# THE MINERAL INDUSTRY OF NEW JERSEY

**This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the New Jersey Geological Survey for collecting information on all nonfuel minerals.**

In 2000, the estimated value[1] of nonfuel mineral production for New Jersey was $289 million, based upon preliminary U.S. Geological Survey (USGS) data. This was up about 1% from that of 1999[2] and followed a 1% decrease from 1998 to 1999.

Crushed stone and construction sand and gravel, by value, were New Jersey's leading nonfuel mineral commodities. In 2000, an increase in the value of crushed stone led the State's rise in value, moderated by the decreases in the values of construction sand and gravel and greensand marl (table 1). (Mineral value comparisons are in descending order of change in value.) All other changes were small and did not affect the overall gain. In 1999, decreases in the values of industrial sand and gravel, crushed stone, and peat were responsible for New Jersey's slight drop in value, which was moderated somewhat by increases in the values of construction sand and gravel and greensand sand marl.

Based upon USGS estimates of the quantities of minerals produced in the United States in 2000, New Jersey continued to be the only State to produce greensand marl and was sixth in the production of industrial sand and gravel. Greensand is used directly as an organic conditioner and fertilizer for soils and as a water filtration medium to remove soluble iron and manganese from well water. Additionally, significant quantities of construction sand and gravel and crushed stone were produced in the State.

The following narrative information was provided by the New Jersey Geological Survey[3] (NJGS). Most of New Jersey's mining activities continued to be limited to crushed stone, construction sand and gravel, and industrial sand (in descending order of value). Some greensand marl, peat, and clay mining also took place but was of relatively minor importance. No heavy-mineral placer mining activity was reported during the year; no new land-based mining operations of any significance started up during 2000. No particularly significant merger or takeover activity took place during the year.

In 2000, various large-scale capital projects continued to contribute to an active construction sector in New Jersey. Major road-widening and realignment projects took place around the State. Work on the 4-kilometer (km) (2.5-mile), $330 million Atlantic City-Brigantine Connector Tunnel and Roadway Project continued on schedule during the year. When completed in 2001, the connector will have 11 bridges and a 640-meter tunnel moving traffic through a residential area, under U.S. Route 30, and into the city's Marina District. The roadway will link the Atlantic City Expressway with the city's Marina District and effectively open it up to future casino development. This project alone is using 612,000 cubic meters of specified structural fill (sand and gravel containing minimal amounts of fine grains), almost 22,000 linear meters of permanent pilings, 116,000 cubic yards of structural concrete, and more than 67,000 metric tons of asphalt pavement.

The Route 29 tunnel project in Trenton, the State capital, was another project that continued during the year; it required 57,400 cubic meters of concrete.

## Exploration and Government Activities

While New Jersey's exploration activities mostly continued to be limited to crushed stone, construction sand and gravel, and industrial sand, the exploration for and development of sand and gravel remained the most active area of interest in the State. Most exploration interest was focused offshore along New Jersey's Atlantic coast. The U.S. Department of the Interior's Minerals Management Service (MMS) proposed its first sand and gravel sale (1999) from an approximately 175-square-kilometer site that was 5 to 19 km off the State's coast in Federal waters of the Atlantic Ocean. The site is east of Monmouth County from slightly north of Long Branch south to slightly south of Belmar. Mining industry representatives offered to help pay for beach restoration and to cap the Historic Area Remediation Site in exchange for permission to mine sand from the ocean floor off the coast of Monmouth County. Development of these sand and gravel resources remained a topic of much interest and discussion during the year. Public hearings were held, but no final decisions had been made as of yearend.

The U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection continued their commitment to long-term beach replenishment projects along the State's Atlantic coast. The NJGS, in cooperation with the MMS, continued efforts to locate and document offshore sand occurrences.

The New Jersey Department of Transportation implemented rule changes that allowed (1) the use of imported cement and (2) the establishment of uniform quality controls for aggregate producers.

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[1]The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the minerals or mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2000 USGS mineral production data published in this chapter are preliminary estimates as of July 2001 and are expected to change. For some mineral commodities, such as construction sand and gravel and crushed stone, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. A telephone listing of the specialists may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals/contacts/comdir.html, by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists), or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals; facsimile copies may be obtained from MINES FaxBack.

[2]Values, percentage calculations, and rankings for 1999 may vary from the Minerals Yearbook, Area Reports: Domestic 1999, Volume II, owing to the revision of preliminary 1999 to final 1999 data. Data for 2000 are preliminary and are expected to change; related rankings may also change.

