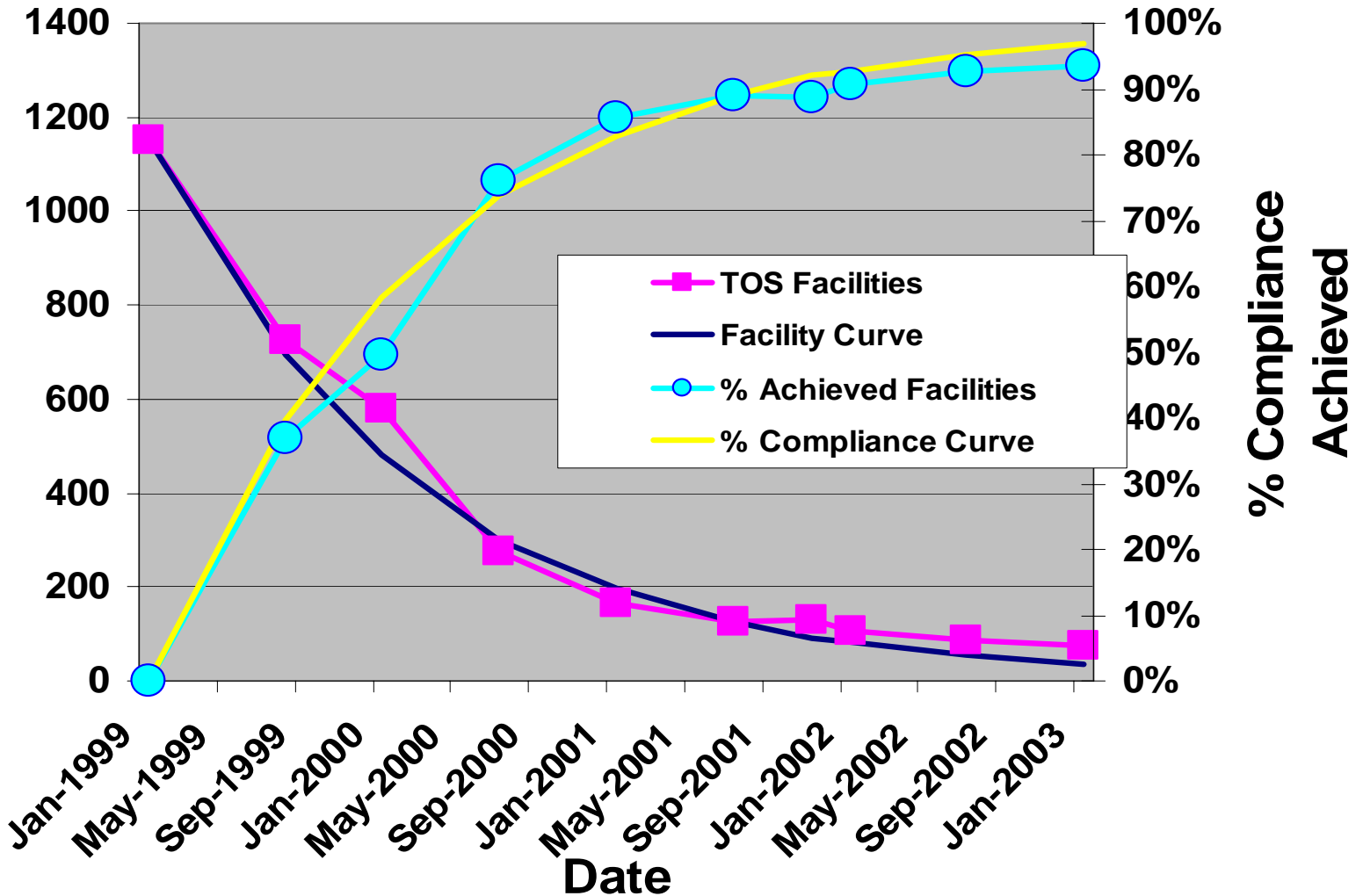
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Analysis of Tank Cleanup Trends



Decommissioning of temporarily-out-of-service (TOS) tanks in Oregon illustrates the increasing RP difficulties in the final stages:

