



# 2017 Minerals Yearbook

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**STONE, CRUSHED [ADVANCE RELEASE]**

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# STONE, CRUSHED

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A total of 1.37 billion metric tons (Gt) of crushed stone was produced for consumption in the United States in 2017, a slight increase from the total production of 2016 but 23% less than the record high of 1.78 Gt in 2006 (fig. 1). In 2017, the total value of crushed stone produced in the United States was \$15.7 billion, an increase of 4.4% compared with that of 2016 (table 1). The average unit value for crushed stone increased by 3.4% compared with the average unit value for 2016. Employment increased slightly to 68,600 employees working at operations identified by the Mine Safety and Health Administration (MSHA) as producing crushed stone.

About 69% of crushed stone production was limestone and dolomite, followed by, in descending order of tonnage, granite, traprock, miscellaneous stone, sandstone and quartzite, marble, volcanic cinder and scoria, calcareous marl, slate, and shell (table 2).

Foreign trade in crushed stone remained relatively small compared with nationwide consumption. In 2017, U.S. exports increased by 20% to 634,000 metric tons (t) compared with 530,000 t in 2016; the value increased by 13% to \$53.3 million compared with \$47.1 million in 2016 (tables 1, 17). U.S. imports of crushed stone, including calcium carbonate fines, decreased by 6.2% to 18.5 million metric tons (Mt), and the value decreased by 12% to \$185 million compared with 2016 totals (tables 1, 18). Apparent domestic consumption of crushed stone, which is defined as production for consumption (sold or used) plus recycling and imports minus exports, was about the same as that of 2016.

Stone is one of the most accessible natural resources on Earth and one of the fundamental building blocks of society. Stone has been used since the beginning of civilization in a variety of ways that have increased in number and complexity alongside technological progress. Today, in its crushed form, stone is a basic, major, raw material for the construction industry, agriculture, and industries that use complex chemical and metallurgical processes. Despite the relatively low but increasing unit value of its basic products, the crushed stone industry is a major contributor to, and an indicator of, the economic well-being of the Nation. Construction aggregates are the combination of crushed stone and construction sand and gravel. The construction sand and gravel industry is reviewed in a separate chapter of the U.S. Geological Survey (USGS) Minerals Yearbook, volume I, Metals and Minerals, and both mineral commodities are usually included in any review of the national or State aggregates industry.

## Production

Domestic production data for crushed stone were derived by the USGS from voluntary surveys of U.S. producers. In 2017, a total of 1,433 companies produced or sold crushed stone from 3,313 operations with 3,441 quarries and 352 sales and (or)

distribution sites (table 16). Of the 3,313 active operations, 2,077 operations reported their production or sales to the USGS, and their total production was 1.07 Gt (78% of the U.S. total). Of the 2,077 reporting operations, 665 operations did not report a breakdown by end use. The total production for these operations was 418 Mt (30% of the U.S. total) and is included in table 9 under “Unspecified, reported” uses.

Production from the nonresponding quarries was estimated by using employment data provided by MSHA. The estimated output of 1,236 nonrespondent operations was 304 Mt (22% of the U.S. total) and is included in table 9 under “Unspecified, estimated” uses.

A total of 352 operations reported that they were active sales yards, and 176 of those operations reported that they sold only recycled aggregates. Virgin crushed stone sales were reported by the other 176 sales yards in 2017, and the total quantity of crushed stone sold from these operations was 40.9 Mt. Information on the number of active operations, including recycling operations, active quarries, dredging operations, types of processing plants, and number of sales yards is provided, by State, in table 16.

Crushed stone was sold in every State and produced in every State except Delaware. The 10 leading producing States were, in descending order of tonnage, Texas, Pennsylvania, Florida, Missouri, North Carolina, Ohio, Georgia, Virginia, Kentucky, and Illinois. The combined production of the 10 leading States increased slightly compared with that of 2016 and accounted for 52% of the national total (table 4).

Included in the total number of active operations for 2017 were 111 underground mines, which produced 102 Mt of crushed stone in 17 States. The five leading States for production from underground mines were, in descending order of tonnage, Kentucky, Missouri, Pennsylvania, Indiana, and Illinois. The combined production of the five leading States was 68.6 Mt (68% of the total of U.S. crushed stone produced underground).

A total of 241 crushed stone operations were either idle or presumed idle in 2017 because no production report was received, and no employment information was available to estimate production. Since the 2016 survey, 121 operations have closed. Most of the idle or closed operations were small, temporary quarries, some of which were operated by State or local governments. Operations in U.S. Territories are not included in the above count.

Of the total 1.37 Gt of crushed stone produced for consumption in the United States in 2017, 69% was limestone and dolomite, 15% was granite, 6.5% was traprock, 4.9% was miscellaneous stone, and 3.2% was sandstone and quartzite. The remaining 1.4% was shared, in descending order of tonnage, by marble, volcanic cinder and scoria, calcareous marl, slate, and shell. These percentages were calculated on the basis of the total

quantity of crushed stone produced for consumption that was reported and estimated, including individual quantities withheld to avoid the disclosure of company proprietary data (table 2).

A review of production by operation size at the national level indicated that in 2017, 717 Mt of crushed stone (52% of the total crushed stone) was produced by 386 operations reporting production of more than 1 million metric tons per year; 312 Mt (23%) was produced by 487 operations reporting production between 500,000 and 999,999 metric tons per year (t/yr); and 303 Mt (22%) was produced by 1,286 operations reporting production between 100,000 and 499,999 t/yr (table 5A). In 2017, by geographic region, the South had 1,227 active operations, followed by the Midwest with 982, the West with 579, and the Northeast with 525 (table 5B).

The leading producing companies in 2017 were, in descending order of tonnage, Vulcan Materials Co.; Martin Marietta Materials, Inc.; Oldcastle Materials, Inc.; Lehigh Hanson, Inc.; LafargeHolcim Ltd; CEMEX S.A.B. de C.V.; Carmeuse Lime & Stone; Rogers Group Inc.; Lhoist North America; and Luck Stone Corp. (table 19). In 2017, the combined production of the top 10 companies increased slightly to 647 Mt (47% of the national total) from 640 Mt in 2016. The combined production of the top 100 companies was 1.05 Gt (77% of the national total). The combined production of the leading 287 companies was 1.23 Gt of crushed stone, which means that 20% of the companies produced 89% of the total sales in 2017.

Production of crushed stone, by type, is detailed below.

**Calcareous Marl.**—The output of calcareous marl increased slightly compared with that of 2016 to 2.8 Mt valued at \$10.3 million (table 2).

**Dolomite.**—The production of dolomite increased by 3% compared with that of 2016 to 49.9 Mt valued at \$522 million (table 2). Crushed dolomite production was reported in 26 States. The leading producing States were, in descending order of tonnage, Pennsylvania, New York, and Utah; the total production of these three States was 34% of the total U.S. output (table 6). An additional undetermined amount of dolomite was included in the crushed limestone total, as explained in the limestone portion of the “Production” section.

**Granite.**—The output of crushed granite remained essentially unchanged from that of 2016, at 208 Mt valued at about \$3.0 billion (table 2). Crushed granite production was reported in 35 States. The leading producing States were, in descending order of tonnage, Georgia, North Carolina, Virginia, South Carolina, and California; the total production of these five States was 145 Mt (70% of the U.S. output) (table 7).

**Limestone.**—The output of crushed limestone (including some dolomite) increased slightly compared with that of 2016 to 902 Mt valued at \$9.5 billion (table 2). Limestone production was reported in 45 States, which included small quantities of limestone and dolomite that were produced in the same quarries. Companies in 29 States reported production of 41.5 Mt of limestone and dolomite combined, which was included with the limestone listed in table 2. The limestone totals listed in this chapter, therefore, include an undetermined amount of dolomite in addition to the dolomite reported separately. The leading producing States were, in descending order of tonnage, Texas, Florida, Missouri, Ohio,

and Pennsylvania; the total production of these five States was 400 Mt (44% of the total U.S. output) (table 6).

**Marble.**—The production of crushed marble decreased by 15% compared with the total for 2016 to 5.2 Mt valued at \$103 million (table 2). Crushed marble production was reported in 13 States (table 6).

**Miscellaneous Stone.**—This category includes three types of miscellaneous crushed stone production: (1) crushed stone reported by the company as “other” on the survey form or as a type of stone not listed in table 2, (2) an unknown stone type from a company or operation new to the survey, and (3) a known stone type when the amount reported must be withheld to protect company proprietary data. The concealed amount is added to the quantity of miscellaneous stone produced in that State and then published. The first year that an operation is added to the survey, its production is often estimated using MSHA employment data. The type of stone is updated when a response is received from the operation, and the data are revised for the next report.

The reported output of miscellaneous stone decreased slightly compared with the total for 2016 to 68.0 Mt valued at \$714 million (table 2). In 2017, the reported amount of miscellaneous stone accounted for 61% of the total output of miscellaneous stone and 48% of its value (table 8). The remaining 39% (43.0 Mt) of the total output consisted of known stone types for which data were withheld.

**Sandstone and Quartzite.**—The output of crushed sandstone and quartzite increased by 7% compared with the total for 2016 to 44.3 Mt valued at \$504 million (table 2). The leading producing States were, in descending order of combined tonnage of sandstone and quartzite, Pennsylvania, Arkansas, Colorado, South Dakota, and New York. Their combined total production was 28.3 Mt (64% of the U.S. output) (table 7). Crushed sandstone was produced in 29 States, and production was 32.4 Mt, which included 0.8 Mt of sandstone and quartzite produced in the same quarry. Crushed quartzite was produced in 17 States, and production was 11.1 Mt.

**Shell.**—Shell is derived mainly from fossil reefs or oyster shell banks. The output of crushed shell decreased by 58% compared with the total for 2016 to 207,000 t valued at \$1.6 million (table 2). Crushed shell was produced almost exclusively in Florida; only small amounts were produced in California and Texas (table 8).

**Slate.**—The output of crushed slate increased by 12% compared with that of 2016 to 1.3 Mt valued at \$16.6 million (table 2). Crushed slate was produced in nine States, with Alabama accounting for 50% of the total U.S. output (table 7).

**Traprock.**—Production of crushed traprock increased by 3.6% compared with the total for 2016 to 89.7 Mt valued at \$1.35 billion (table 2). Traprock production was reported in 29 States. The leading producing States were, in descending order of tonnage, New Jersey, Virginia, North Carolina, Oregon, and California; these five States produced 46.1 Mt (51% of the U.S. output) (table 7).

**Volcanic Cinder and Scoria.**—Production of volcanic cinder and scoria decreased by 4% compared with the total for 2016 to 3.1 Mt valued at \$16.5 million (table 2). Volcanic cinder and

scoria production was reported in 11 States, with Wyoming accounting for over one-half of the U.S. output (table 8).

## Consumption

Crushed stone production reported to the USGS is material either sold to other companies or consumers or used by producers. Stockpiled production is not included in the reported quantities. The “sold or used” tonnage, therefore, represents the amount of production, including some imports, released for domestic consumption or export in a given year. Because some of the crushed stone producers did not report a breakdown by end use, their total production was included in the “Unspecified, reported” use category. The estimated production of nonrespondents was included in the “Unspecified, estimated” use category.

