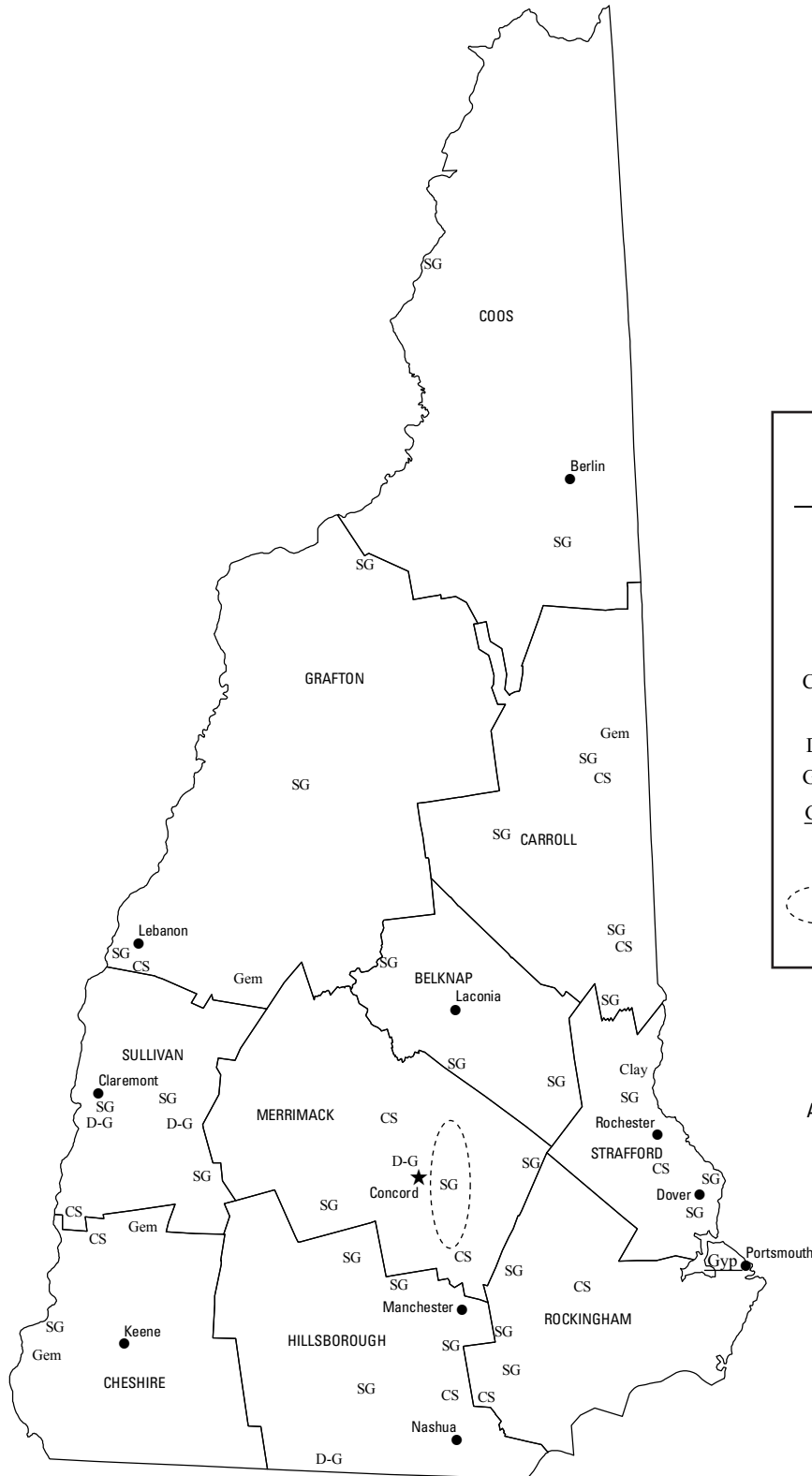




2008 Minerals Yearbook

NEW HAMPSHIRE

NEW HAMPSHIRE



LEGEND

— County boundary

★ Capital

● City

**MINERAL SYMBOLS
(Principal producing areas)**

Clay Common clay

CS Crushed stone

D-G Dimension granite

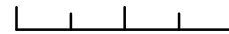
Gem Gemstones

Gyp Gypsum plant

SG Construction sand and gravel

○ Concentration of mineral operations

0 10 20 40 Kilometers



Albers equal area projection

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 2008, New Hampshire's nonfuel raw mineral production¹ was valued at \$101 million, based upon annual U.S. Geological Survey (USGS) data. This was a \$22 million, or 18% decrease from the 2007 value for the three mineral commodities that were publishable in both years. This followed a \$2.2 million, or 1.7% decrease from 2006 to 2007. Because data for dimension granite have been withheld (company proprietary data), the State's actual total nonfuel mineral value for 2008 is higher than those reported in table 1.

