

Cemex: The sand mining conundrum

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Emma Hiolski, Monterey Herald, 12-4-16

MARINA -- Amber-colored grains of sand, tumbled through the Salinas River, once built the majestic, windswept beaches of southern Monterey Bay. Prized for their texture, they have been dredged up for more than a century to meet the huge industrial demand for sand.

Now, the United States' last remaining coastal sand mine may face closure. Earlier this year, the California Coastal Commission put Marina's Lapis sand mine on notice after a nearly six-year investigation into multiple violations of the state's Coastal Act.

The half-century-old mine, purchased by the Mexican multinational company Cemex in 2005, has long concerned scientists, local residents and coastal advocates because it has contributed to erosion that undermines the stability of beaches and dunes.

"They're just eroding at an incredible rate, and it can be directly linked back to the amount of sand they're taking out of the sand mine," said Katherine O'Dea, executive director of Save Our Shores, a Santa Cruz-based nonprofit group.

"Cemex operates the Lapis Sand Mine in an environmentally responsible manner and in accordance with applicable laws and regulations," Cemex said in a statement released in March after the Coastal Commission put the mine on notice. "We will continue our long-running discussion with the Commission regarding any concerns it has."

"The Lapis sand mine provides a much needed resource for many local projects including municipalities, infrastructure and recreational facilities," added Cemex representative Megan Lawrence in an email Friday.

Marina resident and city planning commissioner Kathy Biala first noticed the shrinking beaches on walks she enjoys with her husband. At a Coastal Commission meeting in Half Moon Bay last month, she called for increased transparency on how much sand is extracted from the mine.

"I wish to remind you of this very real issue that our precious sand, labeled 'Monterey Lustre,' is worth \$4.15 for a 50-pound bag," she told commissioners. "But to us, this sand is priceless on our shores — where it belongs."

Mining activity has made coastal erosion rates in southern Monterey Bay the highest in California, according to Edward Thornton, a coastal engineer and retired Naval Postgraduate School professor.

Gary Griggs, director of the Institute of Marine Sciences at UC Santa Cruz, calculated the amount of sand eroding annually from the dunes of Marina, Sand City and Monterey. This amount, roughly 200,000 cubic yards — 20,000 cement trucks' worth — roughly matches the amount of sand taken by the Lapis sand mine each year in Marina.

The Coastal Commission has been in negotiations with Cemex after delivering a “notice of intent,” a precursor to a cease-and-desist order, in March. Investigating the sand mine’s activity is complex because it was established before California’s Coastal Act of 1976, and many of the mine’s operations are grandfathered in.

At November’s meeting, Lisa Haage, the commission’s chief of enforcement, issued only a brief statement. “We have not yet ruled out the possibility of a consensual agreement, and we are continuing to have active talks with Cemex,” she said.

Sand is used in a huge number of products, including concrete, glass, toothpaste, cosmetics and computer chips. The 2012 documentary “Sand Wars” estimated that 200 tons of sand is needed to build a medium-sized home. Internationally, sand is in such high demand that two dozen Indonesian islands have disappeared and murderous “sand mafias” have sprung up in India.

Coastal sands are the low-hanging fruit of sand mining. They are easily accessed, coarse-grained and nutrient-rich, perfect for making concrete. The rounded grains of Lapis sands in southern Monterey Bay are especially unique and valuable. Compared to sands with angular particles, the Lapis sands are more ideal for use in concrete, filtration, sand blasting and fill for utility trenches, Griggs said.

The Lapis mining operation is partially visible to the west of Highway 1 in Marina. A tall house-like structure nestled in the dunes, it is surrounded by machinery and conveyors that transport sand from a dredge pond on the back beach to be washed and dried. The mine generated \$215,108 in property tax for Monterey County in fiscal year 2016.

Sand mining, which started along the Central Coast in 1906, ramped up around 1940. From then until 1984, mines extracted about 350,000 cubic yards of sand per year.

Five of them, two in Marina and three in Sand City, scraped up sand from the surf line with massive metal scoops and dragged the sand up the beach. A sixth mine, the Lapis plant, opened in 1965. It used hydraulic mining to dislodge and suck up sand from a pool on the back beach.

The Army Corps of Engineers closed the five drag line operations in 1986 and 1990. Citing jurisdiction over U.S. waters, the agency enforced prohibitions on sand mining below the mean high tide line. The Corps, however, could not claim jurisdiction over the mine on the back beach, and the Lapis mine subsequently increased its take from 105,000 cubic yards to 200,000 cubic yards per year.

The local impacts of these sand mines have been seen for decades. Between 1940 and 1984, dune erosion in southern Monterey Bay ranged between 1 and 6 feet per year, according to a report done for the Association of Monterey Bay Area Governments.

Stilwell Hall, a legendary soldiers’ club built in the 1940s at Fort Ord, was torn down in 2004 after the cliffs eroded out from under it. And concrete pillars and seawalls are needed to shore up and protect other buildings in coastal Monterey, including the Ocean Harbor House condominiums and the Monterey Tides hotel.

Biala and Thornton both pointed to a growing pile of sand near the Lapis plant, voicing concerns the mine may be stockpiling sand in the event it is shut down. Thornton calculated that the sand mine is now taking 380,000 cubic yards of sand, almost double the amount previously noted in the report for AMBAG.

“This is the insult added to an already enormous injury to the Monterey Bay,” Biala told coastal commissioners last month.

Cemex has not responded to messages requesting comment confirming or denying reports of sand stockpiling.

To gauge the potential impact of the sand mine’s closure, Thornton has looked back at historic coastline records. Prior to heavy sand mining activity from 1910 to 1945, the beaches of southern Monterey Bay actually grew, he said.

“You stop the sand mining,” Thornton insisted, and “the beach is going to go back to growing.”