The ultimate use of crushed stone determines the specification for particle size and gradation, shape, rock type, and chemical composition. Crushed stone can be used without any binder for a variety of construction or industrial applications, or it can be mixed with a matrix binding material, such as dark bituminous pitch (asphalt) or portland cement. The most common use of crushed stone for construction purposes is as aggregate without a binder, including road base or road-surfacing material, macadam, riprap, railroad ballast, and filter stone (table 9). The second-ranked use of crushed stone is as bituminous aggregate or concrete aggregate in a variety of forms and applications in residential and nonresidential construction, highway and road construction and repair, airports, dams, sewers, and foundations. Sized crushed stone is used as bituminous aggregate and road base. Broken surfaces adhere to the hot, dark, bituminous asphaltic mixture better than rounded surfaces and provide interlocking surfaces that tend to strengthen the asphaltic concrete. Broken particles pack better and tend to move less under load than rounded particles and, therefore, make a better road base product for highway and road construction. This characteristic is essential because the road base and asphaltic concrete tend to flow when placed under great or long duration stresses. Other uses include limestone for lime and portland cement manufacturing, as agricultural limestone for direct application to soil, as filler and conditioner for fertilizers, in animal mineral feeds, and as poultry grit. Smaller quantities of crushed stone are used for a variety of applications, such as in metallurgical fluxing of antimony, copper, iron, lead, and zinc; in the manufacture of glass, ceramic pottery, and paper; and as fillers and extenders in asphalt, paint, rubber, and plastics. Finely ground limestone is used to remove sulfur oxides from stack gases (primarily from coal-burning, electric-generating stations) and for mine dusting to enhance mine safety by reducing the explosion risk of highly combustible coal dust.

A total of 1.37 Gt of crushed stone was produced for consumption in the United States in 2017, a slight increase from the total of 2016. Of the 1.37 Gt of crushed stone produced for consumption, 30% was “Unspecified, reported,” and 22% was “Unspecified, estimated.” Of the remaining production reported by use, 72% was used as construction aggregate, mostly for highway and road construction and maintenance, as well as for a variety of building and other construction; 16% for cement manufacturing; 8% for lime manufacturing; less than 3% for miscellaneous uses and products, including other chemical and

special uses; and less than 2% for agricultural uses (table 9). In marketing analysis or use-pattern studies, the quantities included in unspecified uses may be prorated and added to the reported uses by applying the above percentages calculated for the reported quantities.

About 23% of the limestone produced annually is used to manufacture cement and lime. Totals in table 10 do not accurately account for the total amount used because the response rate of companies sending in limestone data by product or use is about 50%; however, the quantity of limestone needed to manufacture the amount of lime and cement that was produced can be estimated.

For high-calcium lime, under ideal conditions, 1.8 t of limestone is needed to produce 1 t of lime. This quantity excludes lime kiln dust, which may increase limestone requirements by 20% to 30% (H.G. van Oss, mineral commodity specialist, National Minerals Information Center, U.S. Geological Survey, written commun., September 12, 2015). The ratio can vary by producer from 2.5 to 4.0 t of limestone per ton of lime produced. For 2017, total lime produced in the United States was 17.6 Mt, which consumed between 44 and 70 Mt of limestone (Apodaca, 2020).

For cement, limestone is used to make clinker and as an additive in the finish mill to bulk out portland cement, to make certain types of blended cement, or to make most forms of masonry cement. The actual requirements cannot be easily calculated because portland cement manufacturers can use quite impure limestone. The theoretical requirements for clinker with 65% calcium oxide (CaO), assuming all of it comes from limestone, is 1.16 t of limestone per 650 kilograms of CaO (that is, per ton of clinker). Because of impurities in the limestone, moisture content, and cement kiln dust (commonly recycled), producers typically need about 1.50 t of limestone per ton of clinker. A single ton of clinker makes about 1.10 t of cement. Thus, producers consume about 1.36 t of limestone per ton of cement produced (H.G. van Oss, mineral commodity specialist, National Minerals Information Center, U.S. Geological Survey, written commun., September 12, 2015). In 2017, total cement produced in the United States was about 84 Mt, which consumed approximately 115 Mt of limestone (Curry, 2019, p. 24).

The value of the total construction put in place in 2017 increased by 5% compared with that of 2016 to \$1.25 trillion. The value of total private construction increased by 7% to \$963 billion. The value of total public construction decreased by 3% to \$283 billion (U.S. Census Bureau, 2018).

## Recycling

The recycling of many construction materials expanded, and construction aggregates producers actively recycled portland cement concrete and asphalt concrete materials recovered from construction projects for reuse as construction aggregate materials, especially for fill and road-base applications. Portland cement concrete was recycled at some quarries and increasingly at sales yards and distribution sites, whereas asphalt concrete was often recycled in place. The USGS surveyed construction aggregate mining companies and a few construction and demolition companies, which reported the following data. The lack of data from the construction and demolition industry

represents a large unknown percentage of the actual U.S. total of recycled construction aggregates.

**Recycled Asphalt Concrete.**—Companies reported that asphalt concrete was recycled in every State except Hawaii and West Virginia. The U.S. total was 18.3 Mt of recycled asphalt valued at \$156 million (table 14). The leading States for 2017 were, in descending order of tonnage of recycled asphalt, California, Minnesota, Illinois, South Carolina, and North Carolina. The combined total for these States was 8.0 Mt, which accounted for 44% of the U.S. total.

Since 2010, the National Asphalt Pavement Association, in partnership with the Federal Highway Administration, has been conducting an annual survey of the asphalt pavement industry on the use of recycled materials. It was reported that more than 99 percent of the reclaimed asphalt pavement (RAP) was recycled and reused. The disposal of RAP in construction and demolition landfills is rare. In 2017, the average percentage of RAP used in asphalt mixtures was around 20%, which was estimated to be 76 Mt (Williams and others, 2019).

**Recycled Portland Cement Concrete.**—Recycling of portland cement concrete, valued at \$185 million, was reported in 46 States (table 15). The leading States for 2017 were, in descending order of tonnage of recycled concrete, Texas, California, Illinois, Minnesota, and Virginia. The combined total for these States was 13.1 Mt, which accounted for 55% of the U.S. total.

## Transportation

No means of transportation was reported by the producers for 863 Mt of the 1.37 Gt of crushed stone produced for consumption in 2017. Of the remaining 510 Mt of crushed stone, 80% was reported as transported by truck from the quarry or the processing plant to the first point of sale or use, 7% by waterway, and 3% by rail. About 43.9 Mt of the specified production was reported as not transported and, therefore, is assumed to have been used onsite.

Shipment by truck remains the most widely used method of transportation for crushed stone. The significant increase in the number of sales and distribution yards in the past few years and the increase in the volume of crushed stone sold at these sites affected the markets they serve, especially in areas without sufficient resources to support the quarrying of crushed stone. Distribution yards, supplied by rail or waterway, are located near metropolitan areas and significantly reduce the distance trucks must travel to pick up and deliver crushed stone. Therefore, the transportation costs are reduced, as is the effect of heavy-vehicle traffic on the infrastructure and the environment. Sales yards serve as distribution sites and, increasingly, as recycling sites.

## Prices

Prices in this chapter are the annual average free-on-board plant prices, usually at the first point of sale or captive use, as reported by crushed stone producing companies. This value does not include transportation from the plant or yard to the consumer. The value does include all the costs of mining, processing, in-plant transportation, overhead, and profit. In 2016, 993 operations reported the monetary value of their

production with an average unit value of \$12.28 per metric ton. In 2017, 991 operations reported the monetary value of their production with an average unit value of \$12.68 per metric ton, which was an increase of 3.2% compared with that of 2016. Leading U.S. producers reported that prices increased by 3% to 6% in 2017. For those operations that reported production only, the unit values for specific end uses were estimated on the basis of reported values for those specific uses in the same State. The reported State average was used in the estimation for operations reporting total production only and for operations that did not respond to the survey.

Additional information regarding prices of crushed stone by type of rock and uses in the United States, and each State, can be found throughout the tables included in this chapter.

## Foreign Trade

The widespread distribution of domestic deposits of stone suitable for mining as crushed stone, the large number of existing active operations around the country, and the high cost of transportation limit foreign trade to mostly local transactions across international boundaries. U.S. imports and exports continue to be small, representing slightly more than 1% of domestic consumption.

Information on imports of crushed stone used for this report was derived from two sources. The primary source was import and export data from the U.S. Census Bureau (tables 1, 17–18). Additionally, companies provided import data when reporting the amount sold or used for consumption at each operation, usually a sales yard. The tonnage reported was attributed to the State where it was first sold or used; for example, the crushed stone imported to Florida from Mexico was counted in the total of crushed stone sold or used in Florida (table 4). This accounting practice was the same practice used for large quantities of crushed stone transported from one State to another. For example, crushed stone mined in Kentucky and shipped down the Mississippi River for use in Louisiana was included in the total of crushed stone sold or used in Louisiana.

**Exports.**—Exports of crushed stone increased by 20% to 634,000 t compared with the total of 530,000 t in 2016, and the value increased by 13% to \$53.3 million (table 1). Total exports of crushed stone to Canada, Guadeloupe, Mexico, and Nicaragua increased, and exports to The Bahamas and the British Virgin Islands decreased. In 2017, exports of crushed limestone for cement manufacturing had an average unit value of \$363 per ton (table 17).

**Imports.**—Imports of crushed stone decreased by 6.2% to 18.5 Mt compared with those of 2016, and the value decreased by 12% to \$185 million (table 1). Of the imported crushed stone, 68% was limestone used as construction aggregate, flux stone, and in cement manufacturing (table 18). Based on detailed import data from the U.S. Census Bureau, imports of limestone from The Bahamas increased by 9% to 2.19 Mt from 2.01 Mt in 2016. During the same period, imports of limestone from Mexico decreased by 19% to 8.06 Mt from 10.0 Mt. The customs districts of Houston-Galveston, TX; Laredo, TX; Mobile, AL; New Orleans, LA; and Tampa, FL, received 73% of total imports of crushed stone in to the United States in 2017. The Tampa, FL, customs district received 61% of the limestone

imported from The Bahamas. More than one-half of the crushed stone imported from Canada went through the Seattle, WA, and Tampa, FL, customs districts. The customs districts of Houston-Galveston, TX; Laredo, TX; New Orleans, LA; and Tampa, FL, received 84% of total imports of crushed stone from Mexico.

## Outlook

The crushed stone industry is cyclical, reacting to the levels of activity in public infrastructure projects, commercial and residential construction markets, and other types of construction. The residential construction slowdown in the United States that began in 2006 led to decreased consumption of crushed stone. After 4 years of decline, residential construction appeared to level off in late 2010, and crushed stone production has increased every year since 2012 (fig. 1). Crushed stone production is estimated to increase by 4% in 2018 to around 1.4 billion metric tons (Willett, 2019).

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TABLE 1  
SALIENT CRUSHED STONE STATISTICS<sup>1</sup>

(Thousand metric tons and thousand dollars)

	2013	2014	2015	2016	2017
<u>Sold or used by producers:<sup>2</sup></u>					
Quantity	1,200,000 <sup>r</sup>	1,250,000	1,340,000	1,360,000	1,370,000
Value	11,800,000	12,800,000 <sup>r</sup>	14,100,000 <sup>r</sup>	15,100,000	15,700,000
<u>Recycle:</u>					
Quantity	40,000	40,500	48,100	48,700 <sup>r</sup>	42,100
Value	309,000	309,000	380,000	393,000 <sup>r</sup>	341,000
<u>Exports:</u>					
Quantity	395	455	427	530	634
Value	51,000	48,600	44,200	47,100	53,300
<u>Imports for consumption:<sup>3</sup></u>					
Quantity	15,600	17,700	19,900	19,700	18,500
Value	162,000	194,000	229,000 <sup>r</sup>	210,000 <sup>r</sup>	185,000
<u>Employment:<sup>4</sup></u>					
	65,900	65,600	67,100	68,100	68,600

<sup>r</sup>Revised.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits.

<sup>2</sup>Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

<sup>3</sup>Excludes precipitated calcium carbonate.

<sup>4</sup>Average number of employees including office staff. Source: Mine Safety and Health Administration.