[3]Lloyd Mullikin, Supervising Geologist with the New Jersey Geological Survey, authored the text of New Jersey mineral industry information submitted by that agency.

A trend toward increased restrictions on mining activity through various legal and legislative actions continued as a result of local government ordinances. According to the NJGS, this has been resulting in the effective loss of mining reserves.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN NEW JERSEY 1/ 2/

(Thousand metric tons and thousand dollars)

| Mineral | 1998 | | 1999 | | 2000 p/ | |
|---|---|---|---|---|---|---|
| | Quantit | Value | Quantity | Value | Quantity | Value |
| Gemstones | NA | 1 | NA | 1 | NA | 1 |
| Sand and gravel: | | | | | | |
| Construction | 16,600 | 90,800 | 16,500 | 91,500 | 15,100 | 86,000 |
| Industrial | 1,800 | 34,400 | 1,580 | 32,100 | 1,590 | 31,700 |
| Stone, crushed | 23,900 | 161,000 | 24,500 | 160,000 | 25,000 | 168,000 |
| Combined values of clays (common), greensand and marl, peat | XX | 3,080 | XX | 3,200 | XX | 2,920 |
| Total | XX | 290,000 | XX | 287,000 | XX | 289,000 |

p/ Preliminary. NA Not available. XX Not applicable.
1/ Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
2/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
NEW JERSEY: CRUSHED STONE SOLD OR USED, BY KIND 1/

| Kind | 1998 | | | | 1999 | | | |
|---|---|---|---|---|---|---|---|---|
| | Number of quarries | Quantity (thousand metric tons) | Value (thousands) | Unit value | Number of quarries | Quantity (thousand metric tons) | Value (thousands) | Unit value |
| Limestone | 3 r/ | W | W | W | 3 | W | W | W |
| Granite | 12 r/ | W | W | W | 11 | W | W | W |
| Sandstone | -- r/ | -- | -- | -- | -- | -- | -- | -- |
| Traprock | 12 r/ | W | W | W | 12 | W | W | W |
| Miscellaneous stone | -- r/ | -- | -- | -- | -- | -- | -- | -- |
| Total or average | XX | 23,900 | $161,000 | $6.77 | XX | 24,500 | $160,000 | $6.54 |

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable. -- Zero.
1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

TABLE 3
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS
IN 1999, BY USE 1/ 2/

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|---|---|---|---|
| Construction: | | | |
| Coarse aggregate (+1 1/2 inch): | | | |
| Riprap and jetty stone | 100 | $724 | $7.17 |
| Filter stone | W | W | 16.30 |
| Other coarse aggregate | 484 | 2,660 | 5.50 |
| Total or average | 584 | 3,380 | 5.79 |
| Coarse aggregate, graded: | | | |
| Concrete aggregate, coarse | 1,020 | 6,650 | 6.50 |
| Bituminous aggregate, coarse | 991 | 7,200 | 7.27 |
| Bituminous surface-treatment aggregate | 553 | 4,860 | 8.79 |
| Railroad ballast | 299 | 2,150 | 7.18 |
| Other graded coarse aggregate | 3,380 | 16,900 | 5.00 |
| Total or average | 6,240 | 37,700 | 6.05 |
| Fine aggregate (-3/8 inch): | | | |
| Stone sand, concrete | 157 | 1,050 | 6.69 |
| Stone sand, bituminous mix or seal | 183 | 1,310 | 7.15 |
| Screening, undesignated | 1,110 | 7,500 | 6.79 |
| Other fine aggregate | 1,730 | 9,420 | 5.44 |
| Total or average | 3,180 | 19,300 | 6.07 |
| Coarse and fine aggregates: | | | |
| Graded road base or subbase | 919 | 5,090 | 5.53 |
| Unpaved road surfacing | W | W | 6.17 |
| Terrazzo and exposed aggregate | W | W | 25.00 |
| Crusher run or fill or waste | 759 | 4,420 | 5.82 |
| Roofing granules | W | W | 21.93 |
| Other coarse and fine aggregates | 4,340 | 34,000 | 7.85 |
| Total or average | 6,020 | 43,500 | 7.24 |
| Agricultural: | | | |
| Agricultural limestone | (3/) | (3/) | 15.44 |
| Poultry grit and mineral food | (3/) | (3/) | 22.22 |
| Chemical and metallurgical, chemical stone for alkali works | (3/) | (3/) | 16.67 |
| Special: | | | |
| Asphalt fillers or extenders | (3/) | (3/) | 7.00 |
| Whiting or whiting substitute | (3/) | (3/) | 13.73 |
| Unspecified: 4/ | | | |
| Reported | 3,180 | 21,100 | 6.66 |
| Estimated | 5,100 | 32,000 | 6.27 |
| Total or average | 8,310 | 53,300 | 6.42 |
| Grand total or average | 24,500 | 160,000 | 6.54 |

W Withheld to avoid disclosing company proprietary data; included with "Other."
1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
2/ Includes granite, limestone, and traprock.
3/ Withheld to avoid disclosing company proprietary data; included in "Grand total."
4/ Reported and estimated production without a breakdown by end use.

