

SAND AND GRAVEL (CONSTRUCTION)¹(Data in million metric tons, unless otherwise noted)²

Domestic Production and Use: Construction sand and gravel valued at \$5.8 billion was produced by an estimated 4,000 companies from 6,300 operations in 50 States. Leading States, in order of decreasing tonnage, were California, Texas, Michigan, Arizona, Ohio, Minnesota, Washington, Colorado, and Wisconsin, which together accounted for about 51% of the total output. It is estimated that about 51% of the 1.13 billion metric tons of construction sand and gravel produced in 2002 was for unspecified uses. Of the remaining total, about 45% was used as concrete aggregates; 22% for road base and coverings and road stabilization; 13% as asphaltic concrete aggregates and other bituminous mixtures; 13% as construction fill; 2% for concrete products, such as blocks, bricks, pipes, etc.; 1% for plaster and gunite sands; and the remaining 4% for snow and ice control, railroad ballast, roofing granules, filtration, and other miscellaneous uses.

The estimated output of construction sand and gravel in the 48 conterminous States shipped for consumption in the first 9 months of 2002 was about 847 million tons, unchanged from the revised total for the same period of 2001. Additional production information by quarter for each State, geographic region, and the United States is published by the U.S. Geological Survey in the Mineral Industry Surveys for Crushed Stone and Sand and Gravel (quarterly).

Salient Statistics—United States:	1998	1999	2000	2001	2002^e
Production	1,070	1,110	1,120	1,130	1,130
Imports for consumption	1	2	3	4	4
Exports	2	2	2	3	3
Consumption, apparent	1,070	1,110	1,120	1,130	1,130
Price, average value, dollars per ton	4.57	4.73	4.81	5.02	5.14
Stocks, yearend	NA	NA	NA	NA	NA
Employment, quarry and mill, number ^e	35,600	37,800	37,800	37,500	35,300
Net import reliance ³ as a percentage of apparent consumption	—	—	(⁴)	(⁴)	(⁴)

Recycling: Asphalt road surfaces and cement concrete surfaces and structures were recycled on an increasing basis.

Import Sources (1998-2001): Canada, 66%; Mexico, 19%; The Bahamas, 4%; and other, 11%.

Tariff: Item	Number	Normal Trade Relations 12/31/02
Sand, construction	2505.90.0000	Free.
Gravel, construction	2517.10.0000	Free.

Depletion Allowance: Common varieties, 5% (Domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: Construction sand and gravel output remained at approximately 1.13 billion tons, about equal to that of 2001. It is estimated that 2003 domestic production and U.S. apparent consumption will be about 1.2 billion tons each, a slight increase. Aggregate consumption is expected to continue to grow slowly in response to the slowing economy and reductions in outlays for road and other construction. Although some areas of the country should experience increased sales and consumption of sand and gravel and other areas will have decreases, overall growth should be slightly positive.

The construction sand and gravel industry continues to be concerned with safety and health regulations and environmental restrictions. Movement of sand and gravel operations away from highly populated centers is expected to continue where local zoning and land development regulations discourage sand and gravel operations. Consequently, shortages of construction sand and gravel in urban and industrialized areas also are expected to increase.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves and reserve base⁵
	<u>2001</u>	<u>2002^e</u>	
United States	1,130	1,130	The reserves and reserve base are controlled largely by land use and/or environmental constraints.
Other countries ⁶	<u>NA</u>	<u>NA</u>	
World total	NA	NA	

World Resources: Sand and gravel resources of the world are large. However, because of their geographic distribution, environmental restrictions, and quality requirements for some uses, their extraction is uneconomic in some cases. The most important commercial sources of sand and gravel have been river flood plains, river channels, and glacial deposits. Offshore deposits are being used presently in the United States, mostly for beach erosion control. Other countries mine offshore deposits of aggregates for onshore construction projects.

Substitutes: Crushed stone remains the predominant choice for construction aggregate use.

^eEstimated. NA Not available. — Zero.

¹See also Sand and Gravel (Industrial).

²See Appendix A for conversion to short tons.

³Defined as imports - exports + adjustments for Government and industry stock changes; changes in stocks not available and assumed to be zero.

⁴Less than ½ unit.

⁵See Appendix C for definitions.

⁶No reliable production information for other countries is available, owing to a wide variation of ways in which countries report their sand and gravel production. Some countries do not report production for this mineral commodity. Production information for some countries is available in the country chapters of the USGS Minerals Yearbook.