TABLE 2  
CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE<sup>1,2</sup>

Type	2016 <sup>3</sup>				2017			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone <sup>4</sup>	2,034	894,000	\$9,110,000	\$10.20	1,922	902,000	\$9,460,000	\$10.49
Dolomite	120	48,600	494,000	10.17	102	49,900	522,000	10.45
Marble	22	6,090	117,000	19.27	18	5,160	103,000	19.94
Calcareous marl	4	2,790	10,700	3.82	4	2,800	10,300	3.68
Shell	8	499	4,540	9.09	6	207	1,640	7.93
Granite	405	208,000	2,890,000	13.91	388	208,000	3,030,000	14.57
Traprock	293	86,600	1,230,000	14.17	268	89,700	1,350,000	15.10
Sandstone and quartzite <sup>5</sup>	219	41,200	455,000	11.03	196	44,300	504,000	11.37
Slate	23	1,170	15,800	13.50	17	1,310	16,600	12.67
Volcanic cinder and scoria	35	3,240	18,800	5.80	35	3,110	16,500	5.32
Miscellaneous stone	562	69,400	716,000	10.32	485	68,000	714,000	10.50
Total or average	3,725	1,360,000	15,100,000	11.07	3,441	1,370,000	15,700,000	11.45

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit values; may not add to totals shown.

<sup>2</sup>Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

<sup>3</sup>Estimated quantities have been recalculated.

<sup>4</sup>Includes limestone/dolomite reported with no distinction between the two kinds of stone.

<sup>5</sup>Includes sandstone, quartzite, and sandstone/quartzite where no distinction was reported between the two kinds of stone.

TABLE 3  
CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY GEOGRAPHIC DIVISION<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Region and division	2016 <sup>3</sup>		2017	
	Quantity	Value	Quantity	Value
<b>Northeast:</b>				
New England	39,000	479,000	38,700	479,000
Middle Atlantic	141,000	1,770,000	141,000	1,830,000
Total	180,000	2,250,000	180,000	2,300,000
<b>Midwest:</b>				
East North Central	221,000	1,990,000	222,000	2,080,000
West North Central	147,000	1,330,000	146,000	1,340,000
Total	368,000	3,320,000	368,000	3,420,000
<b>South:</b>				
South Atlantic	301,000	4,260,000	308,000	4,520,000
East South Central	135,000	1,500,000	137,000	1,560,000
West South Central	228,000	2,340,000	228,000	2,450,000
Total	664,000	8,100,000	673,000	8,540,000
<b>West:</b>				
Mountain	65,200	530,000	69,300	572,000
Pacific	84,000	864,000	83,200	893,000
Total	149,000	1,390,000	152,000	1,470,000
Grand total	1,360,000	15,100,000	1,370,000	15,700,000

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

<sup>3</sup>Estimated quantities have been recalculated.



TABLE 4  
CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE AND TERRITORY<sup>1</sup>

State	2016 <sup>2</sup>			2017		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	38,900	\$423,000	\$10.90	39,000	\$433,000	\$11.09
Alaska	749	15,300	20.40	515	10,600	20.52
Arizona	10,100	97,700	9.69	10,700	99,900	9.36
Arkansas	29,400	264,000	8.96	30,600	290,000	9.47
California	42,300	384,000	9.07	43,400	412,000	9.50
Colorado	15,400	148,000	9.59	16,700	162,000	9.71
Connecticut	9,480	146,000	15.44	9,640	150,000	15.61
Delaware <sup>3</sup>	W	W	W	W	W	W
Florida	73,900	927,000	12.54	73,400	936,000	12.75
Georgia	53,900	787,000	14.60	53,200	826,000	15.54
Hawaii	5,260	105,000	19.95	5,090	111,000	21.83
Idaho	4,640	32,400	6.98	4,060	29,100	7.18
Illinois	50,200	531,000	10.56	49,500	538,000	10.87
Indiana	47,400	390,000	8.24	48,300	420,000	8.69
Iowa	37,400	402,000	10.74	36,200	406,000	11.22
Kansas	16,900	144,000	8.53	15,600	133,000	8.54
Kentucky	50,100	463,000	9.23	50,700	476,000	9.38
Louisiana <sup>3</sup>	W	W	W	W	W	W
Maine	4,170	29,900	7.16	4,320	29,100	6.73
Maryland	22,100	258,000	11.66	24,300	295,000	12.12
Massachusetts	12,600	174,000	13.81	12,700	178,000	13.96
Michigan	37,300	240,000	6.44	39,100	255,000	6.51
Minnesota	7,340	93,300	12.72	7,240	97,600	13.47
Mississippi <sup>3</sup>	2,170	64,100	29.50	2,000	60,700	30.36
Missouri	71,300	552,000	7.74	73,300	560,000	7.63
Montana	2,800	25,700	9.20	2,680	23,800	8.88
Nebraska	6,880	86,000	12.51	7,060	89,200	12.63
Nevada	9,760	78,400	8.04	11,400	96,000	8.44
New Hampshire	5,660	55,300	9.78	5,190	51,900	10.01
New Jersey	16,600	159,000	9.59	17,100	192,000	11.18
New Mexico	4,760	43,800	9.21	4,410	40,000	9.07
New York	38,300	468,000	12.21	37,000	463,000	12.52
North Carolina	57,800	962,000	16.63	60,200	1,030,000	17.07
North Dakota	734	6,840	9.33	427	2,550	5.98
Ohio	61,200	626,000	10.23	59,800	666,000	11.14
Oklahoma	37,200	339,000	9.11	35,700	339,000	9.51
Oregon	20,200	147,000	7.29	19,300	149,000	7.73
Pennsylvania	85,800	1,140,000	13.32	87,300	1,170,000	13.41
Rhode Island	2,280	24,500	10.76	2,230	24,100	10.79
South Carolina	28,200	337,000	11.92	29,100	367,000	12.63
South Dakota	6,850	49,100	7.16	6,440	47,800	7.42
Tennessee	43,700	550,000	12.58	45,600	589,000	12.90
Texas	158,000	1,650,000	10.45	159,000	1,760,000	11.09
Utah	7,800	57,800	7.41	9,520	71,600	7.52
Vermont	4,800	49,100	10.24	4,570	45,800	10.02
Virginia	50,000	822,000	16.44	52,800	896,000	16.95
Washington	15,500	213,000	13.74	14,900	210,000	14.09
West Virginia	14,300	161,000	11.24	14,600	165,000	11.25
Wisconsin	24,700	200,000	8.08	25,100	207,000	8.23
Wyoming	9,950	46,000	4.62	9,850	49,200	4.99
Other	4,040	92,900	23.01	3,220	75,400	23.43
U.S. total or average	1,360,000	15,100,000	11.07	1,370,000	15,700,000	11.45

See footnotes at end of table.

TABLE 4—Continued  
CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE AND TERRITORY<sup>1</sup>

State Territory	2016 <sup>2</sup>			2017		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
American Samoa <sup>4</sup>	(5)	(5)	(5)	(5)	(5)	(5)
Guam	(5)	(5)	(5)	(5)	(5)	(5)
Puerto Rico	4,490	44,000	9.80	5,060	48,700	9.62
Virgin Islands	(5)	(5)	(5)	(5)	(5)	(5)
Grand total or average	1,370,000	15,100,000	11.07	1,380,000	15,800,000	11.45

W Withheld to avoid disclosing company proprietary data; included with “Other.”

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Estimated quantities have been recalculated.

<sup>3</sup>Significant quantities of sold or used material were shipped in from other States.

<sup>4</sup>Includes Tutuila Island and dependencies.

<sup>5</sup>Withheld to avoid disclosing company proprietary data; included in “Grand total or average.”

TABLE 5A  
CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY SIZE OF OPERATION<sup>1,2</sup>

Size range (metric tons)	2016 <sup>3</sup>				2017			
	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total
Less than 25,000	496	14.7	4,670	0.3	477	14.4	4,240	0.3
25,000 to 49,999	279	8.3	9,410	0.7	244	7.4	8,360	0.6
50,000 to 99,999	421	12.5	28,200	2.1	433	13.1	28,900	2.1
100,000 to 199,999	530	15.7	69,600	5.1	480	14.5	62,700	4.6
200,000 to 299,999	329	9.7	74,100	5.4	362	10.9	81,300	5.9
300,000 to 399,999	289	8.6	91,300	6.7	243	7.3	77,500	5.6
400,000 to 499,999	157	4.6	63,600	4.7	201	6.1	81,500	5.9
500,000 to 599,999	157	4.6	78,000	5.7	128	3.9	63,600	4.6
600,000 to 699,999	105	3.1	62,200	4.6	142	4.3	83,700	6.1
700,000 to 799,999	93	2.8	62,900	4.6	83	2.5	56,100	4.1
800,000 to 899,999	73	2.2	56,200	4.1	71	2.1	54,600	4.0
900,000 to 999,999	58	1.7	49,900	3.7	63	1.9	54,000	3.9
1,000,000 to 1,499,999	176	5.2	192,000	14.1	170	5.1	186,000	13.6
1,500,000 to 1,999,999	102	3.0	158,000	11.6	95	2.9	147,000	10.7
2,000,000 to 2,499,999	36	1.1	71,700	5.3	46	1.4	91,200	6.6
2,500,000 to 4,999,999	60	1.8	181,000	13.3	55	1.7	161,000	11.7
5,000,000 and more	16	0.5	109,000	8.0	20	0.6	132,000	9.6
Total	3,377	100	1,360,000	100	3,313	100	1,370,000	100

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits except “Number of operations”; may not add to totals shown.

<sup>2</sup>Does not include recycling plants.

<sup>3</sup>Estimated quantities have been recalculated.

TABLE 5B  
CRUSHED STONE SOLD OR USED IN THE UNITED STATES IN 2017, BY REGION AND SIZE OF OPERATION<sup>1,2</sup>

Size range (metric tons)	Northeast				Midwest			
	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total
Less than 25,000	70	13.3	602	0.3	154	15.7	1,390	0.4
25,000 to 49,999	46	8.8	1,490	0.8	74	7.5	2,570	0.7
50,000 to 99,999	58	11.0	3,910	2.2	127	12.9	8,360	2.3
100,000 to 199,999	77	14.7	9,880	5.5	163	16.6	21,400	5.8
200,000 to 299,999	55	10.5	12,300	6.8	122	12.4	27,300	7.4
300,000 to 399,999	46	8.8	14,700	8.2	66	6.7	20,900	5.7
400,000 to 499,999	34	6.5	13,700	7.6	67	6.8	27,200	7.4
500,000 to 599,999	27	5.1	13,300	7.4	37	3.8	18,400	5.0
600,000 to 699,999	23	4.4	13,500	7.5	28	2.9	16,400	4.5
700,000 to 799,999	17	3.2	11,400	6.4	16	1.6	10,800	2.9
800,000 to 899,999	17	3.2	12,900	7.2	15	1.5	11,400	3.1
900,000 to 999,999	13	2.5	11,300	6.3	16	1.6	13,600	3.7
1,000,000 to 1,499,999	26	5.0	28,300	15.7	39	4.0	42,900	11.7
1,500,000 to 1,999,999	5	1.0	7,620	4.2	22	2.2	34,500	9.4
2,000,000 to 2,499,999	7	1.3	13,500	7.5	11	1.1	21,800	5.9
2,500,000 and more	4	0.8	11,600	6.5	25	2.5	89,000	24.2
Total	525	100	180,000	100	982	100	368,000	100

Size range (metric tons)	South				West			
	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total	Number of operations	Percent of total	Quantity (thousand metric tons)	Percent of total
Less than 25,000	127	10.4	1,160	0.2	126	21.8	1,100	0.7
25,000 to 49,999	57	4.6	1,970	0.3	67	11.6	2,330	1.5
50,000 to 99,999	128	10.4	8,550	1.3	120	20.7	8,030	5.3
100,000 to 199,999	152	12.4	20,300	3.0	88	15.2	11,100	7.3
200,000 to 299,999	144	11.7	32,600	4.8	41	7.1	9,140	6.0
300,000 to 399,999	103	8.4	32,700	4.9	28	4.8	9,240	6.1
400,000 to 499,999	76	6.2	30,800	4.6	24	4.1	9,800	6.4
500,000 to 599,999	53	4.3	26,400	3.9	11	1.9	5,450	3.6
600,000 to 699,999	78	6.4	46,100	6.8	13	2.2	7,770	5.1
700,000 to 799,999	44	3.6	29,800	4.4	6	1.0	3,990	2.6
800,000 to 899,999	35	2.9	27,200	4.0	4	0.7	3,040	2.0
900,000 to 999,999	27	2.2	23,300	3.5	7	1.2	5,830	3.8
1,000,000 to 1,499,999	84	6.8	91,700	13.6	21	3.6	23,200	15.2
1,500,000 to 1,999,999	56	4.6	86,000	12.8	12	2.1	18,600	12.2
2,000,000 to 2,499,999	26	2.1	51,900	7.7	2	0.3	3,990	2.6
2,500,000 and more	37	3.0	163,000	24.2	9	1.6	29,800	19.5
Total	1,227	100	673,000	100	579	100	152,000	100

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits except "Number of operations"; may not add to totals shown.