TABLE 4
NEW JERSEY: CRUSHED STONE SOLD OR USED
BY PRODUCERS IN 1999, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

| Use | District 1 | | District 3 | |
|---|---|---|---|---|
| | Quantity | Value | Quantity | Value |
| Construction: | | | | |
| Coarse aggregate (+1 1/2 inch) 3/ | 584 | 3,380 | -- | -- |
| Coarse aggregate, graded 4/ | 6,240 | 37,700 | -- | -- |
| Fine aggregate (-3/8 inch) 5/ | 3,180 | 19,300 | -- | -- |
| Coarse and fine aggregate 6/ | 6,020 | 43,500 | -- | -- |
| Agricultural 7/ | W | W | -- | -- |
| Chemical and metallurgical 8/ | W | W | -- | -- |
| Special 9/ | W | W | -- | -- |
| Unspecified: 10/ | | | | |
| Reported | 3,120 | 20,800 | 52 | 342 |
| Estimated | 5,100 | 32,000 | -- | -- |
| Total | 24,500 | 160,000 | 52 | 342 |

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ No production reported for District 2.
3/ Includes filter stone, riprap and jetty stone, and other coarse aggregate.
4/ Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregate.
5/ Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregate.
6/ Includes crusher run (select or material use), graded roadbase or subbase, roofing granules, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.
7/ Includes agricultural limestone and poultry grit and mineral food.
8/ Includes chemical stone for alkali works.
9/ Includes asphalt fillers or extenders and whiting or whiting substitute.
10/ Reported and estimated production without a breakdown by end use.

TABLE 5
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1999,
BY MAJOR USE CATEGORY 1/

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|---|---|---|---|
| Concrete aggregate (including concrete sand) | 5,600 | $33,100 | $5.90 |
| Plaster and gunite sands | 190 | 1,210 | 6.38 |
| Concrete products (blocks, bricks, pipe, decorative, etc.) | 220 | 2,310 | 10.50 |
| Asphaltic concrete aggregates and other bituminous mixtures | 826 | 4,550 | 5.51 |
| Road base and coverings | 225 | 1,380 | 6.11 |
| Fill | 542 | 2,290 | 4.23 |
| Snow and ice control | 124 | 611 | 4.93 |
| Other miscellaneous uses 2/ | 467 | 2,100 | 4.49 |
| Unspecified: 3/ | | | |
| Reported | 4,120 | 23,000 | 5.59 |
| Estimated | 4,200 | 21,000 | 5.00 |
| Total or average | 16,500 | 91,500 | 5.55 |

1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
2/ Includes filtration and railroad ballast.
3/ Reported and estimated production without a breakdown by end use.

TABLE 6
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED
IN 1999, BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

| Use | District 1 | | District 2 | | District 3 | |
|---|---|---|---|---|---|---|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Concrete aggregate (including concrete sand) | 1,190 | 7,940 | 3,240 | 18,600 | 1,180 | 6,580 |
| Concrete products (blocks, bricks, decorative, pipe, etc.) 2/ | 269 | 2,750 | W | W | W | W |
| Asphaltic concrete aggregates and road base materials | 467 | 2,920 | 494 | 2,630 | 91 | 384 |
| Fill | 236 | 1,170 | 45 | 147 | 261 | 972 |
| Snow and ice control | 100 | 539 | W | W | W | W |
| Other miscellaneous uses 3/ | 398 | 1,870 | 98 | 463 | 135 | 613 |
| Unspecified: 4/ | | | | | | |
| Reported | -- | -- | 2,150 | 12,900 | 1,970 | 10,100 |
| Estimated | 1,100 | 6,600 | 580 | 3,500 | 2,600 | 11,000 |
| Total | 3,700 | 23,800 | 6,600 | 38,300 | 6,190 | 29,400 |

W Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses." -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes gunite and plaster sands.
3/ Includes filtration and railroad ballast.
4/ Reported and estimated production without a breakdown by end use.