



ORVILLE MYERS/The Herald

Riprap line the beach in front of The Ocean Harbor House condominiums in Monterey.

Erosion

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buildings or roads about the beach.

"This is a huge issue," said Gary Griggs, professor of earth sciences at UC-Santa Cruz, "because we've got so much property at such high value, and so many people living near the ocean."

Coastal Act after construction

Along Monterey Bay, the poster child for beach erosion is Stilwell Hall, the former officer's club at Fort Ord that had to be demolished in 2003 after the ocean ate away the bluff on which it stood and tore away its foundation.

At Del Monte Beach, the threat of the advancing ocean is readily apparent. The Ocean Harbor House condominium complex juts into the waves. North of the condos, the Monterey Beach Resort is fending off the encroaching ocean.

The oceanfront units of the condominium complex were built in 1968, and the hotel was built in 1969, both before the state Coastal Act of 1976 prohibited new development so close to the beach.

Since the Coastal Act, developers of new buildings must demonstrate that the buildings are far enough from the ocean that they will be safe for the duration of their lifetime — usually estimated at 75 to 100 years, said Lesley Ewing, state Coastal Commission engineer.

Unwanted side effects

The Coastal Act also allows protection for existing buildings. The Monterey Beach Resort is surrounded by a tall, pale pink concrete seawall to protect the hotel from the effects of erosion. Large gray boulders are piled at the wall's base; a similar wall is under construction at the Ocean Harbor House.

But these walls, and similar structures elsewhere along the coast, could produce unwanted side effects, Thornton said. The walls will protect anything directly behind them, but erosion at both ends of the wall will proceed as usual. Eventually, the buildings protected by the seawalls will be sitting on small peninsulas.

This is a problem under the Coastal Act, which states that buildings can't prevent public access along the beach, Ewing said, so the hotel and condominium complexes will have to build public paths through their properties.

"As the sea level rises, you

lose the beach in front of the seawall," professor Griggs said, "so you essentially save private property and lose the public beach."

Less sand available

Seawalls block sand dunes from the rest of the beach, meaning there is less sand available to refresh the beach, Griggs said. Normally, as the ocean carries sand from the beach away, more sand falls onto the beach from the dunes. But if the dunes are blocked, the ocean carries the sand away but there is no source of new sand, meaning that eventually there will be no beach left in front of the seawall.

Erosion is not constant. Yearly average rates encompass periods of severe storms and bluff erosion, and of calm climate. Most of a year's erosion happens during severe winter storms, such as this month's major storm, Thornton said.

Erosion caused by the recent storm is evident at the Ocean Harbor House, where the rhythmic sound of waves on the sand mixes with the revving of bulldozer engines. Last week, large construction vehicles drove back and forth in front of the condominium complex, totting gray boulders to pile at the base of an existing wall of rocks.

The front end of the Ocean Harbor House is supported by large concrete pillars. The wall of giant gray rocks is a temporary emergency measure, until a concrete seawall is completed.

During the recent storm, the waves were so big that they came over the wall of rocks and reached the pillars, said soil engineer Rick Holsinger. The water seeped down through the rocks and sloughed away underlying sand, shifting the rocks, Holsinger said. So now more rocks must be stacked at the base of the wall.

"They built this place not knowing what nature was going to do," Holsinger said. Holsinger is overseeing the Ocean Harbor House seawall project.

Waves reach seawall

Oscar Barroso, who regularly runs along the beach in Sea-side, said he has noticed a difference in the beach during the past five years. In recent months, he has had to deviate his path around Monterey Beach Resort, running on the road when the tide is too high.

The waves sometimes come right up against the seawall, making access in front of the hotel impossible. Even hours after high tide, he has to splash through shallow waves to cross in front of the seawall.

Barroso said he is concerned about what could happen to the area if bigger storms hit.

"When the stuff happened in New Orleans, people around here that live close to the ocean were scared," he said. "They thought the same thing would happen to them."

Coastal communities around the world face an advancing ocean. Sea levels have been rising for 18,000 years since the last Ice Age ended, Griggs said. Most scientists believe that the natural cycle of global warming has now been accelerated by human activities.

About 100 million people live within 3 feet of sea level, Griggs said. Some estimate that sea levels could rise as much as 3 feet in the next 100 years.

"What do you do with all these people?" Griggs asked.

Retreat not an option

Historically, retreat was the most common reaction to the rising sea. People who lived near the ocean picked up their homes and moved them inland, or simply abandoned buildings to the oncoming tides.

"Most people now don't want to do that," Griggs said.

Today, griggs' homes are far more expensive and permanent than the coastal dwellings of earlier civilizations.

So, as an alternative, coastal residents can build walls or other structures to protect their buildings from the sea. Armoring against coastal erosion has become increasingly common over the last 50 years, Griggs said, and about 10 percent of California's coastline is now protected in some way.

But because many of these walls encroach on public beaches, the Coastal Commission will only grant permission for their construction in special cases.

At the Ocean Harbor House, "the commission was very concerned about the loss of beach area," Ewing said.