<sup>2</sup>Does not include recycling plants.

TABLE 6  
LIMESTONE, DOLOMITE, CALCAREOUS MARL, AND MARBLE SOLD OR USED BY PRODUCERS IN THE UNITED STATES  
IN 2017, BY STATE<sup>1</sup>

(Thousand metric tons and thousand dollars)

State	Limestone		Dolomite		Calcareous marl		Marble	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	32,100 <sup>2</sup>	344,000	661	8,650	--	--	(3)	(3)
Alaska	--	--	--	--	--	--	--	--
Arizona	3,590 <sup>2</sup>	28,100	--	--	--	--	--	--
Arkansas	14,100	114,000	596	7,400	--	--	--	--
California	17,000 <sup>2</sup>	112,000	53	747	--	--	(3)	(3)
Colorado	2,280 <sup>2</sup>	20,800	1,730	18,300	--	--	--	--
Connecticut	1,020 <sup>2</sup>	16,600	25	844	--	--	279	4,370
Delaware	(3)	(3)	--	--	--	--	--	--
Florida	72,500 <sup>2</sup>	920,000	(4)	(4)	--	--	--	--
Georgia	4,290	68,400	--	--	--	--	1,740	42,800
Hawaii	--	--	--	--	--	--	--	--
Idaho	(3)	(3)	--	--	--	--	(3)	(3)
Illinois	49,200 <sup>2</sup>	534,000	(4)	(4)	--	--	--	--
Indiana	48,000 <sup>2</sup>	417,000	(4)	(4)	--	--	--	--
Iowa	35,900 <sup>2</sup>	403,000	228	2,440	--	--	--	--
Kansas	14,600 <sup>2</sup>	124,000	--	--	--	--	--	--
Kentucky	50,700 <sup>2</sup>	476,000	--	--	--	--	--	--
Louisiana	(3)	(3)	--	--	--	--	--	--
Maine	1,820	5,630	--	--	--	--	--	--
Maryland	15,300 <sup>2</sup>	163,000	--	--	--	--	112	1,300
Massachusetts	876 <sup>2</sup>	20,000	889	12,400	--	--	--	--
Michigan	38,400 <sup>2</sup>	250,000	(4)	(4)	(3)	(3)	--	--
Minnesota	2,070 <sup>2</sup>	25,800	1,370	17,800	--	--	--	--
Mississippi	(3)	(3)	--	--	--	--	--	--
Missouri	66,300 <sup>2</sup>	468,000	1,940	15,200	--	--	--	--
Montana	2,000	16,300	--	--	--	--	--	--
Nebraska	(3)	(3)	--	--	--	--	--	--
Nevada	4,360 <sup>2</sup>	33,800	(4)	(4)	--	--	--	--
New Hampshire	--	--	--	--	--	--	--	--
New Jersey	466	4,540	--	--	--	--	--	--
New Mexico	2,050	16,000	--	--	--	--	--	--
New York	22,700 <sup>2</sup>	266,000	5,270	69,600	--	--	15	184
North Carolina	3,890 <sup>2</sup>	68,100	326	5,430	--	--	--	--
North Dakota	--	--	--	--	--	--	--	--
Ohio	58,000 <sup>2</sup>	644,000	1,240	11,800	--	--	--	--
Oklahoma	30,300 <sup>2</sup>	284,000	(4)	(4)	--	--	--	--
Oregon	1,080	4,770	--	--	--	--	--	--
Pennsylvania	53,700 <sup>2</sup>	637,000	7,800	92,600	--	--	(3)	(3)
Rhode Island	--	--	--	--	--	--	--	--
South Carolina	6,370	58,600	--	--	(3)	(3)	(3)	(3)
South Dakota	2,280 <sup>2</sup>	11,400	--	--	--	--	--	--
Tennessee	43,700 <sup>2</sup>	565,000	(4)	(4)	--	--	--	--
Texas	150,000 <sup>2</sup>	1,670,000	(4)	(4)	(3)	(3)	16	2,330
Utah	3,790	28,100	3,720	29,700	--	--	--	--
Vermont	2,180 <sup>2</sup>	21,500	(4)	(4)	--	--	--	--
Virginia	18,500 <sup>2</sup>	292,000	(4)	(4)	--	--	(3)	(3)
Washington	774 <sup>2</sup>	13,400	6	96	--	--	(3)	(3)
West Virginia	13,700	152,000	--	--	--	--	--	--
Wisconsin	20,800 <sup>2</sup>	155,000	407	2,170	--	--	126	887
Wyoming	3,310	20,500	--	--	--	--	--	--
Total	914,000	9,470,000	26,300	295,000	(3)	(3)	2,290	51,900

-- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes limestone/dolomite reported with no distinction between the two kinds of stone.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included with "Miscellaneous stone" on table 8.

<sup>4</sup>Withheld to avoid disclosing company proprietary data; included with "Limestone."

TABLE 7  
 GRANITE, TRAPROCK, SANDSTONE AND QUARTZITE, AND SLATE SOLD OR USED BY PRODUCERS IN THE UNITED STATES  
 IN 2017, BY STATE<sup>1</sup>

(Thousand metric tons and thousand dollars)

State	Granite		Traprock		Sandstone and quartzite <sup>2</sup>		Slate	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	2,940	37,400	--	--	939	11,900	662	7,680
Alaska	111	6,560	(3)	(3)	--	--	--	--
Arizona	3,610	43,400	(3)	-3	(3)	(3)	--	--
Arkansas	7,140	78,200	--	--	7,370	76,800	(3)	(3)
California	13,200	141,000	6,920	78,500	951	17,600	8	72
Colorado	5,980	62,700	(3)	(3)	5,880	51,000	--	--
Connecticut	668	10,500	6,510	101,000	--	--	--	--
Delaware	--	--	(3)	(3)	--	--	--	--
Florida	588	12,600	--	--	116	1,470	--	--
Georgia	46,300	699,000	--	--	538	9,050	(3)	(3)
Hawaii	--	--	4,620	102,000	--	--	--	--
Idaho	(3)	(3)	1,050	6,620	52	367	--	--
Illinois	--	--	--	--	9	192	--	--
Indiana	--	--	--	--	--	--	--	--
Iowa	--	--	--	--	--	--	--	--
Kansas	--	--	--	--	1,040	9,230	--	--
Kentucky	--	--	--	--	--	--	--	--
Louisiana	--	--	--	--	(3)	(3)	--	--
Maine	1,890	17,400	61	485	347	2,780	--	--
Maryland	3,830	50,300	(3)	(3)	(3)	(3)	--	--
Massachusetts	(3)	(3)	4,600	58,800	--	--	--	--
Michigan	--	--	96	713	--	--	--	--
Minnesota	3,040	45,400	8	98	(3)	(3)	--	--
Mississippi	--	--	--	--	--	--	--	--
Missouri	1,680	37,300	(3)	(3)	(3)	(3)	--	--
Montana	(3)	(3)	418	4,540	(3)	(3)	--	--
Nebraska	--	--	--	--	--	--	--	--
Nevada	139	1,180	1,390	14,000	(3)	(3)	--	--
New Hampshire	2,600	25,200	1,940	20,500	236	2,310	--	--
New Jersey	6,010	70,200	10,700	117,000	--	--	--	--
New Mexico	(3)	(3)	--	--	188	1,810	--	--
New York	2,270	31,000	3,480	52,900	2,030	25,700	11	132
North Carolina	43,900	747,000	9,470	164,000	--	--	--	--
North Dakota	--	--	--	--	--	--	--	--
Ohio	--	--	(3)	(3)	429	8,370	--	--
Oklahoma	3,360	36,900	--	--	281	2,630	--	--
Oregon	(3)	(3)	8,790	73,000	(3)	(3)	(3)	(3)
Pennsylvania	2,900	36,200	(3)	(3)	9,690	110,000	211	2,790
Rhode Island	859	9,240	1,210	13,100	--	--	--	--
South Carolina	19,500	293,000	--	--	--	--	--	--
South Dakota	96	715	--	--	3,330	28,500	13	99
Tennessee	(3)	(3)	--	--	681	9,050	--	--
Texas	222	1,660	(3)	(3)	1,150	12,500	--	--
Utah	--	--	--	--	(3)	(3)	--	--
Vermont	387	3,830	75	776	1,260	12,700	239	2,420
Virginia	22,200	400,000	10,200	170,000	(3)	(3)	--	--
Washington	1,030	10,700	6,100	68,500	(3)	(3)	--	--
West Virginia	--	--	--	--	953	12,100	--	--
Wisconsin	2,470	19,700	(3)	(3)	32	228	--	--
Wyoming	2,120	17,500	--	--	(3)	(3)	--	--
Total	201,000	2,950,000	77,600	1,050,000	37,500	407,000	1,140	13,200

-- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes sandstone, quartzite, and sandstone/quartzite where no distinction was reported between the two kinds of stone.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included with "Miscellaneous stone" on table 8.