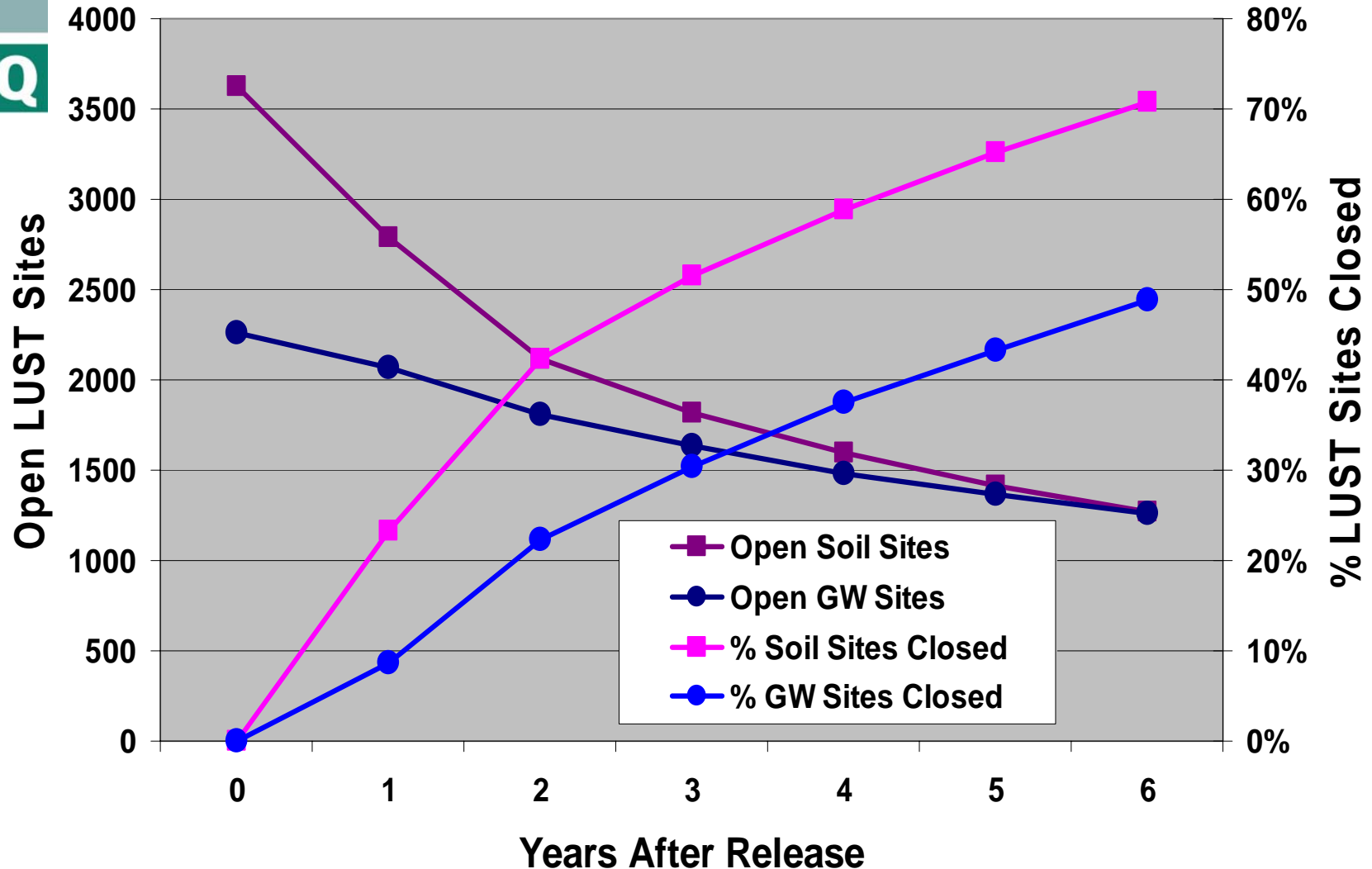
TOS Facilities Remaining



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Oregon time-to-closure rates on 1990-2002 releases illustrate the effects of groundwater impacts:

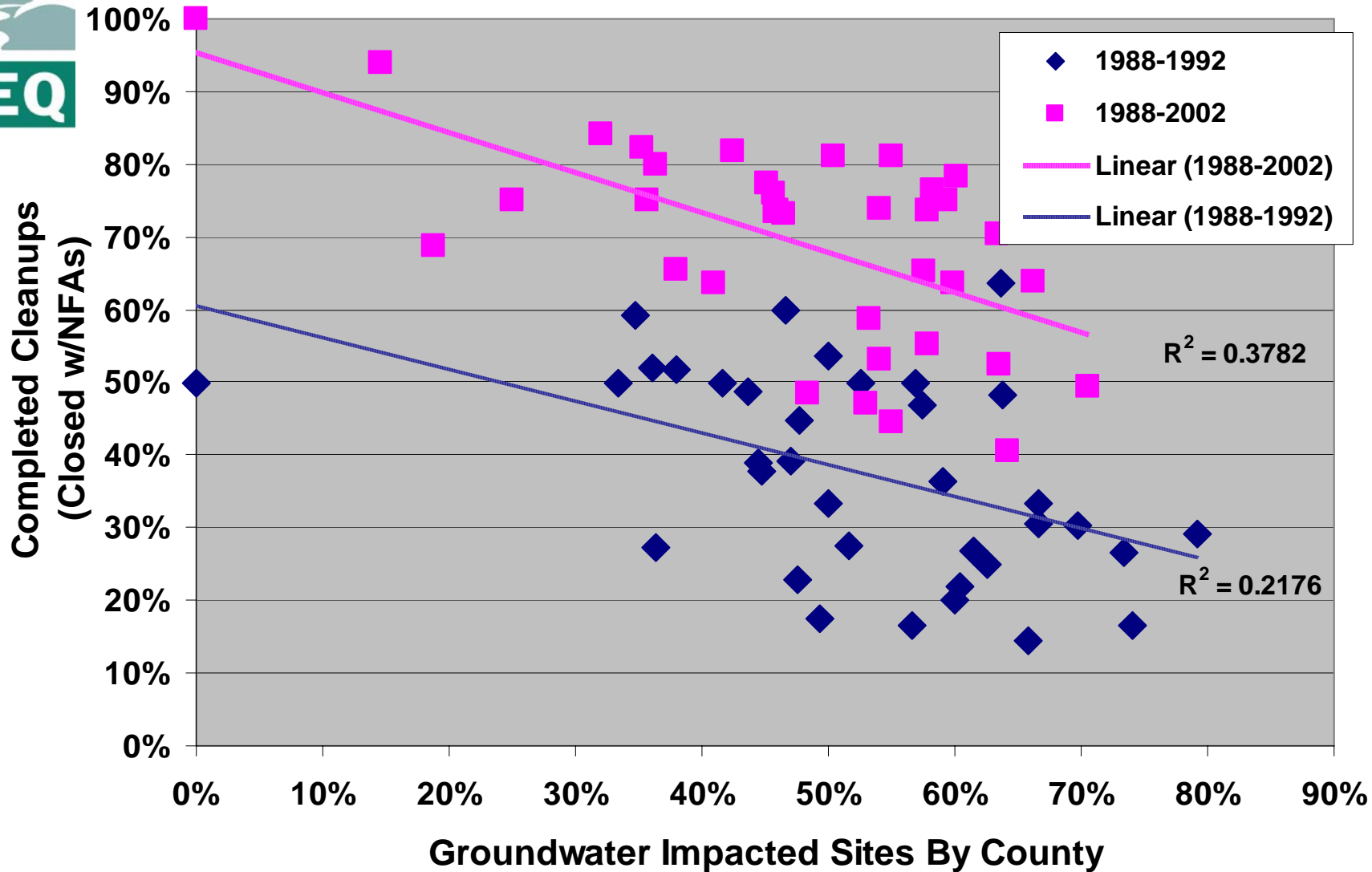




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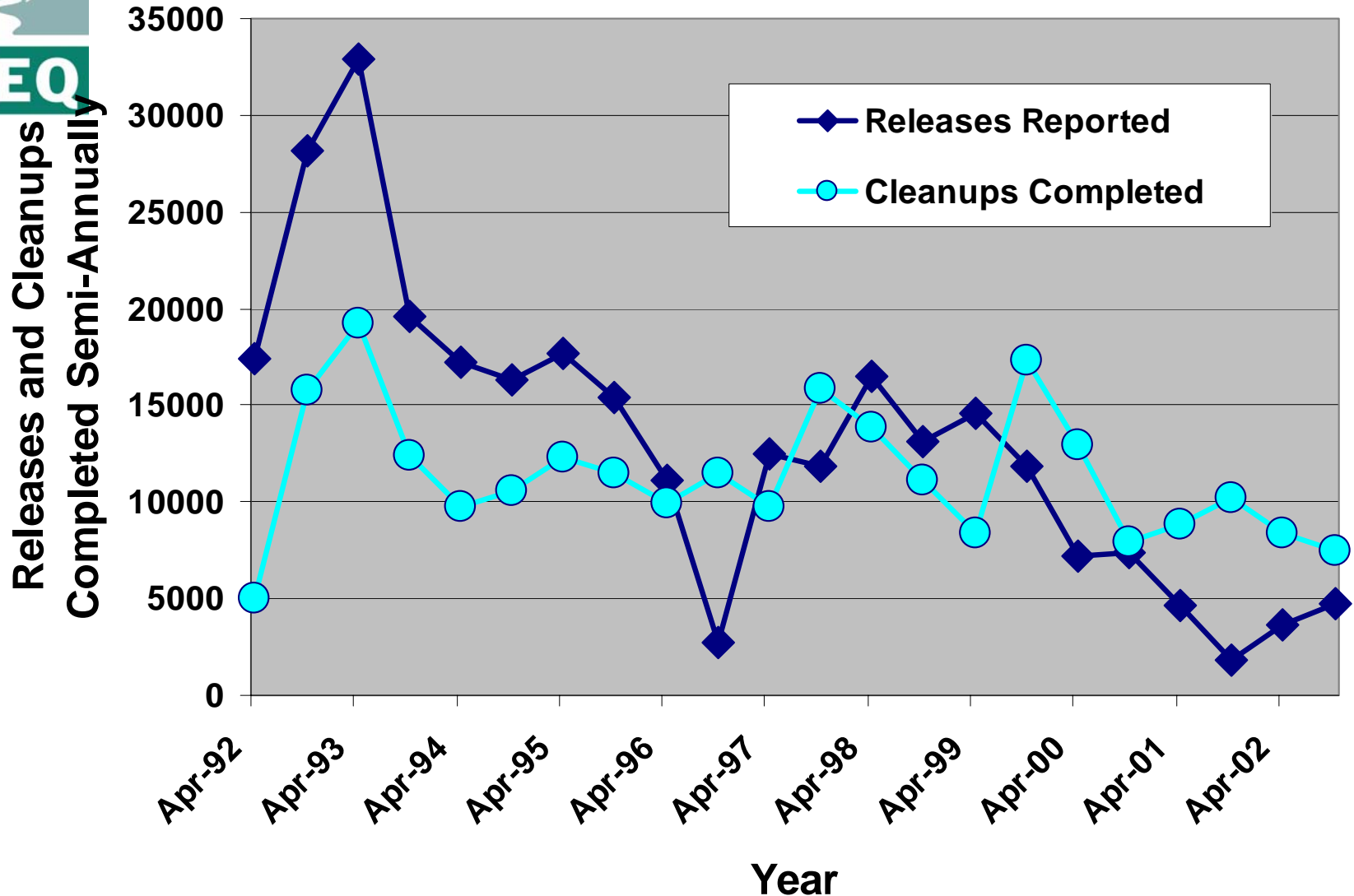
Groundwater impacts are a major factor affecting the cleanups-completed rate in the 36 Oregon counties:



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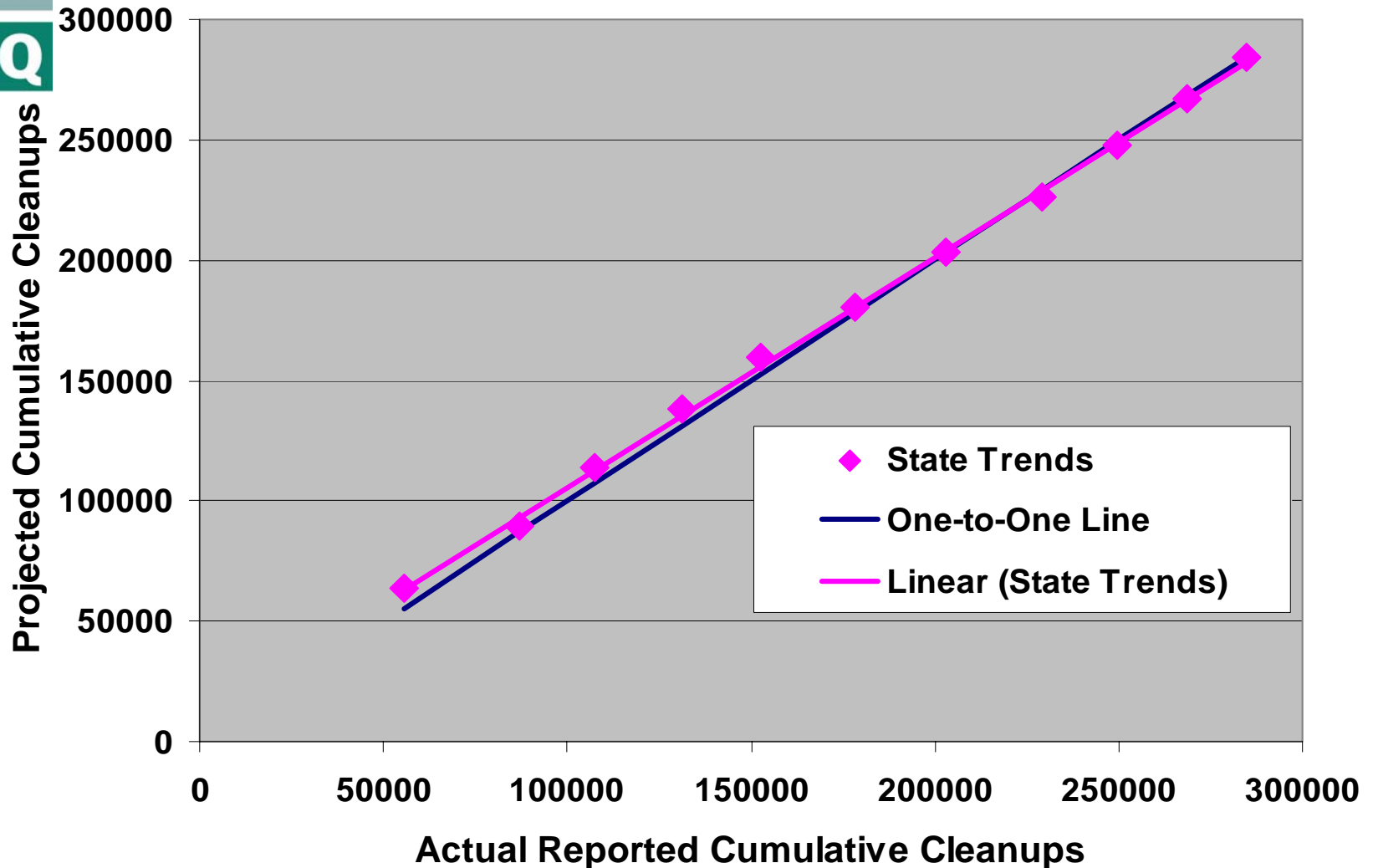
National time-to-closure rates were applied to the UST releases reported during 1992-2002:



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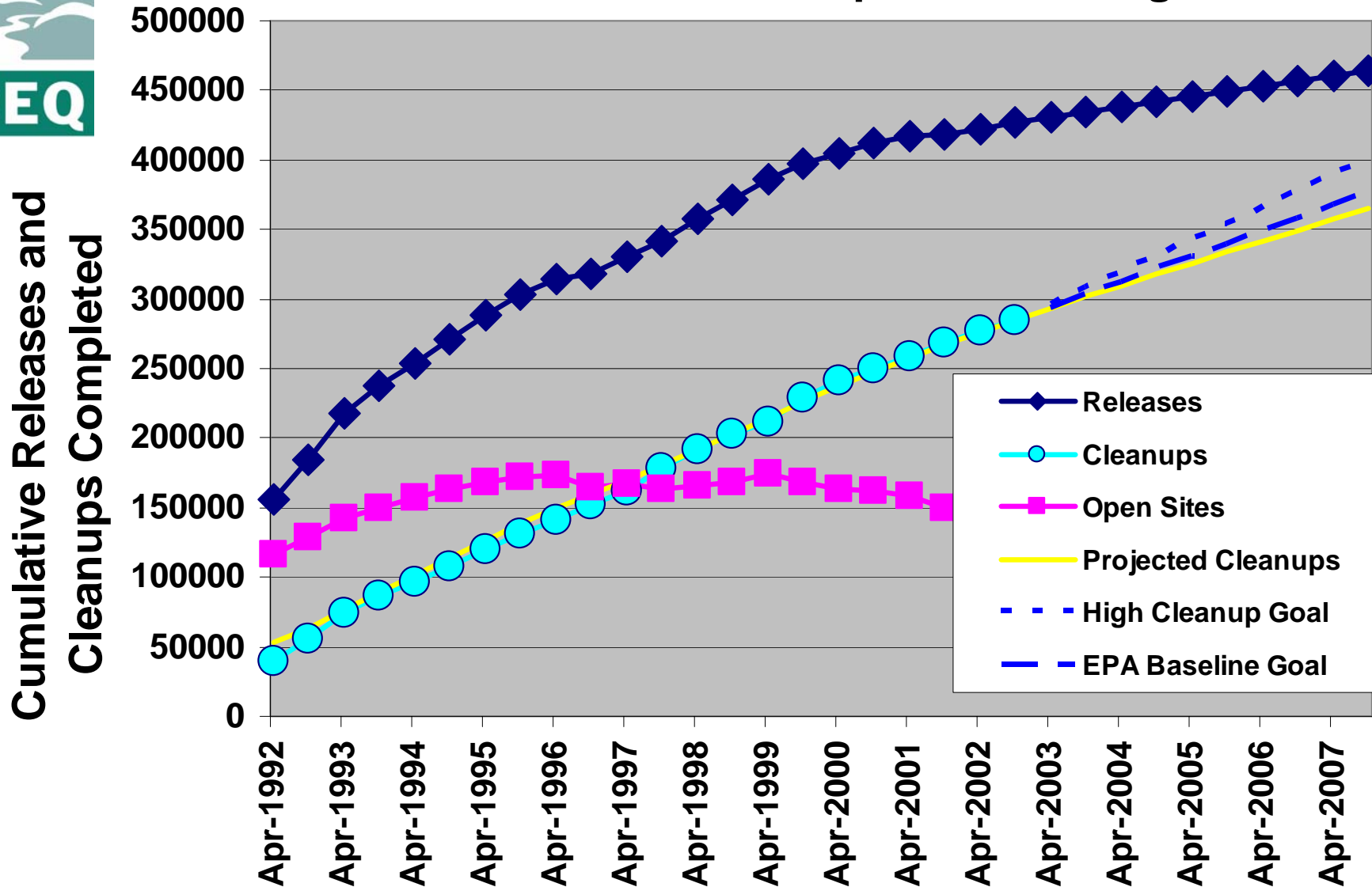
The projected number of cleanups-completed agreed very closely with reported numbers:



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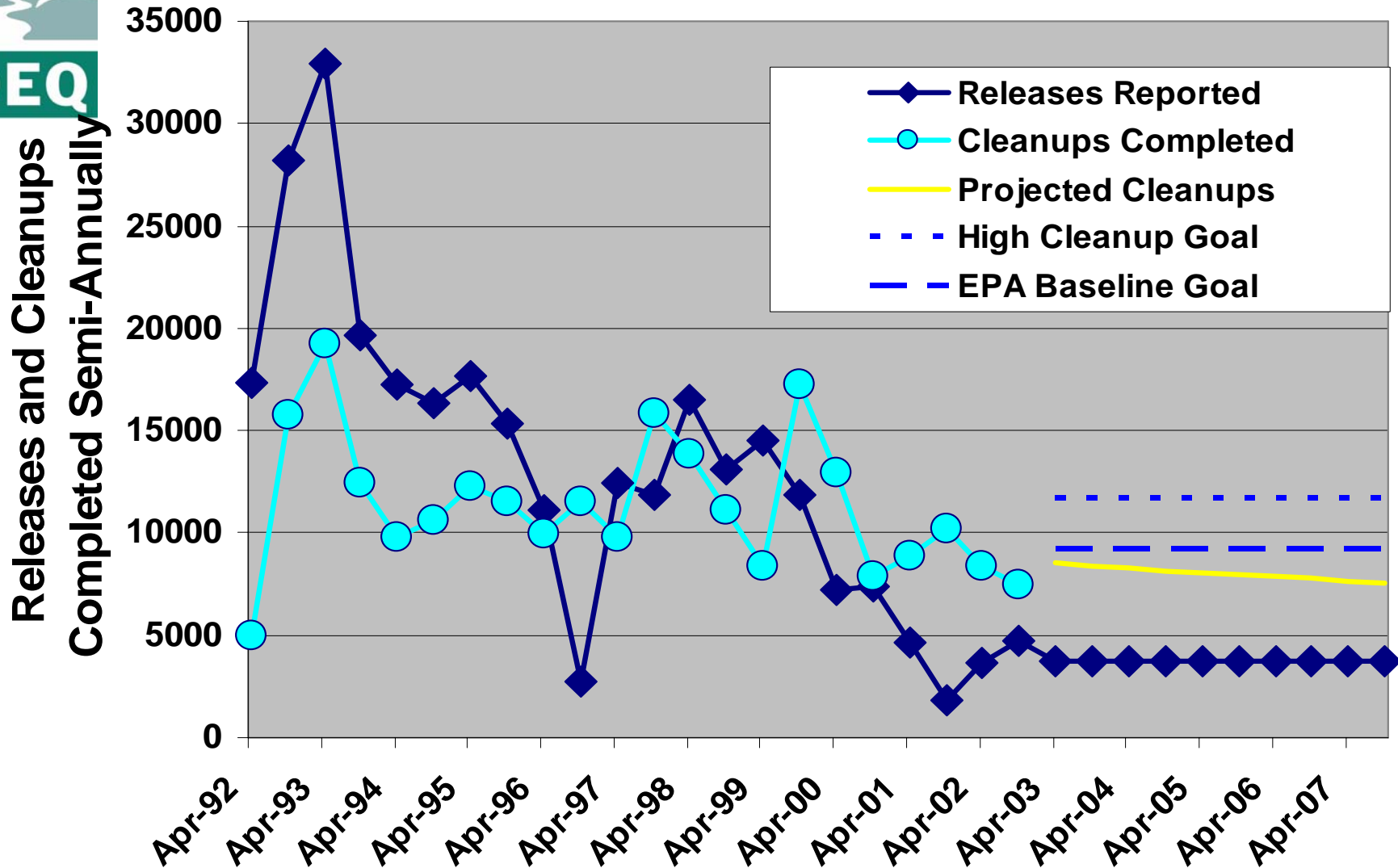
Using time-to-closure data, cleanups-completed were forecasted and compared to EPA goals:



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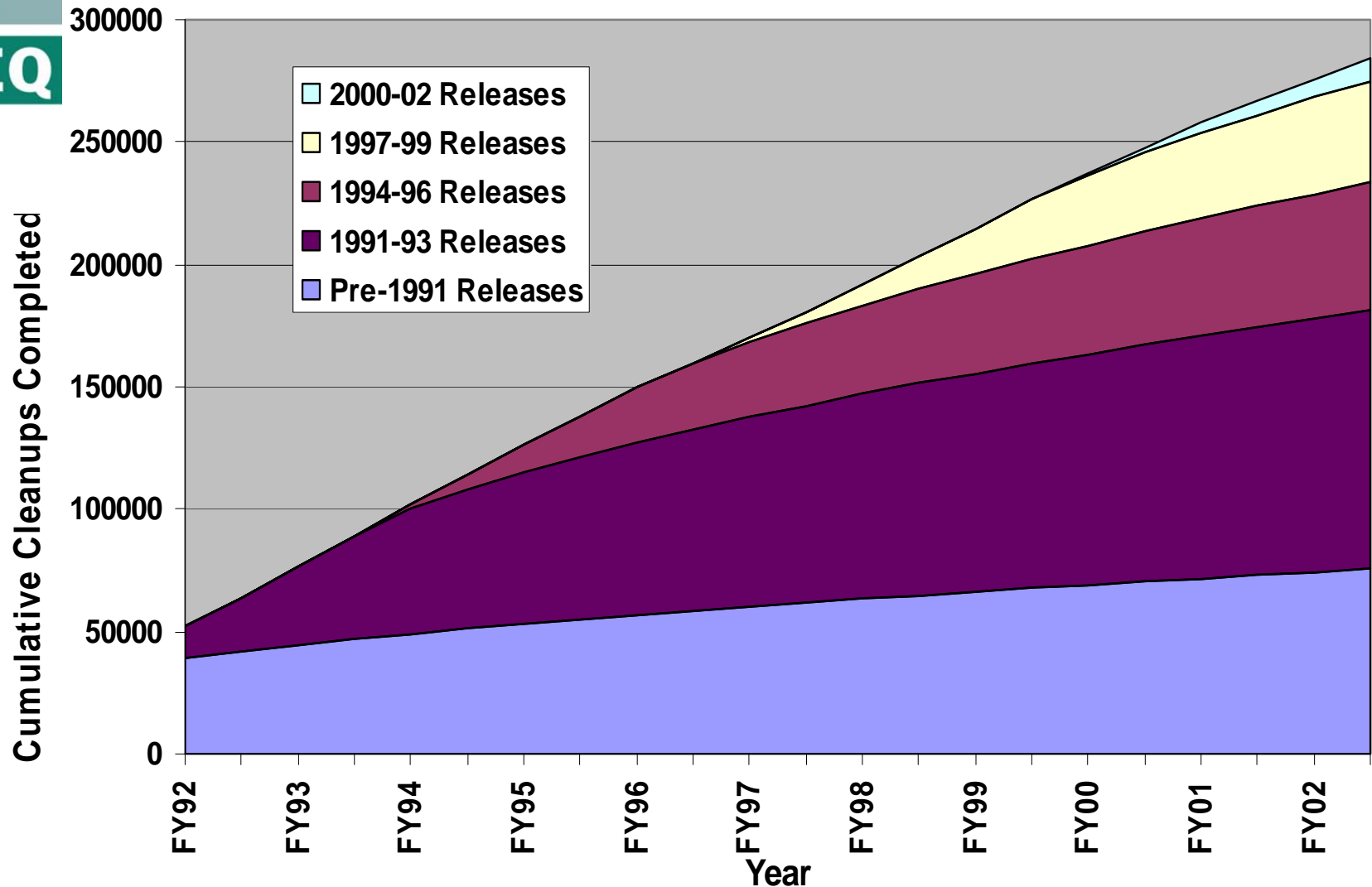
There is an increasing gap between the current cleanups-completed trends and the EPA goals:



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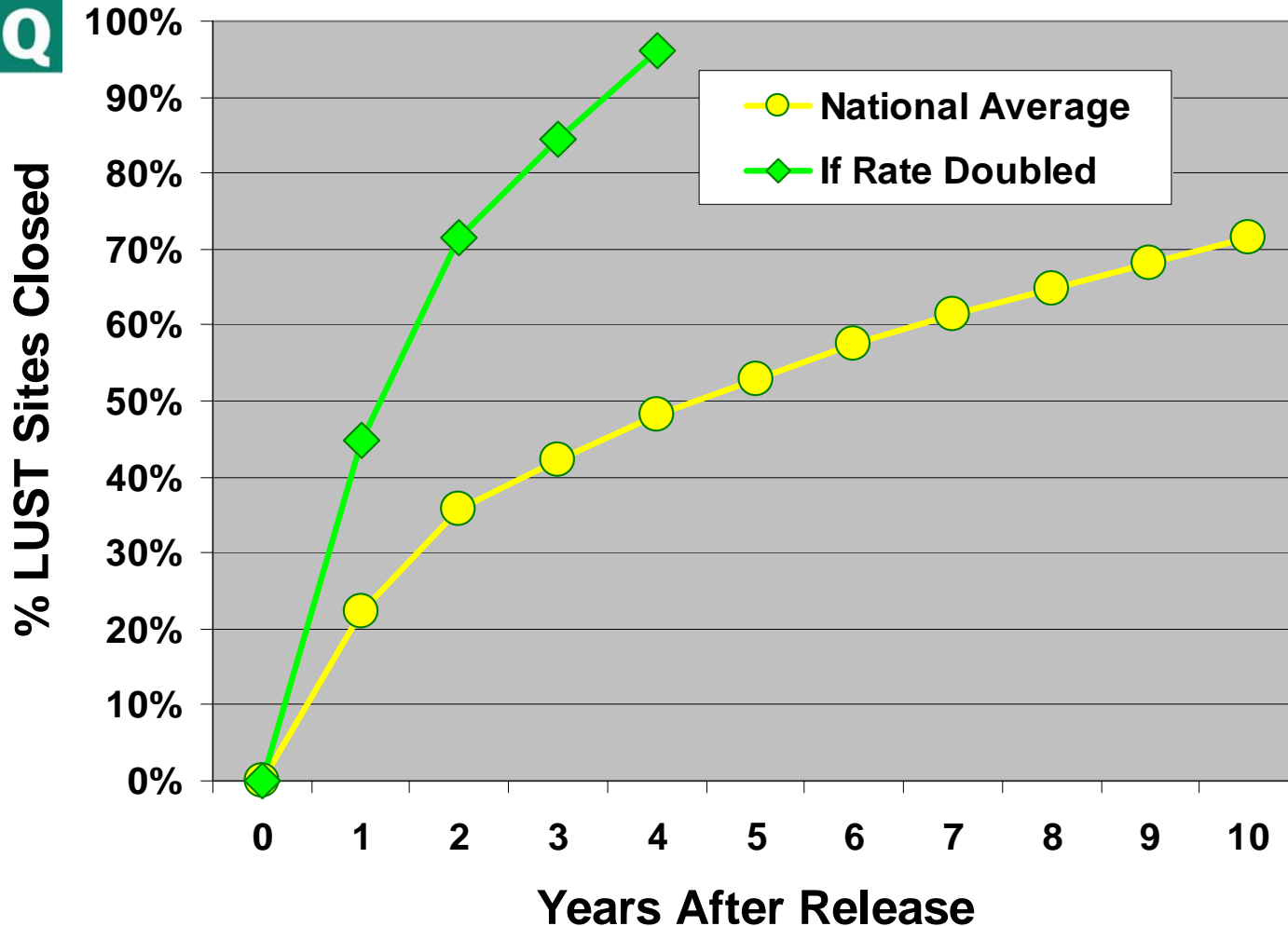
Releases in recent years are a very small part of the overall cleanups-completed picture:



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To meet even the EPA baseline goal would require a doubling of the rate of cleanups completed:



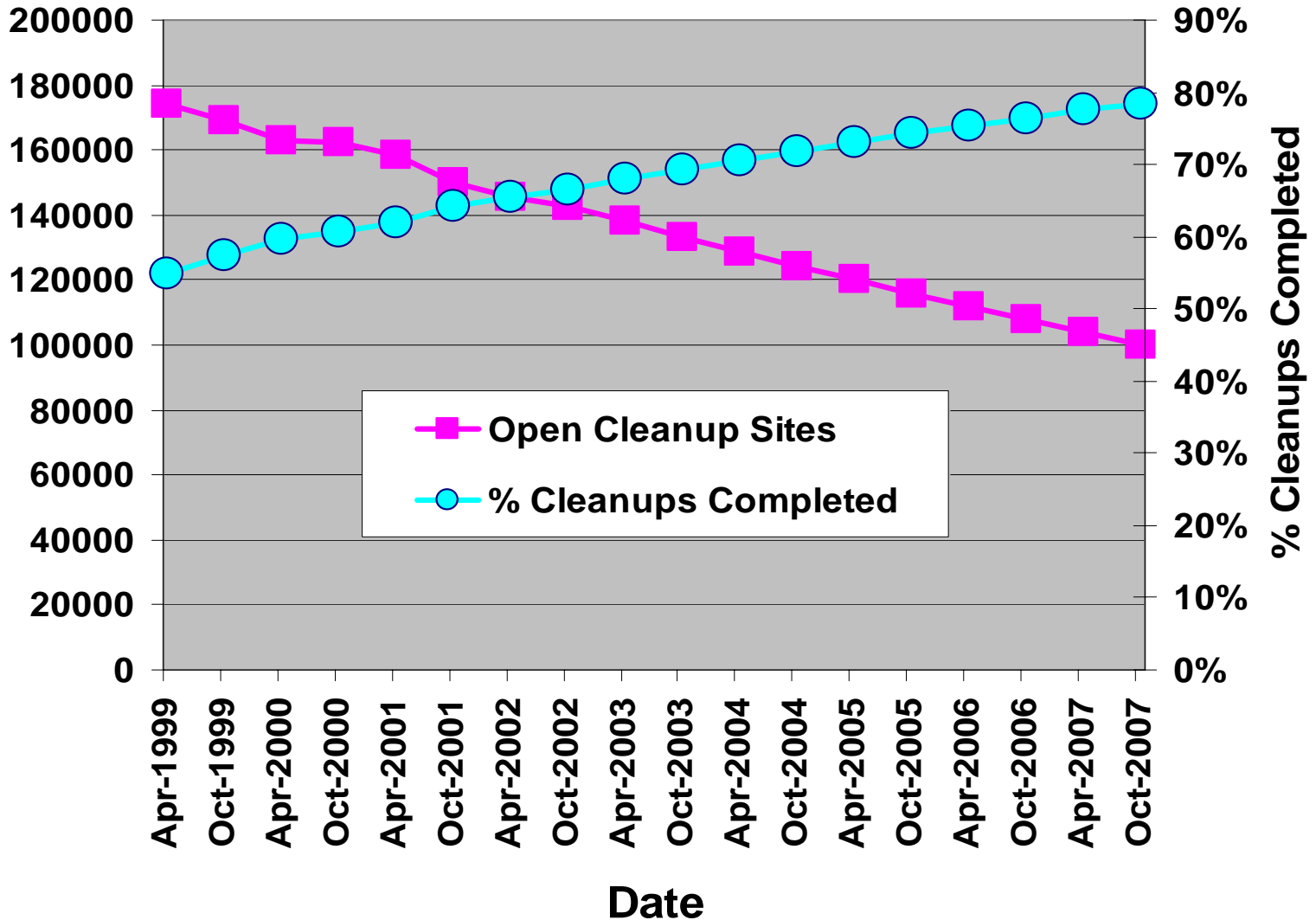
Analysis of Tank Cleanup Trends



DEQ

Open Cleanup Sites
Remaining

These projections of % cleanups-completed and # of open sites are based on current trends:





Conclusions from preliminary review:

- The EPA cleanups-completed goals are not consistent with historical time-to-closure rates and recently reduced release rates.
- If the reported releases further decline (due to the continued success of the UST upgrade and compliance programs) the EPA cleanups-completed goals will be even more difficult to achieve.
- More appropriate goals would be to increase the cleanups-completed percentage and reduce the number of open sites consistent with the current success trends.



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