Beach nourishment failure

Finally, coastal communities can try to stem a beach's recession by bringing in more sand, a process termed "beach nourishment." An ongoing regional study supported by the Association of Monterey Bay Area

Governments (AMBAG) is seriously considering nourishment as a solution to erosion problems, Thornton said. But Griggs is less optimistic.

"Why should sand stay at a location if we dump it there from a dump truck, if it's not going to stay there naturally?" he asked.

Griggs pointed to the results of beach nourishment in San Diego, where the San Diego Association of Governments spent \$17.5 million to pump 2 million cubic yards of sand from the ocean floor to the county's beaches during the summer of 2001. But the following winter, storms swept almost all the new sand back to sea, Griggs said.

The local study by AMBAG will address the impact on coastal erosion of a sand-mining plant in Marina, Thornton said.

Sand plant's impact questioned

For most of the 20th century, southern Monterey Bay was the most intensively mined shoreline in the country, he said. In 1990, the U.S. Army Corps of Engineers shut down all sand mining directly from the beach. Six of the seven mines in the bay closed.

But one mine, a plant in Marina owned by CEMEX, remains. The CEMEX plant takes sand, not from the beach, but from a lake behind the dunes that is filled with beach sand during winter high tides. It's all the same sand, Thornton said, but the plant's location means it is not under the same jurisdiction as the coastal mines.

Thornton believes the CEMEX plant could be a major contributor to local coastal erosion. Beach erosion rates were high before 1990, but have slowed down since then in southern Monterey Bay. But farther north around the bay, erosion rates have increased since 1990.

Thornton thinks the CEMEX sand mine is responsible for this difference.

Dale Kendall, manager of the Marina sand-mining plant, said he doesn't believe the plant could contribute such a noticeable effect.

"We are concerned about coastal erosion," Kendall said, "but we mine such a small amount out of the bay that it's hard to believe we would be producing an effect that's even measurable."

CEMEX uses the sand mainly for industrial applications, including sandblasting and filtration, Thornton said. The plant removes between 100,000 and 200,000 cubic yards of sand a year, the equivalent of 10,000 to 20,000 large dump trucks.

Campaign

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McCain said. The man whose campaign was left for dead six months ago quickly predicted that victory in the first southern primary would help him next week when Florida votes, and again Feb. 5 when more than two dozen states hold primaries and caucuses.

"This is one step on a long journey," Clinton told cheering supporters in Las Vegas. She captured the popular vote, but Obama edged her out for national convention delegates at stake, taking 13 to her 12.

Obama issued a statement that said he had conducted an "honest, uplifting campaign ... that appealed to people's hopes instead of their fears."

If the Democrats had co-front-runners, the Republicans had none, and looked to South Carolina to begin winnowing an unwieldy field.

McCain

defeated former Arkansas Gov. Mike Huckabee in a close race in the state that snuffed out his presidential hopes eight years ago. The Arizonan was gaining 33 percent of the vote to just under 30 percent for his closest rival.

"It just took us a while. That's all. Eight years is not a long time," McCain said.

Appearing before supporters, Huckabee was a gracious loser, congratulating McCain for "running a civil and a good and a decent campaign."

Far from conceding defeat in the race, he said, "The process is far, far from over."

Former Tennessee Sen. Fred Thompson was in a struggle for third place with about 16 percent, after saying he needed a strong showing to sustain his candidacy. Another Republican, Rep. Duncan Hunter of Alpine, dropped out before the votes were tallied.

Interviews with South Carolina's voters leaving their polling places indicated that McCain, an Arizona senator, and Huckabee were dividing the Republican vote evenly. As was his custom, McCain was winning the votes of self-described independents.

South Carolina was the second half of a campaign double-header for Republicans.

Former Massachusetts Gov. Mitt Romney cruised to victory earlier in the day in the little-contested Nevada caucuses. Final returns showed him with more than 50 percent support in a multi-candidate field.

No matter the state, the economy was the top issue in all three races on the ballot.

Republicans in Nevada and

South Carolina cited immigration as their second most important concern. Among Democrats in Nevada, health care was the second most important issue followed by the Iraq war, which has dominated the race for months.

With a black man and a woman as the leading contenders, the Democratic race was history in the making — and increasingly testy, as well.

Before the votes were tallied, Obama was critical of former President Clinton, telling reporters, "It's hard to say what his intentions are. But I will say that he seems to be making a habit of mischaracterizing what I say."

Obama's campaign manager, David Plouffe, issued a written statement accusing the Clinton campaign of "an entire week's worth of false, divisive attacks designed to mislead caucus-goers and discredit the caucus itself."

Clinton declined to comment on the allegation.

Whatever the hard feelings, she told supporters they would fade by the fall general election campaign. "We will all be united in November," she said, as the crowd chanted "HRC, HRC."

Her campaign issued a statement citing numerous reports of voter intimidation. It also accused

UNITE HERE, a union supporting Obama, of running a radio commercial that was "one of the most scurrilous smears in recent memory." The ad, broadcast in Spanish, said Clinton "does not respect our people" and called her shameless.