TABLE 8  
SHELL, VOLCANIC CINDER AND SCORIA, AND MISCELLANEOUS STONE SOLD OR USED  
BY PRODUCERS IN THE UNITED STATES IN 2017, BY STATE<sup>1</sup>

(Thousand metric tons and thousand dollars)

State	Shell		Volcanic cinder and scoria		Miscellaneous stone	
	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	--	--	--	--	1,700	23,600
Alaska	--	--	--	--	404	4,000
Arizona	--	--	383	3,070	3,080	25,300
Arkansas	--	--	--	--	1,420	13,400
California	(2)	(2)	176	2,540	5,030	60,300
Colorado	--	--	111	1,060	724	8,440
Connecticut	--	--	--	--	1,130	17,000
Delaware	--	--	--	--	W	W
Florida	206	1,590	--	--	--	--
Georgia	--	--	--	--	307	6,580
Hawaii	--	--	44	932	425	8,550
Idaho	--	--	9	60	2,950	22,100
Illinois	--	--	--	--	280	3,050
Indiana	--	--	--	--	257	2,320
Iowa	--	--	--	--	68	652
Kansas	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--
Louisiana	--	--	--	--	W	W
Maine	--	--	--	--	206	2,720
Maryland	--	--	--	--	5,150	80,100
Massachusetts	--	--	--	--	6,380	86,600
Michigan	--	--	--	--	594	3,770
Minnesota	--	--	--	--	747	8,540
Mississippi	--	--	--	--	2,000	60,700
Missouri	--	--	--	--	3,390	39,100
Montana	--	--	--	--	256	2,880
Nebraska	--	--	--	--	7,060	89,200
Nevada	--	--	(2)	(2)	5,490	47,000
New Hampshire	--	--	--	--	410	3,910
New Jersey	--	--	--	--	--	--
New Mexico	--	--	268	2,620	1,910	19,600
New York	--	--	--	--	1,200	17,800
North Carolina	--	--	--	--	2,580	42,800
North Dakota	--	--	151	1,120	276	1,430
Ohio	--	--	--	--	159	1,660
Oklahoma	--	--	--	--	1,690	15,700
Oregon	--	--	(2)	(2)	9,450	71,700
Pennsylvania	--	--	--	--	13,000	292,000
Rhode Island	--	--	--	--	166	1,780
South Carolina	--	--	--	--	3,140	15,000
South Dakota	--	--	--	--	716	7,080
Tennessee	--	--	--	--	1,240	15,100
Texas	(2)	(2)	--	--	7,320	75,400
Utah	--	--	--	--	2,010	13,700
Vermont	--	--	--	--	426	4,510
Virginia	--	--	--	--	1,930	33,700
Washington	--	--	64	946	6,930	116,000
West Virginia	--	--	--	--	--	--
Wisconsin	--	--	--	--	1,310	28,300
Wyoming	--	--	1,630	2,120	2,800	9,070
Other	--	--	--	--	3,220	75,400
Total	206	1,590	2,830	14,500	111,000	1,480,000

W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Withheld to avoid disclosing company proprietary data; included with "Miscellaneous stone."

TABLE 9  
CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE<sup>1</sup>

Use	2016 <sup>2</sup>			2017		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>						
<b>Coarse aggregate (+1½ inch):</b>						
Macadam	991	\$9,230	\$9.31	474	\$5,860	\$12.36
Riprap and jetty stone	7,260	91,600	12.62	9,070	121,000	13.32
Filter stone	2,120	25,700	12.14	2,360	27,000	11.46
Unspecified coarse aggregate	23,300	285,000	12.24	20,500	346,000	16.86
<b>Coarse aggregate, graded:</b>						
Concrete aggregate, coarse	24,400	305,000	12.50	26,500	330,000	12.48
Bituminous aggregate, coarse	14,400	181,000	12.58	13,900	188,000	13.49
Bituminous surface-treatment aggregate	3,360	48,900	14.53	3,950	55,900	14.15
Railroad ballast	6,520	75,000	11.51	5,060	58,200	11.52
Unspecified graded coarse aggregate	119,000	1,880,000	15.86	135,000	2,110,000	15.64
<b>Fine aggregate (-¾ inch):</b>						
Stone sand, concrete	5,130	76,100	14.83	3,000	44,100	14.70
Stone sand, bituminous mix or seal	6,190	63,500	10.27	6,860	79,700	11.61
Screening, undesignated	6,480	63,800	9.84	5,530	52,200	9.43
Unspecified fine aggregate	39,100	510,000	13.07	39,700	527,000	13.27
<b>Coarse and fine aggregates:</b>						
Graded road base or subbase	48,200	410,000	8.51	49,200	433,000	8.81
Unpaved road surfacing	6,100	61,400	10.07	5,110	51,400	10.07
Terrazzo and exposed aggregate	1,190	23,300	19.56	2,490	44,900	18.05
Crusher run or fill or waste	13,800	126,000	9.10	16,200	143,000	8.83
Roofing granules	1,600	136,000	85.25	W	W	W
Unspecified coarse and fine aggregates	117,000	1,290,000	10.97	118,000	1,320,000	11.16
Unspecified and other construction materials	3,020	39,300	12.99	4,130	53,600	12.99
<b>Agricultural:</b>						
Agricultural limestone	6,990	69,200	9.90	7,420	81,900	11.04
Poultry grit and mineral food	2,240	33,100	14.80	1,840	30,900	16.78
Unspecified and other agricultural uses	643	19,000	29.47	517	22,900	44.31
<b>Chemical and metallurgical:</b>						
Cement manufacture	98,400	468,000	4.76	103,000	551,000	5.33
Lime manufacture	43,700	284,000	6.51	49,400	335,000	6.78
Dead-burned dolomite manufacture	598	3,300	5.51	W	W	W
Flux stone	W	W	W	W	W	W
Chemical stone	W	W	W	532	4,760	8.94
Glass manufacture	227	5,280	23.23	W	W	W
Sulfur oxide removal	6,740	61,200	9.08	6,620	60,500	9.15
<b>Special:</b>						
Mine dusting or acid water treatment	451	11,200	24.84	424	13,200	31.12
Asphalt fillers or extenders	725	12,300	16.95	1,170	22,500	19.29
Whiting or whiting substitute	W	W	W	W	W	W
Other fillers or extenders	3,840	89,300	23.28	4,340	117,000	26.99
Other miscellaneous uses and specified uses not listed	2,290	31,900	13.93	2,100	45,000	21.39
<b>Unspecified:<sup>3</sup></b>						
Reported	423,000	4,880,000	11.53	418,000	4,920,000	11.78
Estimated	318,000	3,360,000	10.55	304,000	3,290,000	10.83
Total or average	1,360,000	15,100,000	11.07	1,370,000	15,700,000	11.45

W Withheld to avoid disclosing company proprietary data; included in "Total or average."

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Estimated quantities have been recalculated.

<sup>3</sup>Reported and estimated production without a breakdown by end use.

TABLE 10  
LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2017, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Limestone <sup>2</sup>			Dolomite		
	Quantity	Value	Unit value	Quantity	Value	Unit value
<b>Construction:</b>						
Coarse aggregate (+1½ inch):						
Macadam	292	3,460	\$11.88	W	W	W
Riprap and jetty stone	6,920	76,800	11.11	164	3,880	\$23.69
Filter stone	1,720	17,500	10.18	31	488	15.67
Unspecified coarse aggregate	15,500	254,000	16.35	245	3,340	13.66
Coarse aggregate, graded:						
Concrete aggregate, coarse	18,000	209,000	11.63	501	5,490	10.94
Bituminous aggregate, coarse	5,880	73,800	12.56	487	7,900	16.23
Bituminous surface-treatment aggregate	2,590	33,900	13.09	W	W	W
Railroad ballast	1,000	10,200	10.18	63	631	9.97
Unspecified graded coarse aggregate	85,700	1,270,000	14.86	6,370	79,200	12.42
Fine aggregate (-¾ inch):						
Stone sand, concrete	898	11,600	12.97	W	W	W
Stone sand, bituminous mix or seal	3,720	38,200	10.26	559	9,740	17.42
Screening, undesignated	3,600	28,300	7.86	211	2,560	12.11
Unspecified fine aggregate	21,900	284,000	13.01	715	8,190	11.45
Coarse and fine aggregates:						
Graded road base or subbase	34,000	275,000	8.07	1,100	9,950	9.03
Unpaved road surfacing	3,530	36,400	10.31	262	2,810	10.71
Terrazzo and exposed aggregate	500	5,080	10.17	W	W	W
Crusher run or fill or waste	10,200	82,500	8.13	1,230	12,600	10.24
Roofing granules	W	W	W	--	--	--
Unspecified coarse and fine aggregates	82,600	893,000	10.81	5,400	47,100	8.72
Unspecified and other construction materials	3,320	44,600	13.45	59	585	9.86
<b>Agricultural:</b>						
Agricultural limestone	6,960	75,900	10.91	393	5,120	13.03
Poultry grit and mineral food	1,840	30,500	16.61	--	--	--
Unspecified and other agricultural uses	424	14,900	35.01	44	7,650	171.85
<b>Chemical and metallurgical:</b>						
Cement manufacture	98,100	530,000	5.40	--	--	--
Lime manufacture	44,500	315,000	7.08	4,830	19,500	4.04
Dead-burned dolomite manufacture	--	--	--	W	W	W
Flux stone	W	W	W	W	W	W
Chemical stone	532	4,760	8.94	--	--	--
Glass manufacture	W	W	W	--	--	--
Sulfur oxide removal	6,620	60,500	9.15	--	--	--
<b>Special:</b>						
Mine dusting or acid water treatment	304	9,140	30.04	--	--	--
Asphalt fillers or extenders	1,120	19,800	17.67	--	--	--
Whiting or whiting substitute	W	W	W	W	W	W
Other fillers or extenders	3,170	73,200	23.11	--	--	--
Other miscellaneous uses and specified uses not listed	607	14,400	23.67	--	--	--
<b>Unspecified:<sup>3</sup></b>						
Reported	249,000	2,760,000	11.07	20,400	223,000	10.92
Estimated	184,000	1,870,000	10.18	4,500	45,800	10.17
Total or average	902,000	9,460,000	10.49	49,900	522,000	10.45

W Withheld to avoid disclosing company proprietary data; included in "Total or average." -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Includes limestone/dolomite reported with no distinction between the two types of stone.

<sup>3</sup>Reported and estimated production without a breakdown by end use.



TABLE 11  
LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN 2017, BY STATE AND USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

State	Concrete aggregate		Bituminous aggregate		Roadstone and coverings		Riprap and railroad ballast		Other construction uses	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	W	W	W	W	W	W	108	1,440	5,450	66,000
Alaska	--	--	--	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--	--	--	--
Arkansas	292	2,240	663	6,900	601	4,710	W	W	1,600	13,000
California	W	W	W	W	W	W	149	1,450	132	1,450
Colorado	W	W	--	--	W	W	W	W	603	5,350
Connecticut	12	392	1	12	8	132	--	--	1	30
Delaware	--	--	--	--	--	--	--	--	--	--
Florida	6,440	95,000	10,900	206,000	6,040	59,600	38	661	8,130	75,400
Georgia	W	W	W	W	W	W	W	W	742	11,000
Hawaii	--	--	--	--	--	--	--	--	--	--
Idaho	--	--	W	W	--	--	--	--	--	--
Illinois	4,490	48,900	8,810	125,000	4,540	39,000	602	7,930	W	W
Indiana	2,060	20,200	8,560	66,300	4,970	41,800	960	9,340	7,050	59,200
Iowa	W	W	54	722	520	6,050	29	565	785	9,350
Kansas	402	4,870	W	W	2,440	18,000	64	1,030	479	4,030
Kentucky	2,080	24,200	3,660	43,400	3,060	34,700	414	5,300	W	W
Louisiana	W	W	W	W	W	W	W	W	W	W
Maine	48	252	--	--	44	294	--	--	--	--
Maryland	W	W	4,110	50,300	W	W	W	W	939	8,740
Massachusetts	W	W	154	1,790	W	W	--	--	251	4,920
Michigan	354	2,370	3,650	45,800	399	2,540	185	1,720	W	W
Minnesota	W	W	15	68	W	W	W	W	113	1,580
Mississippi <sup>2</sup>	W	W	W	W	W	W	--	--	508	14,400
Missouri	2,370	23,400	2,150	21,700	3,730	23,700	W	W	2,690	17,800
Montana	--	--	W	W	W	W	W	W	19	315
Nebraska	W	W	--	--	W	W	W	W	669	2,530
Nevada	--	--	--	--	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--	--	--	--	--
New Jersey	--	--	--	--	--	--	--	--	--	--
New Mexico	W	W	W	W	27	211	3	72	44	333
New York	1,110	15,500	3,530	50,900	646	6,900	118	2,290	W	W
North Carolina	W	W	W	W	W	W	W	W	20	278
North Dakota	--	--	--	--	--	--	--	--	--	--
Ohio	1,580	8,570	10,100	128,000	2,840	21,200	249	2,580	4,040	35,800
Oklahoma	710	7,380	474	5,430	1,120	11,900	120	1,380	W	W
Oregon	--	--	--	--	--	--	--	--	--	--
Pennsylvania	2,750	35,300	7,880	91,500	1,800	24,000	757	9,660	W	W
Rhode Island	--	--	--	--	--	--	--	--	--	--
South Carolina	W	W	W	W	W	W	--	--	286	2,530
South Dakota	--	--	--	--	--	--	--	--	--	--
Tennessee	3,580	54,100	8,860	145,000	2,430	28,600	177	2,990	W	W
Texas	5,100	61,700	21,700	376,000	12,200	176,000	580	7,420	11,300	136,000
Utah	--	--	W	W	--	--	W	W	--	--
Vermont	W	W	W	W	W	W	42	411	346	2,660
Virginia	528	7,200	1,350	18,800	822	9,310	138	2,570	4,930	42,800
Washington	--	--	1	17	23	191	4	103	15	914
West Virginia	W	W	402	5,180	363	4,520	W	W	1,060	17,800
Wisconsin	424	2,230	167	1,370	2,270	13,700	242	1,340	5,160	44,100
Wyoming	268	2,650	162	793	100	624	5	89	36	563
Total	34,600	416,000	97,300	1,390,000	51,000	527,000	4,980	60,300	57,400	579,000
Total withheld	7,520	104,000	9,380	149,000	3,960	57,400	3,160	31,200	51,600	558,000
Grand total	42,100	521,000	107,000	1,540,000	55,000	585,000	8,140	91,500	109,000	1,140,000

See footnotes at end of table.