Crushed stone production, by value, remained to be New Hampshire's leading nonfuel mineral commodity in 2008, accounting for more than 50% of the publishable mineral production value. The production value of construction sand and gravel rose by 1.7%, despite a slight decrease in the quantity produced. A smaller, yet significant, increase in the production value also took place in natural gemstones. A 21% decrease in the production of crushed stone led to a \$17 million, or 25%, decrease in the commodity's production value. Decreases also took place in the mineral commodity of dimension stone (withheld—company proprietary data).

New Hampshire continued to produce significant quantities of dimension stone. In 2008, dimension stone decreased in rank to 13th from 12th among 37 dimension stone-producing States.

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

Exploration

In 2008, exploration continued for economic deposits of sand, gravel, and stone to crush for aggregates. In part, helped by increases in prices for natural resources and mineral commodities, mineral collecting from New Hampshire's many pegmatite locations continued. Interest in exploration and gold panning had increased, based upon a significant increase in the number of inquiries to the NHGS.

Commodity Review

Sand and Gravel, Construction, and Stone, Crushed.—The number of public projects decreased sharply as the State's highway and public works construction project lists were

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 2008 USGS mineral production data published in this chapter are those available as of June 2010. 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 the State's mineral industry information provided by that agency.

reduced. The private project market remained more-or-less stable because of ongoing work. Applications for building permits and other regulatory authorizations for new projects also began to decrease in the second half of the year in response to these same influences and reduced the availability of relatively inexpensive credit. In 2008, a low level of construction activity was underway in the State, and no pickup in this rate of activity was expected until fuel and construction material prices could begin to return to more feasible levels.

Prices for sand, gravel, and stone-based aggregates remained stable or increased slightly, as demand began to decrease. The only users of these mineral commodities not significantly affected were the very small-project contractors, whose pricing and quoting procedures were much more flexible than those subject to detailed scrutiny by the State, such as the New Hampshire Department of Transportation or local agencies.

Resources of sand and gravel continued to become depleted, although the speed of such depletion was slowing as exploitation and utilization rates also decreased. Resources of stone-based aggregates remained abundant and largely unexploited on a Statewide basis, and the trend away from exploiting granular aggregate resources in favor of these stone based sources continued, albeit more slowly than in recent years. Applications for new pit excavations and quarries remained steady during the year, as did the rate of complaints about blasting, dust, and trucks.

Looking forward, the industry was expected to remain stable at a relatively low level of activity and output until demand improved which, most likely will start to take place as fuel and value-added material costs (for example liquid gas) begin to return to manageable levels.

Clays and Glacial Till.—New Hampshire's extensive marine and lacustrine clays were only being used as an ondemand local resource, as borrow material for the base of landfills, the lining of ponds, and the core of dams. Some glacial tills that were rich in clay and silt were also used for the same purposes.

Construction demands for glacial till lessened. An existing aggregate, gravel, and sand operation in the west-central portion of the State continued processing till from a large exposure near the company's aggregate pit. This processed till continued to find a market as a resurfacing material for dirt roads and in highway shoulder work because it compacted well. Clay-rich tills were used where material of low permeability was needed.

Stone, Dimension.—In 2008, the demand for quarried dimension stone in the State was about the same as that of 2007. Dimension stone quarries continued to operate in Concord City, Milford Town, and Sunapee Town. The stone removed was largely cut into curbing and landscape stone. These operations quarried the fine grained, Concord gray two-mica granite. Quarry operation in the southwestern part of the State, in the town of Alstead, cut a granite gneiss, which the company marketed as "Green Mountain Granite." The granite was

produced primarily as a vanner stone; large slabs and block were very suitable for polished of thermal architectural dimension stone.

Government Program and Activities

The NHGS continued to be active in the STATEMAP component of the National Cooperative Geological Mapping Program with various map projects in the works. STATEMAP is a component of the congressionally mandated National Cooperative Geologic Mapping Program (NCGMP), through which the USGS 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 2008, as part of STATEMAP, the surficial geology of the Lyme (Tile 80), Hillsboro (Tile 161), Smarts Mountain (Tile 81), Stoddard (Tile 160), and Wolfboro (Tile 113) quadrangles were mapped at the 1:24,000 scale. In addition, the STATEMAP provided mapping the bedrock geology of the Lyme and Smarts Mountains quadrangles.

