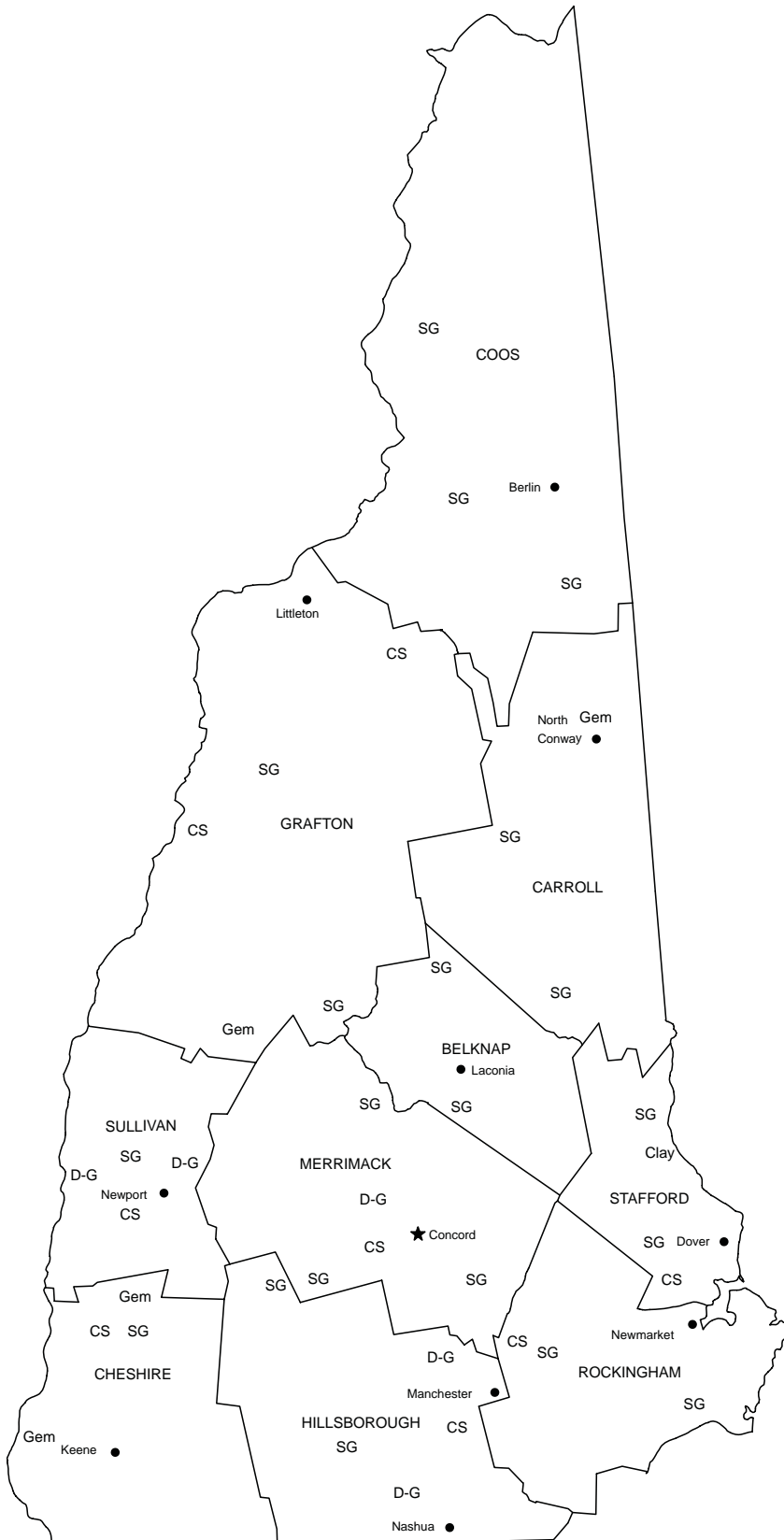




2005 Minerals Yearbook

NEW HAMPSHIRE

NEW HAMPSHIRE

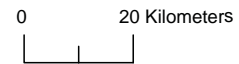


LEGEND

- County boundary
- ★ Capital
- City

**MINERAL SYMBOLS
(Major producing areas)**

- Clay Common clay
- CS Crushed stone
- D-G Dimension granite
- Gem Gemstones
- SG Construction sand and gravel



THE MINERAL INDUSTRY OF NEW HAMPSHIRE

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

In 2005, New Hampshire's nonfuel raw mineral production was valued¹ at \$88.2 million, based upon annual U.S. Geological Survey (USGS) data. This was a 25% increase from the State's total value of \$70.5 million of 2004, which followed a 13% increase from 2003 to 2004. Because data for dimension granite have been withheld (company proprietary data), the State's actual total nonfuel mineral values for 2003-05 are higher than those reported in table 1.

