

**SAND AND GRAVEL (CONSTRUCTION)<sup>1</sup>**(Data in million metric tons unless otherwise noted)<sup>2</sup>

**Domestic Production and Use:** Construction sand and gravel valued at \$7.2 billion was produced by an estimated 4,100 companies and government agencies from about 6,300 operations in 50 States. Leading producing States were, in order of decreasing tonnage, Texas, California, Minnesota, Washington, Michigan, Colorado, Arizona, North Dakota, Wisconsin, and Ohio, which together accounted for about 55% of total output. It is estimated that about 45% of construction sand and gravel was used as concrete aggregates; 25% for road base and coverings and road stabilization; 13% as asphaltic concrete aggregates and other bituminous mixtures; 12% as construction fill; 1% each for concrete products, such as blocks, bricks, and pipes; plaster and gunite sands; and snow and ice control; and the remaining 2% for filtration, golf courses, railroad ballast, roofing granules, and other miscellaneous uses.

The estimated output of construction sand and gravel in the 48 continuous States, 702 million tons shipped for consumption in the first 9 months of 2015, was 5% higher than the 672 million tons estimated for the same period in 2014. Additional production information by quarter for each State, geographic region, and the United States is published by the U.S. Geological Survey (USGS) in its quarterly Mineral Industry Surveys for Crushed Stone and Sand and Gravel.

<b>Salient Statistics—United States:</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015<sup>e</sup></b>
Production	809	816	850	<sup>a</sup> 904	931
Imports for consumption	3	4	4	5	4
Exports	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Consumption, apparent	812	820	854	908	935
Price, average value, dollars per ton	7.49	7.66	7.61	7.68	7.72
Employment, mines, mills, and shops, number	29,800	30,600	30,000	28,600	28,100
Net import reliance <sup>4</sup> as a percentage of apparent consumption	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

**Recycling:** Recycling of asphalt road surface layers, cement concrete surface layers, and concrete structures was increasing, although it was still a small percentage of aggregates consumption.

**Import Sources (2011–14):** Canada, 89%; Mexico, 7%; Norway, 1%; and other, 3%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12–31–15</b>
Sand, silica and quartz, less than 95% silica	2505.10.5000	Free.
Sand, other	2505.90.0000	Free.
Pebbles and gravel	2517.10.0015	Free.

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

**Government Stockpile:** None.

## SAND AND GRAVEL (CONSTRUCTION)

**Events, Trends, and Issues:** With U.S. economic activity gradually improving, construction sand and gravel output for 2015 increased by about 3% compared with that of 2014. According to the U.S. Census Bureau of the Department of Commerce, construction spending in the United States for the first 10 months of 2015 increased by about 4% compared to the same period in 2014. These numbers are also reflected in the quarterly reports with a steady increase over the last five quarters in sand and gravel sales. However, production remains significantly lower than that of 2006 when sand and gravel reached an alltime high of 1.34 billion tons, before the recession began in 2008.

The construction sand and gravel industry remained concerned with environmental, health, permitting, safety, and zoning regulations. Movement of sand and gravel operations away from densely populated regions was expected to continue, driven by regulations and local sentiment. Resultant regional shortages of construction sand and gravel could thus result in higher-than-average price increases in industrialized and urban areas. Owing to the strengthening demand for sand in other parts of the world, there is an increasing trend in illegal sand mining and dredging. This is fueled largely by the demand for concrete, which uses large quantities of sand.

### World Mine Production and Reserves:

	Mine production <sup>e</sup>		Reserves <sup>5</sup>
	2014	2015	
United States	904	931	Reserves are controlled largely by land use and (or) environmental concerns.
Other countries <sup>6</sup>	NA	NA	
World total	NA	NA	

**World Resources:** Sand and gravel resources of the world are plentiful. However, because of environmental restrictions, geographic distribution, and quality requirements for some uses, sand and gravel extraction is uneconomic in some locations. The most important commercial sources of sand and gravel have been glacial deposits, river channels, and river flood plains. Use of offshore deposits in the United States is mostly restricted to beach erosion control and replenishment. Other countries routinely mine offshore deposits of aggregates for onshore construction projects.

**Substitutes:** Crushed stone, the other major construction aggregate, is often substituted for natural sand and gravel, especially in more densely populated areas of the Eastern United States. Crushed stone remains the dominant choice for construction aggregate use. Increasingly, recycled asphalt and portland cement concretes are being substituted for virgin aggregate, although the percentage of total aggregate supplied by recycled materials remained small in 2015.

<sup>e</sup>Estimated. NA Not available.

<sup>1</sup>See also Sand and Gravel (Industrial) and Stone (Crushed).

<sup>2</sup>See [Appendix A](#) for conversion to short tons.

<sup>3</sup>Less than ½ unit.

<sup>4</sup>Defined as imports – exports.

<sup>5</sup>See [Appendix C](#) for resource/reserve definitions and information concerning data sources.

<sup>6</sup>No reliable production information is available for most countries owing to the wide variety 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.