TABLE 11—Continued  
LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN 2017, BY STATE AND USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

State	Cement manufacture		Agricultural uses		Lime manufacture		Other uses		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	4,370	21,300	W	W	9,780	89,800	5,220	66,200	24,900	245,000
Alaska	--	--	--	--	--	--	--	--	--	--
Arizona	2,930	21,800	--	--	W	W	W	W	2,930	21,800
Arkansas	W	W	W	W	W	W	8,910	83,400	12,100	110,000
California	11,300	33,800	W	W	W	W	4,340	56,800	15,900	93,500
Colorado	W	W	--	--	--	--	1,250	14,300	1,850	19,600
Connecticut	--	--	31	1,450	--	--	989	15,500	1,040	17,500
Delaware	--	--	--	--	--	--	W	W	(3)	(3)
Florida	9,760	38,400	258	2,220	260	2,870	30,700	440,000	72,500	920,000
Georgia	797	7,030	--	--	--	--	917	16,700	2,460	34,800
Hawaii	--	--	--	--	--	--	--	--	--	--
Idaho	--	--	W	W	--	--	49	1,740	49	1,740
Illinois	W	W	1,850	15,600	--	--	22,600	241,000	42,900	477,000
Indiana	3,560	15,800	1,260	9,010	--	--	19,600	196,000	48,000	417,000
Iowa	W	W	W	W	W	W	30,800	339,000	32,200	355,000
Kansas	1,600	5,300	W	W	--	--	8,850	83,000	13,800	116,000
Kentucky	--	--	346	2,840	W	W	28,100	261,000	37,700	372,000
Louisiana	--	--	W	W	--	--	--	--	(3)	(3)
Maine	W	W	--	--	--	--	W	W	93	546
Maryland	W	W	W	W	--	--	1,290	17,800	6,340	76,900
Massachusetts	--	--	W	W	W	W	991	19,800	1,400	26,500
Michigan	4,330	9,090	840	6,220	W	W	16,700	108,000	26,500	176,000
Minnesota	--	--	W	W	--	--	2,640	33,300	2,770	35,000
Mississippi <sup>2</sup>	--	--	W	W	--	--	675	19,500	1,180	33,900
Missouri	11,500	48,300	584	3,750	8,850	42,900	34,200	285,000	66,100	466,000
Montana	W	W	W	W	W	W	261	2,220	280	2,540
Nebraska	251	3,850	W	W	W	W	4,500	62,200	5,420	68,600
Nevada	732	6,620	W	W	W	W	804	10,200	1,540	16,800
New Hampshire	--	--	--	--	--	--	--	--	--	--
New Jersey	--	--	--	--	--	--	466	4,540	466	4,540
New Mexico	565	4,980	--	--	--	--	842	7,760	1,480	13,400
New York	1,560	10,500	39	417	W	W	17,000	210,000	24,000	297,000
North Carolina	--	--	--	--	--	--	4,010	70,000	4,030	70,300
North Dakota	--	--	--	--	--	--	--	--	--	--
Ohio	1,260	8,620	87	758	367	1,570	38,700	449,000	59,200	656,000
Oklahoma	1,050	11,600	130	1,550	W	W	25,300	231,000	28,900	270,000
Oregon	1,080	4,770	--	--	--	--	--	--	1,080	4,770
Pennsylvania	993	8,140	464	9,140	W	W	34,700	415,000	49,400	593,000
Rhode Island	--	--	--	--	--	--	--	--	--	--
South Carolina	2,330	6,420	W	W	--	--	2,650	33,700	5,270	42,600
South Dakota	857	2,500	--	--	765	3,370	662	5,530	2,280	11,400
Tennessee	W	W	145	2,080	424	1,400	7,510	95,200	23,100	330,000
Texas	17,000	81,100	474	9,930	2,240	12,600	79,300	808,000	150,000	1,670,000
Utah	W	W	W	W	W	W	4,140	34,900	4,140	34,900
Vermont	--	--	W	W	--	--	1,600	16,500	1,990	19,600
Virginia	W	W	506	15,600	W	W	6,870	119,000	15,100	215,000
Washington	651	8,840	19	1,960	12	125	54	1,330	780	13,500
West Virginia	2,300	11,800	W	W	--	--	9,410	111,000	13,500	150,000
Wisconsin	--	--	349	4,790	123	408	12,500	89,700	21,200	158,000
Wyoming	763	5,110	--	--	--	--	1,970	10,600	3,310	20,500
Total	81,500	376,000	7,380	87,300	22,800	155,000	472,000	5,080,000	XX	XX
Total withheld	16,500	154,000	2,280	46,800	27,200	191,000	733	9,990	XX	XX
Grand total	98,100	530,000	9,660	134,000	50,000	346,000	473,000	5,090,000	952,000	9,980,000

W Withheld to avoid disclosing company proprietary data; included in "Total withheld." XX Not applicable. -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Significant quantities of sold or used material were shipped in from other States.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Grand total."

TABLE 12  
GRANITE, TRAPROCK, SANDSTONE AND QUARTZITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2017, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Granite		Traprock		Sandstone and quartzite <sup>2</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>						
Coarse aggregate (+1½ inch):						
Macadam	--	--	W	W	W	W
Riprap and jetty stone	693	12,500	773	17,700	175	3,360
Filter stone	W	W	239	3,460	W	W
Unspecified coarse aggregate	1,840	41,900	2,040	36,300	215	2,500
Coarse aggregate, graded:						
Concrete aggregate, coarse	3,190	51,500	2,190	33,100	140	1,860
Bituminous aggregate, coarse	4,530	63,200	1,140	13,700	W	W
Bituminous surface-treatment aggregate	389	6,610	288	4,110	W	W
Railroad ballast	W	W	1,140	12,700	W	W
Unspecified graded coarse aggregate	31,400	582,000	6,890	124,000	1,720	19,500
Fine aggregate (- ¾ inch):						
Stone sand, concrete	572	10,200	402	6,340	473	7,570
Stone sand, bituminous mix or seal	1,230	15,100	967	12,100	130	1,470
Screening, undesignated	1,140	14,000	W	W	242	2,400
Unspecified fine aggregate	11,000	149,000	3,460	47,200	1,160	18,800
Coarse and fine aggregates:						
Graded road base or subbase	3,570	41,600	5,240	53,900	981	9,600
Unpaved road surfacing	415	4,910	711	5,700	--	--
Terrazzo and exposed aggregate	1,290	20,800	W	W	W	W
Crusher run or fill or waste	2,470	23,700	399	5,290	323	3,160
Roofing granules	W	W	W	W	W	W
Unspecified coarse and fine aggregates	18,000	226,000	7,420	106,000	1,770	17,300
Unspecified and other construction materials	419	4,060	142	1,230	29	730
<b>Agricultural:</b>						
Agricultural limestone	W	W	--	--	W	W
Poultry grit and mineral food	W	W	--	--	--	--
Unspecified and other agricultural uses	17	266	--	--	--	--
<b>Chemical and metallurgical:</b>						
Cement manufacture	--	--	--	--	W	W
Lime manufacture	--	--	--	--	--	--
Dead-burned dolomite manufacture	--	--	--	--	--	--
Flux stone	--	--	--	--	W	W
Chemical stone	--	--	--	--	--	--
Glass manufacture	--	--	--	--	--	--
Sulfur oxide removal	--	--	--	--	--	--
<b>Special:</b>						
Mine dusting or acid water treatment	--	--	--	--	--	--
Asphalt fillers or extenders	W	W	--	--	--	--
Whiting or whiting substitute	--	--	--	--	--	--
Other fillers or extenders	--	--	W	W	W	W
Other miscellaneous uses and specified uses not listed	665	11,200	1	20	265	12,900
<b>Unspecified:<sup>3</sup></b>						
Reported	79,300	1,160,000	33,500	441,000	20,200	228,000
Estimated	42,500	550,000	21,100	261,000	13,100	148,000
Total	208,000	3,030,000	89,700	1,350,000	44,300	504,000

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes sandstone, quartzite, and sandstone/quartzite where no distinction was reported between the two kinds of stone.

<sup>3</sup>Reported and estimated production without a breakdown by end use.

TABLE 13  
MARBLE, VOLCANIC CINDER AND SCORIA, AND MISCELLANEOUS STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES  
IN 2017, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Marble		Volcanic cinder and scoria		Miscellaneous stone	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch):						
Macadam	--	--	--	--	--	--
Riprap and jetty stone	W	W	(2)	9	335	6,140
Filter stone	W	W	W	W	43	567
Unspecified coarse aggregate	51	927	2	42	590	7,130
Coarse aggregate, graded:						
Concrete aggregate, coarse	W	W	W	W	2,300	26,600
Bituminous aggregate, coarse	W	W	--	--	1,210	19,100
Bituminous surface-treatment aggregate	W	W	--	--	321	5,750
Railroad ballast	--	--	--	--	455	6,230
Unspecified graded coarse aggregate	227	3,460	13	282	2,770	31,600
Fine aggregate (-¾ inch):						
Stone sand, concrete	W	W	W	W	438	5,660
Stone sand, bituminous mix or seal	W	W	--	--	241	2,830
Screening, undesignated	--	--	W	W	190	2,770
Unspecified fine aggregate	65	723	9	192	1,400	18,800
Coarse and fine aggregates:						
Graded road base or subbase	W	W	W	W	3,960	40,200
Unpaved road surfacing	--	--	W	W	93	612
Terrazzo and exposed aggregate	W	W	W	W	178	8,300
Crusher run or fill or waste	W	W	75	534	1,310	12,100
Roofing granules	--	--	W	W	--	--
Unspecified coarse and fine aggregates	145	1,700	33	340	2,660	24,300
Unspecified and other construction materials	--	--	41	853	102	1,350
Agricultural:						
Agricultural limestone	W	W	--	--	2	12
Poultry grit and mineral food	--	--	--	--	--	--
Unspecified and other agricultural uses	--	--	1	15	30	115
Chemical and metallurgical:						
Cement manufacture	--	--	--	--	406	2,630
Lime manufacture	W	W	--	--	--	--
Dead-burned dolomite manufacture	--	--	--	--	--	--
Flux stone	--	--	--	--	--	--
Chemical stone	--	--	--	--	--	--
Glass manufacture	--	--	--	--	--	--
Sulfur oxide removal	--	--	--	--	--	--
Special:						
Mine dusting or acid water treatment	W	W	--	--	--	--
Asphalt fillers or extenders	--	--	--	--	5	95
Whiting or whiting substitute	W	W	--	--	--	--
Other fillers or extenders	1,010	40,900	--	--	1	260
Other miscellaneous uses and specified uses not listed	--	--	231	2,140	373	5,440
Unspecified: <sup>3</sup>						
Reported	(2)	(2)	1,830	3,670	13,700	108,000
Estimated	2,360	20,300	614	6,450	34,900	377,000
Total	5,160	103,000	3,110	16,500	68,000	714,000

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

<sup>3</sup>Reported and estimated production without a breakdown by end use.