State Government

Groundwater.—New Hampshire continued realizing the need to protect existing and future groundwater supplies from overuse and contamination. With the continued increase in rural housing and commercial demands for bottling water, irrigation, and processing water, the need for protecting the groundwater aquifers was reaching critical proportions. Many of the State's best aquifers underlie housing and infrastructure, as these aquifers were located under and near to stream valleys, where building is particularly convenient and relatively easy. Demand continued for NHGS geologic mapping products that provides reliable aquifer information. In 2008, there were 852 registered groundwater large users in the NHGS database.

New Hampshire's water well drillers continued to file a well completion NHGS reports. In 2008, there were nearly 100,000 reports that provided geological data as to aquifer yields, depth to bedrock, and bedrock description. Well drillers were also moving to obtain location of any newly installed well using a handheld global positioning system (GPS).

In 2008, the NHGS continued planning its expansion of the groundwater monitoring network. The current network contained overburden wells. By adding additional bedrock wells and an expanded of the network could better serve as an indicator of regional hydrologic conditions in the bedrock as well in the overburden. In addition to expanding the geographic coverage of the network, the NHGS hoped to gather long-term data on the ambient conditions in the State's major bedrock aquifers.

NHGS Outreach.—The NHGS continued public outreach by answering public inquiries regarding bedrock, general geology, geologic features and sites, geologic information, groundwater, minerals, and surficial materials. Geologic inquiries came in the form of emails, telephone calls, and visitors. All inquiries may be sent to geology@des.state.nh.us. Outreach and educational efforts included classroom presentations and public lectures; participation in conferences, field days, and workshops; and State Geologist and staff working with the State and local governments.

Earth Science Week was sponsored in the State by the NHGS and the American Geological Institute (AGI). During Earth Science Week 2008, 50 classroom science teachers received from the NHGS a complimentary AGI Teacher package of Earth Science teaching material. The Survey's Lunchtime Lecture Series increased in popularity. Lectures were focused on areas of current geologic interest, often featuring prominent speakers. Increasingly, NHGS publications and maps are being scanned and are intended to be made available in electronic format. Publications on the State's bedrock, groundwater, minerals, and surficial geology may be obtained by contacting the Public Information Center of the Department of Environmental Services at <http://des.nh.gov/organization/commissioner/pip/publications/geologic/index.htm>.

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

(Thousand metric tons and thousand dollars)

Mineral	2006		2007		2008	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones, natural	NA	6	NA	6	NA	7
Sand and gravel, construction	9,500	61,600	7,940	49,000	7,930	49,900
Stone:						
Crushed	6,600 ^r	56,800 ^r	6,550 ^r	67,800 ^r	5,170	50,900
Dimension, granite	36	6,100	37	5,570	W	W
Total	XX	125,000 ^r	XX	122,000 ^r	XX	101,000

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; excluded from "Total." 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.

TABLE 2
NEW HAMPSHIRE: CRUSHED STONE SOLD OR USED, BY TYPE¹

Type	2007			2008		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Granite	11 ^r	2,550 ^r	\$27,300 ^r	11	1,860	\$18,500
Traprock	9 ^r	3,590 ^r	35,200 ^r	10	2,950	28,700
Sandstone & quartzite	2	222	2,930	2	242	2,380
Miscellaneous stone	3 ^r	188 ^r	2,340 ^r	3	125	1,230
Total	XX	6,550 ^r	67,800 ^r	XX	5,170	50,900

^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 2008, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	19	202
Filter stone	W	W
Coarse aggregate graded:		
Concrete aggregate, coarse	W	W
Bituminous aggregate, coarse	W	W
Other graded coarse aggregate	20	198
Fine aggregate (-¾ inch):		
Stone sand, concrete	W	W
Stone sand, bituminous mix or seal	W	W
Coarse and fine aggregates:		
Graded road base or subbase	135	1,100
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	165	455
Unspecified: ²		
Reported	2,830	27,700
Estimated	1,200	12,000
Total	5,170	50,900

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 2008,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	265	\$2,700	\$10.18
Asphaltic concrete aggregates and other bituminous mixtures	207	2,170	10.48
Road base and coverings ²	1,740	10,500	6.06
Fill	649	2,250	3.46
Snow and ice control ³	79	615	7.78
Unspecified: ⁴			
Reported	719	4,750	6.61
Estimated	4,300	27,000	6.28
Total or average	7,930	49,900	6.29

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

²Includes road and other stabilization (cement and lime).

³Includes filtration.

⁴Reported and estimated production without a breakdown by end use.