

RARE EARTHS STATISTICS¹
U.S. GEOLOGICAL SURVEY

[All values in metric tons (t) rare earths unless otherwise noted]

Last modification: December 8, 2008

Year	Production	Imports	Exports	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900	227			227			1,040
1901	187			187			1,090
1902	200			200			863
1903	215			215			2,030
1904	186			186			2,860
1905	335			335			2,780
1906	211			211			2,600
1907	137			137			2,580
1908	105			105			2,840
1909	135			135			3,690
1910	25.0			25.0			3,020
1911				22.0			2,490
1912				19.0			2,500
1913				15.0			1,480
1914				12.0			992
1915	9.00			9.00			870
1916	9.00			9.00			731
1917	25.0			25.0			1,730
1918				20.0			1,470
1919				15.0			1,210
1920				9.99			1,590
1921				5.00			929
1922		0.017		0.017	2,450	23,800	189
1923		13.6		13.6	344	3,280	138
1924		37.2		37.2	219	2,090	348
1925	0.499	6.74		7.24	1,070	10,000	12
1926		3.53		3.53	311	2,850	146
1927		26.4		26.4	237	2,210	352
1928		31.4		31.4	451	4,300	180
1929		41.7		41.7	412	3,920	197
1930		27.1		27.1	601	5,890	17
1931		0.120		0.120	367	3,930	50
1932				0.069	5,930	70,600	530
1933		0.018		0.018	11,600	145,000	302
1934				0.015	11,700	142,000	564
1935				0.012	11,700	139,000	2,130
1936		0.009		0.009	11,700	137,000	1,840
1937		652		652	4	41	2,150
1938		377		377	3	38	3,310
1939		471		471	3	29	2,510
1940		0.200		0.200	8,480	98,700	2,370
1941		8.13		8.13	11,200	124,000	2,380
1942		4.66	10.5	6.19	9,930	99,300	1,500
1943		2.34	22.1	4.25	7,240	68,300	1,900
1944		8.18	16.9	2.31	8,680	80,400	3,200
1945		13.3	13.0	0.365	9,620	87,500	1,440
1946		6.31	16.0	83.2	11,100	92,500	721
1947		0.268	73.4	200	14,400	105,000	1,300
1948	20.0	0.644	22.2	200	14,700	99,300	2,720
1949		1.43	28.2	300	8,900	61,000	1,290
1950	383	54.2	22.3	400	3,540	23,900	470
1951	747	172		900	1,670	10,400	1,240

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1952	1,110			1,000	3,910	24,000	1,820
1953	615	1.70	50.1	600	7,090	43,200	3,960
1954	983	4.78	19.3	2,270	8,630	52,300	7,840
1955	608	12.5	14.9	2,450	6,720	41,000	5,760
1956		27.8	19.5	2,720	5,070	30,400	5,230
1957	499	44.3	8.58	2,720	1,920	11,200	5,980
1958	625	20.6	19.4	2,450	5,100	28,800	8,060
1959	600	6.7	18.5	2,270	5,050	28,200	2,810
1960	1,050	17.9	19.5	2,040	3,540	19,500	2,270
1961	1,030	1,450	11.8	2,460	82	446	3,690
1962		3,840	17.5	2,110	341	1,840	8,020
1963	278	3,220	86.2	2,810	319	1,700	6,060
1964	256	1,060	906	2,770	385	2,030	3,680
1965	2,900	1,050	21.8	5,050	485	2,510	6,960
1966	12,200	1,240		6,620	284	1,430	16,200
1967	12,900	1,070	56.9	5,530	562	2,740	16,900
1968	10,300	2,220	36.2	7,800	401	1,880	16,200
1969	12,500	2,110	41.6	10,100	420	1,870	18,100
1970	9,110	1,730	31.2	10,500	412	1,730	15,900
1971	9,820	1,690	284	9,340	1,040	4,190	16,400
1972	10,700	466	597	12,200	3,690	14,400	18,200
1973	17,500	1,080	1,420	14,800	2,150	7,890	24,000
1974	19,900	707	1,770	14,100	3,070	10,100	25,600
1975	15,000	1,300	539	11,500	2,050	6,210	22,100
1976	13,000	1,070	263	12,200	4,380	12,500	19,700
1977	15,400	2,760	867	16,800	2,600	6,990	24,500
1978	14,100	4,010	287	16,800	2,500	6,250	26,500
1979	16,500	3,810	33.9	16,100	4,580	10,300	28,800
1980	16,000	3,290	8,470	18,100	1,960	3,880	27,300
1981	17,100	4,340	5,350	20,000	1,870	3,350	30,600
1982	17,500	4,210	2,730	17,100	2,360	3,990	26,600
1983	17,100	2,790	2,900	19,600	2,820	4,620	31,400
1984	25,300	4,420	4,550	21,400	2,380	3,730	41,400
1985	13,400	3,390	4,670	12,100	2,190	3,320	43,500
1986	10,900	2,150	3,650	10,900	3,840	5,710	39,900
1987	11,100	1,070	4,540	11,100	3,970	5,700	46,900
1988	11,500	1,840	6,530	16,800	2,230	3,070	55,300
1989	20,800	7,710	1,940	27,800	6,780	8,910	60,700
1990	22,700	5,520	5,860	28,700	8,990	11,200	52,900
1991	16,500	5,930	5,360	22,100	9,470	11,300	41,700
1992	20,700	5,110	5,720	21,400	10,100	11,700	50,100
1993	17,800	6,250	7,170	17,000	9,010	10,200	46,700
1994	20,700	6,990	10,200	17,800	7,980	8,780	55,100
1995	22,200	12,400	10,600	24,000	8,210	8,780	74,300
1996	20,400	17,500	13,000	24,900	7,150	7,430	79,700
1997	20,000	12,200	12,400	19,400	8,540	8,670	68,300
1998	10,000	14,000	9,440	11,500	8,900	8,900	77,100
1999	5,000	21,300	9,620	11,500	6,400	6,260	86,600
2000	5,000	21,700	9,750	12,100	6,450	6,110	90,900
2001	0	19,200	9,100	15,100	5,790	5,330	94,500
2002	0	14,000	8,210	11,000	7,500	6,800	98,200
2003	0	23,200	7,550	15,650	6,150	5,450	97,100