TABLE 14  
 RECYCLED ASPHALT CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE<sup>1</sup>

State	2016 <sup>2</sup>			2017		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	168	\$1,270	\$7.54	159	\$1,760	\$11.04
Alaska	124	1,420	11.42	116	1,250	10.76
Arizona	247	2,520	10.22	220	2,110	9.57
Arkansas	90	947	10.52	91	963	10.59
California	3,040	24,300	7.99	2,360	18,600	7.88
Colorado	498	3,340	6.71	420	3,080	7.34
Connecticut	575	3,860	6.72	544	3,730	6.86
Delaware	100	643	6.43	100	643	6.44
Florida	396	3,560	9.01	330	3,270	9.90
Georgia	318	3,030	9.54	242	2,660	10.99
Hawaii	--	--	--	--	--	--
Idaho	371	2,600	7.01	162	1,150	7.10
Illinois	2,030	13,600	6.68	1,760	11,000	6.22
Indiana	180	1,360	7.54	142	921	6.49
Iowa	585	2,630	4.49	300	1,350	4.50
Kansas	556	1,540	2.77	554	1,530	2.76
Kentucky	1,090	7,370	6.75	107	615	5.74
Louisiana	97	687	7.08	102	736	7.20
Maine	229	3,290	14.34	204	2,980	14.59
Maryland	360	2,110	5.87	277	1,850	6.69
Massachusetts	438	4,190	9.56	313	2,940	9.40
Michigan	724	3,980	5.49	496	3,290	6.63
Minnesota	1,860	14,600	7.86	1,850	14,600	7.85
Mississippi	4	43	10.75	4	43	12.24
Missouri	285	2,220	7.79	283	2,130	7.52
Montana	156	1,550	9.91	156	1,550	9.91
Nebraska	116	1,220	10.54	99	1,060	10.68
Nevada	311	2,470	7.95	96	737	7.65
New Hampshire	318	2,820	8.86	143	1,240	8.68
New Jersey	173	1,500	8.68	674	4,120	6.11
New Mexico	176	1,320	7.52	95	866	9.10
New York	1,050	12,600	12.00	578	7,680	13.28
North Carolina	1,060	16,400	15.39	965	12,700	13.19
North Dakota	43	462	10.74	27	287	10.63
Ohio	89	664	7.46	105	772	7.36
Oklahoma	50	571	11.42	41	526	12.74
Oregon	130	1,240	9.50	74	606	8.16
Pennsylvania	527	5,630	10.69	179	1,880	10.53
Rhode Island	125	1,400	11.22	115	1,330	11.50
South Carolina	264	3,630	13.74	1,020	3,310	3.23
South Dakota	207	2,070	9.99	189	1,370	7.26
Tennessee	354	3,160	8.92	650	16,700	25.71
Texas	570	4,190	7.36	817	5,810	7.10
Utah	310	2,390	7.71	201	1,280	6.37
Vermont	147	2,180	14.84	87	1,420	16.36
Virginia	331	2,920	8.83	227	2,340	10.31
Washington	1,030	8,400	8.19	177	1,240	7.00
West Virginia	9	115	12.78	--	--	--
Wisconsin	423	3,430	8.11	319	2,300	7.20
Wyoming	31	207	6.68	85	1,890	22.09
Total or average	22,400	188,000	8.39	18,300	156,000	8.55

-- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Estimated quantities have been recalculated.

TABLE 15  
 RECYCLED PORTLAND CEMENT CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE<sup>1</sup>

State	2016 <sup>2</sup>			2017		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	--	--	--	--	--	--
Alaska	27	\$449	\$16.63	13	\$213	\$16.57
Arizona	197	1,580	8.03	159	1,330	8.37
Arkansas	1	9	9.00	--	--	--
California	4,760	36,200	7.61	3,750	25,400	6.79
Colorado	741	5,610	7.57	714	6,530	9.15
Connecticut	75	571	7.61	39	361	9.35
Delaware	122	930	7.62	122	931	7.62
Florida	808	4,240	5.25	708	4,160	5.88
Georgia	173	2,370	13.67	232	2,630	11.31
Hawaii	2	28	14.00	--	--	--
Idaho	208	2,250	10.80	44	420	9.49
Illinois	2,280	15,600	6.83	2,090	14,300	6.85
Indiana	130	1,190	9.14	130	1,200	9.17
Iowa	1,030	5,300	5.13	825	4,920	5.96
Kansas	381	3,460	9.09	350	3,410	9.72
Kentucky	--	--	--	--	--	--
Louisiana	20	300	15.00	48	709	14.70
Maine	60	477	7.95	65	461	7.08
Maryland	625	4,250	6.80	563	4,210	7.49
Massachusetts	331	2,510	7.59	269	1,950	7.27
Michigan	910	5,700	6.27	847	5,360	6.34
Minnesota	1,840	11,900	6.44	1,490	9,530	6.38
Mississippi	71	581	8.18	71	586	8.20
Missouri	15	104	6.93	49	364	7.50
Montana	18	201	11.17	19	207	10.89
Nebraska	114	1,310	11.52	107	1,250	11.68
Nevada	168	1,190	7.10	486	3,580	7.37
New Hampshire	98	713	7.28	17	114	6.71
New Jersey	334	2,660	7.97	439	3,330	7.60
New Mexico	162	1,510	9.33	188	1,410	7.50
New York	327	2,700	8.26	287	2,130	7.42
North Carolina	422	5,380	12.75	309	4,280	13.86
North Dakota	13	113	8.69	27	176	6.52
Ohio	340	2,980	8.77	358	3,040	8.50
Oklahoma	548	6,220	11.36	473	5,920	12.54
Oregon	128	941	7.35	94	729	7.80
Pennsylvania	195	1,400	7.16	120	976	8.13
Rhode Island	581	4,800	8.27	575	4,770	8.30
South Carolina	198	2,290	11.57	299	3,190	10.65
South Dakota	174	1,240	7.10	203	1,450	7.15
Tennessee	49	346	7.06	28	214	7.52
Texas	4,910	42,200	8.59	4,690	39,500	8.43
Utah	474	3,060	6.46	582	3,330	5.73
Vermont	56	383	6.84	33	222	6.73
Virginia	904	8,780	9.71	1,040	9,640	9.27
Washington	636	5,920	9.31	335	2,960	8.84
West Virginia	--	--	--	4	58	13.39
Wisconsin	636	3,750	5.89	472	2,880	6.11
Wyoming	23	134	5.83	41	488	11.88
Total or average	26,300	206,000	7.82	23,800	185,000	7.77

-- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Estimated quantities have been recalculated.

TABLE 16  
CRUSHED AND BROKEN STONE OPERATIONS IN THE UNITED STATES IN 2017, BY STATE<sup>1</sup>

State	Active operations	Active quarries	Dredging operations	Processing plants				Sales yards
				Stationary	Portable	Stationary and portable	None or unspecified	
Alabama	74	66	--	61	3	--	2	8
Alaska	18	16	--	6	7	--	3	2
Arizona	46	45	--	27	15	3	--	1
Arkansas	71	67	--	35	23	7	2	4
California	138	124	--	72	24	14	10	18
Colorado	36	32	--	19	8	1	3	5
Connecticut	34	31	--	18	12	--	1	3
Delaware	4	--	--	--	--	--	--	4
Florida	108	81	2	35	29	11	2	29
Georgia	90	79	--	67	6	1	5	11
Hawaii	21	21	--	9	10	2	--	--
Idaho	32	46	--	7	16	1	8	--
Illinois	146	121	1	77	33	5	5	25
Indiana	90	85	--	77	3	1	4	5
Iowa	154	177	1	34	108	--	9	2
Kansas	74	77	--	26	40	--	4	4
Kentucky	90	91	--	65	17	5	1	2
Louisiana	16	2	--	2	--	--	--	14
Maine	30	25	--	14	9	1	1	5
Maryland	43	28	--	25	2	--	1	15
Massachusetts	41	36	--	25	6	3	2	5
Michigan	33	33	--	18	8	--	3	4
Minnesota	53	92	--	14	27	1	5	6
Mississippi	17	2	--	1	1	--	--	15
Missouri	197	206	--	98	74	12	8	5
Montana	13	13	--	9	3	--	1	--
Nebraska	16	12	--	6	5	--	1	4
Nevada	26	26	--	19	5	1	--	1
New Hampshire	25	23	--	12	9	1	1	2
New Jersey	24	18	--	15	--	3	--	6
New Mexico	37	36	--	15	16	2	2	2
New York	120	116	1	82	18	11	3	5
North Carolina	136	116	--	92	15	4	4	21
North Dakota	11	11	--	3	4	--	4	--
Ohio	131	119	--	84	19	10	5	13
Oklahoma	68	67	--	54	4	3	5	2
Oregon	142	159	--	52	83	3	2	2
Pennsylvania	245	245	--	162	44	15	15	9
Rhode Island	9	6	--	5	1	--	--	3
South Carolina	45	38	--	34	3	1	--	7
South Dakota	17	14	--	11	3	--	--	3
Tennessee	135	132	--	113	13	1	4	4
Texas	269	241	--	115	95	12	14	33
Utah	21	17	--	10	4	--	3	4
Vermont	41	41	--	14	18	6	3	--
Virginia	114	97	--	85	5	2	--	22
Washington	78	80	--	25	38	5	5	5
West Virginia	30	26	--	22	1	1	1	5
Wisconsin	136	174	--	35	80	4	10	7
Wyoming	31	31	--	20	9	--	2	--
Total	3,313	3,441	5	1,926	976	153	164	352

-- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Includes recycling plants.

TABLE 17  
U.S. EXPORTS OF CRUSHED STONE IN 2017, BY DESTINATION<sup>1</sup>

Destination		Limestone <sup>2</sup>	Limestone for cement manufacturing <sup>3</sup>	Chalk, crude <sup>4</sup>	Granules, chippings <sup>5</sup>	Other <sup>6</sup>	Total
North America:	metric tons						
Aruba	do.	36	122	--	--	--	158
Bahamas, The	do.	112	249	--	--	105	466
Bermuda	do.	16	--	--	--	232	248
British Virgin Islands	do.	1,980	--	--	--	--	1,980
Canada	do.	475,000	31,000	43	35,900	50,300	592,000
Costa Rica	do.	18	18	(7)	415	46	497
Dominican Republic	do.	110	--	--	46	23	179
Guadeloupe	do.	--	--	--	--	9,600	9,600
Guatemala	do.	37	--	--	274	--	311
Mexico	do.	5	83	5	5,160	222	5,470
Nicaragua	do.	--	--	--	4,610	--	4,610
Sint Maarten	do.	--	24	--	--	1,800	1,830
Trinidad and Tobago	do.	--	--	--	1,610	--	1,610
Other	do.	14	42	3	269	89	417
Total	do.	477,000	31,500	50	48,300	62,400	620,000
South America	do.	22	82	3	2,220	219	2,550
Europe	do.	88	245	4	3,420	62	3,820
Asia	do.	38	751	7	2,750	3,960	7,500
Oceania	do.	18	29	5	190	166	408
Africa	do.	--	18	--	--	--	--
Grand total:							
Quantity	do.	477,000	32,700	69	56,900	66,800	634,000
Value	thousands	\$12,800	\$11,900	\$794	\$12,800	\$15,000	\$53,300

do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes Harmonized Tariff Schedule of the United States (HTS) code 2517.10.0020.