Interviews with Democratic caucus-goers indicated that Clinton won about half the votes cast by whites, and two-thirds support from Latinos, many members of a Culinary Workers Union that had endorsed Obama. He won about 80 percent of the black vote.

Overall, Clinton gained support from about 51 percent of caucus-goers. Obama had the backing of 45 percent, and Edwards had 4 percent.

Democrats looked next to South Carolina to choose between Obama, the most viable black candidate in history, and Clinton, seeking to become the first woman to occupy the White House. The state is home to thousands of black voters, who are expected to comprise as much as half the Democratic electorate.

After that, the race goes national on Feb. 5, with 1,678 national Democratic convention delegates at stake.



REED SAXON/Associated Press

A disappointed Refugio Rivas holds a Barack Obama poster at the Bellagio Hotel and Casino in Las Vegas.

Actress Suzanne Pleshette dies

LOS ANGELES (AP) — Suzanne Pleshette, the beautiful, husky-voiced film and theater star best known for her role as Bob Newhart's sardonic wife on television's long-running "The Bob Newhart Show," has died, said her attorney Robert Finkelstein. She was 70.

Pleshette, who underwent chemotherapy for lung cancer in 2006, died of respiratory failure Saturday evening at her Los Angeles home, said Finkelstein, who is also a family friend.

"The Bob Newhart Show, a hit throughout its six-year run, starred comedian Newhart as a Chicago psychiatrist surrounded by eccentric patients. Pleshette provided the voice of reason.

Four years after the show

ended in 1978, Newhart went on to the equally successful "Newhart" series in which he was the proprietor of a New England inn populated by more eccentrics. When that show ended in 1990, Pleshette reprised her role — from the first show — in one of the most clever final episodes in TV history.

It had Newhart waking up in the bedroom of his "The Bob Newhart Show" home with Pleshette at his side. He went on to tell her of the crazy dream he'd just had of running an inn filled with eccentrics.

"If I'm in Timbuktu, I'll fly home to do that," Pleshette said of her reaction when Newhart told her how he was thinking of ending the show.

Rebates

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than \$24,900 a year would not get a rebate under the White House approach, said Chad Stone, chief economist at the Center on Budget and Policy Priorities, a research group that focuses on how government programs affect the poor and middle class.

Stone estimates that about 22 million households file income tax returns but do not pay that tax because their earnings are so low. An additional 22 million households do not file a return, he said. This group includes many older people on fixed incomes, he said.

Bush is not saying how much the rebate could run. Congressional aides say the White House is considering up

to \$800 for individuals and \$1,600 for married couples.

Treasury Secretary Henry Paulson said Bush "is focused on broad-based tax relief for those who are paying taxes. And that's — that was the principle he laid out. This is something that has worked well before. It's worked in 2001, worked in 2003. Get to consumers; put money in the hands of people, letting them spend it rather than the government spend it."

Two-thirds of those who received rebates in 2001 spent the money in the first six months, studies have indicated.

Rich Cichowski, in Tallahassee, Fla., said if he got a rebate, he probably would pay off some medical bills. Cichowski, 48, said he has had back surgery and is not working now.

Brian Bethune, an economist at Global Insight, suggested that rebate

checks go out to everyone who files an income tax return, regardless of whether they pay any income tax.

"It should be no strings attached," he said. "That would include more people in the net, including more of the working poor," he said.

Democratic leaders are considering a \$500 rebate for individuals, according to aides involved in the talks. Details for couples and people with children are being negotiated.

Democrats also are looking at ways to make sure more of the poor get the rebates. Lawmakers hope Bush can accept plans under consideration to give the rebates to tens of millions of filers who would not get checks under the White House approach.

To this end, the rebates could be limited to individuals with incomes of \$85,000 or less and couples with

incomes of \$110,000 or less, said congressional aides, speaking on condition of anonymity because no final decisions had been made.

Some economists said linking a rebate check to people who pay Social Security taxes is a better way to draw in the working poor. That is because the government imposes Social Security taxes on all workers, regardless of whether the person pays income tax. One drawback to this idea is that it would leave out people who do not have a work history and never have paid Social Security taxes.

Democratic presidential contender Barack Obama has suggested a one-time \$250 payment to Social Security recipients as one way to help energize the economy.

Rebates aside, House Democrats and Republicans are considering increases

in food stamps and higher unemployment benefits as part of an economic rescue measure. The goal is some relief for the poor, hardest hit by high energy and food prices and a deteriorating employment climate.

"Democrats stand ready to work with the president and congressional Republicans to put together a bipartisan package including tax rebates for most Americans, and one-time increases in programs directed at those who are bearing the heaviest burdens in this economy," Massachusetts Rep. Barney Frank, chairman of the House Financial Services Committee, said in the Democratic radio address Saturday.

In terms of the biggest bang per buck, Federal Reserve Chairman Ben Bernanke said it probably would come from tax rebates or other payments to low- or moderate-income people "who are likely to spend quickly."