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2004	0	23,500	12,100	11,400	8,590	7,410	102,000
2005	0	15,300	9,200	6,030	6,595	5,504	122,000
2006	0	18,700	9,100	9,520	3,890	3,145	137,000
2007	0	17,700	7,450	10,200	5,290	4,159	124,000

¹Compiled by C.A. DiFrancesco (retired) and J.B. Hedrick.

Data are calculated, estimated, or reported. See notes for more information.

Rare Earths Worksheet Notes

Data Sources

The sources of data for the rare earths worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR). The 17 rare-earth elements include the 15 lanthanides, scandium, and yttrium. The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data were not available or were withheld because they are proprietary.

Production

Production data were for the amount of contained rare earth oxides (REO) in bastnäsite and monazite ores produced in the United States. Blank cells in the worksheet indicate that data were not available for the years 1911–14, 1918–24, 1926–47, and 1949 and withheld for the years 1956 and 1962 in order to avoid disclosing proprietary data.

Imports

Import data were for the amount of contained REO in alloys, compounds, metals, and ores imported into the United States. Blank cells in the worksheet indicate that data were not available for the years 1900–21, 1932, 1934–35, and 1952.

Exports

Export data were for the amount of contained REO in alloys, compounds, metals, and ores exported from the United States. Blank cells in the worksheet indicate that data were not available for the years 1900–41, 1951–52, and 1966.

Apparent Consumption

Apparent consumption was estimated for the years 1900–10, 1915–17, 1922–31, 1933–41, 1945, and 1950 to the most recent by using the formula:

$$\text{APPARENT CONSUMPTION} = \text{PRODUCTION} + \text{IMPORTS} - \text{EXPORTS}.$$

Apparent consumption was interpolated for the years 1911–14, 1918–21, 1932, 1942–44, and 1946–49.

Unit Value (\$/t)

Unit value is the value in dollars of 1 metric ton (t) of REO apparent consumption. Unit value was estimated for the United States in actual dollars by a weighted average of imports and exports. Blank cells in the worksheet indicate that data were not available for the years 1900–21.

Unit Value (98\$/t)

The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars. Blank cells in the worksheet indicate that data were not available for the years 1900–21.

World Production

World production data were for REO content of ores produced.

References

- U.S. Bureau of Mines, 1927–34, Mineral Resources of the United States, 1924–31.
- U.S. Bureau of Mines, 1933–96, Minerals Yearbook, 1932–94.
- U.S. Geological Survey, 1901–27, Mineral Resources of the United States, 1900–23.
- U.S. Geological Survey, 1997–2008, Minerals Yearbook, v. I, 1995–2007.

Recommended Citation Format:

U.S. Geological Survey, [year of last update, e.g., 2005], [Mineral commodity, e.g., Gold] statistics, *in* Kelly, T.D., and Matos, G.R., comps., Historical statistics for mineral and material commodities in the United States: U.S. Geological Survey Data Series 140, available online at <http://pubs.usgs.gov/ds/2005/140/>. (Accessed [date].)

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