<sup>3</sup>Includes HTS code 2521.00.0000.

<sup>4</sup>Includes HTS code 2509.00.1000.

<sup>5</sup>Includes HTS codes 2517.41.0000 and 2517.49.0000.

<sup>6</sup>Includes HTS code 2517.10.0055.

<sup>7</sup>Less than ½ unit.

Source: U.S. Census Bureau.



TABLE 18  
U.S. IMPORTS OF CRUSHED STONE AND CALCIUM CARBONATE FINES, BY TYPE<sup>1</sup>

Type	2016			2017		
	Quantity (thousand metric tons)	Value, c.i.f. <sup>2</sup> (thousands)	Unit value	Quantity (thousand metric tons)	Value, c.i.f. <sup>2</sup> (thousands)	Unit value
Crushed stone and chips:						
Limestone <sup>3</sup>	13,600	\$113,000 <sup>r</sup>	\$8.29 <sup>r</sup>	11,700	\$97,000	\$8.32
Limestone for flux or cement manufacturing <sup>4</sup>	983	12,600 <sup>r</sup>	12.85 <sup>r</sup>	1,020	12,900	12.63
Other <sup>5</sup>	5,180	82,300 <sup>r</sup>	15.90 <sup>r</sup>	5,830	72,800	12.48
Total	19,700	207,000 <sup>r</sup>	XX	18,500	183,000	XX
Calcium carbonate fines: <sup>6</sup>						
Natural chalk <sup>7</sup>	5	241 <sup>r</sup>	51.01 <sup>r</sup>	--	--	--
Calcium carbonates, other chalk <sup>8</sup>	3	1,790 <sup>r</sup>	689.98 <sup>r</sup>	3	1,930	552.64
Total or average	7	2,030 <sup>r</sup>	XX	3	1,930	XX
Grand total or average	19,700	210,000 <sup>r</sup>	XX	18,500	185,000	XX

<sup>r</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Table includes data available through September 7, 2019. Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Cost, insurance, and freight value.

<sup>3</sup>Includes Harmonized Tariff Schedule of the United States (HTS) code 2517.10.0020.

<sup>4</sup>Includes HTS code 2521.00.0000.

<sup>5</sup>Includes HTS codes 2517.10.0055, 2517.41.0000 and 2517.49.0000.

<sup>6</sup>Excludes precipitated calcium carbonate.

<sup>7</sup>Includes HTS code 2509.00.1000.

<sup>8</sup>Includes HTS code 2509.00.2000.

Source: U.S. Census Bureau.

TABLE 19  
THE TOP 100 PRODUCERS OF CRUSHED STONE IN THE UNITED STATES<sup>1,2</sup>

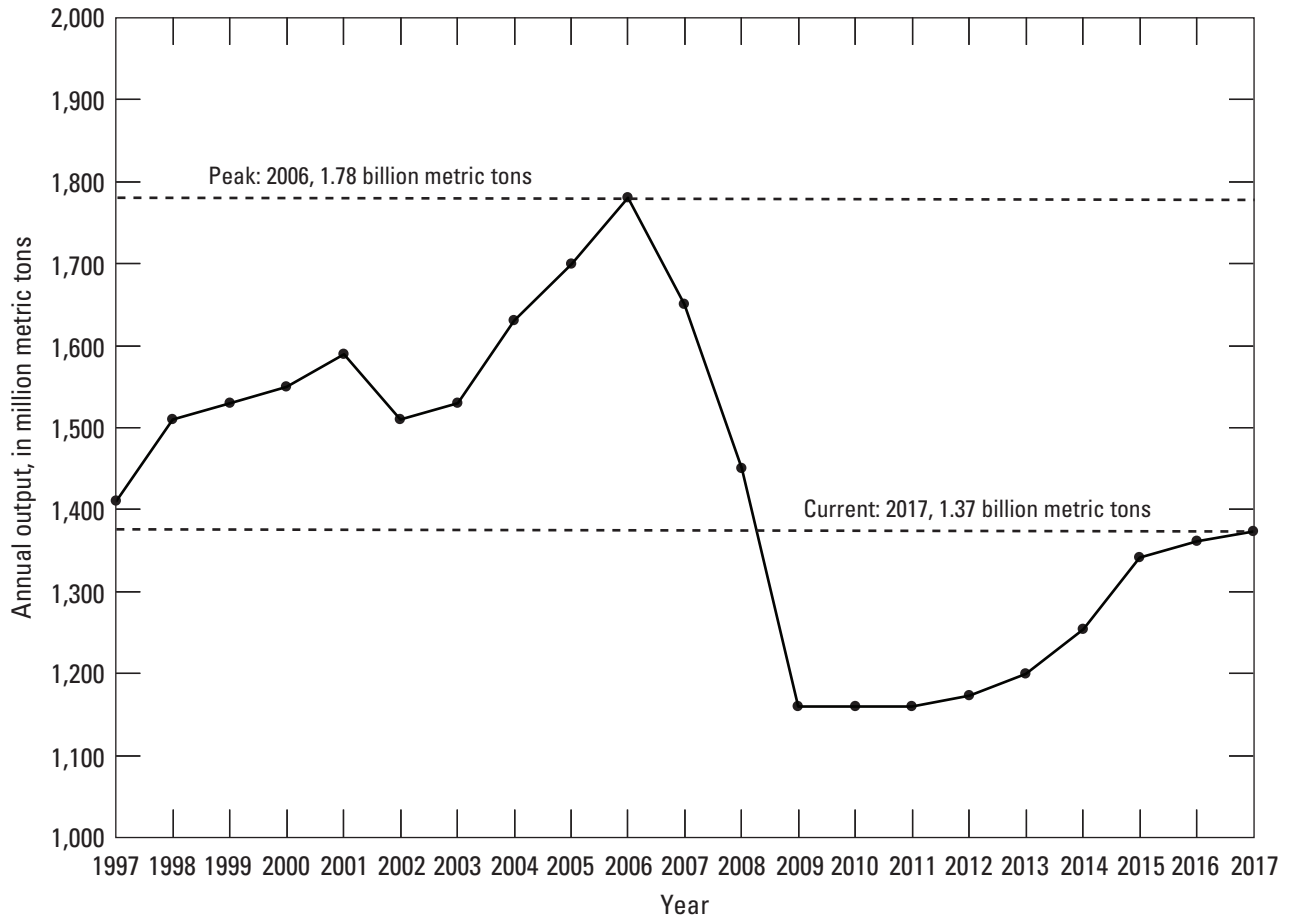
2017 rank	2016 rank <sup>f</sup>	Company	2017 rank	2016 rank <sup>f</sup>	Company
1	1	Vulcan Materials Co.	51	59	The DePaul Group
2	2	Martin Marietta Materials, Inc.	52	60	Snyder Associated Cos., Inc.
3	3	Oldcastle Materials, Inc.	53	52	Allan Myers Inc.
4	4	Lehigh Hanson, Inc.	54	51	Linwood Mining & Minerals Corp.
5	5	LafargeHolcim Ltd	55	47	Schildberg Construction Co., Inc.
6	6	CEMEX S.A.B. de C.V.	56	50	Anchor Stone Co.
7	7	Carmeuse Lime & Stone	57	55	Votorantim Cimentos North America, Inc.
8	8	Rogers Group Inc.	58	54	The Kraemer Co.
9	9	Lhoist North America	59	58	Greer Industries, Inc.
10	10	Luck Stone Corp.	60	62	Albert Frei & Sons, Inc.
11	13	Bluegrass Materials Co.	61	95	Capital Materials LLC
12	11	New Enterprise Stone & Lime Co., Inc.	62	61	Imerys S.A.
13	16	Vecellio & Grogan, Inc.	63	57	Haydon Materials, LLC
14	12	Summit Materials, LLC.	64	63	Grupo Cementos de Chihuahua, S.A.B. de C.V.
15	14	Dolese Bros. Co.	65	72	United States Lime and Minerals, Inc.
16	15	Ash Grove Cement Co.	66	65	Boxley Materials Co.
17	18	Buzzi Unicem USA Inc.	67	64	Mitsubishi Cement Corp.
18	20	Mulzer Crushed Stone, Inc.	68	67	Glasgow, Inc.
19	27	Carolina Sunrock Corp.	69	66	Chantilly Crushed Stone, Inc.
20	17	National Lime & Stone Co.	70	73	The Vicat Group
21	21	Eagle Materials Inc.	71	68	Glenn O. Hawbaker, Inc.
22	19	Eucon Corp.	72	80	Bruening Rock Products, Inc.
23	24	Aggregates USA LLC	73	78	Las Vegas Paving Corp.
24	26	Cementos Argos S.A.	74	76	Wendling Quarries Inc.
25	23	The H&K Group	75	83	Warren Paving, Inc.
26	22	MDU Resources Group, Inc.	76	53	Granite Construction Inc.
27	30	Graymont Ltd.	77	87	River Products Co., Inc.
28	28	Titan America LLC	78	75	B.V. Hedrick Gravel & Sand Co., Inc.
29	25	Texas Crushed Stone Co.	79	—	Pounding Mill Quarry Corp.
30	29	Fred Weber Inc.	80	86	Mathy Construction Co.
31	33	3M Co.	81	69	Salem Stone Corp.
32	34	The Heritage Group	82	81	Weldon Materials, Inc.
33	31	Mississippi Lime Co.	83	71	L. G. Everist, Inc.
34	32	Colorado Materials, Ltd.	84	92	Palm Beach Aggregates, Inc.
35	35	Aggregate Management, Inc.	85	79	Rockydale Quarries Corp.
36	40	The Olen Corp.	86	82	Higgins Asphalt Paving Co., Inc
37	36	Wake Stone Corp.	87	74	RiverStone Group, Inc.
38	—	Blue Water Industries	88	97	ISP Minerals, Inc.
39	37	Irving Materials, Inc.	89	84	Peckham Industries, Inc.
40	38	Tower Rock Stone Co.	90	91	Junction City Mining Company, LLC
41	43	VantaCore Partners LP	91	70	Youngquist Brothers Rock Inc.
42	44	Colas Inc.	92	77	CSA Materials, Inc.
43	42	Pine Bluff Sand and Gravel Co.	93	85	Dyer Quarry, Inc.
44	46	McGeorge Contracting Co.	94	—	Blue Star Materials II, LLC
45	39	Melvin Stone Co.	95	—	Casper Stolle Quarry Co./Falling Springs Quarry Co.
46	49	CalPortland Co.	96	98	S.M. Lorusso & Sons, Inc.
47	41	Capitol Aggregates Inc.	97	88	Bjoin Limestone Inc.
48	56	Lannon Stone Products, Inc.	98	99	Kerford Limestone Co.
49	48	Graniterock Co.	99	—	U.S. Concrete, Inc.
50	45	Bureau of Land Management	100	89	The Allen Co., Inc.

<sup>f</sup>Revised.

— Not in the top 100 producers of crushed stone in the United States in 2016.

<sup>1</sup>Table includes data available through September 7, 2019. In descending order of tonnage produced.

<sup>2</sup>Rankings for the previous year have been recalculated.



**Figure 1.** Annual output of crushed stone produced for consumption in the United States from 1997 through 2017.