Construction sand and gravel, a high-volume, low-unit-value mineral commodity, remained New Hampshire's leading nonfuel mineral commodity in 2005, accounting for nearly 54% of its nonfuel raw mineral production value. A \$17 million increase in the value of crushed stone, the State's second leading nonfuel mineral, accounted for most of the State's rise in value in 2005; crushed stone production was up by 8%. Smaller increases also took place, in descending order of change, in the values of construction sand and gravel and dimension stone; gemstones value remained unchanged (table 1).

New Hampshire continued to produce significant quantities of dimension stone in 2005, with a more than a 30% increase in production, rising to 13th from 15th among 35 dimension stone-producing States.

The following narrative information was provided by the New Hampshire Geological Survey² (NHGS).

Exploration

Exploration for economic deposits of construction sand and gravel and crushed stone continued in 2005. The public continued to maintain a small but steady interest in panning for gold in northern New Hampshire.

Commodity Review

Industrial Minerals

Common Clays.—The State has extensive resources of marine clays, some of which were produced as the demand arose from local resources for use as borrow material for the base of landfills, as lining beds for ponds, and the core of dams.

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the 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 2005 USGS mineral production data published in this chapter are those available as of December 2006. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

²Lee Wilder, Public Outreach Coordinator for the New Hampshire Geological Survey, authored the text of State mineral industry information provided by that agency.

Some of the State's glacial tills, rich in silt and clay, were also used for these same purposes.

Construction Sand and Gravel.—In 2005, sand and gravel demand stabilized near 2004 levels, although actual applications for permits to open new pits increased to slightly more than the number of requests in 2004. A number of New Hampshire's smaller operations open and close on short notice, fluctuating with market demand. Public projects remained stable, while the private and commercial construction markets were slowed by rising interest rates. The State continues to have untapped sand and gravel resources, but opening new pits is often opposed by local residents, conflicting proposed uses for the location, and various ordinances. As the supply and access to the good sand and gravel deposits decreases, there is a continued shift toward rock-based aggregates. The NHGS continued to participate with researchers at the University of New Hampshire's Jackson Estuarine Laboratory in a cooperative project to compile data and map the subsea terrain off the New Hampshire coast to better understand the surficial geology, and in particular to map possible sand and gravel resources for potential beach replenishment.

Crushed Stone.—The crushed stone industry remained stable with an increase in production in 2005. Rock quarrying and crushing operations were able to supply the assortment of material sizes and blends needed for a wide range of uses. Demand for use in New Hampshire Department of Transportation projects continued at constant levels. The State's crushed stone is mainly used in the making of asphalt and concrete, as rip-rap and roadway subgrade material, for drainage, and in general construction products.

Some issues facing the industry included effects from the current state of the economy and of quarry operations on the surrounding communities. Demand by the private and commercial construction market was slowed by higher interest rates. Stone operations in the State dealt with pressure from residents as to quarry location and the effects of noise, dust, and heavy hauling. Opposition to expansion of these operations near populated areas continued to be somewhat problematic to the industry.

Dimension Stone.—The demand for New Hampshire's dimension granite for use as curbing and landscaping, continued strong in 2005, with the demand for curbing stone up from the previous year. The Swenson Granite Co. in Concord and the Massachusetts-based Fletcher Granite Co., with its quarry in Milford, NH, continued to be the State's major dimension stone producers. Both quarries cut the gray, two-mica Concord Granite, mostly for which New Hampshire got its nickname, the Granite State. Several other smaller, independent operations also quarried the Concord Granite, their production being used mostly for landscaping. A recently opened quarry in the western

part of the State continued to expand, supplying granite gneiss used for building facing and architectural dimension stone.

Gemstones.—Mineral collecting from the State’s many pegmatites continued to be active in 2005, with a few “good” finds reported. On a commercial scale, the Wm. Weiss Mine in Westmoreland, north of Brattleboro in southern New Hampshire, was producing green, purple, and clear fluorite for fluorspar and decorative uses, and the Tripp Mine in Alstead in the southwestern corner of the State mined beryl, mostly for mineral specimens. In a recent blasting operation at the Ruggles Mine in Grafton in southern Grafton County, some aquamarine of significant quality was recovered.

Government Programs and Activities

As has become the case with many other States, New Hampshire has realized the need to protect existing and future water supplies from development. With the continued increase in rural housing and the commercial demands for bottling/processing water, the need for protecting ground water aquifers was beginning to reach critical proportions. Many of the State’s best aquifers were underlain by housing or infrastructure, and these same aquifers were located in stream valleys, where it also was particularly easy to build. Demand continued for NHGS geologic mapping products for reliable aquifer information.

The NHGS continued expanding its ground water monitoring network to better serve as an indicator of regional hydrologic conditions. Bedrock wells were being drilled at strategic locations as companions to existing surficial monitoring wells. In addition to expanding the geographic coverage of the network, the NHGS hopes to gain a better understanding of the interaction between bedrock and surficial aquifers.

The NHGS continued to be active in the STATEMAP program, a component of the congressionally mandated

National Cooperative Geological Mapping Program (NCGMP), which distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: (1) FEDMAP, which funds Federal geologic mapping projects, (2) STATEMAP, which is a matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has a goal to train the next generation of geologic mappers. In 2005, under the STATEMAP cooperative agreement, the surficial geology of the Milton quadrangle was mapped at the 1:24,000 scale and the bedrock geology of the Mount Washington West and East quadrangles was remapped also.

The NHGS continued answering public inquiries regarding the State’s minerals, bedrock, surficial materials, ground water, and general geology. Geologic inquiries can be made by means of e-mail, geology@des.state.nh.us, as well as by telephone or personal visits. Outreach and education efforts included that of the staff working with State and local governments; participation in workshops, conferences, field days, and Earth Science Week; and classroom presentations and public lectures. The NHGS Lunchtime Lecture Series, which was open to the general public, increased in popularity. The lectures, held at the New Hampshire Department of Environmental Services and NHGS auditorium in Concord, were aimed at addressing areas of current geologic as well as minerals information interest.

The NHGS’s publications on the New Hampshire’s minerals, bedrock, surficial geology, and ground water resources can be obtained by contacting the Public Information Center of the Department of Environmental Services by way of the Internet at URL <http://www.des.state.nh.us/geo1link.htm>.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN NEW HAMPSHIRE^{1,2}

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones	NA	6	NA	6	NA	6
Sand and gravel, construction	8,470	41,200	8,940	46,600	8,400	47,400
Stone:						
Crushed	4,110	21,400	4,720 [†]	23,900 [†]	5,100	40,900
Dimension, granite	W	(3)	W	(3)	W	(3)
Total	XX	62,500	XX	70,500 [†]	XX	88,200

[†]Revised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Value excluded to avoid disclosing company proprietary data.

TABLE 2
NEW HAMPSHIRE: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2004			2005		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Granite	7	1,840	\$8,750	7	2,080	\$16,400
Traprock	7 ^r	2,880 ^r	15,100 ^r	7	3,020	24,400
Total	XX	4,720 ^r	23,900 ^r	XX	5,100	40,900

^rRevised. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3
NEW HAMPSHIRE: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2005, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch), riprap and jetty stone	W	W
Coarse aggregate graded, bituminous aggregate, coarse	W	W
Fine aggregate (-¾ inch), stone sand, bituminous mix or seal	W	W
Unspecified: ²		
Reported	3,320	26,300
Estimated	1,000	8,000
Total	5,100	40,900

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

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Reported and estimated production without a breakdown by end use.

TABLE 4
NEW HAMPSHIRE: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	379	\$3,170	\$8.35
Asphaltic concrete aggregates and other bituminous mixtures	348	2,940	8.45
Road base and coverings	677	4,200	6.20
Fill	659	2,300	3.50
Snow and ice control	96	647	6.74
Railroad ballast	20	208	10.40
Filtration	4	61	15.25
Unspecified: ²			
Reported	2,370	12,600	5.32
Estimated	3,900	21,200	5.50
Total or average	8,400	47,400	5.64

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Reported and estimated production without a breakdown by end use.